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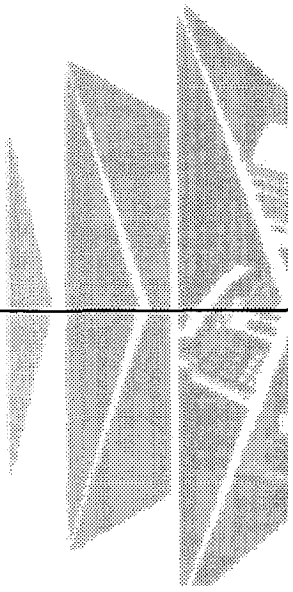
MITEL MAIL™

Voice Processing Solutions

Reference and Configuration Manual



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About This Manual

This manual describes how to configure the Centigram Communication Server VoiceMemo software in any of these Centigram Series 6 servers:

- Model 640
- Model 120I
- Model 120S
- Model 70

Who Should Read This Manual

This manual is intended for technicians and administrators who are responsible for configuring VoiceMemo software on the Series 6 server.

How to Use This Manual

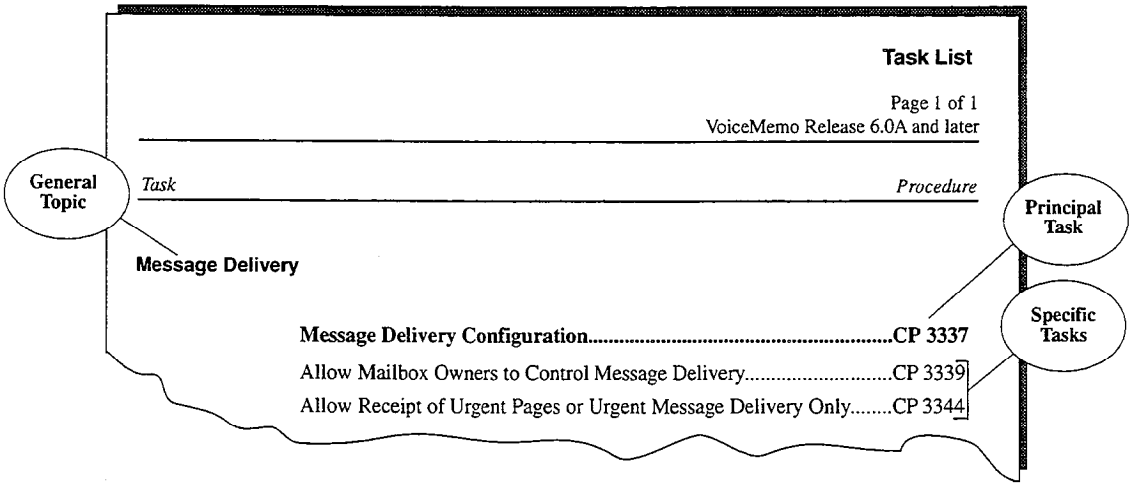
This manual contains detailed reference information, a list of tasks that you can perform, a collection of procedures for performing the tasks, and reader aids such as menu maps.

Reference Chapters

Use the material in chapters 1 through 12 for detailed inquiry into the configuration of VoiceMemo software in a Series 6 server. These chapters discuss how components are related, elaborate on concepts, give operational details, and contain all necessary tables and figures about configuration. A companion document, the *VoiceMemo System Implementation Guide*, gives suggestions and recommendations on *preparing* for a Series 6 server installation. Use the *AIP Installation and Service Manual* appropriate for your platform for an actual server installation.

Task List

Task lists follow each Reference chapter. Use the task list, starting with a principal task (shown in **boldface**), to configure a new server. Each task listed is described in more detail in a procedure. If you want to perform other tasks on a server that is already configured, look up the task you want to perform in the task list. The list is alphabetized, which helps most readers find the desired task (and procedure) quickly. No particular sequence of tasks is implied. The following example shows how a task list is organized:



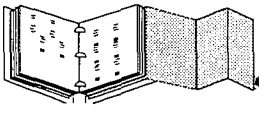
Procedures

Procedures follow the Task List in each Reference chapter. Follow the steps in Centigram procedures (CPs) to accomplish the desired tasks. Readers familiar with a Centigram Series 6 server can use the CPs as a checklist if desired, while readers new to a Centigram Series 6 server can use CPs for step-by-step instructions.

A reference column in each CP contains pointers, when necessary, to supplemental information such as another procedure, another manual, a table, or menu maps.

Each CP is numbered for document identification and referencing; numbering does not indicate a sequence of performance. A numerical list of all CPs in this manual is also provided. It gives each CP's title, Chapter number, and which other procedures either call it or are called by it.

Menu Maps and Other Navigation Aids

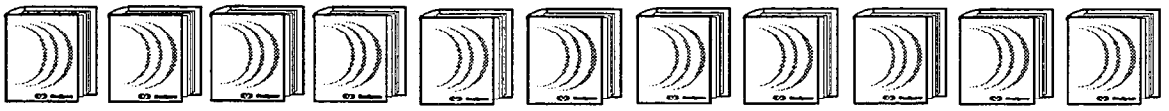


Most of the documents in the new Series 6 document library have menu maps or a "road map" procedure. You can refer to these document navigation aids at any point to help you reach a menu or show you which task to perform next. In this manual, you will also find a glossary of Centigram, telecommunications, and telephony terms. And don't overlook the index; it is the fastest way to find all references to a specific topic.

Worksheets

You will find blank worksheets in the back of this manual. Instructions for completing the worksheets are in the Reference chapters. Many of the Procedural sections assume you have completed the appropriate worksheet.

Which Document Do I Use?



Topics listed below are described in the Centigram documents indicated. This table lists documents for the base hardware and software only, not optional features.

Topics	Notice to Installer	System Implementation Guide	Centigram Series 6* Installation and Service Manual	Centigram Series 6 Technical Reference Manual	VoiceMemo Reference and Configuration Manual	Centigram Series 6 Diagnostics Manual
Activating an inactive configuration					✓	
Administration by Phone					✓	
Billing					✓	
Call placement					✓	
Card configuration				✓		
Card replacement			✓			
Defining a line group					✓	
Diagnostics						✓
DID VoiceMemo application					✓	
Disk replacement			✓			
Distribution lists					✓	
Duplicating a configuration					✓	
Error Log messages						✓
Event Recorder messages			✓			✓
FCOSs and feature bits					✓	
Floppy backup and restore			✓			
FPSA					✓	
GCOSs and groups					✓	
Glossary					✓	
Greetings					✓	
Hardware changes	✓		✓			
Hardware descriptions				✓		
Installation procedures	✓		✓			

Topics (continued)	Notice to Installer	System Implementation Guide	Centigram Series 6* Installation and Service Manual	Centigram Series 6 Technical Reference Manual	VoiceMemo Reference and Configuration Manual	Centigram Series 6 Diagnostics Manual
LCOSs and limits					✓	
Mailboxes					✓	
Message delivery					✓	
Message waiting lights					✓	
Paging					✓	
Passcode - mailbox					✓	
Password - console			✓			
Phoneline exceptions				✓		
Power information		✓		✓		
Prompts			✓		✓	
RCOSs (NPA/NXX)					✓	
Release Notes	✓					
Repairing a Centigram Series 6 server			✓			
Replacing a Centigram Series 6 server			✓			
Reports					✓	
Resource Manager				✓		
Service procedures			✓			
Site preparation		✓				
System administration					✓	
System maintenance			✓			
System security					✓	
System verify			✓			
Testing a configuration			✓		✓	
Troubleshooting						✓
Updating	✓		✓			
Upgrading	✓		✓			
Verifying configuration parameters					✓	
VoiceMemo application					✓	

*Includes: Model 70, Model 120, and Model 640 Installation and Service Manuals.

What If Information Is Missing?

If the information you need is not yet available in the documents listed above, go to these documents:

- *Release Notes for VoiceMemo Software Release 6.0A*
- Other existing documents, as applicable

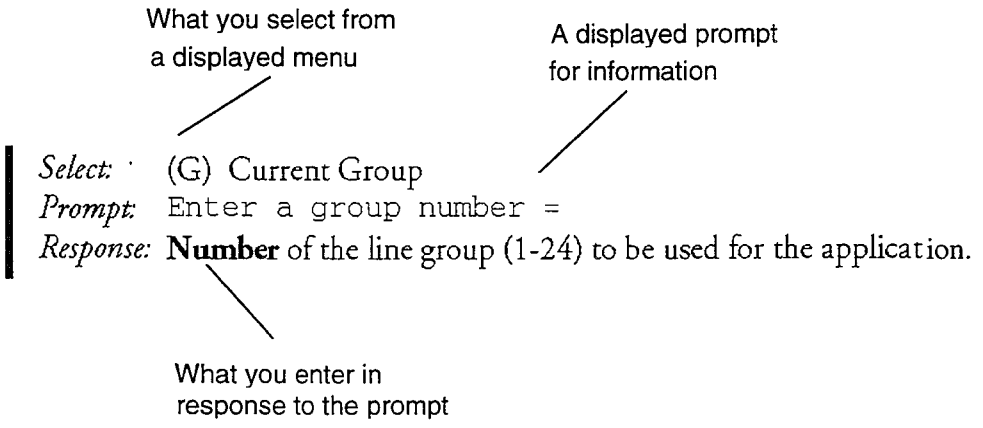
How Do I Obtain the Documents I Need?

To obtain other Centigram documents, contact your local Centigram distributor.

Conventions Used in This Manual

The procedures in this manual use certain conventions to describe how you enter VoiceMemo configuration data and to indicate information displayed at the server maintenance console.

Press **Enter**	Press the **Enter** key. For example, "Press **Enter** if the current number is correct." On some keyboards, this key is labeled "Return" or has a return arrow (↵).
Enter	Type the text shown, then press the **Enter** key. For example, "Enter the line **number** (1-24)" means type a number from 1 through 24 then press the **Enter** key.
bold	Words or characters in bold type indicate either a value to be entered by you exactly as shown or, when used to indicate a variable entry, describe the type of value to be supplied by you. See example above.



Reader Advisories

Reader advisories are given in this manual as shown below.

Note: Information especially useful in relation to this procedure.

CAUTION!

Information that helps you prevent equipment or software damage.

CAUTION!

Information that helps you avoid electrostatic discharge (ESD) damage to the equipment.

WARNING!

Information that helps you prevent an interruption to telecommunications traffic.

WARNING!

A hazard that can cause you personal injury.

DANGER!

Warns of a condition that could severely injure or kill you.

Before You Start

This manual assumes that you are familiar with using a console and keyboard. This section describes how to use the Series 6 server effectively.

Console Tips and Techniques

The tips and techniques offered in the following paragraphs can make configuration entry sessions at the Centigram Series 6 server maintenance console more productive.

Viewing Menus

- When you finish entering a value for a parameter, the server displays an abbreviated form of the current menu, called the "short menu." To view the complete current menu when a short menu is displayed, just press **Enter**.
- To return to the Main Menu from any VoiceMemo application configuration menu, press **X** (Exit), until the Main Menu appears.

Accepting Defaults

- To accept a default displayed in a *prompt*, just press **Enter**.
- To accept a default displayed in a *menu*, no action is necessary.

Avoiding Automatic Exit

CAUTION!

The Centigram Series 6 server "times out" after 15 minutes. This means that if you do not enter anything at the console for 15 minutes, the server automatically exits from the current program. When this happens, all work that has not been saved on the disk is lost.

To avoid being timed out and losing your work, follow these steps:

1. When you need time to think, write down the name of the current menu.
2. Exit to the (server) Main Menu.
3. When you want to continue your work, enter the appropriate menu options to regain your place.

If you find that the Centigram Series 6 server has timed out, follow the steps below. If your screen is blank, press any key to reactivate the screen and then continue with these steps.

1. Press any key to start the login sequence.
2. Enter your user ID and password (if requested).
3. Starting from the Main Menu, enter menu options to proceed to the menu from which the server timed out.
4. Reenter data as needed to regain lost work.

Quitting an Entry Session

At any point during entry of offline or online parameters, you can quit. Quitting discards all parameter entries you have made and leaves the VoiceMemo application configuration the way it was before you started entering parameters.

To quit from the VoiceMemo Configuration Offline or Online menu:

Select: (Q) Quit -- Forget Changes
Prompt: `Quit and forget changes? (y/n) =`
Response: **Y** to return to the VoiceMemo Configuration Main Menu.

Shortcut Commands

You can use the Ctrl (Control) key or the / (slash) key while simultaneously pressing another key to execute shortcut commands at a server maintenance console.

To do this...	Type...
Activate a timed-out console.	any key
From the offline or online menus, or FCOS, LCOS, GCOS menus, return to the VoiceMemo Configuration Menu and save any entries.	**/X**
From the offline or online menus, or FCOS, LCOS, GCOS menus, return to the VoiceMemo Configuration Menu without saving any entries.	**/Q Y**
Stop scrolling a displayed report.	**Ctrl-S**
Resume scrolling a displayed report.	**Ctrl-Q**
Return to the VoiceMemo application when a # or $ prompt is displayed.	**Ctrl-D** *or type* **exit**

Preparing for a Configuration Session

Before you begin a configuration session, you need the following:

- The *VoiceMemo Reference and Configuration Manual*
- A Series 6 server maintenance console (video monitor and keyboard) and VoiceMemo module, with power on
- At least two telephones for configuration testing
- A blank 3.5-inch diskette on which you can copy your configuration
- Completed worksheets (an initial supply of blank worksheets is included in the *VoiceMemo Reference and Configuration Manual)*

1 Using VoiceMemo Software

The Centigram Series 6 Communication Server (the server) is a set of hardware and software used for adaptive information processing. When you configure your software, you need to choose one or more applications, then configure a number of modifiers common to all of the applications. Each application is discussed in its own chapter. The modifiers are discussed in this chapter and following chapters where applicable. When one of the modifiers operates differently in one application compared to the others, this is highlighted in the application chapter.

"Configuration" is the process of organizing application and modifier data on worksheets, and then entering the data at a server maintenance console. This data is stored in a configuration file on the hard disk, and controls call processing.

Applications

These are the applications provided with your Series 6 server. Your server may use one or more of them. Each of these applications must be in a separate *line group* (a group of telephone lines connected to the server) if you have more than one application running, with the exception of Receptionist II and CallAgent.

VoiceMemo Application

This is the basic business application, used for message taking and retrieval. Most of the modifiers discussed later are explained in terms of this application. In addition, many of the modifiers are discussed in some detail in the VoiceMemo Application chapter.

DID VoiceMemo Application

Similar to the VoiceMemo application, but for direct-inward dial telephone lines. The hardware setup is very different, and additional configuration steps are needed.

Pager Application

This application is used for a number of features that place telephone calls out of the server. *Paging* can call a radio pager to let the user know there is a message waiting. The user must call into the server to receive the message. *Message delivery* calls a telephone and allows the user to log in and receive a message. *Call placement* calls a telephone number to deliver a message. Some optional features, such as FaxMemo and Cut-through Paging, also use this application to place outdials.

Message Waiting Applications

These applications allow a message waiting indicator at users' phones to signal that a new message has arrived. Typically, these indicators are lights, but this depends on the telephone equipment and switch installed. The software supports 24 kinds of message waiting indicators.

Optional Features

Optional features are not discussed in this manual. If you purchase them, you will receive the documentation to place in your *VoiceMemo Optional Features Manual.* However, they are configured with many of the same modifiers discussed in this manual. Optional features often purchased are listed below.

- AMIS Analog Network
- Auto Wakeup
- CallAgent
- Call Detail Recorder
- Continuous System Operation
- Cut-Through Paging
- FaxMemo
- Integrations
- MESA Forms
- MESA-Net Digital Network
- Receptionist II

Note: Receptionist II and CallAgent can work in the same line group as the VoiceMemo application depending on your integrations. Most other optional features use different line groups.

Use by the Hearing Impaired

Almost all the functions and capabilities in a standard Series 6 server are available to hearing-impaired mailbox owners and callers. Centigram's TDDMemo is a VoiceMemo application optional feature that you can configure at any Series 6 server site where a TDD machine is installed.

Modifiers

These characteristics of Series 6 server software are common to all applications. By configuring the modifiers, the capabilities and behavior of the application can change.

Most of the modifiers are introduced in the VoiceMemo Application chapter.

Types of Configuration

The Series 6 server has two different kinds of configuration, online and offline configuration. *Offline configuration* handles server settings that cannot be changed immediately. This includes setting up line groups. *Online configuration* includes the remainder of server settings that can be modified at any time. However, since many offline and online configuration settings work together, there are two kinds of online configuration as well: the active and the inactive configuration. The *active configuration* is the online configuration currently in use, and any changes you make to it take effect immediately. The *inactive configuration* is the online configuration that is in reserve, and this option should be used when you also make changes in the offline configuration. Then activate the configuration to implement all the changes you made, both online (inactive) and offline.

Line Groups

A *line group* is a set of one or more incoming telephone lines, which come into line card ports on the server hardware. Each application you use must be assigned to its own line group (except for Receptionist II and CallAgent). Any of the various operations involving outdials can, however, use the same line group assigned to the Pager application. Most of the modifications you may want to make to an application are made to its line group.

Dialing Plan

To configure each application, you must define its dialing plan, which is the structure of how the mailboxes are numbered. Related features include which key a user presses to speak to a system attendant, or to use call placement.

Day and Night Hours

This feature of the VoiceMemo application lets you set the work schedule: both office hours and which days are handled as weekends. This also handles certain situations such as a user wishing to speak to a system attendant.

Mailboxes

Every user of the server needs a mailbox, and all applications require mailboxes. The administrator's mailbox and attendant's mailbox are special mailboxes that interact with applications; they are discussed in the VoiceMemo Application chapter. Other special mailboxes – tree, rotational, and broadcast, for example – are discussed in the Mailboxes chapter. Mailbox features, such as Distribution Lists and receipts, are also discussed in this chapter.

Classes of Service

There are several classes of service, which are groups of characteristics that affect how the server operates. The different classes of service are assigned to each mailbox by the system administrator.

Features Class of Service

The VoiceMemo software has over two hundred *feature bits* that allow users to perform functions or that control how the server can be used. These features are grouped into a set called a Features Class of Service (FCOS), that define who can do what, and how. One FCOS is assigned to each mailbox. FCOSs are explained in the Features Class of Service chapter.

Limits Class of Service

A Limits Class of Service (LCOS) is a group of limitations on each user, such as length and number of messages. LCOSs also affect how some optional features work. One LCOS is assigned to each mailbox. These are explained in the Other Classes of Service chapter.

Group Class of Service

A Group Class of Service (GCOS) determines which users can send messages or respond to messages from other users. There are two kinds of GCOSs, affinity and bit-mapped. One GCOS is assigned to each mailbox. These are explained in the Other Classes of Service chapter.

Network Class of Service

A Network Class of Service (NCOS) controls users' network access and is a part of the MESA-Net Digital Network optional feature. More NCOS information is contained in the *VoiceMemo MESA-Net Optional Feature Manual.*

Restriction Class of Service

A Restriction Class of Service (RCOS) is an element of NPA/NXX call screening that restricts mailbox outdials to certain area codes or to certain prefixes within an area code. One RCOS is assigned to each mailbox. These are explained in the Other Classes of Service chapter.

Tenant Class of Service

A Tenant Class of Service (TCOS) is used with the ESMDI "Multi-Tenant" application, to govern mailbox interaction between user communities. Refer to the *VoiceMemo Enhanced SMDI Integration Manual* for more information.

Billing and Reports

You can generate reports from information on the existing applications and whatever modifications you have put into effect. Billing is an application that collects call and message information so users can be billed for their server usage. Refer to the Billing chapter for information on how to set up billing and different rate structures, and to the Reports chapter for more information on different reports available.

Worksheets

Centigram supplies worksheets to help you organize configuration data before you enter it at the Series 6 server maintenance console. There is a worksheet for each application, for different kinds of mailboxes, and for FCOSs, LCOSs, and GCOSs.

Complete the worksheets for all applications that you wish to add to the configuration before you begin entering data at a server maintenance console. This prevents duplication of line group assignments, and gives an accurate picture of how server resources have been divided among the applications. Fields of data on these worksheets are explained in the application chapters that follow, and in the Menu Parameters chapter. Configuration procedures presented later in this manual assume you have already filled out the appropriate worksheets.

Optional features are shipped with instructions similar to the worksheet format.

Series 6 Server Software at a Glance

Figure 1-1 shows how the various parts of Series 6 server software work together. It illustrates how line groups are made up of phone lines, how each application is assigned one line group, and how modifiers work on all applications. In addition, it shows how mailboxes have a number of different configuration parameters. Finally, it shows how Billing and Reports use all server information.

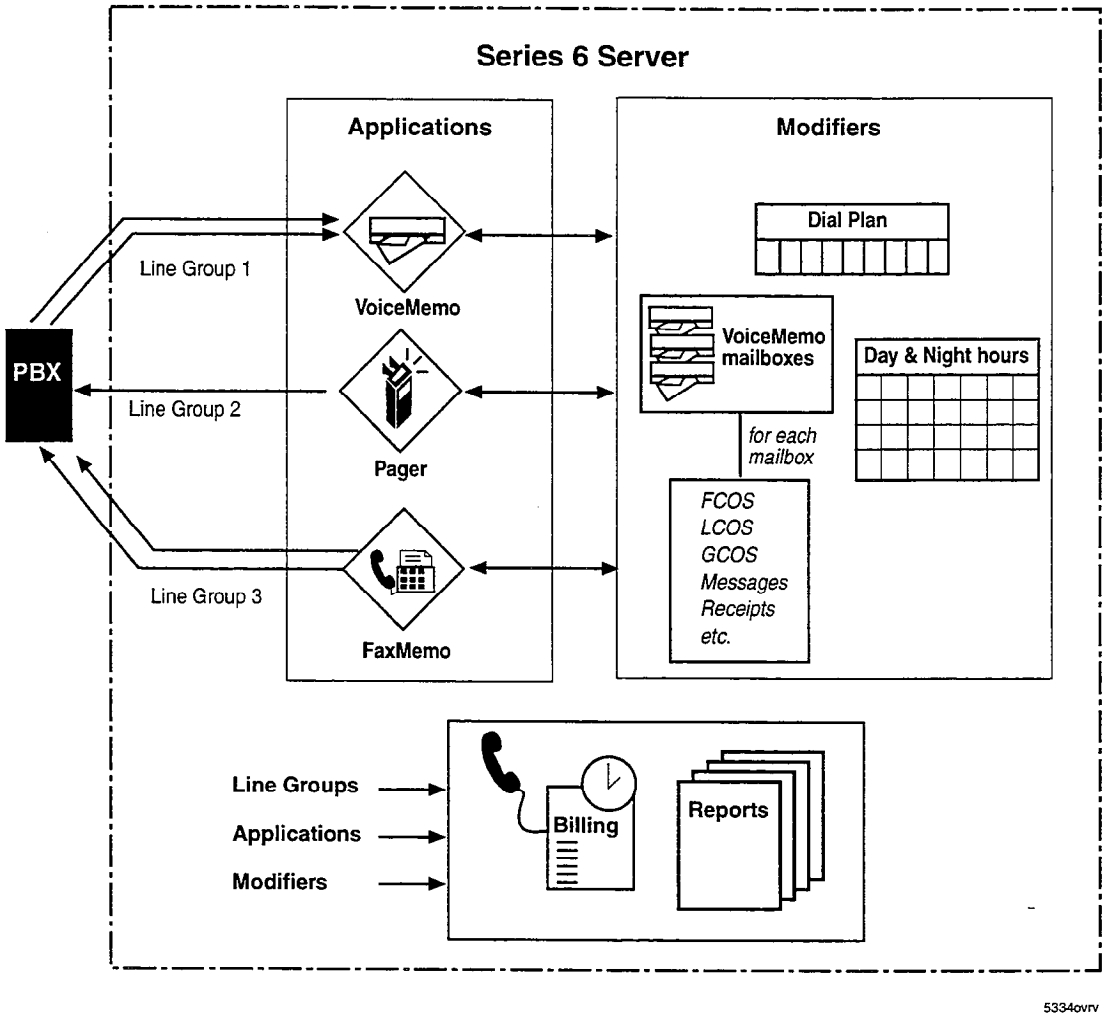


Figure 1-1 Series 6 Server Software Overview

Frequently Used Procedures

The Task List and Procedures following this chapter are referred to as "Frequently Used Procedures," and therefore do not fit into any one category. These procedures are placed in this section because they are often used by many other procedures in several other chapters, so you can look for them here.

Task Lists in other chapters contain procedures related to the reference material that proceeded it. Each of the procedures appearing here could be placed in one of the following chapters, but their frequent use leads to their being grouped in one section.

Frequently Used Procedures Task List

VoiceMemo Release 6.0A and later

Task	*Procedure*

Frequently Used Procedures

Activate the Inactive Configuration ..... CP 7002
Add or Delete Feature Bits ..... CP 5011
Assign an FCOS to a Mailbox ..... CP 5003
Customize an FCOS Copy ..... CP 5007
Define a Line Group ..... CP 5010
Duplicate a Configuration ..... CP 5044
Perform a Floppy Backup ..... CP 5703
Run a System Configuration Report ..... CP 4353
Verify Configuration Parameters ..... CP 5015

Activate the Inactive Configuration

VoiceMemo Release 6.0A and later

This procedure describes how to activate a configuration.

WARNING!

This procedure causes the server to restart all tasks resulting in an interruption to call processing. Centigram recommends that you perform this procedure during periods of low call traffic.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu, then go to the VoiceMemo Active Configuration Menu.	Menu Map 2
2. Activate the inactive configuration. *Select:* (A) Activate Configuration *Prompt:* `Activate the inactive configuration, <configuration name>:` *Response:* **Y** to activate the configuration, *or* **N** to cancel the process. *Prompt:* `Wait for message waiting queues to be empty?` *Response:* **Y** to warn server users of the impending shutdown, *or* **N** to skip the warning. The server automatically shuts down and resets the software to the new configuration, then returns to the VoiceMemo Active Configuration Menu.	
• If the server experiences problems with the new configuration, you can return to the old configuration by repeating the preceding steps.	

Add or Delete Feature Bits

This procedure describes how to add or delete feature bits in an FCOS.

Step	*Reference*
1. Reach the System Configuration Menu, then go to the Feature Class of Service Menu.	Menu Map 11

2. Identify the FCOS you want to add bits to or delete bits from.

   Select: (C) Current FCOS
   Prompt: `FCOS to modify =`
   Response: **Number** of the FCOS (1-640) you want to add a bit to or delete a feature bit from, or just press **Enter** if the displayed FCOS is the one you want.

3. Add the desired bits.

   Select: (A) Add Features
   Prompt: `Features to add (? for help) =`
   Response: The 1 to 3-digit **numbers** of the feature bits to be added.

   - Bits can be entered in any of the formats shown below:

     A single bit, for example 208
     A range of bits, for example 202-208
     A series of bits, for example, 39,40,207,208

   - You can mix types of entries, so you can specify all the bits necessary in one attempt. For example, this entry is valid:

     208,1-7,50,53,55,6

   - Do not enter spaces after commas, and do not end the entry with a comma.

4. Delete the desired feature bits.

   Select: (D) Delete Features
   Prompt: `Features to delete (? for help) =`
   Response: The 1-to-3-digit **numbers** of the feature bits to be deleted. The same rules apply to deleting bits as explained for adding bits.

5. Confirm the additions and/or deletions to this FCOS.

   Select: (S) Show FCOS
   Prompt: `FCOS to show (? for help) =`
   Response: The **number** of the FCOS you just added bits to or deleted bits from. If necessary, repeat the appropriate preceding step(s) to make corrections.

6. After confirming that additions and/or deletions are correct, exit from the Feature Class of Service Menu to save additions and deletions.

Assign an FCOS to a Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to assign an FCOS to a new or existing mailbox. The steps below assume you have already chosen the default FCOS desired or have already customized an FCOS.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed Mailbox Worksheet.	Menu Map 3

Using the Scrolling Interface

2. Identify the mailbox to which you will assign the FCOS.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: **Number** of the new mailbox.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of the existing mailbox.

   Note: Prompts are almost the same for creating a new mailbox and modifying an existing one, except that "New" precedes a prompt when you select Modify Mailboxes.

3. Press **Enter** until the Feature Class of Service or New FCOS prompt appears.

   Prompt: `Feature class of service:`
   or
   `New FCOSs:`
   Response: The **number** (1-640) of the FCOS that will govern this mailbox. The default value is 1.

   or

   Enter **?** for a list of defined FCOSs. You are prompted for FCOS again.

   If you are modifying a mailbox, the FCOS you just entered replaces the existing FCOS.

4. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number.

   At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

Step	*Reference*

Using the Full-Screen Interface

2. Identify the mailbox to which you will assign the FCOS.

   Select: (C) Create/Modify/Delete Mailboxes
   Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F10** to edit the mailbox information.

3. Assign an FCOS designed for a chain mailbox. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen to the FCOS parameter.

   Prompt: `Features:`
   Response: The **number** (1-640) of the FCOS that will govern this mailbox. The default value is 1.

4. Press **F10** to save your changes, or, if you made a mistake, press **F9** to cancel your changes.

5. Press **F9** to exit the Mailbox Maintenance entry screen.

Customize an FCOS Copy

VoiceMemo Release 6.0A and later

This procedure describes how to customize an FCOS by modifying a copy of an existing FCOS.

Step	*Reference*
1. Choose the existing FCOS you wish to use as a basis for your customized FCOS.	
2. Complete an FCOS Worksheet. Blank worksheets are near the back of this manual.	
3. Reach the System Configuration Menu, then go to the Feature Class of Service Menu. Enter the requested information, as described in the following steps, from your completed FCOS Worksheet.	Menu Map 11

Note: You can quit at any point in the following steps before you exit the Feature Class of Service Menu. Quitting discards all entries you have made and leaves the FCOS settings the way they were before you reached the Feature Class of Service Menu.

To quit:

Make sure the Feature Class of Service Menu is displayed (short form or long form).

Select: (Q) Quit – Forget Changes
Prompt: `Quit and forget changes? (y/n) =`
Response: **Y** for yes.

4. Number and name the customized FCOS.

Select: (C) Current FCOS
Prompt: `FCOS to modify =`
Response: A **number** from 18 through 20 or 25 through 640.

Select: (N) Name FCOS
Prompt: `Enter FCOS name (0 - 15 chars) =`
Response: Enter a descriptive **name** to accompany the customized FCOS.

5. Make a copy of the existing FCOS.

Select: (K) Copy FCOS
Prompt: `FCOS to copy (? for help) =`
Response: The **number** of the existing FCOS chosen to be the basis for your customized FCOS. A copy of this FCOS is created and given the number and name you assigned above.

Step	*Reference*

6. Add feature bits to the FCOS copy, as desired.

   Select: (A) Add Features
   Prompt: `Features to add (? for help) =`
   Response: The 1 to 3-digit **numbers** of the feature bits to be added.

   - Feature bits can be entered in any of the formats shown below:

A single bit, for example 208
A range of bits, for example 202-208
A series of bits, for example, 39,40,207,208

   - You can mix types of entries, so you can specify all the bits necessary in one attempt. For example, this entry is valid:

     208,1-7,50,53,55,6

   - Do not enter spaces after commas, and do not end the entry with a comma.

7. Delete feature bits from the FCOS copy, as desired.

   Select: (D) Delete Features
   Prompt: `Features to delete (? for help) =`
   Response: The 1 to 3-digit **numbers** of the feature bits to be deleted. The same rules apply to deleting bits as explained for adding bits.

8. Verify that the information you have entered so far matches your worksheet.

   Select: (S) Show FCOS
   Prompt: `FCOS to show (? for help) =`
   Response: The **number** of the FCOS copy that you specified in step 4.

9. If the information matches your worksheet, customization is completed and you can save it. If the information does not match your worksheet, make the necessary corrections.

10. After verifying that your entries are correct, save the customized FCOS by exiting from the Feature Class of Service Menu.

Define a Line Group

VoiceMemo Release 6.0A and later

This procedure describes how to define a line group for any of these applications:

- VoiceMemo
- DID VoiceMemo
- Paging
- Message Delivery
- DTMF-to-PBX Message Lights

Step	*Reference*
1. Reach the VoiceMemo Configuration Offline Menu.	Menu Map 2

CAUTION!

You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.

2. If desired, duplicate the configuration.

   Select: (B) Duplicate Active Configuration
   Response: The server copies the current (active) configuration. When copying is completed, the short form of the Offline Menu appears.

   All subsequent steps in this procedure – along with any other configuration entries – affect just the copy, and take effect only after you activate the configuration.

3. Go to the Line Groups Menu. Menu Map 2

4. Enter the requested information, as described in the following steps, from your completed worksheet.

5. Specify the line group number.

   Select: (G) Current Group
   Prompt: `Enter a group number =`
   Response: **Number** of the line group (1-24) to be used for the application.

6. Name the line group.

   Select: (N) Name of Current Group
   Prompt: `Enter group name =`
   Response: Descriptive **name** of the application line group.

Step *Reference*

7. Add the desired lines.

   Select: (A) Add Lines to Current Group
   Prompt: `Enter lines to add =`
   Response: In a single-module server, the **slot** or **line card number** (0-15) and **port number** (0-n, where n+1 is the number of ports on the card) to add to the line group. Any of the formats shown in the following examples are valid:

Example	*Specifies*
1:*	All lines
1:0:0-1:15:0	All lines
1:0:*-1:2:*	All lines on slots 0-2
2	All lines on slot 2
2:1,2:3	Ports 1 and 3 on slot 2

   In a multi-module server, the **module number** (1-4), **slot** or **line card number** (0-15), and **port number** (0-n, where n+1 is the number of ports on the card) to add to the line group. Any of the formats shown in the following examples are valid:

Example	*Specifies*
*	All lines, all modules
2:*	All lines in module 2
2:0:*	All ports on module 2, slot 0
1:0:0-2:4:4	All ports from module 1, slot 0 through module 2, slot 4, port 4
1:*,2:*	All lines in modules 1 and 2

8. Drop the desired lines.

   Select: (D) Drop Lines From Current Group
   Prompt: `Enter lines to drop =`
   Response: **Line**(s) to remove from the line group; values and formats are the same as described above for adding lines.

9. Exit to the VoiceMemo Configuration Offline Menu.

Step	*Reference*

10. Assign the application to the current line group.

- For VoiceMemo, DID VoiceMemo, Pagers, and Message Delivery, go to the Linegroup Only Applications Menu. — Menu Map 2

  Select: (G) Group Selected
  Prompt: `Enter a group number =`
  Response: If the current line group number is the one you want, press **Enter**; otherwise, enter the **line group number** for the application you are assigning.

  Prompt: `APPL (G,U,D,E,M,P,R,V,W,X) :`
  Response: **V** for the VoiceMemo application.

  D for the DID VoiceMemo application.

  P for the Paging and/or Message Delivery application.

  Prompt: `APPL (G,U,D,E,M,P,R,V,W,X) :`
  Response: Save the assignment by exiting to the VoiceMemo Configuration Main Menu.

- For the DTMF-to-PBX Message Lights application, select "DTMF to PBX Message Light" to reach the DTMF Applications Menu. — Menu Map 6

  Select: (G) Group Selected
  Prompt: `Enter a group number =`
  Response: If the current line group number is the one you want, press **Enter**; otherwise, enter the **line group number** for DTMF-to-PBX Message Lights.

  Prompt: `APPL (G,D,W,X) :`
  Response: **D**

The server confirms the assignment of the DTMF-to-PBX Message Lights application to the current group, then displays the DTMF to PBX Menu.

Prompt: `DTMF:`
Response: Save the assignment by exiting to the VoiceMemo Configuration Main Menu.

Duplicate a Configuration

This procedure describes how to duplicate the configuration that is currently running.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu, then go to the VoiceMemo Configuration Offline Menu.	Menu Map 2
2. Duplicate the configuration. *Select:* (B) Duplicate Active Configuration *Response:* The server copies the current (active) configuration. When copying is completed, the short form of the VoiceMemo Configuration Offline Menu appears.	
3. Continue with any desired configuration entries. All subsequent configuration entries – through either the VoiceMemo Configuration Offline Menu or VoiceMemo Configuration Online Menu – affect just the copy, and take effect only after you activate the configuration.	

Perform a Floppy Backup

VoiceMemo Release 6.0A and later

This procedure describes how to perform a floppy backup of the server.

Note: You must be the System Superuser (root) to perform a backup.

Step	*Reference*
1. Reach the System Maintenance Menu.	Menu Map 1
2. Initiate the floppy backup. *Select:* (F) Floppy Backup *Prompt:* `Insert Backup Diskette 1 in floppy drive` `Enter 'Y' when ready, or 'N' to quit:` *Response:* Insert the diskette and enter **Y** to continue, *or* **N** to abort the backup process.	
3. If the diskette has not been formatted in QNX, format the diskette. *Prompt:* `Invalid backup diskette...need formatting` `Enter 'Y' for formatting, or 'N' to quit:` *Response:* **Y** to format the diskette, *or* **N** to abort the backup process. The server formats the diskette, if required, then proceeds with the backup.	
4. Insert more diskettes as specified by the server. The server produces a report to the console when the backup is complete, then returns to the System Maintenance Menu.	

Run a System Configuration Report

VoiceMemo Release 6.0A and later

This procedure describes how run a Series 6 server System Configuration report.

Step	*Reference*
1. Reach the Main Menu, then go to the Reports Menu.	Menu Map 9

2. Request a configuration report.

Select: (C) Configuration
Prompt: `REPORT OUTPUT ROUTING`

```
(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/2/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to serial port #1, Printer A*,
2 to send the report to serial port #2,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, *or*
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays the report to the output device you select.

Prompt: `Enter group number to display (1-24) or <CR> for all:`
Response: The number of the **line group** to which the application is assigned. Examples of valid formats for this response are:

- 1 to report the configuration of line group 1
- 1-4 to report the configuration of line groups 1 through 4
- 1,2,4-7 to report the configuration of line groups 1, 2, and 4 through 7
- Press **Enter** to get the configuration of all line groups

The server shows the name of the application assigned to each group specified and displays the parameter settings for that application.

Verify Configuration Parameters

VoiceMemo Release 6.0A and later

This procedure describes how to verify the configuration parameters that have been entered. This procedure can be used for any of these applications:

- VoiceMemo
- DID VoiceMemo
- Paging
- Message delivery
- RS-232 Message Waiting Lights
- DTMF-to-PBX Message Waiting Lights
- Integrations and other optional features

Step *Reference*

All Applications Except Paging and Message Delivery

1. Reach the Main Menu, then go to the Reports Menu. — Menu Map 9
2. Request a configuration report.

   Select: (C) Configuration
   Prompt:
   ```
   REPORT OUTPUT ROUTING

   (C) Console (screen)
   (P) Console with pause
   (1) Printer A
   (F) File...
   (A) Append to file...
   (X) Exit (no report)

   If you need help later, type ?.

   COMMAND (C/P/1/2/F/A/X):
   ```
   Response: **C** to send the report to the console without pausing
   P to send the report to the console, pausing as the screen fills,
   1 to send the report to serial port #1, Printer A*,
   2 to send the report to serial port #2,
   F to send the report to a file on the Series 6 server,
   A to append the report to an existing file on the Series 6 server, or
   X to exit report output options (no report).

   * This option list varies depending on server configuration.

   Prompt: `Enter group number to display (1-24) or <CR> for all:`
   Response: The number of the **line group** to which the application is assigned. Examples of valid formats for this response are:

   - 1 to report the configuration of line group 1
   - 1-4 to report the configuration of line groups 1 through 4
   - 1,2,4-7 to report the configuration of line groups 1, 2, and 4 through 7
   - Press **Enter** to get the configuration of all line groups

Step	*Reference*
The server shows the name of the application assigned to each group specified and displays the parameter settings for that application.	
3. To make corrections, go to the appropriate application menu and enter the correct value.	Menu Maps
4. Save the corrections by exiting from the appropriate application menu.	
Paging and Message Delivery	
• If you are currently modifying the Pager or Message Delivery application, go to the Pagers Menu.	Menu Map 7
1. View the configuration. *Select:* (S) Show Pagers *Response:* The server displays the pager system number (index number), pager name, access code, and hold time for each pager.	
2. Check the displayed configuration for each pager system against your Pager and Message Delivery Worksheet to verify that it is correct.	
3. To make corrections, return to the Pager Systems Supported option, the Define Pagers option, or the Other Features option then enter the correct values.	
4. When your entries are correct, save the parameter settings.	
• If you are not currently modifying the Pager or Message Delivery application, proceed as for all applications described above.	

2 VoiceMemo Application

This chapter covers:

- Overview of the VoiceMemo application
- Default software configuration
- VoiceMemo Application Worksheet
- Line group definition
- Configuring the application
- Using the VoiceMemo application

Overview

The VoiceMemo application provides voice messaging capability where each server user can have a personal mailbox. It is the standard business application for Series 6 Communication Servers.

The VoiceMemo application can be used with most Central Offices (COs), PBXs, and with all key systems. Other applications, such as DID VoiceMemo or the Pager application are *variations* of the VoiceMemo application, and are used either together with, or instead of, the VoiceMemo application.

Numerous customized integrations, which are also variations of the VoiceMemo application, are available. These are optional features; they provide message waiting control, and functions such as personal greetings for forwarded calls. See the specific integration documents in the *VoiceMemo Optional Features Manual* for more information.

To use the VoiceMemo application on your Series 6 server, you must perform any necessary system level configuration. System level configuration through the VoiceMemo application involves two steps: defining the line group, and configuring the application. In the first step, you assign server ports to the VoiceMemo application. In the second step, you customize the application for your server. Procedures covering these steps are identified in the task list later in this manual.

Once you have completed the VoiceMemo application configuration, you must activate changes, create mailboxes, record a company greeting, and test the configuration. Procedures covering these steps are also identified in the task list later in this chapter.

Default Software Configuration

The VoiceMemo application is the only application that is pre-installed in the factory configuration. To add capabilities, and to meet the requirements of a particular site, you usually must change one or more of the defaults. All of the defaults can be changed at a server maintenance console.

The default configuration has the values shown in Table 2-1.

VoiceMemo Application Worksheet

Use the VoiceMemo Application Worksheet (Figure 2-1) to organize the data. The rest of this chapter explains concepts you need to know for completing the worksheet and using it to configure the VoiceMemo application.

The following paragraphs explain sections of the worksheet. Pre-programmed (default) values are given, where applicable. If you want to use a default value, indicate that fact on the worksheet. Then you do not have to select or enter any information for that parameter during reconfiguration.

Configuration Types

The VoiceMemo application has two different kinds of configuration, online and offline. The VoiceMemo Application Worksheet is divided into these two types to help you enter settings into the console in the right order.

Offline configuration handles server settings that cannot be changed immediately, such as setting up line groups. *Online configuration* includes the remainder of server settings that can be modified at any time. Many offline and online configuration settings work together, so there are two kinds of online configuration: the active and the inactive configuration.

The *active configuration* is the online configuration currently in use, and any changes you make to it take effect immediately after exiting the menus. The *inactive configuration* is the online configuration that is in reserve; changes made to it do not take effect until you perform an additional step. This option should be used when you also make changes in the offline configuration. Then you *activate the configuration* to implement all the changes you made, both online (inactive) and offline.

Figure 2-2 shows the relationship between the different configuration types.

Table 2-1 VoiceMemo Application Defaults

Parameter	VoiceMemo Application Default
Administrator's mailbox number	998
Allow dial an extension for callers	N
Allow dial an extension for users	N
Allow multiple messages for outside caller	Y
Answer delay	0
Attendant's mailbox number	999
Attendant transfer string	S+
Dial by name, last name first	Y
Exact match break	Y
General greeting mailbox number	None
Group name	None
Key 0 for attendant transfer	N
Line group number	1
Line(s) in group	All on server
Mailbox dialing plan	3,3,3,3,3,3,3,3,3
Number of names threshold	3 names
Passcode length	4 digits min. – 10 digits max.
Passcode trip count	5
Passcode trip period	24 hours
Pre-company name dial string	None
Pre-mailbox greeting dial string	None
Prompts language	English
Single digit access	None
Speech quality for messages	18
Speech quality for names and greetings	18
Suppress mailbox number	None
System attendant's extension	0
Wait prompt	Y
Weekend days table	DDDDDNN
Work day	8 a.m. – 5 p.m.

VoiceMemo Worksheet

Offline Parameters

Define line groups

Current group: 1

Add lines to current group: 1:0:0-1:1:7

Name of current group: Message Center

Drop lines from current group: None

Line group only applications

Group selected:

Select application: V

Online Parameters

VoiceMemo Configuration Online Menu

Group selected: 1

Day/Night

Start time of workday: 8:30 AM (PM)

End time of workday: 5:30 (AM) PM

ok — M T W Th F Sa Su

Weekend days

Dialing Plan Menu

Dialing plan: A 0 3 7 3 3 3 7 4

1 2 3 4 5 6 7 8 9

Optional Star * Prefix Dialing Plan

*Networking with prefix dplan digit:

*Networking with prefix dplan length:

*Dial by name dplan digit:

* Networking without prefix dplan digit:

*Networking without prefix dplan length:

*Call placement msg delivery dplan digit: 8

Dial String and Mailbox Menu

System attendant's extension: 311

Attendant's transfer string or PBX predirectory #: S+

Administrator's mailbox #: 9229

Attendant's mailbox #: 9999

E-mail transfer string: 3186422 S+

General greeting mailbox #: 654

Pre-company name dial string:

Pre-maibox greeting dial string:

VoiceMemo Configuration-Online Menu

Key *0* for attendant transfer during greeting? ☑ yes ☐ no

Prompts "Enter mailbox # or wait"? ☐ yes ☐ no

Allow multiple messages for outside caller? ☑ yes ☐ no

Delay before answer (time in tenths/sec.): 60

Default language for prompts:

Dial-by-Name Menu

Last name first flag? ☑ yes ☐ no

Exact match break? ☑ yes ☐ no

Single digit access? ☑ yes ☐ no

Suppress mailbox number? ☐ yes ☑ no

Number of names threshold: 4

Passcode menu

Minimum passcode length: 5

Maximum passcode length: 10

Passcode trip count: 3

Passcode trip period: 12

Allow Dial an Extension menu

Allow dial an extension for callers? ☐ yes ☑ no

Allow dial an extension for users? ☐ yes ☑ no

Speech Quality Menu

All names and greetings: 18

All recorded messages: 18

Figure 2-1 Sample VoiceMemo Application Worksheet

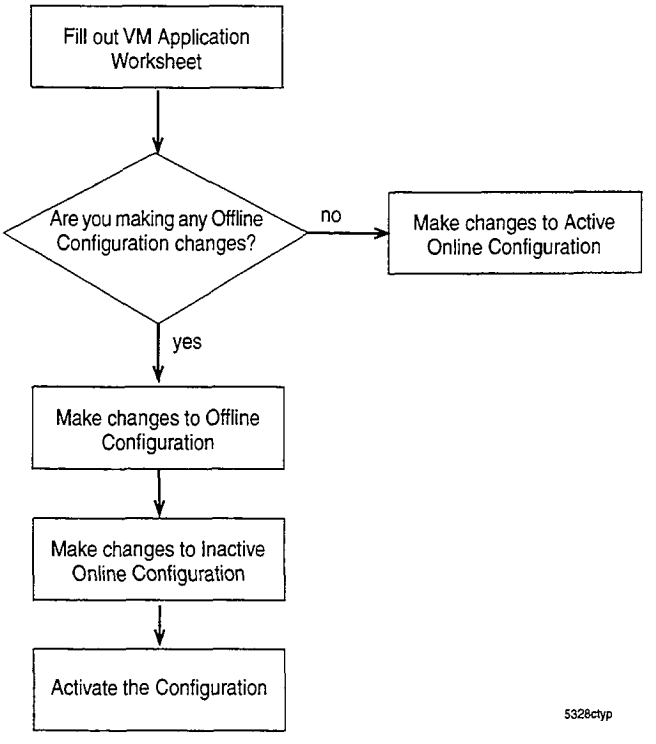


Figure 2-2 Handling Configuration Types

Defining a Line Group

All Series 6 server ports (telephone lines) are assigned to line groups. Each line group, in turn, is assigned to a single application, and any programming that is done for that application applies to every port in the line group. The number of ports you assign to each line group depends on how heavy you expect the phone traffic to be for the particular application.

At the PBX or CO level, all telephone lines connected to the ports of an individual line group are typically assigned to a hunt group, ACD group, UCD group, etc. to ensure that incoming calls are answered by the first port that is available for the particular application.

Line Group Number

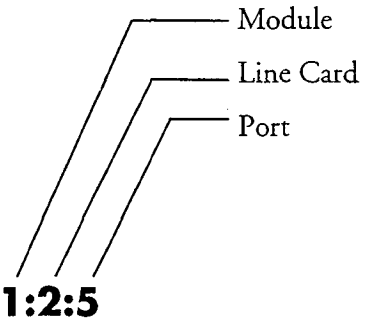
Each line group is represented by a discrete number. Valid line group numbers are 1 through 24. The preset default for the VoiceMemo application is 1.

Group Name

The group name identifies the line group's purpose. For example, a line group could be called "Message Center." There is no default group name.

Line(s) in Group

You identify each line (or port) in a group with three identifiers, which indicate a module, a line card, and a port on a line card. The module (sometimes called a "host") refers to a CPU, the server's main processor. Modules are numbered from 1 through 4. Line cards are numbered 0 through 15. Each line card has a number of ports, and you can connect one telephone line to each port. Port numbering also starts at 0 and the upper limit depends on the type of line card you are using. The set of three identifiers (module, line card, and port) is called a "triplet," and is used in this format:



The default setting has all telephone lines on the server assigned to group 1.

If you have more than one line in the group, separate the line numbers by commas as you enter them on the worksheet. For example, write 1:0:0,1:0:1,1:1:0 since this is how you must enter them. If you are entering a range of lines, you must use the full triplet on both sides of the range, such as 1:0:0-2:7:2 for everything on module 1, and everything on module 2 up to slot 7, port 2. (You can omit the module number if it is module 1; for example, 0:1-3:7.) For each module, line card, and port, there are several valid values. Table 2-2 describes them.

Table 2-2 Module, Line Card, and Port Values

	Valid Value	Interpretation
Module	blank	Module 1
	number	Specified module
Line card	*	All line cards controlled by the specified host
	number	Specified line card
Port	*	All ports on the specified line card(s)
	number	Specified port

As Table 2-3 implies, there are many possible combinations. It shows several examples of valid module, line card, and port combinations and how the server interprets them.

Table 2-3 Module, Line Card, and Port Combinations

Expression	Interpretation
1:*	All the line cards controlled by module 1 on a multi-module server; for a single-module server this means all ports on line card 1.
1:2:*	All ports controlled by module 1, line card 2
1:0-3:7	Module 1, all ports on line cards 1–3 (assuming 8-port cards)
2:1:2, 2:2:0-2:3:7	Module 2, line card 1, port 2 plus all ports on line cards 2 and 3 (assuming 8-port cards)

Configuring the Application

Configuring the VoiceMemo application consists of establishing day and night hours, establishing a mailbox dialing plan, specifying call transfers and the use of attendants, and identifying administrator's and attendant's mailboxes. You must also decide whether to configure other operations such as a wait prompt, the default language for prompts, and passcodes.

Day and Night Hours

The VoiceMemo application can issue different company greetings for day answering and night/weekend answering. With the Receptionist II optional feature, the software can treat individual extensions differently when calls are received during night and weekend hours, rather than during normal business hours. The hours that constitute a normal work day, and the days of the week that are considered a weekend, can be customized for the individual installation. The company greeting is the greeting in the administrator's mailbox.

Day and night hours are scheduled for each line group. If you have different day and night/weekend hours for each line group on the server, the greeting that an outside caller hears depends on the line group used to access the mailbox. Of course, if you don't record any custom greetings then all callers hear the same default greeting.

Start Time of the Work Day

This is the time for the start of the work day in the format "hh:mm AM (or PM)"; where hh is the hour and mm is the minute. The default start time for the work day is 8 a.m. If neither AM nor PM is specified, the server assumes that the time is AM.

End Time of the Work Day

This is the time for the end of the work day in the format "hh:mm AM (or PM)"; where hh is the hour and mm is the minute. The default end time for the work day is 5 p.m. If neither AM nor PM is specified, the server assumes that the time is PM.

If you want to use the same greeting 24 hours a day, enter "12:00AM" in both Start and End time.

Weekend Days Table

This is a table that tells the VoiceMemo application when to treat calls that are answered during the work day interval (as specified in the two entries above) as day calls, and when to treat these calls as night/weekend calls. The table starts with Monday. The default value is DDDDDNN, which means that the work days are Monday through Friday, and the weekend days are Saturday and Sunday.

Mailbox Dialing Plan

The mailbox dialing plan is a string of nine elements. The elements in the string define, by position, the number of digits in valid mailbox numbers. The first element shows the number of digits allowed for mailboxes that begin with 1. The next element shows the number of digits allowed for mailboxes that begin with 2, and so on up to mailboxes that begin with 9. Each element is separated by commas.

You must reenter the entire mailbox dialing plan when you change any element.

Valid mailbox numbers can be up to 11 digits long, so valid numeric elements can be 0 (zero) through 11. When an element is zero, no mailboxes beginning with that digit are allowed.

For example, if your dialing plan is *0, 3, 3, 7, 3, 3, 3, 3, 10* the VoiceMemo application interprets the string as follows:

Digit	Element	Interpretation
1	0	No mailboxes start with 1. Mailbox numbers 1, 11, 111, and so on are all invalid.
2	3	Mailboxes starting with 2 are three digits long. Mailbox numbers 2, 22, 2222 are invalid. Mailbox numbers 222 and 246 are valid.
3	3	Mailboxes starting with 3 are three digits long. Mailbox numbers 3, 33, and 3333 are invalid. Mailbox number 333 is valid.
4	7	Mailboxes starting with 4 are seven digits long. Valid mailboxes are 434-1234 and 499-8765.
5	3	Mailboxes starting with 5, 6, 7, and 8 are three digits long.
6	3	
7	3	
8	3	
9	10	Mailbox numbers starting with 9 are ten digits long. Valid mailbox numbers are 916-456-7777 and 912-456-7777.

The default dialing plan is *3,3,3,3,3,3,3,3,3,3* meaning all mailboxes have 3 digits.

Other entries allowed in the dialing plan allow other Series 6 server features. Table 2-4 lists these entries for your reference.

Table 2-4 Dialing Plan Elements

Element	Explanation
0-11	Length of the mailbox. Zero means none may start with this number.
V	Variable number (1 through 11) of digits; server uses timeout to determine end of mailbox number
M	Analog networking (AMIS) mailboxes leading digit
A	Dial-by-Name (ASCII) leading digit
T	Call placement leading digit
Nn	Networked mailboxes, n=mailbox number length. NV (variable number length) acceptable
Pn	Network mailbox prefix used, n=mailbox length including prefix digit

If the extension numbers at your site use too many starting digits to implement all these capabilities in your dialing plan, you could use the optional star prefix dialing plan, described below.

Optional Star Prefix Dialing Plan

The dialing plan described above tells the VoiceMemo application how to handle DTMF digits 1 through 9. If you have mailbox numbers and other features that use all ten of these digits, you can implement the optional star prefix dialing plan. This allows additional features using digit entry followed by the star (*) key. You can implement several features with the optional dialing plan, as shown in Table 2-5.

Table 2-5 Optional Star Prefix Dialing Plan Capabilities

Optional Dialing Plan choice	Counterpart in Regular Dialing Plan
Dial-by-Name	A
Analog Networking	M
Networking without prefix	N
Networking with prefix	P
Call Placement	T

PBX Considerations

A PBX only allows a certain range of extension numbers. Ideally, employees' mailbox numbers should match their extension numbers. This makes it easier for callers to remember the proper mailbox number. If the numbers do not match, and the optional Receptionist II program is installed, you can program certain conversion factors to allow the VoiceMemo application to match the extension with the correct mailbox number.

If the company has employees in the field who do not have regular PBX extension numbers, you can give them mailbox numbers that do not fall in the range of allowable PBX extensions, even if there are enough mailbox numbers in this range. You can reserve these extra mailboxes for future expansion of in-house staff. For example, if the PBX allows extensions 200 to 399, you can keep the dialing plan at the default setting of *3,3,3,3,3,3,3,3,3,3*, and assign all field personnel mailboxes 600 through 799.

Dial-by-Name

To configure the Dial-by-Name function, you need to:

- Change the dialing plan to specify a digit for Dial-by-Name.
- Specify the name dialing sequence.

- Set a threshold for playing matching names.
- Specify whether a caller must enter a complete name or just enough letters to get a match.
- Specify whether a caller can press a single digit to reach a mailbox or must enter the entire mailbox number.
- Specify whether a caller hears matched names and mailbox numbers or just the matched names.
- Determine the grouping of access within the Dial-by-Name database (sometimes called "Partitioned Dial-by-Name"). Even though mailbox owners may all be in the same Dial-by-Name database, they can only reach others in the database who share the same GCOS group (in a bit-mapped GCOS) or affinity group. Refer to the GCOS section in Chapter 8 for more information on GCOSs,

Dialing Plan

In the Dialing Plan Menu, coding a digit with the A element reserves that digit for dialing names.

Name Dialing Sequence

You specify the name dialing sequence with the Last Name First Flag parameter. This parameter determines whether a user's name must be dialed in the last name-first name sequence or the first name-last name sequence. In most cases, callers need not enter user's full name. When a caller finishes pressing a series of keys, the Series 6 server searches a special file for entries that match the series. If it finds more than one match, it plays the names and mailbox numbers of the partial matches. If the server finds a unique match, it plays either the user's name or personal greeting.

Matching Threshold

Setting a threshold for playing matching names determines the maximum number of names and mailboxes the server plays in response to a partial name match. A partial name match occurs in either of these cases:

- Callers enter some portion, but not all, of a recipient's name.
- Callers enter a complete name, but the server finds more than one recipient that matches the entry.

If more than one name is found that matches the name dialed, the server plays the specified number of matching names. A threshold of 3, for example, means that up to three matching names will be recited, even if there are more than three. If the

number of names for a partial match is greater than the threshold, the server prompts a caller to continue entering letters.

Exact Match Break

Specifying an exact match break determines how callers can enter the partial name of a user. When "yes" is specified, the caller hears the name and mailbox number play as soon as there is a match. The caller can, however, end a name entry with the pound (#) key; the caller hears whatever names match. When "no" is specified and a caller stops entering letters, the server waits for a time out period before responding; if a caller presses the # key, the server responds immediately. If the server can determine exactly who the intended recipient is, it plays that recipient's name (and mailbox number if not suppressed). Alternatively, the server plays, for outside callers, that recipient's personal greeting. If more than one recipient's name matches the caller's input, the server plays the names and mailbox numbers of the possible recipients. A caller can interrupt the server during name or greeting play by pressing any key on the telephone keypad.

Single Digit Access

Specifying single digit access means that a caller can enter a single digit to reach a mailbox after matched names have been played, similar to a tree mailbox operation. When single digit access is allowed, a match with the name dialed by a caller causes the server to play a prompt such as:

> "There are three entries: Jean Brown, mailbox 4321, press 1; John Brown, mailbox 4222, press 2; Jill Brown, mailbox 4567, press 3. Enter a mailbox number. Press 0 to return to Dial-by-Name."

The caller can then press the appropriate digit to reach the desired person instead of entering the entire mailbox number.

When no single digit access is allowed, a caller must enter an entire mailbox number to reach a mailbox after matched names have been played. A match with the name dialed by a caller causes the server to play a prompt like the one shown above except that there is no single digit stated. The caller must enter the entire mailbox number.

Suppressing Mailbox Numbers

Suppressing the mailbox number means the server omits the mailbox numbers in the list of names played when there is a match with a dialed name. The default is to include the mailbox number.

Dial-by-Name Database

Each mailbox that can be reached by name must be configured with an FCOS that includes feature bit 92, which places users' mailbox numbers in the Dial-by-Name database. The server searches this database for entries to match a caller's input. See

the FCOS chapter for more information on this feature bit and how to implement FCOSs.

Even with all the parameters just described set, a mailbox owner's name can be listed only when the mailbox owner's name is specified in the mailbox configuration. Once all these requirements are met, the name goes into the database as soon as you exit from the respective configuration menus.

To make sure there is only one mailbox per user's name, you can print out a phone book for your site. This phone book shows the mailbox owners accessible through the Dial-by-Name function and their mailbox numbers.

Same Digit for Dial-by-Name and Mailbox Numbers

Occasionally you may need the same digit for a Dial-by-Name trigger *and* in a mailbox number. With the optional star prefix dialing plan (described above), the digit specified for Dial-by-Name can still be used for mailbox numbers when the digit is *not* followed by a star (*). Suppose, for example, that your server has mailboxes beginning with 1 but you also need the digit 1 for Dial-by-Name. You can specify 1 as the Dial-by-Name dialing plan digit, which causes the server to prompt the caller to press 1 and * to dial by name.

Transfers and Attendants

The VoiceMemo application allows you to specify dial strings and methods for transferring callers, and to specify the use of a wait prompt. If the Receptionist II optional feature is installed, you can specify the conditions for a company greeting and mailbox greeting.

Attendant's Transfer String and System Attendant's Extension

These two dial strings together describe the steps needed to transfer a call to a live attendant, or other general assistance number. These steps are PBX-dependent, and can be determined by actually transferring a call to the attendant from a station set. Use the dial string characters in Table 2-6.

The attendant's transfer string contains the coding for all the steps that the PBX must take before dialing the attendant's extension number. The default attendant's transfer string is S+ which means "do a switch hook flash, then pause for one second." This string is also used when transferring a caller to a mailbox attendant's extension number.

The system attendant's extension consists of the PBX extension number of the live attendant (or a "must answer" number, with no mailbox), plus coding that describes any subsequent steps necessary to complete the call. Up to 30 characters can be entered in this field.

Table 2-6 Transfer Dial String Characters

Character	Explanation
0-9, *, #	Keys on a standard pushbutton telephone
(	The following digits should be dial pulsed (10 PPS)
)	Stop pulsing; resume sending DTMF tones
+	Pause for one second
A-D	Fourth column DTMF keys
E	Go off-hook, wait for dial tone or other steady tone (pager go-ahead or confirmation tone, for example), then do next item in string
F	Switch hook flash and wait for dial tone
G	Greet - Wait for a voice or computer tone answer
H	Hang up (go on-hook)
L	Answer supervision - Wait for telephony signal from destination. Use only with trunk (four-wire) connections.
N	Start a new activity; do not go off-hook
O	Ring once
P	Go off-hook, do not wait for dial tone
S	Switch hook flash, no wait required
T	Go off-hook, wait for dial tone
V	Voice pager: play the first unplayed message and update mailbox

The default system attendant's extension number is 0. In addition, the VoiceMemo application automatically appends an H (hang up) command to the end of the string. This allows the PBX to drop the call if the caller hangs up before the Series 6 server completes the transfer to the attendant. If your PBX does not allow blind transfers to the attendant, add a G (the code for "wait for a greeting") to the end of the system attendant's extension.

If the PBX allows trunk-to-trunk transfer, you can program an off-site system attendant's extension number.

Each mailbox can be programmed to direct calls to an intermediate attendant when the caller requires assistance. In the absence of an intermediate attendant, calls are routed to the system attendant. Transfer to an attendant can occur in the following situations:

1. When the Key_0 for Attendant Transfer During Greeting parameter is enabled, a caller can press 0 while listening either to the server greeting or

to a mailbox greeting. When 0 is pressed during the server greeting, the caller is transferred to the system attendant's extension. When 0 is pressed during a mailbox greeting, the server first checks the mailbox for the attendant's extension number; if none is present, the caller is transferred to the system attendant's extension.

2. While logged in, a mailbox owner can press 0 to be transferred to an attendant, if the mailbox's FCOS includes feature bit 002 (Can Reach Mailbox Attendant). The server first checks the mailbox for the attendant's extension number; if none is present, the caller is transferred to the system attendant's extension. (See the Features Class of Service chapter for more information on FCOSs and feature bits.)

3. If the called party's mailbox FCOS includes outside caller functions, a caller can press 0, after recording a message, to send the message and transfer to an attendant. If the message is left in the attendant's mailbox, the caller is always transferred to the system attendant. If the message is left in a personal mailbox, the caller is transferred to the system attendant only if no attendant's extension number is present in the mailbox.

4. If the attendant's mailbox has been deleted, or has a Greeting-Only FCOS, and the wait prompt is enabled, the outside caller who waits is transferred to the system attendant's extension.

Key_0 for Attendant Transfer During Greeting

This function designates the 0 key as either an attendant access number or a log in code. The default is N, or disabled.

To enable the Key_0 function, you must enter Y. If this function is enabled, be sure to define a suitable system attendant's extension number and dial string.

When the Key_0 for Attendant Transfer During Greeting parameter is enabled:

- The server allows an outside caller to press the zero key, while either the company greeting or a mailbox greeting is playing, to be transferred to the system attendant's extension.

- Mailbox owners must log in by pressing the star (*) key either before or after entering their mailbox numbers. The zero key cannot be used to signal a login.

When the Key_0 for Attendant Transfer During Greeting parameter is disabled:

- Mailbox owners can press either the zero or star (*) key, before or after entering their mailbox number, to log in. (The zero option is essential when telephones at the installation-site do not have a * key.)

- Automatic access to the attendant on time out (that is, when the caller waits in response to the "Please enter a mailbox number or wait" prompt) can be provided, if necessary, by assigning a Greeting-Only class of service to the attendant's mailbox. The attendant's mailbox can then be used only to make messages of the day.

Pre-Company Name Dial String

The VoiceMemo application outputs this dial string immediately after going off-hook, and before playing the Company Greeting (either the standard "Welcome to the message center" prompt, or the Administrator's mailbox greeting).

This string is used only if the Receptionist II (Receptionist) optional feature has been installed on your server, *and* employees can manually call forward their phones directly to the message center number. In this situation, a Receptionist II port may inadvertently be connected to one of the ports that is running the message center application. The pre-company name dial string forces Receptionist II to drop the call, and instructs the server to wait a designated number of seconds before playing the company greeting.

There is no pre-programmed default.

- The pre-company name dial string must include a pound sign (#). You can configure DTMF A (fourth column DTMF key) in place of the pound sign if the PBX recognizes the pound tone as a code for some other function. The port that answers the call issues this tone, which forces Receptionist II to release the call. Be aware that callers and mailbox owners always hear this dial string when a mailbox is reached through the VoiceMemo application.
- To give the PBX time to make the connection before the company greeting is played, program a series of plus signs (+++) after the # or A. Each + in the VoiceMemo application configuration means "wait one second." To determine how many pluses are needed, forward one station to another station, make a test call to the first station, then count the number of seconds that elapse before the second station rings.

  If the test call showed that it takes two seconds for a forwarded call to connect to the second extension, for example, use "#++" for the pre-company name dial string.

  You can experiment to find the optimum number of seconds to wait for call connection. If the first half of the message center greeting does not play when Receptionist II calls are forwarded, add more pluses to the string. If there is a long silence before the greeting is played, delete pluses from the string.

Pre-Mailbox Greeting Dial String

The VoiceMemo application outputs this dial string immediately after receiving a valid mailbox number, and before playing the mailbox's greeting.

This string is used only if 1) the Receptionist II optional feature has been installed on your server and 2) employees may manually call forward their phones directly to their mailboxes. In this situation, a Receptionist II port may inadvertently be connected to one of the ports that is running the message center application. The pre-mailbox greeting dial string forces Receptionist II to drop the call, and instructs the server to wait a designated number of seconds before playing the mailbox greeting.

There is no pre-programmed default. The same conditions apply as listed above in "Pre-Company Name Dial String."

Wait Prompt

When the Wait prompt is enabled, the server issues the prompt "Please enter a mailbox number, or wait" immediately after the server greeting is played. The default value is Y (enabled).

To disable this prompt, you must enter N. In some cases, you must disable the Wait prompt for any number of reasons, among them:

- To record the company greeting (administrator's mailbox greeting) and the Wait prompt in the same voice. The text of the Wait prompt is recorded as the last sentence of the company greeting.
- When neither a system attendant's number nor an attendant's mailbox is defined, and the Wait prompt is enabled, callers who wait are thanked for calling, then disconnected.
- If you disable the Wait prompt and are using the Dial-by-Name function, you must record the "Press [digit] to dial by name" prompt in your own voice. The server prompt for Dial-by-Name plays if the Wait prompt is enabled.

Administrator's Mailbox Number

The initial software installation contains 10 possible default administrator's mailboxes. They are as follows:

- 98
- 998
- 9998
- 99998
- 999998
- 9999998
- 99999998
- 999999998
- 9999999998
- 99999999998

Since the default dialing plan is 3,3,3,3,3,3,3,3,3,3, the default administrator's mailbox number is 998. If the ninth position digit is changed to any number between 2 and 11, the default administrator's mailbox number should be changed to the corresponding 9.....8 number. An error message is generated if the number does not match the mailbox dialing plan.

The administrator's mailbox can be any mailbox number on the server; but if you select a mailbox number other than one of the defaults, you must create the mailbox before it can be used. The mailbox number you select must be allowed by the Dialing Plan.

Note: For server security, you should change the administrator's mailbox number from the default. (See "Mailboxes" in the task list for administrator's mailbox procedures.)

The administrator's mailbox number has special privileges:

- The administrator's mailbox day and night greetings are the day and night company greetings. If you do not record one or both of these greetings, the Centigram default ("Welcome to the message center") is played instead.
- Distribution lists that are created from the administrator's mailbox are server-wide master lists that can be used by any mailbox owner on the server.
- The system administrator may add/delete/modify mailboxes over the telephone, from the Telephone Administration Menu.

Attendant's Mailbox Number

The initial software installation contains 10 possible default attendant's mailboxes. They are as follows:

- 99
- 999
- 9999
- 99999
- 999999
- 9999999
- 99999999
- 999999999
- 9999999999
- 99999999999

Since the default dialing plan is 3,3,3,3,3,3,3,3,3, the default attendant's mailbox number is 999. If the ninth position digit is changed to any number between 2 and 11, the default attendant's mailbox number should be changed to the corresponding 9.....9 number. An error message is generated if the number does not match the mailbox dialing plan.

The attendant's mailbox can be any mailbox number on the server; but if you select a mailbox number other than one of the defaults, you must create the mailbox before it can be used. The mailbox number you select must be allowed by the Dialing Plan.

Note: For server security, you should change the attendant's mailbox number from the default. (See "Mailboxes" in the task list for attendant's mailbox procedures.)

The attendant's mailbox also has special privileges:

- Its greeting is the message of the day. This message is heard by all mailbox owners whose FCOSs include feature bit 043 immediately after they log in. The message is played twice (after two separate logins), the first time hard-played and the second time soft-played. (Hard-played prompts cannot be interrupted; soft-played prompts can.)
- The message of the day is stored only in the attendant's mailbox. Once it has been deleted, no mailbox owners hear the message, even if they have not logged in since the last message was created. Conversely, if an old message of the day is not deleted, or replaced by a new message, all newly created mailboxes receive the outdated message. For procedures on enabling and disabling the message of the day, see "VoiceMemo Application" in the task list.
- A customized site tutorial greeting can also be recorded from the attendant's mailbox. When the system administrator presses G to record a company greeting, the server prompts, "Press M to record the message of the day; press T to record a site tutorial." See "VoiceMemo Application" in the task list for procedures on recording a site tutorial.
- When outside callers access the message center, they are prompted to "Please enter a mailbox number or wait" after the company greeting is played. Callers who wait (because they have rotary dial phones, or do not know the correct mailbox number, for example) are then prompted,

"Please leave your name, the name of the person you are calling, and a message." These unaddressed messages go into the attendant's mailbox.

Multiple Attendant's Mailboxes

If a large number of unaddressed messages is expected, up to five Attendant's Mailboxes may be configured by entering the mailbox numbers, separated by commas (for example, 999, 910, 911, 912, 913). The message of the day and the site tutorial can be made only from the first attendant's mailbox that is configured; the other mailboxes are used only for storing unaddressed messages. When the first mailbox is full, VoiceMemo begins using the second mailbox until it is full, and so on until all attendant's mailboxes are full.

You can configure any mailbox as the attendant's mailbox by entering the mailbox number in this field. If you select a mailbox number other than one of the defaults, you must create the mailbox before it can be used. (See "Mailboxes" in the task list.)

Disabling the Attendant's Mailbox

When an outside caller accesses the message center number, VoiceMemo issues the prompt, "Please enter a mailbox number or wait." Callers who wait are prompted to leave a message in the attendant's mailbox. Some installations require these callers to be transferred to the system attendant's extension, instead. There are two ways to do this:

- If the system administrator does not issue messages of the day, delete the attendant's mailbox.
- Assign a Greeting-Only FCOS to the attendant's mailbox.

Note: If you disable the attendant's mailbox, and you do not define a system attendant's extension number, be sure to disable the Wait prompt. Otherwise, when a caller waits, VoiceMemo says "Thank you for calling," then hangs up!

Default Language for Prompts

This entry specifies the primary language in which prompts are issued. The default language is English. You must purchase and install language prompts diskettes in order to use any other language on your server. Table 2-7 lists some of the languages available. Contact your Centigram representative for further information.

A mailbox's LCOS can specify a different prompts language. The prompts set of diskettes in the secondary language must be installed before these mailboxes issue any prompts at all. Callers hear prompts in the default language.

Table 2-7 Some Supported Languages

Full Set and Hotel Set	Full Set Only
American English	Australian, British, or New Zealand English
French	TDDMemo
Japanese	
German	
Korean	
Latin American or Mexican Spanish	
Mandarin	
Portuguese	

A server can have one default language and up to eleven alternate languages, depending on the number and size of the hard drives. For more details about the number and kinds of languages supported, see the Other Classes of Service chapter.

TDDMemo can be installed like any of the language prompts. If TDDMemo is installed, selecting it as a response to the Default Language for Prompts parameter enables the TDDMemo feature of the VoiceMemo application in the current line group. When any mailbox owner receives or makes a call through that line group, TDDMemo replaces voice prompts with TDD tones. (See "TDDMemo for the Hearing Impaired" below for more information.)

TDDMemo for the Hearing Impaired

The TDDMemo feature of the VoiceMemo application supports telecommunications devices for the deaf (TDDs). With TDDMemo, hearing-impaired mailbox owners can receive TDD-generated text from other users.

TDDMemo users can be notified about messages by message waiting lights or any other message waiting indication supported by a Series 6 server, just as other users can.

Outside callers with a TDD can call a mailbox configured for TDDMemo prompts, be answered by a TDD greeting, and leave a message for the mailbox owner. Standard user options such as reviewing and recording over a message, making a message urgent, appending to a message, and dialing an extension are also allowed.

Configuring TDDMemo

You can configure TDDMemo to apply to either an entire line group or specific mailboxes. To configure TDDMemo, make the following changes:

- Set the default language for prompts to TDD in the VoiceMemo application (if configuring the line group).
- Assign a TDDMemo LCOS or another LCOS specifying TDDMemo as the prompts language to any mailboxes using TDDMemo. This LCOS should also have the Greeting Length and User Name Length limits parameters appropriately set for TDDMemo.
- Change the Stop Record Timeout and Dial Tone Detect Time telephony parameters (phoneline exceptions) for the line group in which TDDMemo is configured.

Refer to the Task List for specific instructions on configuring TDDMemo. For more information configuring TDDMemo, refer to *TDDMemo Configuration Note 14.*

Effect of TDDMemo on Other Server Features

Certain Series 6 server features and user options are not available to any mailbox associated with the line group in which TDDMemo is configured. These features are:

- Auto-Wakeup optional feature
- Call scheduling for pages
- Future delivery
- Standard tutorial

Answer Delay

You may set a variable answer delay with the Delay Before Answer parameter. The default for this parameter is zero (no delay), and in most cases, it does not need to be changed. A delay of up to 1/2 second can be required for certain applications (for example, the VoiceMemo application and the Receptionist II optional feature) that use E & M trunks.

Users need to use this delay if the application software sometimes answers an incoming call before all the digits are received, causing the switch to stop sending digits. This can happen when E & M trunks are being used.

The Delay Before Answer parameter can be helpful with other types of trunks and applications. In cases where the DID application does not work for a customer because the server answers too fast, this parameter should resolve the problem.

Note: The answer delay for the first call into a port after any online configuration change (FCOS, LCOS, GCOS, NCOS, line group, phoneline exceptions) is up to a second longer than for subsequent calls on the port. Consequently, changes to the answer delay parameter do not become effective until the second call is made into the port.

Mailbox Passcodes

Centigram provides security devices to protect your VoiceMemo installation at a server level and mailbox level. A device for use at the mailbox level is mailbox passcodes, which you configure through the VoiceMemo application. The following paragraphs outline the configuration of mailbox passcodes; for more complete information, see the Server Security chapter.

Minimum and Maximum Passcode Length

Minimum and maximum passcode length sets the range for the number of digits a passcode can be.

Enter the minimum number of digits that constitute a valid passcode for users of this line group. The minimum passcode length can be any number from 4 through 10. The default value is 4. This means no user can enter a new passcode shorter than 4 digits. If you want users to have longer passcodes (for security reasons) then you can specify a larger minimum length.

Enter the maximum number of digits that constitute a valid passcode for users of this line group. The maximum passcode length can be any number from 4 through 10. The default value is 10.

If you leave the maximum passcode length at the default, 10, then all passcodes can be no longer than 10 digits. You cannot enter a value greater than 10, and users cannot enter a passcode longer than 10 digits.

Passcode Trip Count, Passcode Trip Period

These two entries set the parameters for the passcode break-in warning, which is a server security feature. The default values for the passcode trip count and the passcode trip period are 5 and 24. This means that a warning is issued to a mailbox if someone attempts to enter an incorrect passcode for that mailbox at least 5 times (the passcode trip count) within a 24 hour period (the passcode trip period).

The passcode trip count can be set to any value from 0 to 255. The passcode trip period can range from 0 to 240 hours. In both cases, zero means the passcode break-in warning function is disabled.

The passcode break-in warning function is enabled when you configure both a trip count and trip period.

Using the VoiceMemo Application

This section covers the final steps toward using the VoiceMemo application.

Activate Changes

After the necessary configuring has been completed, and you have returned to the Main Menu, the Series 6 server makes all active configuration online changes effective immediately.

WARNING!
Activating the inactive configuration causes the server to restart all tasks, resulting in an interruption to call processing. You should perform the next step only during periods of low call traffic.

To make offline and inactive online configuration changes take effect, activate the inactive configuration. When you activate the inactive configuration, the server automatically shuts down and resets the software to the new configuration, then returns to the VoiceMemo Active Configuration Menu.

Create Mailboxes

The final step for making VoiceMemo operational is to create mailboxes. Refer to the Mailboxes chapter for more information.

If the administrator's or the attendant's mailbox is set to a number other than the default, you must create the mailbox before using it. Identifying the mailboxes in the VoiceMemo application line group gives them the ability to perform their special functions, but the functions are not enabled until the mailboxes are added to the server. The recommended FCOS for both mailboxes is 10 (VIP), the LCOS is 1 (Default), the GCOS is 1, and the message waiting type should be whatever is available for your server.

Record a Company Greeting

When callers reach VoiceMemo by dialing its number, they hear the administrator's mailbox greeting, which is the company greeting. (DID callers hear the mailbox's personal greeting.) It is possible to record separate day and night greetings. See the Mailboxes chapter for more information.

Test the Configuration

After phone lines have been installed, and you have completed all the applicable steps discussed so far, test your VoiceMemo application. See the task list for the procedure.

VoiceMemo Application Task List

VoiceMemo Release 6.0A and later

Task *Procedure*

VoiceMemo Application

VoiceMemo Application Configuration ..... CP 3301

Configure a Dialing Plan ..... CP 5002
Configure for Transfer to a System Attendant ..... CP 5020
Configure for Unaddressed Messages ..... CP 3314
Configure Speech Quality for an Application ..... CP 5053
Configure TDDMemo ..... CP 3291
Enable Multiple Messages for Outside Callers ..... CP 5022
Enable the Dial-by-Name Function ..... CP 3309
Prevent Unaddressed Messages ..... CP 5023
Test the VoiceMemo Application ..... CP 5315

VoiceMemo Application Configuration

VoiceMemo Release 6.0A and later

This procedure summarizes the steps necessary to configure the VoiceMemo application. It assumes that the appropriate server hardware and VoiceMemo application software have been installed.

Step	*Reference*
1. Complete a VoiceMemo Application Worksheet. Blank worksheets are near the back of this manual.	
2. Define a line group to be used for the VoiceMemo application.	CP 5010, Ch. 1
3. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	Menu Map 2
4. When the VoiceMemo Configuration Online Menu appears, specify the line group to which the VoiceMemo application is assigned. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24) *or* Press **Enter** if the current number is correct.	
5. Schedule company greetings. Use the Day/Night Menu to: • Designate the start of the work day • Designate the end of the work day • Designate the weekend	CP 5024, Ch. 6
6. Establish a dialing plan. If no star prefix is desired, use the Dialing Plan Menu. If a star prefix is desired, use the Star Prefix Dplan Menu to: • Specify the trigger digit if Dial-by-Name is desired *or* • Specify the signal digit if off-server messaging is desired	CP 5002
7. Enable Call Placement, if desired.	CP 3306, Ch. 4
8. Configure for transfer to a system attendant, if desired.	CP 5020

Step	*Reference*
9. If any of the following are desired, define an administrator's mailbox: • Master distribution lists • Company greetings and alternate greeting • Phone administration	CP 3303, Ch. 6
10. If any of the following are desired, define an attendant's mailbox: • Collecting or preventing unaddressed messages • Message of the day • Site tutorial	CP 3304, Ch. 6
11. Prevent unaddressed messages, if desired.	CP 5023
12. Enable multiple messages for outside callers, if desired.	CP 5022
13. Set a default language for prompts, if other than English.	CP 3312, Ch. 6
14. Enable Dial-by-Name, if desired. • Code the dialing plan with an A in the digit position that triggers a prompt about spelling the name. • Set the Dial-by-Name parameters. • Include feature bit 92 (user will be in Dial-by-Name database) in the FCOS assigned to mailboxes.	CP 3309
15. Configure the mailbox passcode parameters.	CP 5021, Ch. 10
16. Configure the speech quality for the application, if desired.	CP 5053
17. Verify that the configuration is correct.	CP 5015, Ch. 1
18. If you chose the inactive configuration at the beginning of this procedure, activate the configuration to make the parameter settings take effect.	CP 7002, Ch. 1

Configure a Dialing Plan

VoiceMemo Release 6.0A and later

This procedure describes how to configure a dialing plan for these Series 6 server applications, features, and operations:

- VoiceMemo
- DID VoiceMemo
- Paging
- Message delivery
- Star prefix use
- Dial-by-name
- Variable-length mailbox numbers

Step	*Reference*
1. Reach the VoiceMemo Application Menu, if you are not already there.	Menu Map 2
2. Enter the parameter settings from a completed VoiceMemo Application Worksheet through the applicable menus as indicated in the following steps. Blank worksheets are near the back of this manual.	
3. If no star prefix will be used, go to the Dialing Plan Menu. *Select:* (D) Dialing Plan *Prompt:* `VoiceMemo dialing plan =` *Response:* One of the following elements in each of the nine positions, separated by commas: **0** No mailbox numbers start with the digit marked by 0. **1 – 11** Number of digits allowed in a valid mailbox number. **A** Enables dial-by-name. When this digit is pressed, it triggers a prompt that instructs the caller to begin spelling the name. **M** Enables Analog networking (AMIS) mailboxes leading digit. **Nn** Enables Networked mailboxes, where n is the mailbox number length. NV (variable length) is acceptable. **Pn** Enables Network mailboxes using a prefix, where n is the mailbox number length including the prefix. **T** Enables call placement; the marked digit prompts a user for a phone number. **V** Mailbox numbers starting with this digit are variable length, up to 11 digits.	

Step	*Reference*

4. To use a star prefix, go to the Optional Star Prefix Dplan Menu.

   - If a star prefix will be used for Dial-by-Name, specify the trigger digit.

     Select: (E) Dial By Name Dplan Digit
     Prompt: `Dial by name dplan digit begin with (1-9, or # if nynex)`
     Response: The **digit** that will precede a star to trigger the Dial-by-Name prompt.

   - To use a star prefix for call placement, specify the signal digit.

     Select: (F) Call Placement Msg Delivery Dplan Digit
     Prompt: `Call placement msg delivery plan dplan digit begin with (1-9) =`
     Response: The **digit** that will precede a star to signal the server that a telephone number following the star is for call placement.

5. Save your entries by exiting to the VoiceMemo Online Menu.

Configure for Transfer to a System Attendant

This procedure describes how to configure a Series 6 server so a caller can press 0 for transferring to an attendant.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
3. When the VoiceMemo Configuration Online Menu appears, specify the line group to which this function applies. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
4. Reach the VoiceMemo Application Menu then go to the Dial String and Mailbox Menu.	Menu Map 2
5. Specify the system attendant's extension. *Select:* (A) System Attendant's Extension *Prompt:* `Attendant extension number (0 - 24 chars) =` *Response:* System attendant's PBX extension **number** plus dial string codes. Valid dial string codes are listed in Table 1. *or* A **period** (.) to disable the system attendant's extension function.	
6. Specify the attendant's transfer string or PBX pre-directory number. *Select:* (B) Attendant's Transfer String *Prompt:* `Attendant xfer string / PBX pre directory number (0-10 chars) =` *Response:* A **character** from Table 1 to describe all the dialing steps that the PBX must take to dial the system or mailbox attendant's extension number. This code is represented by the "attendant extension pre-dial index" in the mailbox set-up.	
7. Return to the VoiceMemo Application Menu.	
8. Enable the 0 key for transfer.	

Step *Reference*

Select: (K) Key_0 for Attendant Transfer During Greeting
Prompt: `Key_0 for attendant transfer during greeting (y/n) =`
Response: **Y** to allow a caller to press 0 during (as well as after) a greeting, *or*

N to allow a caller to press 0 only after a greeting has played. This also allows the caller to log into the mailbox, by pressing 0 or star (*).

9. Save the parameter settings by exiting to the Main Menu.

Table 1 Dial String Characters

Character	Explanation
0-9, *, #	Keys on a standard pushbutton telephone
(	The following digits should be dial pulsed (10 PPS)
)	Stop pulsing; resume sending DTMF tones
+	Pause for one second
A-D	Fourth column DTMF keys
E	Go off-hook, wait for dial tone or other steady tone (pager go-ahead or confirmation tone, for example), then do next item in string
F	Switch hook flash and wait for dial tone
G	Greet - Wait for a voice or computer tone answer
H	Hang up (go on-hook)
L	Wait for an answer supervision signal that indicates the receiving phone has gone off-hook, then dial remaining characters after receiving the signal. Valid only with four-wire connections, not with loop start or ground start phone lines.
N	Start a new activity; do not go off-hook
O	Ring once
P	Go off-hook, do not wait for dial tone
S	Switch hook flash, no wait required
T	Go off-hook, wait for dial tone
V	Play three seconds of the message for voice pager

Configure for Unaddressed Messages

VoiceMemo Release 6.0A and later

This procedure explains how to configure a Series 6 server to accept and store unaddressed messages.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
3. Specify the line group to which this function applies. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
4. Reach the VoiceMemo Application Menu, then go to the Dial String and Mailbox Menu.	Menu Map 2
5. Designate an attendant's mailbox. *Select:* (D) Attendant's Mailbox # *Prompt:* `Attendant's mailbox # =` *Response:* The **number** you wish to designate as the attendant's mailbox. The attendant's mailbox can be any number in the server, as long as it matches the dialing plan. If you anticipate a large volume of unaddressed messages, you can designate several attendant's mailboxes in a single server. To do so, enter the numbers of the attendant's mailboxes separated by commas; for example: 9771,9772,9773	
6. Save the mailbox designation you just entered by exiting to the Main Menu.	
7. If the attendant's mailbox number is not the default or is not one of the nine numbers reserved for it, create the mailbox.	CP 3304, Ch. 6

Step	*Reference*
8. When outside callers reach the main phone number, they are prompted to "Please enter a mailbox number or wait" after the company greeting is played. Callers who wait (because they have rotary dial phones or do not know the correct mailbox number, for example) are then prompted to "Please leave your name, the person you are calling, and a message." These are unaddressed messages. Be sure to designate a person to frequently check this mailbox and route these messages to the proper mailbox owner.	

Configure Speech Quality for an Application

VoiceMemo Release 6.0A and later

This procedure describes how to configure speech quality at the application level; that is, for the line group:

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
3. Specify the line group to which this function applies. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
4. Modify the application and go to the Speech Quality Menu. Specify speech quality for mailbox name and greetings. *Select:* (A) Speech Quality for all names and greetings (0,18,24,32) *Prompt:* `Speech Quality for all names and greetings (0,18,24,32) =` *Response:* Enter the **speech quality** for the names and greetings on this line group. Values you can enter are: **18** for 18.3 kilobytes per second (kbps) speech quality **24** for 24 kbps speech quality **32** for 32 kbps speech quality **Note:** Higher speech quality values uses more disk space. **Note:** NMS line cards can use values above 18 kbps; AT line cards must use 18 kbps. Higher values are incompatible with OneView release 1.0 and MESA-Net.	Menu Map 2

Step	*Reference*

5. Specify speech quality for recorded messages.

   Select: (B) Speech Quality for all recorded messages (18,24,32)
   Prompt: `Speech Quality for all recorded messages (18,24,32) =`
   Response: Enter the **speech quality** for all recorded messages for the line group. Use the same values listed above for speech quality for names and greetings.

6. Save the entry by exiting to the Main Menu.

Configure TDDMemo

VoiceMemo Release 6.0A and later

This procedure describes the steps for configuring TDDMemo. This enables the use of TDDs attached to telephones in the Series 6 server. TDDMemo applies to all mailboxes associated with the line group for which it is configured.

Note: You must install the TDDMemo prompts diskettes before configuring TDDMemo.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 2
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
3. Specify the line group with which the TDD mailboxes are associated. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
4. Go to the VoiceMemo Application Menu.	Menu Map 2

5. Choose TDDMemo.
Select: (L) Default Language for Prompts = [English]
Prompt: `DEFAULT PROMPT LANGUAGE`
`(1) English`
`(2) French`
`(3) English TDD`
`(X) Exit (No change)`
`COMMAND (1/2/3/X):`
Response: The **number** specifying TDDMemo prompts (in this example, 3). If TDDMemo is not listed, you must install the TDDMemo prompts diskettes.
Note: The above prompt varies depending on which languages you have installed on your server.	

6. Save your entry by exiting to the Main Menu.	

Step	*Reference*
7. Define an LCOS that includes these two limits parameters: • Greeting Length = 60 seconds • User Name Length = 60 seconds These are general limits parameters, available through the Set Limits Menu. • Language = TDDMemo (English TDD) This is done through the Set Language menu.	CP 5017, Ch. 8
8. Modify the configuration of each TDDMemo mailbox by assigning the LCOS modified to support TDDMemo.	CP 5047, Ch. 6
9. Change the following telephony parameters (phoneline exceptions) for the line group associated with mailboxes that use the TDD. Set the parameters to the values shown: Stop Record Timeout (phoneline exception 2) = 6 seconds Dial Tone Detect Time (phoneline exception 3) = 10 seconds	*Centigram Series 6 Installation and Service Manual*

Enable Multiple Messages for Outside Callers

VoiceMemo Release 6.0A and later

This procedure describes how to allow outside callers to leave any number of messages for any number of mailbox owners in a Series 6 server. Callers cannot make multiple messages in these cases:

- From tree mailboxes
- When forwarded immediately to a mailbox via a PBX
- When forwarded immediately to a mailbox via an integration that does not allow it (see the applicable integration document in the *VoiceMemo Optional Features Manual).*

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
3. Specify the line group to which this function applies. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
4. Go to the VoiceMemo Application Menu. *Select:* (M) Allow Multiple Messages for Outside Caller *Prompt:* `Multiple message for outside caller (y/n) =` *Response:* **Y** to allow an outside caller to leave more than one message with a single call-in.	Menu Map 2
5. Save the entry by exiting to the Main Menu.	

Enable the Dial-by-Name Function

VoiceMemo Release 6.0A and later

This procedure describes how to enable Dial-by-Name in a Series 6 server.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
3. Specify the line group to which this function applies. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
4. Code the dialing plan with an A in the digit position that triggers a prompt about spelling the name. For example, 3,3,3,3,3,3,3,A,3 would trigger the prompt, "Please enter a mailbox number or press 8 to dial by name."	CP 5002
5. Go to the Dial-by-Name Menu.	Menu Map 2

Step	*Reference*

6. Set the Dial-by-Name parameters.

   Select: (L) Last Name First Flag
   Prompt: `Dial by name last name first =`
   Response: **Y** to specify a last name-first name dialing sequence, *or*
   N to specify a first name-last name dialing sequence.

   Select: (N) Number of Names Threshold
   Prompt: `Dial by name threshold =`
   Response: **Number** of names (1-9) that the server plays when a multiple partial match occurs. A typical threshold is 3.

   Select: (E) Exact Match Break
   Prompt: `Dial-by-name exact match break =`
   Response: **Y** to allow a mailbox owner's name and mailbox number (or greeting, for an outside caller) to play as soon as a caller enters enough letters to uniquely identify a mailbox owner, *or*

   N to have the server wait for a caller to either stop entering letters or to press the # key before it responds.

   Select: (S) Single Digit Access
   Prompt: `Dial-by-name single digit access =`
   Response: **Y** to allow a caller to enter a single digit to reach a mailbox after matched names have been played, *or*

   N to require a caller to enter an entire mailbox number to reach a mailbox after matched names have been played.

   Select: (M) Suppress Mailbox Number
   Prompt: `Dial-by-name suppress mailbox =`
   Response: **Y** to have the server omit the mailbox numbers in the list of names played when there is a match with a dialed name, *or*

   N to have the server include the mailbox numbers in the list of names played when there is a match with a dialed name.

7. Include feature bit 92 (user will be in Dial-by-Name database) in the FCOS to be assigned to the mailboxes.

   - Either add the bit to an existing FCOS, — CP 5011, Ch. 1

     or — or

   - Copy an FCOS and edit it as necessary. — CP 5007, Ch. 1

8. Ensure that each mailbox to be accessible through Dial-by-Name shares the same GCOS group (if a bit-mapped GCOS) or GCOS (if an affinity group GCOS).

Prevent Unaddressed Messages

This procedure describes how to prevent callers from leaving messages in the attendant's mailbox. Use this procedure when you want callers to be transferred to the system attendant instead of leaving a message in the attendant's mailbox (an unaddressed message). A system attendant's extension must be configured.

Step	*Reference*

With Message of the Day and Site Tutorial Capability

1. Reach the Mailbox Maintenance Menu, then go to the Modify Mailboxes Menu. — Menu Map 3
2. Identify the attendant's mailbox.

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Attendant's mailbox number.**

3. Assign default FCOS 6 (Greeting Only) to the attendant's mailbox.

   Prompt: `New FCOS:`
   Response: **6.**

4. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number.

   At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

Without Message of the Day and Site Tutorial Capability

1. Reach the VoiceMemo Configuration Main Menu. — Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise.

   Select: (E) Modify Active Configuration
   or
   (F) Modify Inactive Configuration

Step	*Reference*

3. Specify the line group to which this function applies.

   Select: (G) Group Selected
   Prompt: `Enter a group number =`
   Response: The **number** of the line group (1-24)

   or

   Press **Enter** if the current number is correct.

4. Reach the VoiceMemo Application Menu then go to the Dial String and Mailbox Menu. — Menu Map 2

5. Disable the attendant's mailbox.

   Select: (D) Attendant's Mailbox #
   Prompt: `Attendant's mailbox # =`
   Response: A **period** (.), which disables the attendant's mailbox. Callers who respond to the wait prompt by waiting will be transferred to the system attendant's extension instead of the attendant's mailbox.

   Note: If you disable the attendant's mailbox and you do not define a system attendant's extension, be sure to disable the wait prompt. Otherwise, when a caller waits, the server thanks the caller and then hangs up!

   Since the attendant's mailbox is used for recording the message of the day and storing a site tutorial, these two capabilities will no longer be available.

6. Save the entry by exiting to the Main Menu.

Test the VoiceMemo Application

VoiceMemo Release 6.0A and later

This procedure describes how to test the VoiceMemo application after it has been configured. Prerequisites to this procedure are as follows:

- All appropriate hardware has been installed.
- Telephone lines have been installed.
- A list showing which extensions are associated with which VoiceMemo ports
- All required greetings have been recorded.
- At least two test mailboxes must be configured for VoiceMemo application use.
- A test telephone to simulate an outside caller's telephone for calling into the server

Step	*Reference*

Answering Capabilities

Note: At some installations with a data set integration (such as ROLM, Mitel, System 75, or System 85), where each port is linked to the telephone extension through software, the following test might not possible. In such installations, plug in all telephone lines, then call each individually. See the test plan provided with the integration software package for full details.

1. From the "outside" telephone, call in and ensure that the VoiceMemo application answers with the appropriate greeting.
2. If a port does not answer, see the directions for testing basic telephony functions in the *Centigram Series 6 Installation and Service Manual.* — *Centigram Series 6 Installation and Service Manual*
3. Repeat the preceding steps for each additional port.

Dialing Plan

1. Set up one test mailbox for each leading digit of the dialing plan that you are using.
2. Call the server and enter the number of the first mailbox. Repeat for additional mailboxes. If the server refuses to accept a valid number, check your mailbox dialing plan configuration for the line group.
3. Attempt to enter an invalid mailbox number for each dialing plan position. The server should respond: "That is not a valid mailbox number. Please enter another mailbox number." If a prompt is missing:
   - Perform an prompts update (see the *Installation and Service Manual* for directions).
   - If a prompt is still missing after the prompts update, contact your designated customer support representative.

3 DID VoiceMemo Application

This chapter covers:

- Overview of the DID VoiceMemo application
- Default software configuration
- DID VoiceMemo Application Worksheet
- Line group definition
- Configuring the application
- Using the DID VoiceMemo application
- Usage Considerations

Overview

The DID VoiceMemo application is a software application that uses the DID lines to answer a call with the mailbox owner's personal greeting. In other words, the DID VoiceMemo application gives the server the ability to manipulate and translate the digits received from the Central Office (CO).

Each voice mailbox owner has either a four digit telephone number or seven digit telephone number, depending on the digits received from the CO. Calling that number causes the telephone company's central office to seize one of the several DID lines connecting the CO to the Series 6 server, and to dial some or all of those digits into the server. The server matches the dialed number to the appropriate mailbox, and answers with the personal greeting of the mailbox owner.

DID mailboxes allow callers to dial a telephone number that is answered with the mailbox greeting. While some servers can use the PBX's forwarding capability to allow the server to answer calls with the user's mailbox greeting, DID mailboxes answer the calls directly.

To use the DID VoiceMemo application on your server, you should confirm that the line cards are set to DID settings. You must also perform any necessary server level configuration. Server level configuration through the DID VoiceMemo application involves two steps: defining the line group, and configuring the application. In the first step, you assign server ports to the DID VoiceMemo application. In the second step, you customize the application for your server. Procedures covering these steps are identified in the task list later in this manual.

A third step is necessary if your CO requires wink start: you need to make a phoneline exception.

Once you have completed the DID VoiceMemo application configuration, you need to activate changes, create mailboxes, and test the configuration. Procedures covering these steps are also identified in the task list later in this manual.

When configuring the DID VoiceMemo application, it helps to keep in mind the DID sequence that occurs between the server and the CO. Figure 3-1 gives a general view of the progress of a typical DID call into the server.

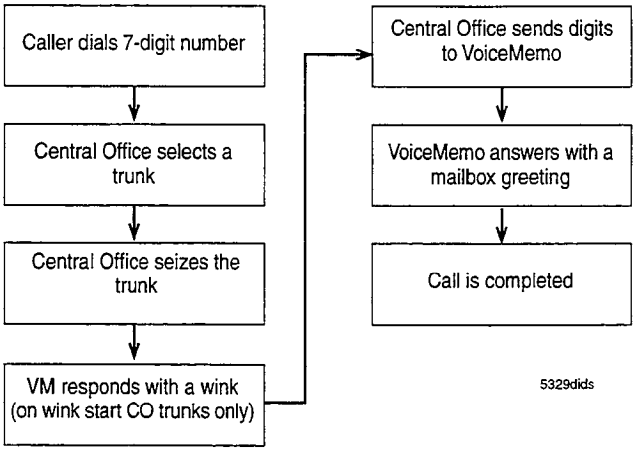


Figure 3-1 Typical Steps in the DID Sequence

DID VoiceMemo Application Worksheet

Use the DID VoiceMemo Application Worksheet (Figure 3-2) to organize the data. The rest of this chapter explains concepts you need to know for completing the worksheet and using it to configure the DID VoiceMemo application.

Sections of the worksheet are explained in the following paragraphs. Pre-programmed (default) values are given, where applicable. If you want to use a default value, indicate that fact on the worksheet. Then you do not have to select or enter any information for that parameter during reconfiguration.

Many of the parameters on this worksheet are identical to those explained in the VoiceMemo Application chapter. The parameters that are the same are identified in the following sections, and you can refer to the VoiceMemo Application chapter for the information you need.

Defining a Line Group

When you configure a line group, you dedicate certain ports to a single application. After you arrange line groups, you set parameters for the entire group, which eliminates the need to enter information for each individual port. For example, you can assign all ports for the DID VoiceMemo application to a single line group; then you can specify the dial plan, dial strings, etc., for this entire group. The server software recognizes line groups by their number.

Line Group Number

Each line group is represented by a discrete number. Valid line group numbers are 1 through 24.

Group Name

The group name, though optional, should identify the line group's purpose. For example, a line group could be called "DID SYS." There is no default group name.

Line(s) in Group

You identify each line (or port) in a group the same as for the VoiceMemo application. For more information on identifying lines in a group, see the VoiceMemo Application chapter.

Configuring the Application

Configuring the DID VoiceMemo application consists of configuring digit manipulation, then, as with the VoiceMemo application, establishing day and night hours, establishing a mailbox dialing plan, specifying call transfers and the use of attendants, and identifying administrator's and attendant's mailboxes. You must also decide whether to configure other operations such as a Wait prompt, the default language for prompts, and passcodes.

Digit Manipulation

The CO typically transmits, as requested, the last three, four, five, or seven digits of the dialed number. The server accepts the transmitted digits and the application software manipulates them. Digit manipulation means one or more of the following:

- Ignoring one or more of the leading transmitted digits
- Adding a fixed quantity (offset) to the received digits
- Subtracting a fixed quantity from the received digits

When the server has received the proper number of digits, it answers the call with the mailbox owner's greeting.

Digits Expected

Enter the number of digits that are supplied by the CO to this DID trunk group (1-11 digits).

Digits Absorbed

If the number of digits expected is greater than the number of digits in a valid mailbox number, the DID VoiceMemo application can be programmed to ignore or "absorb" these extra digits.

The digits are absorbed in the order received. For example, if Digits Absorbed = 2, the software absorbs (ignores) the first two digits that it receives. See examples 1 and 2 at the end of this discussion for a more complete illustration of this operation.

On the DID VoiceMemo Application Worksheet, enter the number of digits supplied by the CO to this DID trunk group that are to be ignored or "absorbed" (1 through 9 digits).

Offset (+/-)

Ideally, the digits that the server receives from the CO should match the mailbox number. If this is not possible, the server must map these digits (or convert them) into the corresponding mailbox numbers. One method of doing this is to absorb digits, as mentioned above. Another option (which can be combined with the absorption of digits) is to add a signed offset number:

- To subtract from prefix digits, use a minus (-) offset.
- To add to prefix digits, use a + offset.
- Use offset = 0 to pass digits through unchanged.

The process of mapping DID received digits into mailbox numbers can be seen in the following examples:

DID VoiceMemo Worksheet

Offline Parameters

Define Line Groups

Current group: 2

Add lines to current group: 1:0:0-1:1:7

Name of current group: DID Group

Drop lines from current group: None

Line Group Only Applications

Group selected: 2

Select application: D

Online Parameters

VoiceMemo Configuration Online Menu

Group selected: 2

Configure mobile DID? ☐ yes ☑ no

Digit Manipulation Menu

DID digits expected: 7

DID digits absorbed:

DID signed offset: 100

Day/Night

Start time of workday: AM / PM

End time of workday: AM / PM

M T W Th F Sa Su

Weekend days

Dialing Plan Menu

Dialing plan: 0 7 7 7 7 7 7 7 7

1 2 3 4 5 6 7 8 9

Optional Star * Prefix Dialing Plan

*Networking with prefix dplan digit:

*Networking with prefix dplan length:

*Dial by name dplan digit:

* Networking without prefix dplan digit:

*Networking without prefix dplan length:

*Off system msg. delivery dplan digit:

Dial String and Mailbox Menu

System attendant's extension:

Attendant's transfer string or PBX predirectory #:

Administrator's mailbox #: 9179648

Attendant's mailbox #:

E-mail transfer string: 3186422S+

General greeting mailbox #:

Pre-company name dial string:

Pre-maibox greeting dial string:

VoiceMemo Configuration-Online Menu

Key *0* for attendant transfer during greeting? ☐ yes ☐ no

Prompts "Enter mailbox # or wait"? ☑ yes ☐ no

Allow multiple messages for outside caller? ☑ yes ☐ no

Delay before answer (time in tenths/sec.): 30

Default language for prompts:

Dial-by-Name Menu

Last name first flag? ☐ yes ☐ no

Exact match break? ☐ yes ☐ no

Single digit access? ☐ yes ☐ no

Suppress mailbox number? ☐ yes ☐ no

Number of names threshold:

Passcode Menu

Minimum passcode length: 4

Maximum passcode length: 8

Passcode trip count: 3

Passcode trip period: 12

Allow Dial an Extension Menu

Allow dial an extension for callers? ☐ yes ☐ no

Allow dial an extension for users? ☐ yes ☐ no

Speech Quality Menu

All names and greetings: 18

All recorded messages: 18

Figure 3-2 Sample DID VoiceMemo Application Worksheet

Example 1. Assume:

Digits expected	4
Digits absorbed	1
Offset	-100

This means that any set of four digits, as received on DID, maps as follows:

3275	(digits received on DID)
275	(absorb one digit)
-100	(add signed offset)
175	(mailbox number)

Under the same circumstances, receiving a sequence of 3276 results in mailbox number 176, a 3280 is converted to mailbox number 180, and so on.

Example 2. Assume:

Digits expected	2
Digits absorbed	0
Offset	200

This means that any set of two digits received on DID maps as follows:

17	(digits received on DID)
17	(do not absorb any digits)
+200	(add signed offset)
217	(mailbox number)

Notice that, given the DID parameters in example 2, only mailbox numbers 200 through 299 can be accessed from this DID trunk.

Example 3. This example illustrates a situation where the offset plus the dialed number leads to digit carrying. Assume:

Digits expected	4
Digits absorbed	0
Offset	250

This means that any set of four digits received on DID will map as follows:

1587	(digits received on DID)
1587	(do not absorb any digits)
+250	(add signed offset)
1837	(mailbox number)

Note: The DID VoiceMemo application uses "normal" addition, adding 1587 and 250 to get 1837. Applications using "no-carry" math, such as Enhanced Inband, add each digit separately, discarding any carried digits.

Day and Night Hours

Parameters that establish day and night hours (and work days versus weekend days) operate in the DID VoiceMemo application the same as in the VoiceMemo application. See the VoiceMemo Application chapter for more information.

Mailbox Dialing Plan

The available DID number block may only allow a certain range of extension numbers. Ideally, mailbox numbers should match the DID numbers. This makes it easier for callers to remember the proper mailbox number. While a mailbox owner with a single mailbox could get along fine without ever knowing his mailbox number, owners of multiple mailboxes often need access to a series of mailboxes without the inconvenience of making a telephone call to each DID number. This is a particularly valuable feature for mailbox owners who are traveling and call from a long distance away.

In all other respects, you establish a DID VoiceMemo application mailbox dialing plan the same as described for the VoiceMemo application. For more information on the dialing plan, see the VoiceMemo Application chapter.

Transfers and Attendants

Note: Transfers involving a pre-company name dial string, a pre-mailbox greeting dial string, and a system attendant's extension generally are not used in DID applications. However, if the switch integrated with your installation does support these operations, the following paragraphs apply.

Pre-Company Name Dial String

This string is the sequence of digits or pauses that the server inserts before playing the company greeting (administrator's mailbox greeting). It is generally not used in DID applications.

Pre-Mailbox Greeting Dial String

Similarly, this is the string of activities that the server executes before playing out a mailbox greeting. In some telephone offices, the forwarding and answer is so fast that it is disconcerting to some callers. Putting a + sign in this position causes the server to wait a second after answering, before playing the greeting.

For more information, see the VoiceMemo Application chapter.

System Attendant's Extension (Optional)

The DID VoiceMemo application supports Return to Operator for DID line groups. The system attendant's extension is used to process the call being returned to the operator.

In most cases, the DID VoiceMemo application does not use a system attendant's mailbox, extension, or dial string. This is because only some COs support this feature. If your CO does support Return to Operator, then you should also configure the Key_0 for Attendant Transfer During Greeting parameter and the Attendant's Transfer String parameter when setting up this application. See the VoiceMemo Application chapter for more information on these parameters.

Wait Prompt

The Wait prompt operates in the DID VoiceMemo application the same as in the VoiceMemo application. See the VoiceMemo Application chapter for more information.

Administrator's and Attendant's Mailboxes

For most DID applications it is appropriate to remove these mailboxes. If you do use them, however, the following information applies.

The default mailbox file contains 10 possible default administrator's mailboxes. It also contains 10 possible default attendant's mailboxes. The defaults are:

Administrator's Defaults	Attendant's Defaults
98	99
998	999
9998	9999
99998	99999
999998	999999
9999998	9999999
99999998	99999999
999999998	999999999
9999999998	9999999999
99999999998	99999999999

See the VoiceMemo Application chapter for more information on these two mailboxes.

While 0 through 11 are acceptable entries for each position in the dial plan, if you wish to use one of these default mailboxes, the dial plan entry for mailboxes that begin with 9 must be within the range 2-11.

Mailbox Passcodes

Passcode parameters operate in the DID VoiceMemo application the same as in the VoiceMemo application. See the VoiceMemo Application chapter for more information.

Default Language For Prompts

The default language for prompts operates in the DID VoiceMemo application the same as in the VoiceMemo application. See the VoiceMemo Application chapter for more information.

Answer Delay

You may set a variable answer delay. The default for this parameter is zero (no delay), and in most cases, it does not need not be changed. A delay of up to 1/2 second may be required for certain applications (for example, VoiceMemo and Receptionist II) that use E & M trunks.

Users need this delay if the application software sometimes answers an incoming call before all the digits are received, causing the switch to stop sending digits. In cases where the DID VoiceMemo application does not work for a customer because the server answers too fast, this parameter should solve the problem.

For more information on this parameter, see the VoiceMemo Application chapter.

Making a Phoneline Exception for Wink Start

The Series 6 server is compatible with both rotary and DTMF outpulsing from the CO. However, the telephone company normally requires wink start operation with DID service. To enable the Series 6 server to send wink to the CO on seizure, you must change the Wink Start telephony parameter (24) to 1 (yes) for each DID trunk. See "DID VoiceMemo Application" in the task list for the procedure.

Using the DID VoiceMemo Application

This section covers the final steps to take in order to use the DID VoiceMemo application.

Activating Changes

Activating changes for the DID VoiceMemo application is identical to activating changes as discussed in the VoiceMemo Application chapter.

Creating Mailboxes

The final step for making DID VoiceMemo operational is to create mailboxes. Refer to Chapter 6, Mailboxes, for more information..

If the administrator's or the attendant's mailbox is desired and is set to a number other than the default, you must create the mailbox before using it. Identifying the mailbox numbers in the DID VoiceMemo application gives the mailboxes the ability to perform their special functions, but the functions are not enabled until the mailboxes are configured. The recommended FCOS for both mailboxes is 10 (VIP), the LCOS is 1 (Default), the GCOS is 1, and the message waiting type should be whatever is available for your server.

Testing

After phone lines have been installed, and you have completed all the applicable steps discussed so far, test your DID VoiceMemo application. In addition to the testing tips listed in the following paragraphs, see the task list for the procedure.

- For test purposes, standard single line telephones perfectly mimic a CO; a rotary dial telephone mimics dial pulse signaling, and a pushbutton phone generates the DTMF of tone trunks.

- Unplugging a CO line makes the line neither idle nor busy to the CO. The CO's automatic testing eventually discovers the unplugged line, and takes it out of service. You must then call the telephone company and have them reactivate the line manually, unless the local phone company has configured the trunk group for auto-restore. Whenever possible, it is better to make a line busy to the CO than to unplug it. Make a line busy by reversing its polarity (grounding the M lead).

- Once the server is working, use caution when substituting telephone line cords. Two kinds of line cords are commonly available. You can tell them apart by the positions of the two tabs on their end connectors. The standard cord (that is, the most readily available) has tabs on opposite sides of the line cord. The other type, which is sometimes called a data cord, has tabs that are both on the same side of the line cord. Replacing an existing line cord with a different type can take the port out of service.

  The standard cord (tabs on opposite sides) reverses the positions of the E & M leads, but maintains Tip & Ring polarity. Plugging in a cord that switches E & M lead positions between the Tellabs cards and the Series 6

server immediately takes the server off-hook, and holds the port out of service.

The data cord (tabs on the same side) maintains E & M continuity, but reverses Tip & Ring polarity. Plugging in a cord that reverses polarity between the CO and the Tellabs equipment automatically makes the trunk busy, and effectively takes it out of service.

Usage Considerations

In a DID environment, there are mailbox login differences if you are using Greeting-Only DID mailboxes. In addition, a DID environment can confuse new mailbox owners when they record their first greeting. These considerations are discussed in the following paragraphs.

Logging Into Greeting-Only DID Mailboxes

DID mailboxes with FCOS 6 (Greeting Only) or with any other FCOS that issues greetings but does not allow receipt of outside caller messages, have a different login procedure. To log into one of these DID mailboxes, a mailbox owner must:

1. Press the star (*) or zero key during the playing of the greeting. This does not interrupt the greeting.

2. When the entire greeting has been played, the server asks the mailbox owner to enter a passcode, if there is one. The mailbox owner is not required to wait for the prompt, but is required to wait until the entire greeting plays before entering the passcode. The mailbox owner is now logged in.

Recording the First Greeting for Greeting-Only DID Mailboxes

Newly created Greeting-Only DID mailboxes do not have greetings; when new mailbox owners try to reach their mailbox to record a greeting, the server responds, "That is not a valid mailbox number."

Mailbox owners can log into a Greeting-Only mailbox that does not have a greeting by pressing the star (*) key or zero key during the playing of "That is not a valid mailbox number," then entering the passcode after the prompt has finished playing. However, this procedure can be confusing to a new mailbox owner and can make the first experience with the server unnecessarily difficult.

To avoid this situation and to create goodwill, follow this procedure:

1. Initially assign FCOS 1 (Unlimited) to the mailbox when you create it.

2. Log into the mailbox and record a greeting that welcomes the new mailbox owner.

3. After the greeting is recorded, modify the mailbox configuration to give the mailbox the correct FCOS.

DID VoiceMemo Application Task List

VoiceMemo Release 6.0A and later

Task *Procedure*

DID VoiceMemo Application

DID VoiceMemo Configuration ..... CP 3320

Set Parameters for Digit Absorption and Offset ..... CP 6000

Test the DID VoiceMemo Application ..... CP 3413

DID VoiceMemo Configuration

VoiceMemo Release 6.0A and later

This procedure summarizes the steps necessary to configure the DID VoiceMemo application. It assumes that the appropriate server hardware and DID VoiceMemo application software have been installed.

Step	*Reference*
1. Complete a DID VoiceMemo Worksheet. Blank DID VoiceMemo worksheets are near the back of this manual.	
2. Define a line group to be used for the DID VoiceMemo application.	CP 5010, Ch. 1
3. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	Menu Map 2
4. Specify the line group to which the DID VoiceMemo application is assigned. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
5. Set conversion parameters for DID digits from the Central Office.	CP 6000
6. Use the Other Features option of the DID VoiceMemo Application Menu to set the other DID VoiceMemo parameters identified in the following steps.	Menu Map 4
7. Schedule company greetings. Use the Day/Night Menu to: • Designate the start of the work day • Designate the end of the work day • Designate the weekend	CP 5024, Ch. 6
8. Establish a dialing plan. If no star prefix is desired, use the Dialing Plan Menu. If a star prefix is desired, use the Star Prefix Dplan Menu to: • Specify the trigger digit if Dial-by-Name is desired, *or* • Specify the signal digit if call placement is desired.	CP 5002, Ch. 2
9. Enable call placement message delivery, if desired.	CP 3306, Ch. 4
10. Configure for transfer to a system attendant, if desired.	CP 5020, Ch. 2

Step	*Reference*
11. If any of the following are desired, define an administrator's mailbox: • Master distribution lists • Company greetings and alternate greeting • Phone administration	CP 3303, Ch. 6
12. If any of the following are desired, define an attendant's mailbox: • Collecting or preventing unaddressed messages • Message of the day • Site tutorial	CP 3304, Ch. 6
13. Prevent unaddressed messages, if desired.	CP 5023, Ch. 2
14. Enable multiple messages for outside callers, if desired.	CP 5022, Ch. 2
15. Set a default language for prompts, if other than English.	CP 3312, Ch. 6
16. Enable Dial-by-Name, if desired. • Code the dialing plan with an A in the digit position that triggers a prompt about spelling the name. • Set the dial-by-name parameters. • Include feature bit 92 (user will be in Dial-by-Name database) in the FCOS assigned to mailboxes.	CP 3309, Ch. 2
17. Configure the mailbox passcode parameters.	CP 5021, Ch. 10
18. Verify that the configuration is correct.	CP 5015, Ch. 1
19. If you chose the inactive configuration at the beginning of this procedure, activate the configuration to make the parameter settings take effect.	CP 7002, Ch. 1

Set Parameters for Digit Absorption and Offset

VoiceMemo Release 6.0A and later

This procedure describes how to specify the number of digits that are supplied by the Central Office, treat extra digits supplied by the Central Office, and map extra digits into VoiceMemo mailbox numbers.

Step	*Reference*
1. Reach the DID VoiceMemo Application Menu, then go to the Digit Manipulation Options Menu.	Menu Map 4

Select: (E) Digits Expected
Prompt: `DID digits expected (0 thru 11) =`
Response: The **number** of digits (0-11) supplied by the Central Office to this DID trunk group.

Select: (A) Digits Absorbed
Prompt: `DID digits absorbed (0 thru 11) =`
Response: The **number** of leading digits (0-11) supplied by the central office to this DID trunk group that are to be ignored ("absorbed")

or

0 (zero) if there are no leading digits to be absorbed.

Select: (O) Signed Offset
Prompt: `DID signed offset =`
Response: The **value** that must be added to or subtracted from the number of digits supplied by the Central Office to determine a mailbox number

or

0 (zero) to pass the supplied number through unchanged.

Specify a value in one of these formats:

- +n or n to indicate a value to add
- -n to indicate a value to subtract

2. Save the entries by exiting to the Main Menu.

Test the DID VoiceMemo Application

VoiceMemo Release 6.0A and later

This procedure describes how to test the DID VoiceMemo application after it has been configured. Prerequisites to this procedure are as follows:

- All appropriate hardware has been installed
- Telephone lines have been installed
- All required greetings have been recorded
- A test mailbox must be configured for DID VoiceMemo application use.
- A test telephone to simulate an outside caller's telephone for calling into the server.

Step	*Reference*
1. Reseat the line cards associated with the DID test port.	*Centigram Series 6 Installation and Service Manual* CP 5010, Ch. 1
2. Define a line group for the DID VoiceMemo application with the required port(s).	
3. If you are using wink start DID lines, ensure that phoneline exception 24 is set to Yes (wink start) for the DID test port.	
4. Perform an orderly shutdown then turn off the server.	
5. Turn on the server and allow program initialization to complete.	
6. Make sure the line cards are connected to the DID phone line services.	
7. Call the DID test mailbox and leave a message.	
8. Play the message in the DID test mailbox and check it for satisfactory playback.	

4 Pager Application

This chapter covers:

- Paging, Message Delivery, and Call Placement
- Configuration Requirements and Worksheets
- Line Group Definition
- Mailbox Configuration
- Examples
- Testing the Configuration
- Billing Issues
- The User Interface

Overview

The Pager application causes the Series 6 server to initiate, rather than receive, a telephone call. Don't let the name "Pager application" confuse you. It is used for paging, but also for a number of other functions that require outdials. An outdial is a call placed by the server. Two other uses of this application are message delivery and call placement. Some optional features, such as FaxMemo and Cut-through Paging, use the Pager application as well.

Paging is a function that allows the server to notify a mailbox owner when a message arrives in the mailbox by activating a radio pager. Parameters can be set to limit the hours that a page may be sent, or the types of messages that activate a page. For information on Cut-through Paging, see the Cut-through Paging optional feature documentation.

Message delivery is a function that allows the server to notify a mailbox owner when a message has been received, by calling the mailbox owner at a predefined telephone number and allowing the owner to log into the mailbox. Parameters can be set to limit the hours that a message delivery may be made, or the types of messages that activate the message delivery.

Call placement is similar to message delivery, in that it places a call to a telephone number. In this case, the message is made *by* (rather than to) the mailbox owner. The message is addressed to a telephone number rather than to a mailbox. The answering party does not have to log in to hear the message. Call placement was formerly known as "off-system messaging."

Paging

The Series 6 server supports three pager types: tone pagers that beep when they are activated, display pagers that show the paging party's telephone number, and voice pagers that play a few seconds of a message that was left. Servers can access any of these types of pagers, and can activate the display of a display pager or issue a message for a voice pager when the message is left in a mailbox.

Figure 4-1 shows one way paging works in the server. When a message is left in a mailbox configured for paging, the server places a call to the paging company (through the PBX and the CO). The pager then indicates the call. BBL paging and the TNPP integration are optional features that supply a direct RS-232 link to the paging system, rather than the dial-up system shown here.

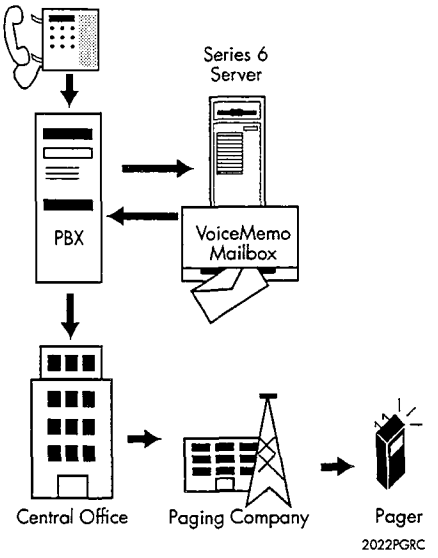


Figure 4-1 Pager Call Processing

Paging has these features:

- Three types of pager support (tone, display, voice)
- Paging can be activated for specific types of messages.
- Users can specify the hours available for paging.
- Users can enter the number to be paged.
- Limits for paging can be set through the Limits Class of Service (LCOS).
- The server can track number of pages for billing purposes.

- Pages can be billed to a credit card or other billing account.

Message Delivery

Message delivery provides message waiting indication by calling a mailbox owner at a pre-configured telephone number. When the phone is answered, the server says, "Hello [user's name]. You have [number] unplayed message(s) in your mailbox. Please enter your passcode." When the mailbox owner enters a passcode, the server says, "You have [number] unplayed messages in your mailbox. Press P to play the first message." The mailbox owner is now logged into the mailbox, and can use any of the features (Play, Make, Give, etc.) available to that mailbox.

The server prompts for the passcode once, then waits 30 seconds for a response. If someone other than the user answers, and does not know the passcode, the server says "Call back when you can remember your passcode. Good-bye." and hangs up.

Message delivery is particularly valuable for users who do not work on-site, and so cannot use ordinary message waiting indicators. Without message delivery, they might have to call in many times a day to receive messages in a timely manner.

Message delivery has these features:

- Message delivery can be activated for specific types of messages.
- Users can specify the hours available for message delivery.
- Users can enter the number to be called.
- Limits for message delivery can be set through the LCOS.
- The server can track number of messages delivered for billing purposes.
- Message delivery calls can be billed to a mailbox owner's credit card or other billing account.

Call Placement

Call placement (formerly known as "off-system messaging") allows server users to send messages to the telephones of people who are not server users, that is, who do not have mailboxes. For example, users can send messages when their time at a phone is limited (at a pay phone, for example) and expect the other party to receive their information. A company can send a product announcement to many target customers at once, or a volunteer group can notify its members of a meeting time change. Any mailbox owner can have this feature if you configure the mailbox properly.

Call placement provides voice message delivery by dialing a telephone number entered by the caller. When the phone is answered, the server says, "Hello [recipient's name]. You have a call from [user name]." The recipient can accept,

reject, delay, or hold the call for 30 seconds. If the call is accepted, the message plays and the recipient can reply to the message.

Call placement is compatible with all applications and integrations. It has these features:

- Users can send a single message to any number and combination of mailboxes and call placement numbers.
- The server retries delivery until successful.
- The server administrator can adjust redialing interval and frequency.
- A user can give an existing message to an outside number.
- Calls can be passcode protected, to ensure only the intended recipient can play the message.
- Limits for call placement can be set through the LCOS and RCOS (see the Other Classes of Service chapter).
- The server notifies users about calls that cannot be delivered.
- The server can track the number of calls for billing purposes.
- Message delivery calls can be billed to a mailbox owner's credit card or other billing account.

Summary of Configuration Requirements

Paging configuration occurs in two primary areas, the server configuration data and the mailbox configuration of each mailbox that uses the Pager application. You may also need to set up the Feature Class of Service (FCOS) and Limits Class of Service (LCOS) used in the mailbox configuration.

Message delivery is implemented the same way as paging, with one addition: when configuring a mailbox, the Message Delivery parameter is set to Yes. The Busy Pager Attempts parameter and Busy Pager Interval parameter are not listed. The server uses only the Pager Frequency parameter and Pager Interval parameter in the message delivery process.

Call placement configuration occurs in the same two areas for each mailbox: the VoiceMemo application configuration data and the mailbox configuration file. Message waiting indicators are not used with call placement.

VoiceMemo Configuration Data

Paging, message delivery, and call placement require this information in the VoiceMemo application configuration data:

- The line group used for outdials
- Pager system names. These are unique names, also called "pager names," to help you identify which pager system you are referring to. An example of a pager system name is "Outside Access."
- Hold time. This is the number of seconds that the outdial port remains off-hook after all outdialing is performed. It should be long enough to allow a reorder or busy tone to be returned, which alerts the server that a page has failed. The default value is 20 seconds. The maximum hold time allowed is 90 seconds. Set a value of 3 seconds to clear the port more quickly.
- Pager systems. These are outdial indexes that outdial a certain dial string when accessed. Each pager system is represented by a number. (You later enter this number as an internal outdial index, billed outdial index, or unbilled outdial index, and specify the access code index when adding a pager, message delivery, call placement, or fax retrieval to a mailbox.)

Message delivery also requires the server features that make it possible for the user to log into a mailbox, and to interact with the server .

Call placement also requires:

- Server features that make it possible for the user to send messages to outside telephone numbers
- Modification of the VoiceMemo application line group's dialing plan

Mailbox Configuration Data

Paging, message delivery, and call placement require this information in the user's mailbox configuration:

- A properly modified FCOS
- A properly modified LCOS
- The outdial indexes (which point to a specific pager system)
- The pager access type (which points to an internal outdial index, billed outdial index, or unbilled outdial index)

Both paging and message delivery need this information:

- The pager number (the telephone number that the server outdials to)
- The pager frequency (the number of times that the server attempts to notify the user of an unplayed message)
- The pager interval (the number of minutes the server waits between repages)

For paging you also need:

- The post-pager number (used with display pagers). Once the server has reached the pager number and the call is answered, it then sends the post-pager number to be displayed on the pager.
- The busy pager attempts (the number of times that the server attempts to notify the user of an unplayed message when it receives a busy tone on the last page attempt)
- The busy pager interval (the number of minutes the server waits between repages when it receives a busy tone on the last page attempt)

Pager Application Worksheets

Use the combined information from three worksheets to organize data for configuring a Pager application: the VoiceMemo (or DID VoiceMemo) Application Worksheet, the Mailbox Individual Worksheet, and the Outdial Line Group Worksheet.

- The VoiceMemo (or DID VoiceMemo) Application Worksheet you completed for the VoiceMemo or DID VoiceMemo application contains information applicable to message delivery and call placement.

  If you are including message delivery in this application, you set all parameters in the Other Pager Features Menu to the same settings as the primary application that is configured on your server . For example, if the VoiceMemo application is used for processing most calls on your server, copy the entries from the VoiceMemo Worksheet into the Other Pager Features Menu. (The primary application could be VoiceMemo, or one of the integrations, such as SL-1/IVMS, NEC 2400, Intecom, ITT, or Centrex.)

  If you are including call placement in this application, establish a dialing plan on this worksheet that tells the server that mailboxes starting with the specified digit are actually telephone numbers. Figure 4-2 shows a sample

VoiceMemo Application Worksheet for call placement. See the VoiceMemo Application chapter for more information.

- The Mailbox Worksheet organizes information you need to configure individual mailboxes for paging, message delivery, or call placement, or any combination of these functions. Figure 4-3 shows a sample Mailbox Worksheet for paging.

  If you are including call placement in this application, specify the appropriate outdial index and access type for call placement. Also specify the appropriate FCOS and LCOS for call placement.

- The Outdial Line Group Worksheet organizes information you need to configure the line group that outdials paging and message delivery calls and identify the pager system. Figure 4-4 shows a sample Outdial Line Group Worksheet for paging.

VoiceMemo Worksheet

Offline Parameters

Define line groups
Current group: 1
Add lines to current group: 1:0:0-1:1:7
Name of current group: Call Place
Drop lines from current group: None

Line Group Only Applications
Group selected: 1
Select application: V

Online Parameters

VoiceMemo Configuration Online Menu
Group selected: 1

Day/Night
Start time of workday: 8:30 AM (PM)
End time of workday: 5:30 (AM) PM
M T W Th F Sa Su: D D D D D N N
Weekend days

Dialing Plan Menu
Dialing plan: A 0 3 7 3 3 3 7 4
1 2 3 4 5 6 7 8 9

Optional Star * Prefix Dialing Plan
*Networking with prefix dplan digit:
*Networking with prefix dplan length:
*Dial by name dplan digit:
* Networking without prefix dplan digit:
*Networking without prefix dplan length:
*Call placement msg delivery dplan digit: 8

Dial String and Mailbox Menu
System attendant's extension: 311
Attendant's transfer string or PBX predirectory #: S+
Administrator's mailbox #: 9614
Attendant's mailbox #: 9615
E-mail transfer string: 3186422 S+
General greeting mailbox #: 654
Pre-company name dial string:
Pre-maibox greeting dial string:

VoiceMemo Configuration-Online Menu
Key *0* for attendant transfer during greeting? ☑ yes ☐ no
Prompts "Enter mailbox # or wait"? ☑ yes ☐ no
Allow multiple messages for outside caller? ☑ yes ☐ no
Delay before answer (time in tenths/sec.): 60
Default language for prompts: E

Dial-by-Name Menu
Last name first flag? ☑ yes ☐ no
Exact match break? ☑ yes ☐ no
Single digit access? ☑ yes ☐ no
Suppress mailbox number? ☐ yes ☑ no
Number of names threshold: 4

Passcode Menu
Minimum passcode length: 5
Maximum passcode length: 10
Passcode trip count: 3
Passcode trip period: 12~

Allow Dial an Extension Menu
Allow dial an extension for callers? ☐ yes ☑ no
Allow dial an extension for users? ☑ yes ☐ no

Speech Quality Menu
All names and greetings: 18
All recorded messages: 18

Figure 4-2 Sample VoiceMemo Application Worksheet for Call Placement

Mailbox Individual Worksheet

Mailbox Type

Standard ☑ **Tree** ☐ (also complete Tree Mailbox Worksheet) **Rotational** ☐ (also complete Rotational Maibox Worksheet)

Create New Mailboxes

Mailbox to create	9117	Name	Smith, Bob
Department code	Outside	Access code	
Receptionist day treatment		Receptionist night treatment	
Mailbox's extension number		Mailbox's extension pre-dial index	
Attendant extension number	511	Attendant extension pre-dial index	

Features Class of Service	10	Limits Class of Service	1	Group Class of Service	4	Network Class of Service	
Tenant Class of Service		Restriction Class of Service		Temporary passcode	5		
Message waiting type #1	5	Message waiting type #2	3	Message waiting type #3			
Call placement pager access type		Turn off pager/outcall notification?	☐ yes ☑ no	Time zone offset			
Lists with change rights	2, 3-6			Lists with review rights	2, 3-6		
Message speech quality	18	Name/greeting speech quality	18				

For outdial billing only

Internal outdial index		Billed outdial index		Unbilled outdial index	0
Billing number		Billing dialing order	☐ NB ☐ BN		

For AC message lamp (message waiting type # 2only)

AC message waiting lamp address:

For message waiting type 5 only

Pager access type	U	Pager number	5557979	Post-pager number	++G9117#
Pager frequency	3	Pager interval	30	Message delivery? ☐ yes ☑ no	Suppress pages? ☐ yes ☑ no
Busy pager attempts		Busy pager interval		Pager start time AM PM	Pager stop time AM PM

Define additional pager number? ☐ yes ☑ no

Figure 4-3 Sample Mailbox Worksheet for Paging

Outdial Line Group Worksheet

Pager Systems Index Plan

Pager System	Pager Name	Access Code	Hold Time
0	Outside Access	T9T	3
1	415 Area Code	T9T1415	3
2	553 Exchange	T9T553	3
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Offline Parameters

Define Line Groups

Current group: 2

Add lines to current group: 1:1:3, 2:0:3

Name of current group: Pager Dialer 1

Line Group Only Applications

Group selected: 2

Select application: P

Online Parameters

VoiceMemo Configuration Online Menu

Group selected: 2

Pagers

Pager systems supported (from Pager Systems Index Plan, above): 0,1,2

Figure 4-4 Sample Outdial Line Group Worksheet for Paging

Defining a Line Group

Use the information in the following paragraphs for entries on the VoiceMemo Worksheet and Outdial Line Group Worksheet.

Guidelines for Port Allocation

The server requires at least one port to outdial calls for paging, message delivery, and call placement. Outdialing ports must be dedicated exclusively; this means that there are fewer ports available to accept incoming calls. If not enough ports are reserved to handle the outdial traffic, however, the requests are queued, and users do not receive message waiting notification or messages in a timely manner. In addition, certain other types of message waiting indicators require the exclusive use of at least one server line card port. Before assigning pagers or message delivery to mailboxes, you should analyze call traffic flow and decide how much of the server you wish to devote to outdials.

Each call to a radio pager ties up an outdialing port for less than a minute; queuing becomes a problem only when there are a great many users with pagers. Message delivery can require more ports than paging, since each port is tied up for the entire time that the user is logged in. For example, if a user does more than simply play the unplayed message(s) that activated message delivery, the outdialing port can be in use for a considerable amount of time. Call placement is more like message delivery because ports are in use for more time than for paging.

Note: The server installation site, as the calling party, is responsible for any charges that accrue when paging, message delivery or call placement calls are made to numbers outside of the PBX system.

Line Group Information

All the server ports are assigned to line groups. Each line group, in turn, is assigned to a single application, and any configuring that is done for that application applies to every port in the line group. The number of ports in each line group depends on how heavy the phone traffic is expected to be for the particular application.

Line Group Number

Each line group is represented by a discrete number. Valid line group numbers are 1 through 24.

Group Name

The group name should identify the line group's purpose. For example, "Pager Outdialer."

Line(s) in Group

You identify each line (or port) in a group by a triplet, which represent the module, slot (line card), and port on a line card. Module refers to a CPU, the server's main processor. Modules are numbered 1 through 4. Slots are numbered are 0 through 15. Ports are numbered from 0 to the number of ports on the line card; you can connect one telephone line to each port.

For more information on line groups, see the VoiceMemo Application chapter.

Call Placement

To use call placement, you must change the dialing plan. Use the letter T as a dialing plan entry. For example, if you entered T in position 8 of the plan, users would enter 8 from the keypad to activate the call placement function. You can use T in any position of the dialing plan, but only once. Refer to the VoiceMemo Application chapter for more information on the dialing plan.

You may also want to define a new pager system or dial string (see the following) to implement call placement.

Pager Systems Supported

You can configure the server with up to 16 different outdial access codes, each identified by an index number (0-15). Each outdial line group does not need to support all access codes; for example, a line group dedicated to radio paging for the local area code does not need to support an access code designed for long distance call placement. Assigning only the required access codes to an outdial line group makes it easier to plan and control traffic and prevent abuse.

The mailbox configuration specifies these access codes for use in placing internal calls, unbilled external calls, and external calls charged to a billing number. You enter the appropriate pager system numbers as the internal outdial index, billed outdial index, and unbilled outdial index.

The Pager Systems supported parameter assigns specific pager systems to the line group that is currently selected. You should analyze your needs carefully before assigning pager systems. For example, if your server will have message delivery, call placement, and outdialing to radio pagers, you should take into account the fact that a single message delivery can take several minutes (while the user plays the message, answers it, etc.), while activating a radio pager takes a fraction of that time. Therefore, you might want to assign pager systems that outdial call placement or message delivery calls to a larger line group.

Configuring a Dial String

Use the information in the following paragraphs for entries on the Mailbox Worksheet and Outdial Line Group Worksheet.

When you are configuring the server to outdial, you want it to duplicate the steps that you would perform to dial a pager or place a phone call.

Paging

Many telephone switches require that you dial an access code to get an outside line. To call the pager, you usually dial the pager company telephone number, listen for a pager tone, then dial the code number of the pager. Before you dial the pager company telephone number, however, you pick up the receiver on the telephone, and listen for a dial tone to be sure that the telephone system is ready to accept the number that you dial. The steps for successfully activating this pager, therefore, are to (1) go off-hook and listen for the dial tone, (2) dial any access code necessary to get an outside line, (3) dial the pager company telephone number, (4) listen for the pager tone, then (5) dial the pager number. All these steps must be configured.

Message Delivery and Call Placement

Many telephone switches require that you dial an access code to get an outside line. Anything you must do, such as waiting for tones, other than dialing the actual number, must be configured.

Translate Operations to a Dial String

The server recognizes certain characters, which allow you to duplicate the steps required to page or place a telephone call. The pager dial strings consist of the characters listed in Table 4-1.

Note: The server always assumes a G (wait for greeting) as the last character in a message delivery dial string.

Pager System Dial Strings

The server divides the characters for the sequence of events into three parts: the access code (defined in one of the 16 pager systems), the pager number and the post-pager number. The access code contains the part of the dial string that is stored in the online configuration. The pager number and post-pager number are the parts of the dial string that are stored in an individual user's mailbox configuration. Assign dial strings to each section using the following structure:

- The access code, identified by the pager system index number, contains the first part of the dial string necessary to reach the user's pager. It is usually the part of the dial string that is common to some group of users.
- The pager number is the balance of the dial string necessary to reach the user's pager.
- The post-pager number is used as the data to display on a display pager.

Table 4-1 Pager Dial String Characters

Character	Explanation
0-9, *, #	Keys on a standard pushbutton telephone
(	The following digits should be dial pulsed (10 PPS)
)	Stop pulsing; resume sending DTMF tones
+	Pause for one second
A-D	Fourth column DTMF keys
E	Go off-hook, wait for dial tone or other steady tone (pager go- ahead or confirmation tone, for example), then do next item in string
F	Switch hook flash followed immediately by dialing
G	Greet - Wait for a voice or computer tone answer
H	Hang up (go on-hook)
L	Answer Supervision - Wait for telephony signal from destination. Use only with trunk (four-wire) connections.
N	Start a new activity; do not go off-hook
O	Ring once
P	Go off-hook, do not wait for dial tone
S	Switch hook flash, no wait required
T	Go off-hook, wait for dial tone
V	Voice pager: play first unplayed message (and update mailbox to count it as played)

When designing your dial strings, observe the following rules in assigning each of the three components:

- The first character in the dial string must make the server go off-hook and wait for a dial tone. Centigram recommends a T.
- An F (switch hook flash) produces the switch hook flash followed immediately by dialing
- The access code is always outdialed before the pager number. The dial string used is dependent on the pager system selected.
- The pager system part of the dial string is limited to 30 characters.

- Only 16 pager systems can be stored in the VoiceMemo configuration at any one time, regardless of the number of paging groups configured. However, each pager system can be shared by many users or line groups.

- The pager number is limited to 24 characters. The server administrator enters it in a mailbox's configuration.

For example, you might configure a pager system of T9T, since everyone must dial this to reach an outside number. You would then configure the digits of the mailbox owner's telephone number as the pager number when entering a pager message waiting type into the mailbox's configuration. As an alternative, if many mailbox owners have message delivery to the local prefix 292 you might choose to configure a pager system of T9T292.

The choice of where to assign each portion of the dial string is flexible. In this example, you have three pager systems available, which contain the following dial strings:

Pager System Index Number	Access Code*
0	T9T
2	T9T1408
4	T

* Same as "Dial String" in the report of outdial indexes, Figure 4-5.

If the dial string that you have formulated is T9T14085551313++G1234#, you can set up your pager number in three different ways, depending on which access code you select:

Pager System Index Number	Access Code*	Pager Number	Post-Pager Number
0	T9T	14085551313++G	1234#
2	T9T1408	5551313++G	++G1234#
4	T	9T14085551313++G	++G1234#

* Same as "Dial String" in the report of outdial indexes, Figure 4-5.

In each of these examples, the individual pager number was put in the post-pager number. You can see that the page works no matter how the balance of the string is split between pager and post-pager numbers.

Note: When designing your paging setup, choose your pager system dial strings carefully. You can only refer to 16 pager system access codes *per server.*

Mailbox Configuration

To use the Pager application, you must configure mailbox parameters as well as offline and online parameters. Use this section to see which parameters you must change. You must set different mailbox parameters for each capability (paging, message delivery, call placement). The specifics of each capability are discussed at the end of this section.

General Considerations

Since you are configuring the server to outdial, you want it to duplicate the steps that you would take to activate the pager, or to place the phone call. You must configure these steps into the pager system and pager number. You can configure up to four pagers per mailbox.

Creating or Modifying Mailboxes for a Pager Application

After specifying the classes of service, you identify the outdial index for the pager system as an internal outdial, billed outdial, or unbilled outdial.

When you select message waiting type 5 (pager) while creating or modifying a mailbox, you must set the parameters in the following list:

- Pager access type
- Pager access code index
- Pager number
- Post-pager number
- Pager frequency
- Pager interval
- Message delivery enabled or disabled
- Suppressing of pages enabled or disabled
- Busy pager attempts
- Busy pager interval
- Pager start time
- Pager stop time
- Additional pager , if any
- Call placement access type pager access code index
- Pager/outcall notification enabled or disabled

For procedures on creating or modifying mailboxes with paging or message delivery notification or call placement ability, see "Message Delivery" or "Paging" in the task list. The material in this section explains how the mailbox configuration works.

Pager System Access Code

The dial string that you formulate is divided into three parts. The first part of the string is the pager system access code, which is represented in the mailbox by the internal outdial index, billed outdial index, or unbilled outdial index. The balance of the string is split between the pager number and the post-pager number. See "Pager System Dial Strings" in the previous section for information on configuring the pager system.

An outdial index is a number from 0 to 15. It assigns a pager system to the mailbox. Even if you want to enter the entire outdial string into the pager number field, you still must choose an outdial index to assign a pager system. If you do not select an outdial index for a pager schedule, the server cannot issue a page when a message is left in that mailbox.

You can obtain a printout of pager systems, and their indexes and dial strings, either by running the pager access codes report from the Reports Menu or, when you are creating a mailbox and the server prompts for the outdial index, by requesting help. The server displays the available indexes, dial strings, and pager names ("paging system names") as in the following example (Figure 4-5).

```
Enter one of the following index numbers:
Index        Dial String       Paging System Name
0...          T9T               Outside line
1...          T9T1415           415 Area Code
2...          T9T1408           408 Area Code
3...          T9T1916325        PAGER 916-325
4...          T                 Internal Pager calls
5...                            Empty
6...                            [ No Name ]
7...                            [ No Name ]
8...                            [ No Name ]
9...                            [ No Name ]
10...                           [ No Name ]
11...                           [ No Name ]
12...                           [ No Name ]
13...                           [ No Name ]
14...                           [ No Name ]
15...                           [ No Name ]
```

Figure 4-5 Sample Report of Pager Systems Access Codes

Note that, in this sample, pager systems 6 through 15 have no name. These are pager systems that are not yet set up. Pager system 5 (Empty) is set up for use with pagers whose entire dial strings are contained in the pager number.

If you need to add a pager that requires the outdialing of more than 24 characters (thus the coding string is too long to fit into the pager number field) and no

appropriate outdial index already exists, you must configure a new pager system before you can add the pager.

Pager Number

The pager number tells the server what numbers and/or characters to dial after the pager system dial string, and before the post-pager number. See "Pager System Dial Strings" in the previous section.

Pager numbers are limited to 24 characters.

A mailbox FCOS with feature bit 124 (User can change paging phone number) or 143 (User can change message delivery number) allows the user to change the pager number without affecting the post-pager number. Refer to the Features Class of Service chapter for more information about FCOSs and feature bits.

Post-Pager Number

The post-pager number is used in two cases. With display pagers, the post-pager number (typically the VoiceMemo telephone number or the mailbox owner's mailbox number) is displayed on the pager screen. A second use is when the mailbox owner can change the pager number, and non-numeric pager dial string characters must be transmitted after the pager number to ensure a successful page. If the mailbox owner changes the pager number, then these non-numeric characters cannot be entered on the telephone set. In this case the post-pager number tells the server what numbers and/or characters to dial after the paging or message delivery number a user enters from the keypad. Such characters include G, +, and T. Mailbox owners cannot alter this post-pager number from the keypad.

Pager Frequency

The pager frequency is the maximum number of times that the server attempts to notify the user of an unplayed message, if each page is successful. The default pager frequency is 3.

A page is considered successful if the server places the call and it is answered. In other words, the server does not encounter a busy signal, reorder tone, or Ring No Answer after the pager/message delivery call is made. After a successful page is made, the server waits the number of minutes that are specified for the pager interval (see below), then, if there is still an unplayed message in the mailbox, repeats the page.

If the page is unsuccessful, the server retries the number until a successful page is made. For this reason, it is very important that you make a test call to verify that pager configuration is correct.

Alternate Pagers

Each mailbox can be configured with up to three message waiting types, and all are activated simultaneously. For example, the first message waiting type could be a pager, and the second message waiting type could be a message waiting light. You do not need a message waiting type to use call placement.

Note: You cannot use the third message waiting type for the Pager application, because it can only be used for the Centrex message waiting type.

By setting up two message waiting types as pagers, each with a primary and an alternate number, your mailbox can be configured to contact up to four pagers or four message delivery numbers, or any combination of the two. Message waiting type 1 and message waiting type 2 both can have a primary pager number and an alternate pager number. When you designate two message waiting types as pagers, *both* are activated. The alternate pager numbers, however, are only activated if the primary pager numbers do not get a successful response. If you want to use one pager number as a primary and one as a backup, and no other message waiting function, then set up one primary and one alternate pager number (for example, through just the first message waiting type parameter).

The alternate pager numbers can also be used to assign a second frequency and/or interval to the same pager number. The pager frequency is the maximum number of times that the server attempts to notify the mailbox owner of an unplayed message, if each page is successful. The pager interval is the number of minutes that the server waits before re-paging, when the previous page was successful. If you want the server to place a page twice, five minutes apart, then (if the message still has not been played) to page the mailbox owner three times, at 30 minute intervals, you would assign a frequency of 2 and an interval of 5 to the primary pager in the mailbox, and a frequency of 3 and an interval of 30 to the alternate pager (both through the first message waiting type parameter).

Note: The pager numbers are sometimes called "pager 1," "pager 2," "pager 3," and "pager 4." Pager 2 is an alternate for pager 1, using the first message waiting type parameter, and pager 4 is an alternate for pager 3, using the second message waiting type parameter. See the following table. (These numbers are allocated by how many pager numbers are set up, however.)

Designation	Message Waiting Type Parameter 1	Message Waiting Type Parameter 2
Primary	Pager 1	Pager 3
Alternate	Pager 2	Pager 4

Paging and Message Delivery in the Same Mailbox

You cannot assign both paging and message delivery to the same Message Waiting Indicator. If you want to assign both Paging and Message Delivery to the same mailbox, be sure each has a different indicator. You can use any of the four different indicators: MWI1 primary, MWI1 alternate, MWI2 primary, MWI2 alternate to accomplish this.

Other Mailbox Parameters

Other Pager application parameters that you can set in the mailbox configuration are listed below.

Pager interval

This is the length of time (0-255 minutes) the server waits between pages. The default is 30 (wait half an hour between pages).

Busy pager attempts

This is the number of times (0-255) the server retries the page until it completes the specified number of pages or completes a successful page. Set the number of attempts to a high number if the server will be encountering busy pager systems.

The default is 0, unlimited retries.

Busy pager interval

This is the length of time (0-255 minutes) the server waits between pages when a busy signal has been received. Set the Busy Pager Interval lower than the Pager Interval setting. The idea is that if a busy signal has been received, the page should be retried sooner than if speech or silence was received.

The default is 0, retry every minute.

Message delivery

This activates the message delivery option of paging. When enabled (set to Y), a new message causes the server to call the telephone number defined for message delivery, and ask whomever answers to log into the user's mailbox. Then the user can hear the message and perform other VoiceMemo operations.

If message delivery is enabled, paging is not available for that message waiting type. However, you can set one message waiting type can for paging and another for message delivery. Or, on the same message waiting type, you can set the primary for paging and the alternate for message delivery.

The default is N, no message delivery.

Suppress pages

This parameter turns off the paging feature without removing all the settings. Use this option to temporarily remove the paging option from a mailbox.

Enter Y or N; Y to suppress pages. The default is N, do not suppress pages. Set this field to N to resume the paging option after turning it off.

Pager start time

This is the time that the server starts sending pages for this mailbox. By setting both start and stop time to 12:00 a.m., paging is available 24 hours.

Enter the time in the form "hh:mm xm", where "hh" is hours, "mm" is minutes, and "xm" is either a.m. or p.m. The default is 12:00 a.m.

Pager stop time

This works with Pager start time, above, and is the time the server stops sending pages for this mailbox. The default is 12:00 a.m.

Paging Considerations

This section covers specifics applicable only to paging.

Changes by the Server Administrator

You can alter the following mailbox information to use paging:

- FCOS
- LCOS
- Pager number
- Post-pager number

Changes by Mailbox Owners

From a pushbutton telephone, mailbox owners can modify the following parameters:

- Telephone number to send pages
- Time at which the server starts paging
- Time at which the server stops paging

To allow mailbox owners to reset these parameters, you might need to modify the mailbox owners' mailbox configuration:

- An FCOS that includes feature bit 070, and either 077 or 124 or both (see Table 4-2)
- The LCOS that sets limits for the length of paging phone numbers
- The post-pager number

Feature Bits Used in Paging Mailboxes

Feature bits listed in Table 4-2 control paging. Two that deserve special mention affect changes to the weekday/weekend schedule and pager re-queuing.

Change Weekday/Weekend Schedule With one exception users of any Pager application can set schedules for weekdays or weekends, showing when they can be reached. The exception is that when TDDMemo is enabled, call scheduling is not available.

To change a paging schedule, a mailbox owner's mailbox must have an FCOS that includes feature bit 077 (Change pager schedule). To change a paging number, a mailbox owner's mailbox must have an FCOS that includes bit 124 (Change paging phone number). Both these bits require bit 070 (User Options Menu) to work. The mailbox owner's mailbox FCOS must contain bit 182 or 183 to change the schedule according to the weekday or weekend.

Note: If mailbox owners' pager numbers contain characters not on the keypad, such as G or T, put a post-pager number in their mailboxes to transmit these codes.

Table 4-2 Feature Bits That Control Paging

Feature Bit	Function
070	User Options Menu
077	Enable paging from a telephone; allow schedule changes from a telephone
079	Set message wait # 1 for urgent messages only
080	Set message wait # 2 for urgent messages only
124	Change paging number
168	Message wait 1, pager requeue
169	Message wait 2, pager requeue
181	Paging over message delivery, message waiting 1 over message waiting 2
182	Use pri/alt as week/weekend for MWI (message waiting type) 1
183	Use pri/alt as week/weekend for MWI (message waiting type) 2
212	Send page upon answer, greeting-only mailbox

Pager Re-Queue The pager re-queue feature is activated by feature bit 168 for schedule one and bit 169 for schedule two. If you have paging scheduled from 9 a.m. to 5 p.m. and receive a call at midnight, the server does not automatically page you at 9 a.m., and does not page until another message arrives during the scheduled time period. By including these feature bits in the FCOS you assigned to the paging mailbox, you are called as soon as the scheduled start time begins, instead of having to wait for another message.

For further information on FCOSs and feature bits, see the Features Class of Service chapter.

Changing an LCOS Definition

The limits listed in Table 4-3 affect paging mailboxes. You might need to change the LCOS assigned to the paging mailbox accordingly. The limits listed in the table and discussed in the following paragraphs are:

- Pagers per billing period
- Paging—phone length
- Receipt retention, regular

Pages Per Billing Period This limit can control the number of pages allowed for a billing period. This allows server administrators to control the number of paging functions allowed a user per billing period, and can be used where a paging service is sold for a flat fee per month. A limit of 0 means no limit is set.

Table 4-3 Paging Limits

Limit	Unit	Default	Valid Values
Pages per billing period	pages	0	0-999
Paging—phone length	digits	7	3–11
Receipt retention, regular	hours	0	0-8760

Paging—Phone Length This controls user modification of paging. The paging phone length determines the maximum number of digits users can enter for a paging number. The default is 7, the allowable range is 3 to 11 digits. It is useful for preventing long-distance calls.

> **Note:** This does not apply to phone numbers entered at a server maintenance console.

Receipt Retention, Regular This is used in the Pager application to limit the amount of time regular receipts are kept. (The Receipt Retention, CTP limit is used with the Cut-through Paging optional feature.) The limit can be up to 8760 hours (1 year). Alternatively, you can specify unlimited receipt retention by entering 0.

For more information about LCOSs and limits, see the Other Classes of Service chapter.

Action at the End of a Dial String

After the last character is outdialed, the server goes on-hook (hangs up) automatically when dialing a pager.

Voice Pager Code in the Dial String

A V (Voice Pager) anywhere in the dial string causes the server to play the first unplayed message only. If there is more than one message in the mailbox, the user is paged again almost immediately and the next unplayed message is played.

Greet Code in the Dial String

When the server is configured to outdial a telephone number, and the number is followed by a G (Greet) code, the "clicks" and "pops" of particularly noisy switching equipment could be misinterpreted as a greeting. You can usually avoid this by inserting a + before the Greet code; for example, T9T5551212+G. If this still does not prevent the misinterpretation, dial the telephone number, then count the number of seconds that it takes for the pager to answer. Insert the appropriate number of plus signs (+) between the number and the G. (For example, if the dial string is T9T5551212G, and it takes the pager five seconds to answer, change the string to T9T5551212+++++G.)

Answer Supervision Code in the Dial String

- You can use the Answer Supervision (L) code if you have analog phone lines. This is a good alternative to the Greet (G) code, because answer supervision can increase reliability and lower connect time.

- Answer supervision time out controls how many seconds the line card waits until issuing a time out. If the line card does not detect answer supervision (a ringing on the line) by the number of seconds set in this exception, the page is considered a failure. This time out can be set between 0 and 255 seconds, where 0 means no time out period is enforced (wait forever).

Message Delivery Considerations

This section covers specifics applicable only to message delivery. Remember that you must set the Message Delivery parameter to Yes in the mailbox owner's mailbox configuration to enable message delivery.

Changing an FCOS Definition

You must modify an existing FCOS or create a new one to give mailbox owners with message delivery control of their schedules and telephone numbers.

Feature bits listed in Table 4-4 control message delivery.

Change Weekday/Weekend Schedule Message delivery users can set schedules for weekdays or weekends , showing when they can be reached.

To change a message delivery schedule, a user's mailbox must have an FCOS that includes feature bit 094 (Enable message delivery; change message delivery options). To change a message delivery number, a user's mailbox must have an FCOS that includes bit 143 (Change message delivery phone number). Both these feature bits require bit 070 (User Options Menu) to work.

Pager Re-Queue The pager re-queue functionality is activated by feature bit 168 for schedule one and bit 169 for schedule two. If you have message delivery scheduled from 9 a.m. to 5 p.m. and receive a call at midnight, the server does not automatically call you at 9 a.m., and does not call you until another message arrives during the scheduled time period. With this feature, the server calls you at the beginning of the next scheduled message delivery start time.

For further information on FCOSs and feature bits, see the Features Class of Service chapter.

Table 4-4 Feature Bits That Control Message Delivery

Feature Bit	Function
070	User Options Menu
079	Set message wait # 1 for urgent messages only
080	Set message wait # 2 for urgent messages only
094	Enable message delivery; change message delivery options
143	Change message delivery phone number
168	Message wait 1, pager requeue
169	Message wait 2, pager requeue
181	Paging over message delivery, message waiting 1 over message waiting 2
182	Use pri/alt as week/weekend for message waiting type 1
183	Use pri/alt as week/weekend for message waiting type 2

Changing an LCOS Definition

Only one limit applies to message delivery, the Message Delivery-Phone Length limit. It controls user modification of message delivery. The message delivery phone lengths determine the maximum number of digits users can enter for a message delivery number. The default is 7, the allowable range is 3 to 11 digits. The limit is useful for preventing long-distance calls.

Note: This limit does not apply to phone numbers entered at a server maintenance console.

For more information on LCOSs and limits, see the Other Classes of Service chapter.

Action at the End of a Dial String

When a mailbox is configured for message delivery, the server automatically waits for a greeting. (If a G is erroneously included at the end of the dial string, the server ignores it.)

Noisy Switching Equipment

When the server is configured to outdial a telephone number, the "clicks" and "pops" of particularly noisy switching equipment could be misinterpreted as a greeting. To avoid this, dial the telephone number, then count the number of seconds that it takes for the telephone at the other end to ring or the pager to answer. Since message delivery always assumes a G at the end of the dial string, put the appropriate number of pluses (+) at the end of the pager number.

Answer Supervision Code in the Dial String

- You may want to use the Answer Supervision (L) code if you have the appropriate switches or use certain cellular exchanges (MTSO). This is a good alternative to the Greet (G) code where progress tones or noise can cause the server to erroneously assume success.

- Answer supervision time out controls how many seconds the line card waits until issuing a time out. If the line card does not detect answer supervision (a ringing on the line) by the number of seconds set in this exception, the page is considered a failure. This time out can be set between 0 and 255 seconds, where 0 means no time out period is enforced (wait forever).

Call Placement Considerations

This section covers specifics applicable only to call placement. Remember that you must set the outdial indexes and the call placement pager access type parameters in the user's mailbox configuration to enable call placement.

Changing Mailbox Information

You may want to alter the following mailbox information to use call placement:

- FCOS
- LCOS
- RCOS
- Call placement pager access type

Changing an FCOS Definition

To use call placement, you must add feature bit 110 (Give/make to telephone number) to an existing FCOS or create a new one with this feature in it.

Changing an LCOS Definition

The limits listed in Table 4-5 control call placement. You might need to change the LCOS assigned to the call placement mailbox configuration accordingly.

RNA Retry Limit This limit determines the maximum number of times the server redials a call placement phone number when no one answers the phone on the first delivery attempt.

RNA Retry Interval This limit determines how often the server redials a call placement phone number when no one answers the phone on the first delivery attempt.

Busy Retry Limit This limit determines the maximum number of times the server redials a call placement phone number when the server detects a busy signal on the first delivery attempt.

Busy Retry Interval This limit determines how often the server redials a call placement phone number when the server detects a busy signal on the first delivery attempt.

Table 4-5 Call Placement Limits

Limit	Unit	Default	Valid Values
Ring No Answer retry limit	no. of retries	10	1-255
Ring No Answer retry interval	minutes	60	1-255
Busy retry limit	no. of retries	10	1-255
Busy retry interval	minutes	10	1-255
Phone length	digits	7	3–11
Count	no. of messages	73	1–73
Length	minutes	5	0–60

Phone Length This limit determines the maximum number of digits users can enter for a call placement phone number. Setting this limit higher accommodates long-distance calls.

> **Note:** This limit does not apply to phone numbers entered at a server maintenance console.

Count The count determines the maximum number of undelivered messages for a call placement phone number per mailbox.

Length The length determines the maximum size of a single message made for a call placement phone number.

If you send a message to both mailboxes and telephone numbers, this limit interacts with the limit on the size of messages sent to mailboxes; the shorter of the two limits overrides the longer. For instance, if you limit messages sent to mailboxes to a maximum of five minutes and limit call placement messages to two minutes, the server enforces the two-minute limit for both kinds of messages.

For more information on LCOSs and limits, see the Other Classes of Service chapter.

Call Placement Pager Access Type

This parameter identifies whether call placement calls are to be internal, billed, or unbilled. The call placement pager access type points to the corresponding internal outdial index (I) , billed outdial index (B), or unbilled outdial index (U) specified earlier in the originating mailbox. Users cannot alter this index from the keypad.

The indexes refer to the same set of access codes used for standard paging. This means you might be able to use the same indexes as those already set up for paging.

The server prompts you to enter a call placement pager access type after it prompts you for message waiting types. For more information on creating access codes, see "Configuring a Dial String " earlier in this chapter.

Pager Application Examples

This section shows examples of how to program the pager application for paging, message delivery and call placement.

Paging Examples

Pager Dial Strings

Dial strings for pagers can be divided into several parts.

Outside Access Code This code allows access to the public switched network. For PBXs, this is normally 9.

Pager Company Telephone Number This is a 7- or 11-digit telephone number (including 1 then an area code) used to access the pager system. Calls to the pager company telephone number are answered with signals or recorded instructions, which indicate that the system is ready to accept the individual pager number. (Many pagers use DID, where each radio pager is assigned its own unique telephone number. In these cases, there is no pager company telephone number.)

Individual Pager Number This is the address of the specific pager, and is usually 4 to 6 digits long. For DID pagers, the pager number is a regular 7- or 11-digit phone number. When the pager is activated, the system normally returns a "beep-beep-beep" signal or recorded instructions. For a display pager, this means that the system is ready to receive display information.

Display Number This is the string of digits that is displayed on the viewer of a display pager. Most display pagers accommodate a 16-digit number. Usually this string is specified as the post-pager number.

Other Activation Codes Each pager manufacturer has modifications to the activation code that you must identify before configuring pagers. For example, most paging systems encourage a # tone to be sent after the display information to speed call processing.

Example 1: A DID Tone Pager

To page John Smith manually, you lift the telephone receiver; wait for a dial tone, dial 9 to get an outside line, listen for another dial tone, dial 1-408-555-9876, listen for a computer tone, then dial 555-1234 and press # to finish the page. This causes John's pager to "beep" only.

The dial strings for these actions is:

Caller Action	Dial Strings
Wait for dial tone.	T
Tell the PBX that you want an outside line.	9
Wait for dial tone to confirm that you have the outside line.	T
Call the pager company's number.	14085559876
Wait 2 seconds for the line to settle.	++
Wait for a computer tone.	G
Dial the call-back number.	555-1234
Enter # to indicate end and make paging terminal hang up.	#

When a number outside the PBX is outdialed, followed by a G (Greet), extra + characters (Wait One Second) should precede the G. This is done because line noise during call setup of particularly noisy switching equipment can be misinterpreted as a greeting by the server.

If pagers are in widespread use at John's company, it is very likely that more than one employee's pager is on the same pager company system number, so the dial string for this pager can be organized like this:

Pager system dial string	T9T14085559876++G+
Pager number	1234# (or PIN)
Post-pager number	(None)

If you do not reach John on the first page, he wants you to try again every 10 minutes, for a maximum of four tries. The other information needed for the Mailbox Worksheet for the pager as follows:

Pager frequency	4
Pager interval	10
Message delivery	N

Example 2: Non-DID Display Pager

In this example, John's pager allows display of numeric data, so you can leave your phone number when you page him. The phone number is displayed on the pager when John is paged. The dial string for these actions is:

Caller Action	Dial String
Wait for dial tone.	T
Dial 9 to get outside access.	9
Wait for second dial tone.	T
Dial pager company system number.	18005552368
Wait two seconds for line to settle.	++
Wait for pager tone.	G
Wait one second for pager tone to finish.	+
Dial individual pager number (or PIN)	458216
Wait for pager tone.	G
Wait for pager tone to finish.	+
Dial display data.	2374444
Enter # to indicate end and make paging terminal hang up.	#

The dial string to accomplish the actions listed above is organized like this:

Pager system dial string	T9T18005552368++G+
Pager number	458216G+
Post-pager number	2374444#

Other information needed for the Mailbox Worksheet is:

Pager frequency	4
Pager interval	10
Message delivery	No

Example 3: DID Display Pager

Jane Jones has a DID display pager. To access this pager manually, you lift the telephone receiver; wait for a dial tone; dial 9 to get an outside line; listen for a dial tone; dial 1-213-555-9116; wait for a computer tone; dial the display data, 1-415-555-6644; then dial # to tell the pager that all the display data has been entered. (This activates the pager). The dial string for these actions is:

Caller Action	Dial String
Wait for dial tone.	T
Dial 9 to get outside access.	9
Wait for second dial tone.	T
Dial individual pager number is.	12135559116
Wait four seconds for line to settle.	++++
Wait for computer (dial) tone.	G
Dial display data.	14155556644
Enter # to indicate that all the data has been entered and make paging terminal hang up.	#

When a number outside the PBX is outdialed, followed by a G (Greet), extra + characters (Wait One Second) should precede the G. This is done because line noise during call setup of particularly noisy switching equipment could be misinterpreted as a greeting by the server.

In this case, configuration is more involved, since there is insufficient room in the mailbox Pager Number parameter to specify the individual pager number *and* the display data, both of which are unique to this pager. In most installations, however, DID display pagers share a common area code and prefix (1-213-555, in this case), and configuring the area code and prefix into the outdial index allows more than one pager to use that pager system.

The organization of the dial string is:

Pager system dial string	T9T1213555
Pager Number	9116++++G+
Post-Pager Number	14155556644#

Jane wants you to make 3 attempts to reach her, and each attempt should be 30 minutes apart. These are the default values for pager frequency and pager interval.

The paging Mailbox Worksheet entries are:

Pager access type	I, B or U (internal, billed, or unbilled outdial index)
Pager frequency	3 (default)
Pager interval	30 (default)
Message delivery	No

Example 4: Voice Pager

Joe Stockman works in a huge warehouse that is located behind the factory. Since the only telephone is located in the warehouse office, Joe was given a voice pager, which allows employees to notify him when they want to pick up stock. To access this pager manually, you lift the telephone receiver; wait for a dial tone; dial extension 6457; wait for his mailbox to answer, leave your order (as a message), then hang up. The dial string for these actions is:

Caller Action	Dial String
Wait for dial tone and go off-hook.	T
Dial extension number.	6457
Wait for answer ("hello") and speak your order.	G
Play newest message to Joe's voice pager, and hang up.	V

Note: If you enter a V (for voice pager), do not turn message delivery on when configuring the mailbox.

For in-house paging, it is useful to set up a pager system that either has no dial string or has the T (Wait for Dial Tone) code. Since this call does not access an outside line, no pluses need to be added before the Greet command.

This is organized into the following dial string:

Pager system dial string	T
Pager number	6457GV
Post-pager number	(None)

Joe is so efficient that he only needs to be paged once per message. The appropriate pager Mailbox Worksheet entries are:

Pager Frequency	1
Pager Interval	0
Message Delivery	No

Message Delivery Example

Message delivery configuration is usually simpler than paging configuration. Here is an example.

Anita Pacheque is a contractor who works off-site. When she is not working at her office, she wants the server to try to reach her at home. Her office phone number is (415) 555-6836, and her home number is (408) 555-0921. She wants the server to try her office number three times, with calls that are 10 minutes apart, then to try her home twice, with 30 minutes between calls. When test calls are made, it takes five seconds for her office telephone to ring, after dialing is completed, and three seconds for her home telephone to ring. The dial string to call her office is:

Caller Action	Dial String
Wait for dial tone.	T
Tell the PBX that you want an outside line.	9
Wait for a dial tone, to confirm that you have the outside line.	T
Dial the office number.	14155556836
Wait 5 seconds for the connection to be completed.	+++++

Similarly, the dial string to call her home is T9T14085550921+++++. Remember that the server automatically appends a G (Greet) code at the end of the pager string for message delivery calls.

In addition, you need to set phone line exception 11 to 1 and line exception 170 to 1700.

To add message delivery to Anita's mailbox, specify the following on an Outdial Line Group Worksheet:

Pager system index	1
Access code	T9T

On the message delivery Mailbox Individual Worksheet, entries are:

Pager system Pager access code index	1 (defined as T9T)
Pager number	5556836
Post-Pager number	+++++
Pager frequency	3 or press **Enter**
Pager interval	10
Pager access type	U (unbilled)
Message delivery	Yes

To add additional pagers or message delivery numbers to Anita's mailbox, the server prompts for additional pagers. If you answer Yes, the server prompts you for the next pager's information.

Note: Selecting message delivery in the mailbox automatically tells the server to wait for a greeting. Do not include a V or G in the dial string.

Call Placement Example

Call placement only has to be configured once. The following example shows how you might use call placement.

Call placement is an efficient way to contact large numbers of people in an emergency. For example, a pharmacy chain can quickly notify its branches of a product recall.

Caller Action	VoiceMemo Code
Wait for dial tone.	T
Tell the PBX that you want an outside line.	9
Wait for a dial tone, to confirm that you have the outside line.	T
Dial the number of the pharmacy branch.	12135556598

To send the message, the pharmacy headquarters makes the message and sends it to a distribution list that contains all the pharmacies' numbers. This list is created either at the server maintenance console or by the user at a telephone (see the Distribution Lists chapter). If the dialing plan is set to make 8 the call placement digit (for example, 3,3,3,3,3,3,3,T,3), the distribution list looks like this:

```
Distribution List:    01
                      Members:
                      T12135556598
                      T12135551434
                      T12135557969
                      etc.
```

This sends the message to each phone number in the list.

To add call placement to a mailbox, specify the pager system in the appropriate outdial index prompt, then respond to the call placement pager access type prompt as follows:

Billed outdial index or unbilled outdial index	1 (A pager system set to T9T)
Call Placement access type	B or U

Testing the Configuration

After telephone lines have been installed, and after you create mailboxes for a Pager application, test each mailbox.

Note: It is very important to test a pager immediately after it is added to a mailbox, since a seemingly minor error in configuration can cause every page to fail. Furthermore, the server can tie up pager ports for a long time dialing invalid paging codes.

Testing Paging

Before performing individual test steps, configure the Event Recorder and enable it. After testing is completed, disable the Event Recorder. For detailed instructions about the Event Recorder, see the *Series 6 Installation and Service Manual.*

Briefly, you test paging by leaving a message in the mailbox, then contacting the user to be sure that the page was successful. You can use the Lights Test option from the server maintenance console to test each display or tone pager mailbox. See the task list for procedures.

Testing Alternate Pager Activation

If you have configured an alternate pager, it is activated after the frequency and interval of the primary pager have expired, but before the message has been played. After testing the primary pager, repeat the test for the alternate pager dial strings. (See the task list for procedures.)

Testing Message Delivery

For message delivery, the server should call the appropriate telephone number and, when the call is answered, should prompt, "Hello, [user's name]. You have unplayed message(s) in your mailbox. Please enter your passcode." If the first part of the greeting has been cut off, add more plus signs to the end of the pager number or post-pager number. Conversely, if the user answers and there is a long silence before the server plays the greeting, decrease the number of plus signs at the end of the pager number or post-pager number.

Message delivery calls can be tested using the Lights Test option mentioned earlier; however, if an actual test call is made, you can check server prompts and the mailbox user interface at the same time. (See the task list for procedures.)

The server can outdial very quickly—too quickly for some PBXs. One result can be that the server fails to get an outside line. To prevent this situation, try slowing down the server's outdialing speed. You do this by inserting pluses (++) in dial strings. Each plus tells the server to pause for one second.

For example, suppose you have the following outdial string:

- T9T4155551212++

You can slow the pacing of the sequence by inserting two pluses after each major step in the string. The result would be as shown below.

- T9T++4155551212++++

If this result works, you can experiment by removing one pause at a time to achieve the fastest speed that your PBX can handle.

Testing Call Placement

To test call placement, log into the server and press M to make a message. If you configured the mailbox with the correct FCOS, you are prompted about which digit to press for making a message for a telephone number. Address the message to a telephone number, make the message, then send it. Verify that the message is delivered to the telephone number.

Make a message for a telephone number by specifying the call placement dialing plan digit, and the phone number itself. Do not include the numbers to get an outside line; this should be in the call placement pager system access code. If you have DID, you can make a message for your own number as if it were outside the server. For example, if your call placement dialing plan digit is 2, and your telephone number is 555-4567, then make a message for mailbox 25554567.

See the task list for procedures on the testing discussed in this section.

Successful vs. Unsuccessful Outdialing

The server applies specific criteria to call processing and treats an outdial as successful or unsuccessful accordingly.

Successful Outdialing

If the server encounters speech, other than a lengthy greeting, after outdialing, it considers the call successful.

Successful pages are retried a specified number of minutes apart (the pager interval), for a maximum number of times (the pager frequency). Paging is discontinued when any of the following occurs:

- The frequency number is reached
- The user listens to all unplayed messages in the mailbox and logs out
- The user disables paging

Unsuccessful Outdialing

If the server encounters a Busy or Reorder tone, or a Ring No Answer condition after outdialing, the call is considered unsuccessful. Other examples of unsuccessful calls are if no dial tone is detected, or no tone or voice "greets" the server after the page is made. The server retries the page according to the busy frequency and busy interval.

When the server detects that an "illegal" dial string (that is, a string that does not conform to configuration rules) has been outdialed, it considers the page successful. This prevents the server from continually retrying the page. However, if a dial string is configured incorrectly (that is, it cannot activate the pager), but conforms to pager configuration rules, the server continually retries the page. This is why it is critical to test every pager immediately after configuring is completed.

Note: If you are using answer supervision (the L code) in any of your outdial strings, your outdial is considered a failure unless the server detects a ringing on the line.

Billing Considerations

The billing function is capable of billing both paging and message delivery on a per-call basis. Remember, however, that the server site is the calling party and thereby responsible for any charges that accrue when paging or message delivery calls are made to the outside telephone network. As stated earlier, pager calls are usually of very short duration, but message delivery calls can be quite long. Since the cost of each call depends on the time of day that it is made, the duration of the call, the distance between the server and the user, and the rates of the local telephone company, the server makes no provisions for this aspect of the billing.

Outdial Billing

Outdials such as paging calls can, however, be billed back to a mailbox owner's account. This form of outdial billing can be implemented through individual mailboxes' configuration and is explained more fully in the Mailboxes chapter.

Here is an example:

Henry Huggins has a pager and has his pager calls billed to his calling card number. To perform this manually, you lift the telephone receiver; wait for a dial tone; dial 9 to get an outside line; listen for a dial tone; dial 0-612-555-4534 (0 indicates you will charge the call); wait for a computer tone; dial the calling card number; wait for another tone; dial his mailbox number, 6446; then dial # to tell the pager that all the

display data has been entered. (This activates the pager). The dial string for these actions is:

Caller Action	Dial String
Wait for dial tone.	T
Dial 9 to get outside access.	9
Wait for second dial tone.	T
Dial individual pager number is.	06125554534
Wait four seconds for line to settle.	++++
Wait for computer tone.	G
Dial calling card number	503102533346666
Wait four seconds for line to settle.	++++
Wait for computer (dial) tone.	G
Dial display data (mailbox).	6446
Enter # to indicate that all the data has been entered and make paging terminal hang up.	#

In this case, such as in Example 3 (DID Display pager), configuration is complex, since there is insufficient room in the mailbox Pager Number parameter to specify the individual pager number, the calling card number, *and* the display data, all of which are unique to this pager. In most installations, however, DID display pagers share a common area code and prefix (0-612-555, in this case), and configuring the area code and prefix into the outdial index allows more than one pager to use that pager system.

The organization of the dial string is:

Pager system dial string	T9T0612555
Pager Number	4534++++G503102533346666
Post-Pager Number	++++G6446#

The paging Mailbox Worksheet entries are:

Pager access type	B (billed outdial index)
Billing order	nb
Message delivery	No

Finally, to use the calling card capability, you must set Phoneline Exception 32 to a value between 35 and 40. (The default is 24.) Refer to the *Series 6 Installation and Service Manual* for your platform to do this.

Individual Rates

The server's billing rates structure does allow you to specify an individual rate for each pager system. This rate is multiplied by the number of pages that are issued for the mailbox. If you put message delivery accounts and radio pager accounts on separate pager systems, you can increase the charges on the pager systems that serve message delivery subscribers to compensate for any toll charges that the telephone company levies.

User Telephone Interface

The following paragraphs discuss the user telephone interface for paging, message delivery, call placement, and passcode protection.

Paging and Message Delivery Telephone Interface

Users control their schedules and phone numbers by beginning at the Call Schedule Options Menu, an option on the User Options Menu. From there, they go to the Paging/Message Delivery Schedule Menu, where they can alter the start and stop times and phone numbers.

Note: When TDDMemo is enabled, call scheduling is not available.

When users make a choice from the Paging/Message Delivery Schedule, the server gives them a series of prompts to guide them through each change they make. Whether users hear the prompts for paging or message delivery depends on the FCOS, and whether the Message Delivery parameter was set to Y in the mailbox configuration.

Call Placement Telephone Interface

To use this feature, users begin with these steps:

1. Press M to start making a message.
2. Press the key (set in the dialing plan) that activates call placement.
3. Dial the destination phone number.

The server automatically prompts users to record the name of a recipient, and then to record a message. After recording, users can send their messages immediately (with "normal" delivery), or use message addressing options, including passcode protection (see below). When users send their messages, the server dials the specified phone number.

When someone answers the phone at the destination number, the server announces, "This is a message for [recipient's name] from [sender's name]." Recipients then have the following options from the keypad:

- Accept this message.
- Delay the message for 30 seconds.
- Reject this message.
- Tell the server to try to redeliver in an hour.

Note: All options require recipients to have a pushbutton phone.

If recipients accept the message, they can replay it and/or answer the sender. If recipients reject the message or the server cannot deliver it, the server notifies the sender with a non-delivery receipt—even if the sender did not request a receipt. Of course, users can still request the standard receipt.

Passcode Protection

As a message addressing option, users can attach a 4- to 10-digit passcode to their messages, which recipients must enter before they can play the messages. Of course, a sender and recipient must agree on this passcode beforehand.

To use this feature, a user presses M for message addressing options when making the message for a call placement number. The user then presses O for off-site passcode, and is prompted for a 4- to 10-digit passcode. The user then exits message addressing options and sends the message.

The called person is prompted for the passcode before the message can be played.

Pager Application Task List

VoiceMemo Release 6.0A and later

Task *Procedure*

Call Placement

Enable Call Placement ..... CP 3306
Test Call Placement ..... CP 3362

Message Delivery

Message Delivery Configuration ..... CP 3337
Allow Mailbox Owners to Control Message Delivery ..... CP 3339
Allow Receipt of Urgent Pages or Urgent Message Delivery Only ..... CP 3344
Configure a Mailbox For Message Delivery ..... CP 5018
Define a Pager System for Message Delivery ..... CP 5013
Set Limits for Message Delivery ..... CP 3338
Set Paging or Message Delivery Schedules and Intervals ..... CP 3321
Test Message Delivery ..... CP 3361
Turn All Pagers or Message Delivery in a Mailbox On or Off ..... CP 5014

Paging

Display Pager Configuration ..... CP 3330
Tone Pager Configuration ..... CP 3343
Voice Pager Configuration ..... CP 3335
Allow Mailbox Owners to Control Paging ..... CP 3332
Allow Receipt of Urgent Pages or Urgent Message Delivery Only ..... CP 3344
Assign an Alternate Pager to a Mailbox ..... CP 3334
Configure a Mailbox for Paging ..... CP 5019
Define a Pager System ..... CP 5012
Set Limits for Paging ..... CP 3336
Set Paging or Message Delivery Schedules and Intervals ..... CP 3321
Test a Pager ..... CP 3358
Turn All Pagers or Message Delivery in a Mailbox On or Off ..... CP 5014
View Pager Configuration ..... CP 6001

Enable Call Placement

VoiceMemo Release 6.0A and later

This procedure describes how to allow mailbox owners to send messages to any telephone.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	Menu Map 2
3. When the VoiceMemo Configuration Online Menu appears, specify the line group for the application to receive Call Placement functionality. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24) *or* Press **Enter** if the current number is correct.	
4. Go to the VoiceMemo Application Menu or similar application such as DID VoiceMemo or an integration.	Menu Map 2
5. Select the line group used for the application.	
6. Go to the Dialing Plan Menu.	
7. Code the dialing plan for call placement. *Select:* (D) Dialing Plan *Prompt:* `VoiceMemo dialing plan =` *Response:* **T** in the digit position that activates call placement, then the desired **code** in each of the other digit positions. Valid codes are: **0** — No mailbox numbers start with the digit marked by 0 **1 – 11** — Number of digits allowed in a valid mailbox number **A** — The digit marked by A enables Dial-by-Name. When this digit is pressed, it triggers a prompt that instructs the caller to begin spelling the name. You may use this element in any position of the dial plan. **V** — Mailbox numbers starting with the digit marked by V are variable length, up to 11 digits.	
8. Save the dialing plan by exiting to the Main Menu.	

Step	*Reference*
9. Include feature bit 110 (make/give to telephone number) in the FCOS to be assigned to the mailboxes.	
• Either add the bit to an existing FCOS,	CP 5011, Ch. 1
or	or
• Copy an FCOS and edit it as necessary.	CP 5007, Ch. 1
10. If desired, modify LCOS limits that control call placement. The limits that can be modified are listed below.	CP 5017, Ch. 8
• RNA retry limit	
• RNA retry interval	
• Busy retry limit	
• Busy retry interval	
• Message phone length	
• Message count	
• Maximum message length	
11. Define a pager system with message delivery to provide an outdialing port.	CP 5013
12. Modify the configuration of each mailbox that uses the call placement function to:	CP 5047, Ch. 6
• Assign the FCOS containing feature bit 110.	
• Assign the LCOS modified to support call placement.	
13. Specify the pager system, defined previously, as the call placement index number. This is also set in the mailbox configuration. Use the correct display interface for your AIP system.	

Step *Reference*

Using the Scrolling Interface

After setting FCOS and LCOS, press **Enter** until the Call Placement Pager Access Type prompt appears.

Prompt: `call placement pager access type:`

Response: The index **number** of the pager system (0-15) this mailbox uses. This is the same as the pager system number specified in the Define Pagers Menu.

or

I if call placement outdials from this mailbox are to use the internal outdial index (specified earlier in the mailbox configuration) for internal calls.

or

B if call placement outdials from this mailbox are to be charged to a billing account. Outcalls will use the billed outdial index specified earlier in the mailbox configuration.

or

U if call placement outdials from this mailbox are not to be charged to a billing account. Outcalls will use the Unbilled Outdial Index specified earlier in the mailbox configuration.

Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the system displays the mailbox configuration, then prompts for the next mailbox number.

At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

Step *Reference*

Using the Full-Screen Interface

After setting FCOS and LCOS, use the arrow keys, **Tab** key, or **Enter** key to move around the screen to the Call Placement Index prompt.

Prompt: `CallPlacement Index:`

Response: The index **number** of the pager system (0-15) this mailbox uses. This is the same as the pager system number specified in the Define Pagers Menu. You can press the **Home** key to see a list of defined outdial indexes.

or

I if call placement outdials from this mailbox are to use the internal outdial index (specified earlier in the mailbox configuration) for internal calls.

or

B if call placement outdials from this mailbox are to be charged to a billing account. Outcalls will use the billed outdial index specified earlier in the mailbox configuration.

or

U if call placement outdials from this mailbox are not to be charged to a billing account. Outcalls will use the Unbilled Outdial Index specified earlier in the mailbox configuration.

Save the settings for the mailbox. Press **F10** to save your settings or **F9** to cancel them. At this point, you can continue with mailbox configuration by entering another mailbox number, or exit the mailbox maintenance screen by pressing **F9**.

Test Call Placement

VoiceMemo Release 6.0A and later

This procedure describes how to test the call placement function after it has been configured. Prerequisites for this procedure are:

- All appropriate hardware has been installed.
- Telephone lines have been installed.

Step	*Reference*
1. If you have not already done so, obtain a System Configuration Report. Refer to the report as needed for configuration parameter settings.	CP 4353, Ch. 1
2. Create a test mailbox for originating Call Placement messages. You will need another telephone (not the one associated with the originating mailbox) to simulate an off-server telephone number. The originating mailbox should include feature bit 110 in its FCOS so it can make messages to a telephone number, as well as the standard feature bits in, for example, FCOS 1.	CP 3305, Ch. 6
3. Log into the sending mailbox and place a call to the simulated off-server telephone number (the receiving telephone), then hang up.	
4. Verify that the call was placed. Check the Event Log file to determine if the correct digits are being dialed.	
5. Accept and answer the call placement message from the simulated off-server telephone.	
6. Log into the sending mailbox and verify that there is one unplayed message . This unplayed message should be the answer you made in the preceding step to the call placement message.	
7. Play the message, then delete it.	

Message Delivery Configuration

VoiceMemo Release 6.0A and later

This procedure summarizes the steps necessary to configure a Series 6 server for message delivery. It assumes that the appropriate server hardware and software have been installed.

Step	*Reference*
1. Complete an Outdial Line Group Worksheet. Blank worksheets are near the back of this manual.	
2. Define a line group to be used for message delivery (usually the same as the paging line group). **Note:** Defining pager systems should be accomplished on the currently inactive configuration.	CP 5010, Ch. 1
3. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	Menu Map 2
4. When the VoiceMemo Configuration Online Menu appears, specify the line group to which the VoiceMemo application is assigned. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
5. Define the supported pager systems to be used for message delivery. A typical access code for message delivery is T9T where T = Wait for dial tone 9 = Request an outside line T = Wait for outside line dial tone	CP 5013

Step	*Reference*
6. Customize an FCOS to include these feature bits: 40 (receive messages from other users) 41 (receive messages from outside callers) 70 (User Options Menu) 77 (change pager schedule) 79 (set msg wait #1 for urgent msgs only) 80 (set msg wait #2 for urgent msgs only) 88 (receive urgent messages) 94 (change message delivery options) 124 (change paging phone number) 143 (change message delivery phone number) 168 (message wait 1, pager requeue) 169 (message wait 2, pager requeue) 182 (use pri/alt as week/weekend for MWI1) 183 (use pri/alt as week/weekend for MWI2)	CP 5011, Ch. 1
• Either add the bit to an existing FCOS, *or*	CP 5011, Ch. 1 or
• Copy an FCOS and edit it as necessary.	CP 5007, Ch. 1
7. Customize an LCOS to include these limits parameters: • Maximum length of a message delivery phone number • Minimum message length to activate message delivery	CP 3338
8. Configure a mailbox for message delivery. • A typical pager number for message delivery contains the unique number of the target message delivery phone. • A typical post-pager number for message delivery can be blank; however, if mailbox owners have the option to change their message delivery phone numbers, Centigram recommends a greet-and-wait (G) character in the post-pager number. • Choose message delivery.	CP 5018
9. Set billing rates for message delivery.	CP 5016, Ch. 11
10. Verify that the configuration is correct.	CP 5015, Ch. 1
11. If you chose the inactive configuration at the beginning of this procedure, activate the configuration to make the parameter settings take effect.	CP 7002, Ch. 1

Set Limits for Message Delivery

VoiceMemo Release 6.0A and later

This procedure describes how to set the following limits that govern message delivery:

- Maximum length of a message delivery phone number
- Minimum message length to activate message delivery

Step	*Reference*
1. Modify an LCOS to include the desired limits parameters. Enter the requested information, as described in the following step, from your completed LCOS Worksheet.	Menu Map 11 CP 5017
• To set the maximum length of a message delivery phone number, go to the More Limits Parameters Menu. *Select:* (C) Message Delivery - Phone Length *Prompt:* `Enter maximum phone number length for message delivery =` *Response:* The maximum **number** of digits (1-24) that a caller can enter for a message delivery phone number.	
• To set the minimum message length that activates message delivery, go to the More Limits Parameters Menu. *Select:* (G) Message Waiting Indicator – Message Length *Prompt:* `Enter minimum message length to turn on message waiting/paging =` *Response:* The number of **seconds** (1-5) in a recorded message to turn on paging, *or* **0** (zero) if no minimum message length is desired.	
2. Save the modified limit by exiting to the System Configuration Menu.	
3. Assign the customized LCOS containing this limit to the mailbox.	CP 5018

Allow Mailbox Owners to Control Message Delivery

VoiceMemo Release 6.0A and later

This procedure describes how to allow mailbox owners to:

- Turn message delivery on or off
- Change their message delivery phone number
- Schedule message delivery

Step	*Reference*
1. Include feature bit 70 (User Options Menu) and the following bits as applicable: 77 (change pager schedule) 94 (change message delivery options) 143 (change message delivery phone number)	
• Either add the bit to an existing FCOS,	CP 5011, Ch. 1
or	or
• Copy an FCOS and edit it as necessary.	CP 5007, Ch. 1
2. Assign the FCOS containing these bits to each mailbox you want to have message delivery control.	CP 5003, Ch. 1

Allow Receipt of Urgent Pages or Urgent Message Delivery Only

VoiceMemo Release 6.0A and later

This procedure describes how to restrict paging or message delivery to urgent messages only. With this restriction, a page or message delivery call is activated only if the caller marks a message urgent.

Step	*Reference*
1. Include the following feature bits:	
40 (receive messages from other users)	
and/or	
41 (receive messages from outside callers)	
79 (set msg wait #1 for urgent msgs only)	
80 (set msg wait #2 for urgent msgs only)	
88 (receive urgent messages)	
• Either add the bit to an existing FCOS,	CP 5011, Ch. 1
or	or
• Copy an FCOS and edit it as necessary.	CP 5007, Ch. 1
2. Assign the FCOS containing these bits to each mailbox you want for each of these features.	
• Receive urgent pages only	CP 5019
• Receive urgent message delivery calls only	CP 5018

Configure a Mailbox for Message Delivery

VoiceMemo Release 6.0A and later

This procedure describes how to configure those parameters in a mailbox set-up that affect message delivery.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed Mailbox Worksheet.	Menu Map 3

Using the Scrolling Interface

2. Identify the mailbox to be created or modified.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: **Number** of the new mailbox you want to configure for message delivery.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of the existing mailbox you want to reconfigure for message delivery.

   Note: The prompts are almost the same for creating a new mailbox and modifying an existing one, except that "New" precedes each prompt when you select Modify Mailboxes.

3. Press **Enter** until the Features Class of Service prompt appears.

4. Assign the appropriately-customized FCOS to the mailbox.

   Prompt: `Features class of service:`
   Response: The **number** of the FCOS (1-640) that includes the applicable bits.

5. Assign the appropriately-customized LCOS to the mailbox.

   Prompt: `Limits class of service:`
   Response: The **number** of the LCOS (1-640) that includes the applicable limits.

6. Assign the appropriately-customized RCOS to the mailbox.

   Prompt: `Restriction class of service:`
   Response: The **number** of the RCOS (1-64) that includes the applicable limits.

7. Specify message waiting indication for message delivery (same as for paging).

   Prompt: `Message waiting type #1:` or `Message waiting type #2:`
   Response: **5**

Step	*Reference*

8. Specify the pager access type and pager dial string.

   Prompt: `Pager access type:`

   Response: The index **number** of the pager system (0-15) this mailbox uses. This is the same as the pager system number specified in the Define Pagers Menu.

   or

   I if pages from this mailbox are to use the internal outdial index (specified earlier in the mailbox configuration) for internal calls.

   or

   B if pages from this mailbox are to be charged to a billing account. Pages will use the billed outdial index specified earlier in the mailbox configuration.

   or

   U if pages from this mailbox are not to be charged to a billing account. Pages will use the Unbilled Outdial Index specified earlier in the mailbox configuration.

   Prompt: `Pager number:`

   Response: The unique **number** (1-16 characters) of the target message delivery phone. The pager number must contain at least one character. This number is dialed immediately following the access code specified in the Define Pagers Menu. Use the characters in Table 1 at the end of this procedure to create the message delivery phone number.

   Prompt: `Post-pager number:`

   Response: Leave blank if desired. Or enter any overflow from the pager number (up to 24 characters) that did not fit in the pager number field. Table 1 at the end of this procedure shows valid post-pager number characters.

   If a post-pager number is entered, it comprises the last part of a message delivery dial string.

Step	*Reference*

9. Set the message delivery frequency and interval.

   Prompt: `Pager frequency:`
   Response: The number of **times** (0-255) this mailbox will be notified every time there is an unplayed message in the mailbox. Either **0** or **1** indicates one notification only.

   Prompt: `Pager interval:`
   Response: The number of **minutes** (0-255) between notifications for this mailbox. Either **0** or **1** indicates a one-minute interval.

10. Indicate that message delivery is included.

    Prompt: `Message delivery:`
    Response: **Y** for yes.

11. Specify whether paging is to be suppressed.

    Prompt: `Suppress pages:`
    Response: **Y** for yes, *or*
    N for no.

12. Schedule message delivery.

    Prompt: `Pager start time:`
    Response: The **time** at which message delivery is to start. Enter the time in hours and minutes followed by "am" or "pm"; for example, 6:00pm. If 12:00am is entered for start time and stop time, message delivery is enabled at all times.

    Prompt: `Pager stop time:`
    Response: The **time** at which message delivery is to stop. Enter the time in hours and minutes followed by "am" or "pm"; for example, 8:30am. If 12:00am is entered for stop time and start time, message delivery is enabled at all times.

13. Press **Enter** until the Turn Off Pager/Outcall Notification prompt appears.

14. Specify whether all message delivery configured for this mailbox is to be suppressed.

    Prompt: `Turn off pager/outcall notification:`
    Response: **Y** for yes, *or*
    N for no.

Step	*Reference*

15. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number.

    At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

Using the Full-Screen Interface

2. Identify the mailbox to be created or modified.

   Select: (C) Create/Modify/Delete Mailboxes
   Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F10** to edit the mailbox information.

3. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen. Move to the parameters you wish to change.

4. Assign the appropriately-customized LCOS to the mailbox.

   Prompt: `Limits:`
   Response: The **number** of the LCOS (1-640) that includes the applicable limits.

5. Assign the appropriately-customized FCOS to the mailbox.

   Prompt: `Features:`
   Response: The **number** of the FCOS (1-640) that includes the applicable bits.

6. Assign the appropriately-customized RCOS to the mailbox.

   Prompt: `Restriction:`
   Response: The **number** of the RCOS (1-64) that includes the applicable limits.

7. Specify message waiting indication for message delivery (same as for paging).

   Prompt: `Message waiting 1:` or `Message waiting 2:`
   Response: **5**

8. Press the **End** key to edit the paging fields. Move the cursor to the parameters you wish to edit.

9. Specify whether message delivery is to be suppressed.

   Prompt: `Suppress:`
   Response: **Y** to suppress message delivery, *or*
   N to not suppress message delivery.

Step *Reference*

10. Specify the pager dial string and pager access type.

Prompt: `Pager Num:`

Response: The unique **number** (1-16 characters) of the target message delivery phone. The pager number must contain at least one character. This number is dialed immediately following the access code specified in the Define Pagers Menu. Use the characters in Table 1 at the end of this procedure to create the message delivery phone number.

Prompt: `Post Pager:`

Response: Leave blank if desired. Or enter any overflow from the pager number (up to 24 characters) that did not fit in the pager number field. Table 1 at the end of this procedure shows valid post-pager number characters.

If a post-pager number is entered, it comprises the last part of a message delivery dial string.

Prompt: `System:`

Response: The index **number** of the pager system (0-15) this mailbox uses. This is the same as the pager system number specified in the Define Pagers Menu. You can press the **Home** key for a list of defined pager systems.

or

I if pages from this mailbox are to use the internal outdial index (specified earlier in the mailbox configuration) for internal calls.

or

B if pages from this mailbox are to be charged to a billing account. Pages will use the billed outdial index specified earlier in the mailbox configuration.

or

U if pages from this mailbox are not to be charged to a billing account. Pages will use the Unbilled Outdial Index specified earlier in the mailbox configuration.

Step | *Reference*

11. Set the message delivery frequency and interval.

    Prompt: `Frequency:`
    Response: The number of **times** (0-255) this mailbox will be notified every time there is an unplayed message in the mailbox. Either **0** or **1** indicates one notification only.

    Prompt: `Interval:`
    Response: The number of **minutes** (0-255) between notifications for this mailbox. Either **0** or **1** indicates a one-minute interval.

12. Set the number and frequency of paging retries when a busy signal is encountered.

    Prompt: `Busy Frequency:`
    Response: The number of **times** (0-255) this mailbox will retry message delivery when a busy condition is encountered. Either **0** or **1** indicates one retry. Setting both the busy frequency and busy interval to 0 specifies unlimited retries upon reaching a busy signal.

    Prompt: `Busy Interval:`
    Response: The number of **minutes** (0-255) between message delivery attempts. Either **0** or **1** indicates a one-minute interval. Setting both the busy frequency and busy interval to 0 specifies unlimited retries upon reaching a busy signal.

13. Indicate that message delivery is included.

    Prompt: `Msg dlvr:`
    Response: **Y** for yes.

14. Schedule message delivery.

    Prompt: `Start time:`
    Response: The **time** at which message delivery is to start. Enter the time in hours and minutes followed by "am" or "pm"; for example, 6:00pm. If 12:00am is entered for start time and stop time, message delivery is enabled at all times.

    Prompt: `Stop time:`
    Response: The **time** at which message delivery is to stop. Enter the time in hours and minutes followed by "am" or "pm"; for example, 8:30am. If 12:00am is entered for stop time and start time, message delivery is enabled at all times.

15. Press **F10** to save your settings or **F9** to cancel them. This closes the pager field entry screen.

Step *Reference*

16. Save the settings for the mailbox. Press **F10** to save your settings or **F9** to cancel them. At this point, you can continue with mailbox configuration by entering another mailbox number, or exit the mailbox maintenance screen by pressing **F9**.

Table 1 Dial String Characters

Character	Explanation
0-9, *, #	Keys on a standard pushbutton telephone
(	The following digits should be dial pulsed (10 PPS)
)	Stop pulsing; resume sending DTMF tones
+	Pause for one second
A-D	Fourth column DTMF keys
E	Go off-hook, wait for dial tone or other steady tone (pager go-ahead or confirmation tone, for example), then do next item in string
F	Switch hook flash and wait for dial tone
G	Greet - Wait for a voice or computer tone answer
H	Hang up (go on-hook)
L	Wait for an answer supervision signal that indicates the receiving phone has gone off-hook, then dial remaining characters after receiving the signal. Valid only with four-wire connections, not with loop start or ground start phone lines.
N	Start a new activity; do not go off-hook
O	Ring once
P	Go off-hook, do not wait for dial tone
S	Switch hook flash, no wait required
T	Go off-hook, wait for dial tone. Centigram recommends T as the first character in the access code.

Define a Pager System for Message Delivery

VoiceMemo Release 6.0A and later

This procedure describes how to define a pager system that includes message delivery.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
3. When the VoiceMemo Configuration Online Menu appears, specify the line group for which message delivery is to be enabled. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is the message delivery line group.	
4. Go to the Pagers Menu.	Menu Map 5
5. Enter the requested information, as described in the following steps, from your completed Outdial Line Group Worksheet.	
6. Assign identification (index) numbers to all supported pager systems. *Select:* (P) Pager Systems Supported *Prompt:* `Paging systems supported by this dialer =` *Response:* The index **numbers** (0-15) of the pager systems that include message delivery, in the format n,n,n...	
7. Go to the Define Pagers Menu.	Menu Map 7
8. Identify the pager system that includes message delivery. *Select:* (P) Current Pager System *Prompt:* `Enter a pager system number (0 thru 15) =` *Response:* The index **number** of the first pager system that includes message delivery.	

Step	*Reference*

9. Name the pager system that includes message delivery.

   Select: (N) Pager Name
   Prompt: `Enter pager system name (0 - 30 chars) =`
   Response: A descriptive **name** that identifies this pager system. Up to 30 alphanumeric characters are allowed. Examples are "553 exchange" and "South County route."

10. Specify the dial string for outdialing (access code).

    Select: (D) Access Code
    Prompt: `Enter pager system access code (0 - 24 chars) =`
    Response: The **code** (1-24 characters) that is common to mailbox owners using this pager system. This code indicates what the server should dial before the message delivery number. It comprises the first part of the message delivery dial string. Use the characters in Table 1 at the end of this procedure to create the code.

    or

    Press **Enter** if the current access code is correct.

    or

    A **period** (.) to delete an existing access code

11. Specify the hold time.

    Select: (H) Hold Time
    Prompt: `Hold time in seconds (90 secs. maximum) =`
    Response: **Seconds** (0-90) the server holds a message delivery call before hanging up after a successful message delivery attempt. Centigram recommends 2-5 seconds.

12. From the Pagers Menu, go to the Other Pager Features Menu. — Menu Map 7

13. Set the parameters in the Other Pager Features Menu to the same settings as in the VoiceMemo Application configuration or DID VoiceMemo Application configuration.

Step *Reference*

Table 1 Access Code Characters

Character	Explanation
0-9, *, #	Keys on a standard pushbutton telephone
(	The following digits should be dial pulsed (10 PPS)
)	Stop pulsing; resume sending DTMF tones
+	Pause for one second
A-D	Fourth column DTMF keys
E	Go off-hook, wait for dial tone or other steady tone (pager go-ahead or confirmation tone, for example), then do next item in string
F	Switch hook flash and wait for dial tone
G	Greet - Wait for a voice or computer tone answer
H	Hang up (go on-hook)
L	Wait for an answer supervision signal that indicates the receiving phone has gone off-hook, then dial remaining characters after receiving the signal. Valid only with four-wire connections, not with loop start or ground start phone lines.
N	Start a new activity; do not go off-hook
O	Ring once
P	Go off-hook, do not wait for dial tone
S	Switch hook flash, no wait required
T	Go off-hook, wait for dial tone

Set Paging or Message Delivery Schedules and Intervals

VoiceMemo Release 6.0A and later

This procedure describes how to:

- Set start and stop times for paging or message delivery
- Schedule weekday and weekend paging or message delivery
- Schedule a change of interval
- Receive queued pages or message delivery calls at the pager start time
- Change selection of pagers or message delivery when schedules overlap.

Note: This procedure contains a number of operations that affect mailboxes. If you are not familiar with mailbox creation or modification, refer to the procedures in Chapter 6, especially CP 3305, Standard Mailbox Creation.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu.	Menu Map 3
2. Skip to step 5 if you are using the full-screen interface.	
3. Identify the mailbox that uses the pager(s) or message delivery to be scheduled. Use *Select:* (C) Create New Mailboxes *Prompt:* `Mailbox to create:` *Response:* **Number** of the new mailbox you want to configure for paging or message delivery. or *Select:* (M) Modify Mailboxes *Prompt:* `Mailbox to modify:` *Response:* **Number** of the existing mailbox you want to reconfigure for paging or message delivery. **Note:** Prompts are almost the same for creating a new mailbox and modifying an existing one, except that "New" precedes a prompt when you select Modify Mailboxes.	
4. Skip to the applicable section(s) below, and follow all instructions there. When you are done, exit Create/Modify Mailboxes by responding **Y** to the Create/Modify prompt, and then pressing **Enter** when prompted for another mailbox.	
5. Identify the mailbox for which you want to suppress or resume paging or message delivery.	

Step	*Reference*

Select: (C) Create/Modify/Delete Mailboxes
Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

Prompt: `Mailbox: 00000000nnn`
Response: Press **F10** to edit the mailbox information.

6. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen, stopping at parameters. Move to the Message Waiting field used for paging or message delivery (its value should be 5) and press the **End** key to edit the paging/message delivery parameters.

   Note: Prompts may be somewhat different than specified in the instructions below.

7. Refer to applicable section(s) below to change appropriate parameters.
8. After you enter or move past the last parameter, the paging fields entry screen goes away and you are returned to the Mailbox Maintenance entry screen.
9. Press **F10** to save your changes, or, if you made a mistake, press **F9** to cancel your changes.
10. Press **F9** to exit the Mailbox Maintenance entry screen.

Setting the Start and Stop Times

For the scrolling interface:

Press **Enter** until the Pager Start Time parameter appears.

Note: If both the start time and the stop time remain unspecified, paging or message delivery is enabled at all times.

Prompt: `Pager start time:`
Response: The **time** at which paging or message delivery is to start. Enter the time in hours and minutes followed by "am" or "pm"; for example: 6:00pm.

Prompt: `Pager stop time:`
Response: The **time** at which paging or message delivery is to stop. Enter the time in hours and minutes followed by "am" or "pm"; for example: 8:30am.

For the full-screen interface:

Move the cursor to the appropriate message waiting indicator for paging or message delivery. There are two columns; the first is for Pager 1, and the second for Pager 2 (the alternate pager). Press the **End** key to edit paging fields. Move the cursor to edit the start and stop time fields.

Step	*Reference*

Note: If both the start time and the stop time remain unspecified, paging or message delivery is enabled at all times.

Prompt: `Start time:`

Response: The **time** at which paging or message delivery is to start. Enter the time in hours and minutes followed by "am" or "pm"; for example: 6:00pm.

Prompt: `Stop time:`

Response: The **time** at which paging or message delivery is to stop. Enter the time in hours and minutes followed by "am" or "pm"; for example: 8:30am.

The pager entry screen goes away if you move through all the fields. Alternatively, you can press **F10** to save your entries, or **F9** to cancel them, rather than move through all the fields.

Setting a Weekday-Weekend Schedule

1. Include one of these feature bits in the FCOS for the mailbox that uses the pagers or message delivery:

   182 (use pri/alt as week/weekend for MWI1), if the pagers or message delivery were configured as the first message waiting type.

   183 (use pri/alt as week/weekend for MWI2), if the pagers or message delivery were configured as the second message waiting type.

   - Either add the bit to an existing FCOS, — CP 5011, Ch. 1

     or — or

   - Copy an FCOS and edit it as necessary. — CP 5007, Ch. 1

2. Configure an alternate pager. This will be the weekend pager. — CP 3334

3. Make sure the weekday pager number or message delivery number is specified for the primary and the weekend pager number or message delivery number is specified for the alternate.

Scheduling a Change of Interval

Configure a primary and its alternate as the same pager, with these differences: — CP 3334

- Set the first interval and number of retries through the pager (message delivery) interval prompt for the primary pager.
- Set the second interval and number of retries through the pager (message delivery) interval prompt for the alternate pager.

Step	*Reference*
• Set the time the other interval will be in effect through the pager (message delivery) start time and stop time prompts for the alternate pager.	
Receiving Queued Pages or Message Delivery Calls at the Start Time	
Include one of these feature bits in the FCOS for the mailbox that uses the pager or message delivery: 168 (message wait 1, pager requeue), if the pager was configured through the first message waiting type prompt. 169 (message wait 2, pager requeue), if the pager was configured through the second message waiting type prompt.	
• Either add the bit to an existing FCOS,	CP 5011, Ch. 1
or	or
• Copy an FCOS and edit it as necessary.	CP 5007, Ch. 1
Prioritizing Paging When Schedules Overlap	
Include these feature bits in the FCOS for the mailbox that uses the pager or message delivery: 70 (User Options Menu) 77 (change pager schedule) 181 (paging over msg del, mwi 1 over mwi 2), if the schedules for pagers in both message waiting types overlap, the server selects the pager in the first message waiting type. If message delivery is in the first message waiting type and paging only is in the second message waiting type and their schedules overlap, the server selects paging only.	
• Either add the bit to an existing FCOS,	CP 5011, Ch. 1
or	or
• Copy an FCOS and edit it as necessary.	CP 5007, Ch. 1

Test Message Delivery

VoiceMemo Release 6.0A and later

This procedure describes how to test the message delivery function after it has been configured. Prerequisites for this procedure are:

- All appropriate hardware has been installed.
- Telephone lines have been installed.
- Test mailboxes have been configured for message delivery.
- Associated pager systems have been configured.

Step	*Reference*
If you have not already done so, obtain a System Configuration Report. Refer to the report as needed for such information as message delivery parameter settings.	CP 4353, Ch. 1
Using the Lights Test You can test message delivery calls using the Lights Test as described for message waiting lights; however, if you make an actual message delivery test call, you can check server prompts and the mailbox user interface at the same time.	CP 3359, Ch. 6
Using a Test Call 1. Log into the test mailbox, ensure that there are no unplayed messages, then log out of the test mailbox. **Note:** To streamline the test, you should set the number of retires to 0; otherwise, the server keeps trying to complete the call until the maximum number of retries has been reached. 2. Place a butt set in the monitor position on the server outdial telephone line. 3. Call the test mailbox and leave a message. 4. Listen on the butt set as the outdial line comes off-hook and the server makes the call. (If you hear any error tones or similar signals that may cause the call to fail, you can correct your dial string as needed.) You can check the Event Log file to determine if the correct digits are being dialed. 5. When the telephone that you have called rings, answer it at the first ring (or have an assistant do so if necessary). The server should say, "Hello [mailbox name]. You have one unplayed message in your mailbox. One message total. Please enter your passcode."	

Step	*Reference*
6. Enter the passcode and play the message. If problems occur while attempting to play the message: • Check the dialing plan in the active configuration. • Check the mailbox FCOS. • Check the "Other Features" parameter settings for the pager line group, to ensure that they match the corresponding parameter settings for the VoiceMemo application. 7. Verify that there is no further paging.	

Turn All Pagers or Message Delivery in a Mailbox On or Off

VoiceMemo Release 6.0A and later

This procedure describes how to set a single parameter that suppresses or resumes all paging or message delivery calls configured in a mailbox. The mailbox parameters are not deleted or modified.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed Mailbox Worksheet.	Menu Map 3

Using the Scrolling Interface

2. Identify the mailbox for which you want to suppress or resume paging or message delivery.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: **Number** of the new mailbox you want to configure for paging or message delivery.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of the existing mailbox you want to reconfigure for paging. or message delivery.

   Note: The prompts are the same for creating a new mailbox and modifying an existing one, except that "New ..." precedes each prompt when you select Modify Mailboxes.

3. Press **Enter** until the prompt for turning off pager/outcall notification appears. This prompt immediately follows the last message waiting type prompt.

4. Suppress or resume all paging or message delivery configured for this mailbox.

   Prompt: `Turn off pager/outcall notification:`
   Response: **Y** for yes, *or*
   N for no.

5. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number.

   At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

Step *Reference*

Using the Full-Screen Interface

2. Identify the mailbox for which you want to suppress or resume paging or message delivery.

   Select: (C) Create/Modify/Delete Mailboxes
   Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F10** to edit the mailbox information.

3. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen. Move to the Message Waiting field used for paging or message delivery (its value should be 5) and press the **End** key to edit the paging/message delivery parameters. The first field controls off pager/outcall notification for the primary pager. If you want to adjust the field for the alternate pager, move the cursor to the first field for Pager #02.

4. Suppress or resume all paging or message delivery configured for this mailbox.

   Prompt: `Suppress:`
   Response: **Y** for yes, *or*
   N for no.

5. After you enter or move past the last parameter, the paging fields entry screen goes away and you are returned to the Mailbox Maintenance entry screen.

6. Press **F10** to save your changes, or, if you made a mistake, press **F9** to cancel your changes.

   At this point, you can continue with mailbox configuration by entering another mailbox number, or exit by pressing **F9**.

Display Pager Configuration

VoiceMemo Release 6.0A and later

This procedure summarizes the steps necessary to configure for display pagers in a Series 6 server. It assumes that the appropriate server hardware and software have been installed.

Step	*Reference*
1. Complete an Outdial Line Group Worksheet. Blank worksheets are near the back of this manual.	
2. Define a line group to be used for the Pager application.	CP 5010, Ch. 1
Note: Defining pager systems should be accomplished on the currently inactive configuration.	
3. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise.	Menu Map 2
Select: (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
4. Specify the line group to which the Pager application is assigned.	
Select: (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
5. Define supported pager systems. A typical access code in a PBX environment for display paging is T9T where	CP 5012
T = Wait for dial tone 9 = Request an outside line T = Wait for outside line dial tone	

Step	*Reference*
6. Customize an FCOS to include these feature bits: 40 (receive messages from other users) 41 (receive messages from outside callers) 70 (User Options Menu) 77 (change pager schedule) 79 (set msg wait #1 for urgent msgs only) 80 (set msg wait #2 for urgent msgs only) 88 (receive urgent messages) 124 (change paging phone number) 168 (message wait 1, pager requeue) 169 (message wait 2, pager requeue) 181 (paging over msg del, mwi 1 over mwi 2) 182 (use pri/alt as week/weekend for MWI1) 183 (use pri/alt as week/weekend for MWI2)	
• Either add the bits to an existing FCOS,	CP 5011, Ch. 1
or	or
• Copy an FCOS and edit it as necessary.	CP 5007, Ch. 1
7. Customize an LCOS to include these limits parameters: • Maximum phone number length for paging • Maximum pages per billing cycle • Minimum message length to activate paging	CP 3336
8. Configure a mailbox for paging. • A typical pager number for display paging contains the account number or the DID number of the user's pager, followed by a one- or two-second pause (++). • A typical post-pager number for display paging contains only the display digits to be shown on the pager. • Choose no message delivery.	CP 5019
9. Assign an alternate pager to a mailbox.	CP 3334
10. Set billing rates for paging.	CP 4362, Ch. 11
11. Verify that the configuration is correct.	CP 5015, Ch. 1
12. If you chose the inactive configuration at the beginning of this procedure, activate the configuration to make the parameter settings take effect.	CP 7002, Ch. 1

Tone Pager Configuration

VoiceMemo Release 6.0A and later

This procedure summarizes the steps necessary to configure for tone pagers in a Series 6 server. It assumes that the appropriate server hardware and software have been installed.

Step	*Reference*
1. Complete an Outdial Line Group Worksheet. Blank worksheets are near the back of this manual.	
2. Define a line group to be used for the Pager application.	CP 5010, Ch. 1
Note: Defining pager systems should be accomplished on the currently inactive configuration.	
3. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	Menu Map 2
4. When the VoiceMemo Configuration Online Menu appears, specify the line group to which the Pager application is assigned. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
5. Define supported pager systems. A typical access code for tone paging is T9T where T = Wait for dial tone 9 = Request an outside line T = Wait for outside line dial tone	CP 5012
6. Customize an FCOS to include these feature bits: 70 (User Options Menu) 77 (change pager schedule) 79 (set msg wait #1 for urgent msgs only) 80 (set msg wait #2 for urgent msgs only) 124 (change paging phone number) 168 (message wait 1, pager requeue) 169 (message wait 2, pager requeue) 181 (paging over msgdel, mwi 1 over mwi 2) 182 (use pri/alt as week/weekend for MWI1) 183 (use pri/alt as week/weekend for MWI2)	CP 5011, Ch. 1

Step	*Reference*
• Either add the bit to an existing FCOS, *or* • Copy an FCOS and edit it as necessary.	CP 5011, Ch. 1 or CP 5007, Ch. 1
7. If desired, customize an LCOS with these limits parameters: • Maximum phone number length for off-server messaging • Maximum pages per billing cycle • Minimum message length to activate paging	CP 3336
8. Configure a mailbox for paging. • A typical pager number for tone paging is 9163259116+G where 9163259116 = Call the pager company's number + = Wait for the line to settle G = Wait for a computer tone • The post-pager number can be blank; however, if mailbox owners have the option to change their paging phone numbers, Centigram recommends a greet-and-wait (G) character in the post-pager number. • Choose no message delivery.	CP 5019
9. Assign an alternate pager to a mailbox.	CP 3334
10. Set billing rates for paging.	CP 4362, Ch. 11
11. Verify that the configuration is correct.	CP 5015, Ch. 1
12. Activate the configuration.	CP 7002, Ch. 1

Voice Pager Configuration

This procedure summarizes the steps necessary to configure for voice pagers in a Series 6 server. It assumes that the appropriate server hardware and software have been installed.

Step	*Reference*
1. Complete an Outdial Line Group Worksheet. Blank worksheets are near the back of this manual.	
2. Define a line group to be used for the Pager application.	CP 5010, Ch. 1
Note: Defining pager systems should be accomplished on the currently inactive configuration.	
3. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise.	Menu Map 2
Select: (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
4. Define supported pager systems. A typical access code for voice paging is T9T where T = Wait for dial tone 9 = Request an outside line T = Wait for outside line dial tone	CP 5012
5. Customize an FCOS to include these feature bits: 70 (User Options Menu) 77 (change pager schedule) 79 (set msg wait #1 for urgent msgs only) 80 (set msg wait #2 for urgent msgs only) 124 (change paging phone number) 168 (message wait 1, pager requeue) 169 (message wait 2, pager requeue) 181 (paging over msgdel, mwi 1 over mwi 2) 182 (use pri/alt as week/weekend for MWI1) 183 (use pri/alt as week/weekend for MWI2)	
• Either add the bit to an existing FCOS,	CP 5011, Ch. 1
or	
• Copy an FCOS and edit it as necessary.	CP 5007, Ch. 1

Step	*Reference*
6. Customize an LCOS with these limits parameters: • Maximum phone number length for off-system messaging • Maximum pages per billing cycle • Minimum message length to activate paging	CP 3336
7. Configure a mailbox for paging. • A typical pager number for voice paging is 9163259116+GV where 9163259116 = Call the pager company's number + = Pause for one second G = Wait for a computer tone V = Play three seconds of the message for a voice pager • The post-pager number can be blank; however, if mailbox owners have the option to change their paging phone numbers, Centigram recommends a greet-and-wait (G) character in the post-pager number. • Choose no message delivery.	CP 5019
8. Assign an alternate pager to a mailbox.	CP 3334
9. Set billing rates for paging.	CP 4362, Ch. 11
10. Verify that the configuration is correct.	CP 5015, Ch. 1
11. Activate the configuration.	CP 7002, Ch. 1

Allow Mailbox Owners to Control Paging

This procedure describes how to allow mailbox owners to:

- Turn paging on or off
- Change their paging phone number
- Schedule paging

Step	*Reference*
1. Include feature bit 70 (User Options Menu), and the following bits as applicable: 77 (change pager schedule) 124 (change paging phone number)	
• Either add the bit to an existing FCOS,	CP 5011, Ch. 1
or	or
• Copy an FCOS and edit it as necessary.	CP 5007, Ch. 1
2. Assign the FCOS containing these bits to each mailbox you want to have paging schedule control.	CP 5003, Ch. 1

Assign an Alternate Pager to a Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to assign an alternate pager to a mailbox. Before using this procedure, make sure the following steps have been completed:

- A line group is defined for the Pager application.
- The pager system to be used by this mailbox is defined.
- The mailbox configuration identifies each pager it is to use.

Note: If you use one of the billing outdial indexes, you cannot use create an alternate pager for Message Waiting 2, because they use the same post-pager field.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu.	Menu Map 3

Using the Scrolling Interface

2. Specify the mailbox that will have the alternate pager.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: **Number** of a new mailbox.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of an existing mailbox.

3. Press **Enter** until the applicable Message Waiting Type prompt appears, then specify paging. Choose the same message waiting prompt through which the primary pager was configured.

4. Indicate paging.

   Prompt: `Message waiting type #1:` or `Message waiting type #2:`
   Response: **5**

5. Press **Enter** until the Define an Additional Pager Number prompt appears, then indicate the alternate pager.

   Prompt: `Define an additional pager number ? :`
   Response: **Y** to define the pager number.

Step	*Reference*

6. Identify the pager system and specify the paging dial string.

   Prompt: `Pager access type:`

   Response: The index **number** of the pager system (0-15) this mailbox uses. This is the same as the pager system number specified in the Define Pagers Menu.

   or

   I if pages from this mailbox are to use the internal outdial index (specified in the mailbox configuration) for internal calls.

   or

   B if pages from this mailbox are to be charged to a billing account. Pages will use the billed outdial index specified in the mailbox configuration.

   or

   U if pages from this mailbox are not to be charged to a billing account. Pages will use the Unbilled Outdial Index specified in the mailbox configuration.

   Response: The index **number** of the pager system (0-15) this mailbox uses. This is the same as the pager system number specified in the Define Pagers Menu.

   Prompt: `Pager number:`

   Response: The unique **number** (1-16 characters) of the pager. The pager number must contain at least one character. This number is dialed immediately following the access code specified in the Define Pagers Menu. This field can contain any additional characters necessary for outdialing, from Table 1 at the end of this procedure.

   Prompt: `Post-pager number:`

   Response: For display pagers, the display **digits** (0-24) to be shown on the pager.

   For tone or voice pagers, leave blank; however, if mailbox owners have the option to change their paging phone numbers, Centigram recommends coding a greet-and-wait (G) character in the post-pager number. Also enter any overflow from the tone or voice pager number (up to 24 characters) that did not fit in the pager number field. Table 1 at the end of this procedure shows valid post-pager number characters.

   If a post-pager number is entered, it comprises the last part of a paging dial string.

Step *Reference*

7. Set the pager frequency and interval of the additional pager.

   Prompt: `Pager frequency:`
   Response: The number of **times** (0-255) this mailbox will be notified with a page every time there is an unplayed message in the mailbox. Either **0** or **1** indicates one notification only.

   Prompt: `Pager interval:`
   Response: The number of **minutes** (0-255) between pages for this mailbox. Either **0** or **1** indicates a one-minute interval.

8. Specify whether message delivery is to be used.

   Prompt: `Message delivery:`
   Response: **N** to turn off message delivery.

9. Specify whether paging is to be suppressed.

   Prompt: `Suppress pages:`
   Response: **Y** to suppress paging, *or*
   N to not suppress paging.

10. Set the number and frequency of paging retries when a busy signal is encountered.

    Prompt: `Busy pager attempts:`
    Response: The number of **times** (0-255) this mailbox will retry a page when a busy condition is encountered. Either **0** or **1** indicates one retry. Setting both the busy pager attempts and busy pager interval to 0 specifies unlimited retries upon reaching a busy signal.

    Prompt: `Busy pager interval:`
    Response: The number of **minutes** (0-255) between pager attempts. Either **0** or **1** indicates a one-minute interval. Setting both the busy pager attempts and busy pager interval to 0 specifies unlimited retries upon reaching a busy signal.

Step *Reference*

11. Schedule the alternate pager.

    Prompt: `Pager start time:`
    Response: The **time** at which paging is to start. Enter the time in hours and minutes followed by "am" or "pm"; for example: 6:00pm. If 12:00am is entered for start time and stop time, paging is enabled at all times.

    Prompt: `Pager stop time:`
    Response: The **time** at which paging is to stop. Enter the time in hours and minutes followed by "am" or "pm"; for example: 8:30am If 12:00am is entered for stop time and start time, paging is enabled at all times.

12. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number.

    At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

Using the Full-Screen Interface

2. Specify the mailbox that will have the alternate pager.

    Select: (C) Create/Modify/Delete Mailboxes
    Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

    Prompt: `Mailbox: 00000000nnn`
    Response: Press **F10** to edit the mailbox information.

3. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen. Move to the same message waiting prompt through which the primary pager was configured.

4. Indicate paging.

    Prompt: `Message waiting 1:` *or* `Message waiting 2:`
    Response: **5**

5. Press the **End** key to edit the paging fields. Move the cursor to the bottom of the fields and indicate the alternate pager.

    Prompt: `Alt page:`
    Response: **Y** to define the pager number.

6. Specify fields for the alternate pager. These fields are in the second column of the paging fields entry screen, under "Pager #02."

Step *Reference*

7. Specify whether paging is to be suppressed.

   Prompt: `Suppress:`
   Response: **Y** to suppress paging, *or*
   N to not suppress paging.

8. Specify the paging dial string and identify the pager system.

   Prompt: `Pager Num:`
   Response: The unique **number** (1-16 characters) of the pager. The pager number must contain at least one character. This number is dialed immediately following the access code specified in the Define Pagers Menu. This field can contain any additional characters necessary for outdialing, from Table 1 at the end of this procedure.

   Prompt: `Post Pager:`
   Response: For display pagers, the display **digits** (0-24) to be shown on the pager.

   For tone or voice pagers, leave blank; however, if mailbox owners have the option to change their paging phone numbers, Centigram recommends coding a greet-and-wait (G) character in the post-pager number. Also enter any overflow from the tone or voice pager number (up to 24 characters) that did not fit in the pager number field. Table 1 at the end of this procedure shows valid post-pager number characters.

   If a post-pager number is entered, it comprises the last part of a paging dial string.

   Prompt: `System:`
   Response: The index **number** of the pager system (0-15) this mailbox uses. This is the same as the pager system number specified in the Define Pagers Menu. You can press the **Home** key for a list of defined pager systems.

   or

   I if pages from this mailbox are to use the internal outdial index (specified in the mailbox configuration) for internal calls.

   or

   B if pages from this mailbox are to be charged to a billing account. Pages will use the billed outdial index specified in the mailbox configuration.

   or

   U if pages from this mailbox are not to be charged to a billing account. Pages will use the Unbilled Outdial Index specified in the mailbox configuration.

Step	*Reference*

9. Set the pager frequency and interval of the additional pager.

   Prompt: `Frequency:`
   Response: The number of **times** (0-255) this mailbox will be notified with a page every time there is an unplayed message in the mailbox. Either **0** or **1** indicates one notification only.

   Prompt: `Interval:`
   Response: The number of **minutes** (0-255) between pages for this mailbox. Either **0** or **1** indicates a one-minute interval.

10. Set the number and frequency of paging retries when a busy signal is encountered.

    Prompt: `Busy Frequency:`
    Response: The number of **times** (0-255) this mailbox will retry a page when a busy condition is encountered. Either **0** or **1** indicates one retry. Setting both the busy pager attempts and busy pager interval to 0 specifies unlimited retries upon reaching a busy signal.

    Prompt: `Busy Interval:`
    Response: The number of **minutes** (0-255) between pager attempts. Either **0** or **1** indicates a one-minute interval. Setting both the busy pager attempts and busy pager interval to 0 specifies unlimited retries upon reaching a busy signal.

11. Specify whether message delivery is to be used.

    Prompt: `Msg dlvr:`
    Response: **N** to turn off message delivery.

12. Schedule the alternate pager.

    Prompt: `Start time:`
    Response: The **time** at which paging is to start. Enter the time in hours and minutes followed by "am" or "pm"; for example: 6:00pm. If 12:00am is entered for start time and stop time, paging is enabled at all times.

    Prompt: `Start time:`
    Response: The **time** at which paging is to stop. Enter the time in hours and minutes followed by "am" or "pm"; for example: 8:30am If 12:00am is entered for stop time and start time, paging is enabled at all times.

13. After the last prompt, the pager field entry screen goes away, returning you to the Mailbox Maintenance screen. You can press **End** again to confirm your settings and re-edit the fields. Also, within the pager field entry screen, you can always press **F10** to save your settings or **F9** to cancel them.

Step	*Reference*
14. Save the settings for the mailbox. Press **F10** to save your settings or **F9** to cancel them. At this point, you can continue with mailbox configuration by entering another mailbox number, or exit the mailbox maintenance screen by pressing **F9**.	

Configure a Mailbox for Paging

VoiceMemo Release 6.0A and later

This procedure describes how to configure those parameters in a mailbox set-up that affect paging.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed Mailbox Worksheet. Menu	Menu Map 3

Using the Scrolling Interface

2. Identify the mailbox to be created or modified.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: **Number** of the new mailbox you want to configure for paging.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of the existing mailbox you want to reconfigure for paging.

   Note: The prompts are almost the same for creating a new mailbox and modifying an existing one, except that "New" precedes each prompt when you select Modify Mailboxes.

3. Press **Enter** until the Features Class of Service prompt appears.

4. Assign the appropriately-customized FCOS to the mailbox.

   Prompt: `Features class of service:`
   Response: The **number** of the FCOS (1-640) that includes the applicable feature bits.

5. Assign the appropriately-customized LCOS to the mailbox.

   Prompt: `Limits class of service:`
   Response: The **number** of the LCOS (1-640) that includes the applicable limits.

6. Assign the appropriately-customized RCOS to the mailbox.

   Prompt: `Restriction class of service:`
   Response: The **number** of the RCOS (1-64) that includes the applicable limits.

7. Specify message waiting indication for paging.

   Prompt: `Message waiting type #1:` or `Message waiting type #2`
   Response: **5**

Step *Reference*

8. Specify the pager access type and the paging dial string.

   Prompt: `Pager access type:`

   Response: The index **number** of the pager system (0-15) this mailbox uses. This is the same as the pager system number specified in the Define Pagers Menu.

   or

   I if pages from this mailbox are to use the internal outdial index (specified earlier in the mailbox configuration) for internal calls.

   or

   B if pages from this mailbox are to be charged to a billing account. Pages will use the billed outdial index specified earlier in the mailbox configuration.

   or

   U if pages from this mailbox are not to be charged to a billing account. Pages will use the Unbilled Outdial Index specified earlier in the mailbox configuration.

   Prompt: `Pager number:`

   Response: The unique **number** (1-16 characters) of the pager. The pager number must contain at least one character. This number is dialed immediately following the access code specified in the Define Pagers Menu. This field can contain any additional characters necessary for outdialing, from Table 1 at the end of this procedure.

   Prompt: `Post-pager number:`

   Response: For display pagers, the display **digits** (0-24) to be shown on the pager.

   For tone or voice pagers, leave blank; however, if mailbox owners have the option to change their paging phone numbers, Centigram recommends coding a greet-and-wait (G) character in the post-pager number. Also enter any overflow from the tone or voice pager number (up to 24 characters) that did not fit in the pager number field. Table 1 at the end of this procedure shows valid post-pager number characters.

   If a post-pager number is entered, it comprises the last part of a paging dial string.

Step *Reference*

9. Set the pager frequency and interval.

   Prompt: `Pager frequency:`
   Response: The number of **times** (0-255) this mailbox will be notified with a page every time there is an unplayed message in the mailbox. Either **0** or **1** indicates one notification only.

   Prompt: `Pager interval:`
   Response: The number of **minutes** (0-255) between pages for this mailbox. Either **0** or **1** indicates a one-minute interval.

10. Specify whether message delivery is to be used.

    Prompt: `Message delivery:`
    Response: **N** for no.

11. Specify whether paging is to be suppressed.

    Prompt: `Suppress pages:`
    Response: **Y** for yes, or
    N for no.

12. Set the number and frequency of paging retries

    Prompt: `Busy pager attempts:`
    Response: The number of **times** (0-255) this mailbox will retry a page when a busy condition is encountered. Either **0** or **1** indicates one retry. Setting both the busy pager attempts and busy pager interval to 0 specifies unlimited retries upon reaching a busy signal.

    Prompt: `Busy pager interval:`
    Response: The number of **minutes** (0-255) between pager attempts. Either **0** or **1** indicates a one-minute interval. Setting both the busy pager attempts and busy pager interval to 0 specifies unlimited retries upon reaching a busy signal.

Step *Reference*

13. Schedule paging.

    Prompt: `Pager start time:`
    Response: The **time** at which paging is to start. Enter the time in hours and minutes followed by "am" or "pm"; for example: 6:00pm. If 12:00am is entered for start time and stop time, paging is enabled at all times.

    Prompt: `Pager stop time:`
    Response: The **time** at which paging is to stop. Enter the time in hours and minutes followed by "am" or "pm"; for example: 8:30am If 12:00am is entered for stop time and start time, paging is enabled at all times.

14. Specify whether an alternate pager is desired.

    Prompt: `Define additional pager number ? :`

15. If you specify an alternate pager, set the applicable parameters for it as just described for the primary pager.

    Note: If you use one of the billing outdial indexes, you cannot use Pager 4 (Message Waiting 2 alternate pager) because they use the same post-pager field.

16. Press **Enter** until the Turn Off Pager/Outcall Notification prompt appears.

17. Specify whether all paging configured for this mailbox is to be suppressed.

    Prompt: `Turn off pager/outcall notification:`
    Response: **Y** for yes, *or*
    N for no.

18. If call placement is desired, specify the access type.

    Prompt: `call placement pager access type:`
    Response: **I** if call placement outdials from this mailbox are to use the internal outdial index (specified earlier in the mailbox configuration) for internal calls.

    or

    B if call placement outdials from this mailbox are to be charged to a billing account. Outcalls will use the billed outdial index specified earlier in the mailbox configuration.

    or

    U if call placement outdials from this mailbox are not to be charged to a billing account. Outcalls will use the Unbilled Outdial Index specified earlier in the mailbox configuration.

Step *Reference*

19. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number.

    At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

Using the Full-Screen Interface

2. Identify the mailbox to be created or modified.

    Select: (C) Create/Modify/Delete Mailboxes
    Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

    Prompt: `Mailbox: 00000000nnn`
    Response: Press **F10** to edit the mailbox information.

3. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen. Move to the parameters you wish to change.

4. Assign the appropriately-customized LCOS to the mailbox.

    Prompt: `Limits:`
    Response: The **number** of the LCOS (1-640) that includes the applicable limits.

5. Assign the appropriately-customized FCOS to the mailbox.

    Prompt: `Features:`
    Response: The **number** of the FCOS (1-640) that includes the applicable feature bits.

6. Assign the appropriately-customized RCOS to the mailbox.

    Prompt: `Restriction:`
    Response: The **number** of the RCOS (1-64) that includes the applicable feature bits.

7. Specify message waiting indication for paging.

    Prompt: `Message waiting 1:` or `Message waiting 2:`
    Response: **5**

8. Press the **End** key to edit the paging fields. Move the cursor to the parameters you wish to edit.

Step *Reference*

9. Specify whether paging is to be suppressed.

   Prompt: `Suppress:`
   Response: **Y** for yes, or
   N for no.

10. Specify the pager dial string and pager access type.

    Prompt: `Pager Num:`
    Response: The unique **number** (1-16 characters) of the pager. The pager number must contain at least one character. This number is dialed immediately following the access code specified in the Define Pagers Menu. This field can contain any additional characters necessary for outdialing, from Table 1 at the end of this procedure.

    Prompt: `Post Pager:`
    Response: For display pagers, the display **digits** (0-24) to be shown on the pager.

    For tone or voice pagers, leave blank; however, if mailbox owners have the option to change their paging phone numbers, Centigram recommends coding a greet-and-wait (G) character in the post-pager number. Also enter any overflow from the tone or voice pager number (up to 24 characters) that did not fit in the pager number field. Table_1 at the end of this procedure shows valid post-pager number characters.

    If a post-pager number is entered, it comprises the last part of a paging dial string.

    Prompt: `System:`
    Response: The index **number** of the pager system (0-15) this mailbox uses. This is the same as the pager system number specified in the Define Pagers Menu. You can press the **Home** key for a list of defined pager systems.

    or

    B if pages from this mailbox are to be charged to a billing account. Pages will use the billed outdial index specified in the mailbox configuration under Billing, **F6**.

    or

    U if pages from this mailbox are not to be charged to a billing account. Pages will use the Unbilled Outdial Index specified in the mailbox configuration under Billing, **F6**.

Step *Reference*

11. Set the pager frequency and interval.

    Prompt: `Frequency:`
    Response: The number of **times** (0-255) this mailbox will be notified with a page every time there is an unplayed message in the mailbox. Either **0** or **1** indicates one notification only.

    Prompt: `Interval:`
    Response: The number of **minutes** (0-255) between pages for this mailbox. Either **0** or **1** indicates a one-minute interval.

12. Set the number and frequency of paging retries

    Prompt: `Busy Frequency:`
    Response: The number of **times** (0-255) this mailbox will retry a page when a busy condition is encountered. Either **0** or **1** indicates one retry. Setting both the busy pager attempts and busy pager interval to 0 specifies unlimited retries upon reaching a busy signal.

    Prompt: `Busy Interval:`
    Response: The number of **minutes** (0-255) between pager attempts. Either **0** or **1** indicates a one-minute interval. Setting both the busy pager attempts and busy pager interval to 0 specifies unlimited retries upon reaching a busy signal.

13. Specify whether message delivery is to be used.

    Prompt: `Msg dlvr:`
    Response: **N** for no.

14. Schedule paging.

    Prompt: `Start time:`
    Response: The **time** at which paging is to start. Enter the time in hours and minutes followed by "am" or "pm"; for example: 6:00pm. If 12:00am is entered for start time and stop time, paging is enabled at all times.

    Prompt: `Stop time:`
    Response: The **time** at which paging is to stop. Enter the time in hours and minutes followed by "am" or "pm"; for example: 8:30am If 12:00am is entered for stop time and start time, paging is enabled at all times.

Step	*Reference*

15. Specify whether an alternate pager is desired.

    Prompt: `Alt Page :`
    Response: **Y** to set up an alternate pager, *or*
    N for no alternate pager

    Note: If you use one of the billing outdial indexes, you cannot use Pager 4 (Message Waiting 2 alternate pager) because they use the same post-pager field.

16. If you specify an alternate pager, set the applicable parameters for it as just described for the primary pager. The alternate pager fields are in the second column, under "Pager #02."

17. Press **F10** to save your settings or **F9** to cancel them. This closes the pager field entry screen.

18. Save the settings for the mailbox. Press **F10** to save your settings or **F9** to cancel them. At this point, you can continue with mailbox configuration by entering another mailbox number, or exit the mailbox maintenance screen by pressing **F9**.

Step *Reference*

Table 1 Dial String Characters

Character	Explanation
0-9, *, #	Keys on a standard pushbutton telephone
(	The following digits should be dial pulsed (10 PPS)
)	Stop pulsing; resume sending DTMF tones
+	Pause for one second
A-D	Fourth column DTMF keys
E	Go off-hook, wait for dial tone or other steady tone (pager go-ahead or confirmation tone, for example), then do next item in string
F	Switch hook flash and wait for dial tone
G	Greet - Wait for a voice or computer tone answer
H	Hang up (go on-hook)
L	Wait for an answer supervision signal that indicates the receiving phone has gone off-hook, then dial remaining characters after receiving the signal. Valid only with four-wire connections, not with loop start or ground start phone lines.
N	Start a new activity; do not go off-hook
O	Ring once
P	Go off-hook, do not wait for dial tone
S	Switch hook flash, no wait required
T	Go off-hook, wait for dial tone
V	Play three seconds of the message for voice pager

Define a Pager System

VoiceMemo Release 6.0A and later

This procedure describes how to assign an identification (index) number to each supported pager system, how to name each supported pager system, and how to specify an access code and hold time for each supported pager system.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
3. Specify the line group to which the Pager application is assigned. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24) to which the Pager application is assigned, *or* Press **Enter** if the current number is the Pager application line group.	
4. Go to the Pagers Menu.	Menu Map 5
5. Enter the requested information, as described in the following steps, from your completed Outdial Line Group Worksheet.	
6. Assign identification (index) numbers to all supported pager systems. *Select:* (P) Pager Systems Supported *Prompt:* `Paging systems supported by this dialer =` *Response:* The pager system index **numbers** (0-15) of the supported pager systems in the format n,n,n...	
7. Go to the Define Pagers Menu.	Menu Map 5
8. Identify the pager system to be defined. *Select:* (P) Current Pager System *Prompt:* `Enter a pager system number (0 thru 15) =` *Response:* The index **number** of the first supported pager system.	

Step	*Reference*

9. Name the pager system.

   Select: (N) Pager Name
   Prompt: `Enter pager system name (0 - 30 chars) =`
   Response: A descriptive **name** that identifies this pager system. Up to 30 alphanumeric characters are allowed. Examples are "553 exchange" and "South County route".

10. Specify the dial string for outdialing (access code).

    Select: (D) Access Code
    Prompt: `Enter pager system access code (0 - 24 chars) =`
    Response: The **code** (1-24 characters) that is common to mailbox owners using this pager system. This code indicates what the server should dial before the unique number. It comprises the first part of the dial string. Use the characters in Table 1 at the end of this procedure to create the code.

    or

    Press **Enter** if the current access code is correct.

    or

    A **period** (.) to delete an existing access code.

11. Specify the hold time.

    Select: (H) Hold Time
    Prompt: `Hold time in seconds (90 secs. maximum) =`
    Response: **Seconds** (0-90) the server holds a call before hanging up after a successful send attempt. Centigram recommends 2-5 seconds.

12. Save the parameter settings by exiting to the VoiceMemo Configuration Main Menu.

Step *Reference*

Table 1 Access Code Characters

Character	Explanation
0-9, *, #	Keys on a standard pushbutton telephone
(	The following digits should be dial pulsed (10 PPS)
)	Stop pulsing; resume sending DTMF tones
+	Pause for one second
A-D	Fourth column DTMF keys
E	Go off-hook, wait for dial tone or other steady tone (pager go-ahead or confirmation tone, for example), then do next item in string
F	Switch hook flash and wait for dial tone
G	Greet - Wait for a voice or computer tone answer
H	Hang up (go on-hook)
L	Wait for an answer supervision signal that indicates the receiving phone has gone off-hook, then dial remaining characters after receiving the signal. Valid only with four-wire connections, not with loop start or ground start phone lines.
N	Start a new activity; do not go off-hook
O	Ring once
P	Go off-hook, do not wait for dial tone
S	Switch hook flash, no wait required
T	Go off-hook, wait for dial tone. Centigram recommends T as the first character in the access code.
V	Play three seconds of the message for voice pager.

Set Limits for Paging

VoiceMemo Release 6.0A and later

This procedure describes how to set the following limits that govern paging:

- Maximum phone number length for off-system messaging
- Maximum pages allowed per billing cycle
- Minimum message length to activate paging

Step	*Reference*
1. Modify an LCOS to include the desired limits parameters. Enter the requested information, as described in the following steps, from your completed LCOS Worksheet.	CP 5017, Ch. 8
• To set the maximum phone number length for off-server messaging, go to the More Limits Parameters Menu. *Select:* (B) Paging - Phone Length *Prompt:* `Enter maximum phone number length for paging =` *Response:* The maximum **number** of characters (1-24) allowed in the paging phone number for off-server messaging.	Menu Map 11
• To set the maximum pages allowed per billing cycle, go to the More Limits Parameters Menu. *Select:* (I) Maximum Pages Per Billing *Prompt:* `Enter maximum number of pages per billing cycle =` *Response:* The maximum number of **pages** (0-999) allowed, *or* **0** (zero) or a **period** (.) to allow unlimited pages.	Menu Map 11
• To set the minimum message length that activates paging, go to the More Limits Parameters Menu. *Select:* (G) Message Waiting Indicator – Message Length *Prompt:* `Enter minimum message length to turn on message waiting/paging =` *Response:* The number of **seconds** (1-5) in a recorded message to activate paging, *or* **0** (zero) if no minimum message length is desired.	Menu Map 11
2. Save the modified limits by exiting to the System Configuration Menu.	
3. Assign the customized LCOS containing these limits to the mailbox.	CP 5019

Test a Pager

VoiceMemo Release 6.0A and later

This procedure describes how to test a tone pager, display pager, or voice pager after it has been configured. Prerequisites for this procedure are:

- All appropriate hardware has been installed.
- Telephone lines have been installed and tested for dial tone.
- Test mailboxes have been configured for pagers.
- Pager systems have been configured.

Step	*Reference*
1. If you have not already done so, obtain a System Configuration Report. Refer to the report as needed for such information as the access code.	CP 4353, Ch. 1
2. When the user has a radio pager, check to see if the pager is activated.	
3. When the user has display pager, ask the user to check the display digits to be certain that they are accurate.	
4. When the user has a voice pager, be sure that the first unplayed message is played at the appropriate time.	

Testing a Primary Pager

1. Place a butt set in the monitor position on the outdial telephone line.	
2. Use Event Recorder to monitor server activity during test pages and report the resulting data: a. Specify the line on which the pager being tested is defined. b. Specify the message level to be saved. c. Enable Event Recorder. d. Run Event Recorder. e. Display the data at the server maintenance console.	*Series 6 Installation and Service Manual*
3. Reach the System Maintenance Menu, then go to the Additional Options Menu.	Menu Map 12
4. Start the Lights Test. *Select:* (L) Lights Test *Prompt:* `Mailbox to light (1-99999999999):` *Response:* The **number** of the mailbox configured for a pager, *or* A **range** of mailbox numbers separated by a hyphen. **Note:** If you select a large range of mailboxes, the Lights Test could queue up a long list of message waiting requests and could take a long time to process.	

Step *Reference*

5. Turn message waiting indicator off.

   Prompt: `Light off/on/existing value (0/1/2):`
   Response: Enter **0** to turn paging off.

6. Specify the message waiting type.

   Prompt: `Message waiting type (0 or <cr> for all):`
   Response: Enter **5** for the pager message waiting type.

   The server prompts for another mailbox to light. Enter the same mailbox number(s).

   Prompt: `Mailbox to light (1-99999999999):`
   Response: The **number** of the mailbox configured for a pager,

   or

   A **range** of mailbox numbers separated by a hyphen.

7. Turn message waiting indicator on to test paging.

   Prompt: `Light off/on/existing value (0/1/2):`
   Response: Enter **1** to turn paging on.

8. Specify the message waiting type.

   Prompt: `Message waiting type (0 or <cr> for all):`
   Response: Enter **5** for the pager message waiting type.

   The server prompts for another mailbox to light. Do not respond yet.

9. Listen as the server outdials the pager company and completes the page. Verify that the page is received. Repeat the lights test in steps 4 through 8.

10. Check the Event Log file to determine if the correct digits are being dialed. Review Event Recorder data reported at the server maintenance console to determine if any errors were encountered during the page.

11. Continue the Lights Test for remaining mailboxes with pagers or stop the Lights Test.

    Prompt: `Mailbox to light (1-99999999999):`
    Response: Then **number**(s) of the next mailbox(es) to test.

    or

    Press **Enter** to stop the Lights Test, then Exit to the Main Menu.

Step	*Reference*

Testing an Alternate Pager

Note: If you use one of the billing outdial indexes, you cannot use Pager 4 (Message Waiting 2 alternate pager) because they use the same post-pager field.

1. Set a very short frequency and interval in the test mailbox.
2. Test the primary pager as just described, but allow the frequency and interval of the primary pager to expire without responding to the test page.
3. Listen as the server outdials the pager company and completes the page. Verify that the page is received by the alternate pager.
4. Check the Event Log file to determine if the correct digits are being dialed. Review Event Recorder data reported at the server maintenance console to determine if any errors were encountered during the page.

Step *Reference*

Table 1 Message Waiting Types

Number	Message Waiting Type
0	None
1	Not available
2	AC Message Lamp
3	DTMF to PBX
4	Fixed RS232
5	Pager
6	SL1
7	Program RS232
8	T/R RS232
9	Centrex RS232
10	Intecom RS232
11	NEC RS232
12	Video Dispatch
13	ITT RS232
14	TextMemo
15	AT&T System 75
16	HIS PMS
17	Unified Integration
18	ROLM
19	Mitel
20	SL1 Message Waiting
21	Hitachi PMS
22	SL1 Enhanced Meridian
23	Fujitsu 960
24	SMS-MWI

View Pager Configuration

This procedure describes how to view information about currently configured pager systems or the Pager application.

Step | *Reference*

Viewing Information About Current Pager Systems

- To view information through the Reports Menu:

  Reach the Main Menu, then go to the Reports Menu.

  Select: (R) Pager Access Codes
  Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

  Response: **C** to send the report to the console without pausing
  P to send the report to the console, pausing as the screen fills,
  1 to send the report to Printer A*,
  F to send the report to a file on the Series 6 server,
  A to append the report to an existing file on the Series 6 server, or
  X to exit report output options (no report).

  * This option list varies depending on server configuration.

  The server displays the index (identification) number, name, access code, and hold time of each supported pager system at the server maintenance console.

- To view information through the Pagers Menu:

  1. Reach the VoiceMemo Configuration Main Menu. | Menu Map 1
  2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise.

     Select: (E) Modify Active Configuration
     or
     (F) Modify Inactive Configuration

Step	*Reference*
3. When the VoiceMemo Configuration Online Menu appears, go to the Pagers Menu. *Select:* (S) Show Pagers *Response:* The server displays the index (identification) number, name, access code, and hold time of each supported pager system at the server maintenance console.	Menu Map 5

Viewing Pager Application Parameters

1. Reach the Main Menu, then go to the Reports Menu.

   Select: (C) Configuration
   Prompt:
   ```
   REPORT OUTPUT ROUTING

   (C) Console (screen)
   (P) Console with pause
   (1) Printer A
   (F) File...
   (A) Append to file...
   (X) Exit (no report)

   If you need help later, type ?.

   COMMAND (C/P/1/F/A/X):
   ```
   Response: **C** to send the report to the console without pausing
   P to send the report to the console, pausing as the screen fills,
   1 to send the report to Printer A*,
   F to send the report to a file on the Series 6 server,
   A to append the report to an existing file on the Series 6 server, or
   X to exit report output options (no report).

   * This option list varies depending on server configuration.

2. Select the line group to view.

   Prompt: `Enter group number to display (1-24) or <CR> for all:`
   Response: Enter the **number** of the line group defined for pagers.

   The server displays all the current parameters for the Pager application. At the end of the display, the index (identification number) and name of each pager system available in this line group is listed.

5 Message Waiting Application

This chapter describes the two message waiting applications in a Series 6 server that can turn PBX message waiting indicators on and off, and explains how to use the appropriate worksheet for configuring the desired application. Topics covered include:

- DTMF to PBX MWI Worksheets and Configuration
- RS-232 MWI Worksheets and Configuration
- Pre-programmed and programmable interfaces
- PBX Information
- Testing

Overview

Centigram supplies two message waiting applications that can be used when an integration itself does not handle message waiting indicators. The two applications, DTMF-to-PBX Message Lights and RS-232 Message Waiting Indicators Interfaces, allow the server to turn PBX message waiting on and off. There are two ways of doing this: DTMF-to-PBX sends DTMF signals over the telephone lines; RS-232 sends signals to the PBX over an RS-232 data link or modem between the server and the PBX.

DTMF-to-PBX Message Waiting Indicators

This application allows servers to turn PBX message waiting indicators on and off by sending DTMF signals over the telephone lines. Some PBXs allow telephone users to turn message waiting indicators on and off by dialing in a code. If your PBX has this capability, and if the code is not sent using proprietary signaling, you may be able to configure VoiceMemo to behave as if it were a station user.

When a message is left in a mailbox to which this type of message waiting has been assigned, the server goes off-hook, dials a string of DTMF digits, then goes on-hook. The PBX translates these digits, and turns the appropriate indicator on. When all unplayed messages have been played, VoiceMemo follows the same procedure (dialing a different string of digits) to turn the indicator off.

You need to set up a line group of at least one line, which is dedicated to outdialing DTMF-to-PBX message waiting signals.

DTMF-to-PBX Message Lights Worksheet

Configuring these message indicators involves two steps: setting up a line group of one line to serve as an outdialer of message indicators requests, and configuring the dial strings that constitute these requests. Complete the worksheet (Figure 5-1) then see "Message Waiting Indicators" in the task list for configuration procedures.

Configuring the PBX

Assign, to each server line that is dedicated to this application, a PBX class of service that permits the server to turn message waiting indicators on and off.

Configuring the Application

There are three steps to configuring DTMF-to-PBX message indicators:

1. Determine what PBX-dependent DTMF strings are necessary for turning message waiting indicators on and off, and use this information to complete the DTMF-to-PBX Message Lights Worksheet.

2. Decide on a line group with one or more lines to be used as an outdialer port. (Most PBXs only allow the same extension to turn message waiting indicators on and then off, so only use one line in that case.)

3. Enter the information at the server maintenance console.

All configuring of the DTMF-to-PBX message waiting indicators is PBX-dependent. If your PBX allows users to turn the message indicators of other users on and off, then the proper coding can usually be found in the PBX users' guide. If this is not the case, consult the PBX operating manual, or your PBX vendor, for the necessary codes.

The DTMF-to-PBX Message Lights application provides a menu that prompts for specific sections of the dial strings. The dial strings are dialed out in the following order:

1. PBX special access code
2. Pre-DN on or off string (after dial tone confirmation)
3. Directory number
4. Post-DN on or off string (followed by a wait for dial tone)

DTMF-to-PBX Message Lights Worksheet

Offline Parameters

Define line groups

Current group: 4

Add lines to current group: 2:4:0 - 2:4:1

Name of current group: DTMF Lites

DTMF Applications

Group selected: 4

Select application: D

Online Parameters

DTMF to PBX

Initial dial tone detect? [x] yes [ ] no

PBX special access code: —

Dial tone confirmation? [ ] yes [x] no

Pre-DN ON dial string: *3

Pre-DN OFF dial string: #3

Suppress updates to MWL? [x] yes [ ] no

Pre-DN ON dial string: —

Pre-DN OFF dial string: —

Wait for dial tone? [ ] yes [x] no

Enable alternate code? [ ] yes [x] no

Figure 5-1 Sample DTMF-to-PBX Message Lights Worksheet

Line Group Information

All server ports are assigned to line groups. Each line group is then assigned to a single application, and any configuring that is done for that application applies to every port in the line group. The number of ports in each line group depends on how heavy the phone traffic is expected to be for that particular application.

Line Group # Each line group is represented by a discrete number. Valid line group numbers are 1 through 24.

Group Name The group name is optional. It serves to easily identify the line group's purpose; for example, the line group for this application can be called "DTMF-to-PBX Outdialer."

Line(s) in Group You identify each line (or port) in a group using a triplet, , which stand for a module, a line card slot number, and a port on the line card. Module refers to a CPU, the server's main processor. Slot numbers are 0 through 15. Ports are numbered 0 through however many ports are on the line card, and you can connect one telephone line to each port.

For more information on line group numbering, see the VoiceMemo Application chapter.

Initial Dial Tone Detection

When building outdial strings, the Initial Dialtone Detect parameter gives you precise control. This parameter allows you to include a T code (Go Off-Hook, Wait for Dial Tone) if you are integrating with most PBXs, or delete a T code in the dial string if you are integrating with cellular or other non-PBX equipment that cannot produce a dial tone.

The outdial string consists of the following parts:

- Initial T code produced by this parameter, if enabled
- PBX special access code parameter, if any
- Appropriate on or off dial string parameter (the pre-DN on dial string, pre-DN off dial string, post-DN on dial string, or post-DN off dial string).

Note: If you enable this parameter ("enabled" is the default), do not enter a T code as the first part of the special access code. If you do, the server waits for two separate dial tones. But two separate dial tones cannot occur in this context, so every message indicators request fails.

If you disable this parameter, you typically begin the special access code with the S (Go Off-Hook, Do Not Wait for Dial Tone) code.

PBX Special Access Code

Some PBXs require the server to dial a special access code before sending message indicators requests. The special access code indicates to the PBX that one of its

special features is about to be invoked. Table 5-1 lists the characters allowed in this code.

Note: The server automatically configures a T (Go Off-Hook, Wait for Dial Tone) as the first part of the outdial string. DO NOT enter a T as the first part of the special access code, because then the server waits for two separate dial tones. Since two separate dial tones cannot occur in this situation, every message indicators request fails, because of dial tone time out.

There is no default PBX special access code.

Dial Tone Confirmation

Answer Yes to this parameter only if (1) a PBX special access code is required and (2) if, after the special access code has been sent, the PBX expects the server to wait for a dial tone before the server outdials any other digits. The default is No (no wait).

Pre-DN On or Off String

This string is sent before the directory number (extension number) to instruct the PBX to turn the message waiting indicator on or off at that station. There is no default Pre-DN on or off string.

Note: Never enter a T as the first part of the Pre-DN on string. Refer to the note above in "PBX Special Access Code" for more information.

Enter the coding, if any, that must be sent before the directory number to turn message waiting indicators on or off.

Suppress Updates to MWL

Each time a mailbox receives a new message, the server sends a request to the PBX to turn on the message indicator. However, if the user logs into the server, listens to all the new messages, and logs out, a single indicator-off request is sent to the PBX. Some PBXs stack the indicator-on requests; when the single indicator-off request is sent, it cancels only one of the indicator-on requests, and the message indicator stays on. To prevent the server from sending an indicator-on request when the message indicator is already activated, leave this feature at the default setting of Yes. This feature also cuts down on overall message waiting indicators traffic.

Table 5-1 PBX Special Access Code Characters

Character	Explanation
0-9, *, #	Keys on a standard pushbutton telephone
(	The following digits should be dial pulsed (10 PPS)
)	Stop pulsing; resume sending DTMF tones
+	Pause for one second
A-D	Fourth column DTMF keys
E	Go off-hook, wait for dial tone or other steady tone (pager go-ahead or confirmation tone, for example), then do next item in string
F	Switch hook flash and wait for dial tone
G	Greet - Wait for a voice or computer tone answer
H	Hang up (go on-hook)
L	Answer Supervision - Wait for telephony signal from destination. Use only with trunk (four-wire) connections.
N	Start a new activity; do not go off-hook
O	Ring once
P	Go off-hook, do not wait for dial tone
S	Switch hook flash, no wait required
T	Go off-hook, wait for dial tone
V	A voice pager system is being used

Post-DN ON or OFF String

This string is sent after the directory number (extension number) to instruct the PBX to turn the message waiting indicator on or off at that station. There is no default post-DN on or off string.

Enter the coding, if any, that must be sent after the directory number to turn message waiting indicators on or off.

Wait for Dial Tone

The default value is N. If the PBX is capable of returning dial tone to the server to indicate that a message indicator has been turned on or off successfully, answer Yes. The server assumes an error condition if dial tone is not returned, and redials the appropriate dial string.

Enable Alternate Code

The alternate code is the DTMF string that the server transmits after the pre-DN on string. Most of the time, the directory number (DN) and the mailbox number are the same. The server expects this to be the case, because it includes the mailbox number as the DN when it sends a message indicators request to the PBX. Sometimes, though, the DN and mailbox number are different. In those cases, do the following to make sure users get message waiting indication:

- Enable this parameter.
- Put the DN in the Department Code parameter of the mailbox's configuration.

Once you have completed these steps, the server uses the value of the Department Code parameter in the mailbox's configuration as the DN when it sends the request to the PBX.

Testing

See the task list for testing procedures.

Large Number of Users

If you have a large number of users on your server, you may have to assign half the users to the DTMF-to-PBX application and the other half to the Programmable RS-232 application. This is because messages sent to all users could cause a large queue of requests for message waiting indication changes, leading to delays.

RS-232 Message Waiting Indicators Interfaces

This application allows servers to turn PBX message waiting indicators on and off by sending signals to the PBX over an RS-232 data link. When a message is left in a mailbox, the server sends a one-way ASCII message that tells the PBX to turn on the message waiting indicator at the appropriate station. Conversely, when all unplayed messages are played, the server sends an ASCII string that directs the PBX to turn off the message waiting indicator.

Serial Port or Modem Requirement

To use any RS-232 message waiting indicators interface, an RS-232 cable must be run from a server serial port to the PBX (or, in the case of CentrexRS-232 MWI interface, to a modem that communicates with the Central Office). The physical setup uses RS-232 pins 2, 3, and 4, with communications parameters of 1200 baud, 8 data bits, 1 stop bit, no parity, full duplex, and no flow control.

RS-232 Message Waiting Indicators Interface Worksheet

Complete an RS-232 Message Waiting Indicators Interface Worksheet. Then see "Message Waiting Indicators" in the task list for configuration procedures.

Pre-Programmed Interfaces

A server can operate with a variety of pre-programmed interfaces. These are described briefly in the following paragraphs.

SL-1 Background Terminal Facility

Use this message waiting indicators interface when the SL-1 background terminal facility (X37 release 3) message waiting protocol is required.

Note: This option has been superseded in SL-1 software. Unresolved conflicts can occur with some newer features.

Centigram Standard Interface

This interface is usable by a wide variety of PBXs. Default settings for this interface are listed in Table 5-2.

Table 5-2 Default Settings for the Centigram Standard Interface

String	Setting
Initialization string	\r\r\r (3 carriage returns)
Reply string	None
Pre-DN ON string	M1
Pre-DN OFF string	M0
Post-DN ON string	\r
Post-DN OFF string	\r

See the table of ASCII codes under "Configuring the Programmable Interface" for definitions of these settings.

Specialized Message Waiting Indicator Systems

The following specialized message waiting indicator systems require the purchase of additional hardware and software. Instructions for installing and configuring these systems are shipped with the products.

AC Message Lamp The server is equipped with the Centigram AC Message Lamp system. When you create or modify a mailbox, the server prompts for the

address of the user's AC message lamp unit, which is set with the thumbwheel switches on the message indicator box.

An AC message lamp address starts with a house code, which can be any letter from A through P. This is followed by a unit code, which can be any number from 1 through 16. Examples are A1, D5, P16. Address P1 is reserved for troubleshooting and diagnostics, and must not be assigned to a mailbox.

After the address is entered, the server prompts for the number of the AC controller. The controller number is either 1 or 2, depending on the controller unit that is shipped with the AC message lamp system. Both controllers are equivalent; the unit shipped depends on availability. The controller number is displayed in the server's configuration report.

Tip and Ring Message Waiting Lamps The server sends signals over the telephone lines to either a Tip and Ring Message Waiting Notification Controller (TRNC), which controls message waiting indicators at users' stations; or to a dispatch indicator board, which is used for automated dispatch applications.

When this message waiting type is chosen (during mailbox create or modify), the server issues a prompt that lets you specify the chassis number and a prompt that lets you specify the line number. More than one TRNC unit can be connected to a server. The chassis number is the number of the TRNC unit to which the user's telephone line is connected. The line number is the exact position where the line is attached to that chassis. The technician who installs the Tip & Ring message waiting indicators system makes a list of the users' stations, and their corresponding addresses.

You can also use this message waiting type with the Alltel Dispatch System.

Video Dispatch Video Dispatch is part of the Automated Dispatch Communications System. Video terminals display the status of dispatch mailboxes. These displays are updated as messages are received, played, and deleted. Special hardware and software must be purchased from Centigram to run a Video Dispatch system.

Optional Features

The other pre-programmed RS-232 message waiting indicators interfaces, listed below, are optional features. For more information about any of them, contact your local Centigram distributor.

- BBL Pager
- Hyatt Encore PMS Integration
- PMS Integration
- HIS PMS Integration

- Hitachi PMS Integration
- Hitachi DX
- ITT

Programmable Interface

The Programmable option allows you to customize the RS-232 message indicators software interface between the server and the PBX. All codes are sent in ASCII. Numbers, letters, and certain special characters (Table 5-3) are understood by the server.

Configuring a Pre-Programmed RS-232 Interface

Configuring any of these interfaces consists of defining a serial port then making selections from the respective interface menu. See "Message Waiting Indicators" in the task list for configuration procedures.

Use the RS-232 Message Waiting Indicators Interface Worksheet (Figure 5-2) to organize the information you need for configuring one of these interfaces. If the interface is an optional feature, also contact your local Centigram distributor for additional directions.

Configuring the Programmable Interface

The RS-232 Message Waiting Indicators Interface Worksheet (Figure 5-2) organizes the information that is necessary for configuring the programmable interface. You can use ASCII codes in any of the strings described in the following paragraphs.

Table 5-3 lists the valid ASCII codes that can be used. The following descriptions can help you to complete this worksheet.

Initialization String

This string is sent to the PBX to notify it that the server is ready to send message waiting indicators requests.

Reply String

After the initialization string is sent, the server waits for the PBX to return this reply string, before sending message indicators requests.

Pre-DN On String

This string is sent before the directory number (extension number) to instruct the PBX to turn the message waiting indicator on at that station.

RS-232 Message Waiting Indicators Interface Worksheet

RS-232 Only Applications

Serial Port Selected

Serial port index [1] Serial port type [1] Serial port number [1]

Select Application

- ☐ AC Message Waiting Lights (BSR)
- ☑ Programmable
- ☐ BBL Pager
- ☐ SL-1 Background Terminal Facility
- ☐ Centigram Standard Interface
- ☐ SL-1 Multiple Message Waiting Set Ports
- ☐ Hyatt Encore PMS Integration
- ☐ Tip & Ring Message Waiting Lamps
- ☐ PMS Integration
- ☐ Video Dispatch
- ☐ HIS PMS Integration
- ☐ Citywide SMDI
- ☐ Hitachi PMS Integration
- ☐ Fujitsu 960
- ☐ Hitachi DX

AC Message Waiting Lights

- ☐ AC Controller I
- ☐ AC Controller II

Programmable

Initialize string		RS- 232 reply string	
Delay between requests	1		
Pre-DN ON string	ATDT*6	Pre-DN OFF string	ATDT#6
Post DN-ON string	\r	Post-DN OFF string	\r
Department code as DN?	☐ yes ☑ no	Unplayed number sent?	☐ yes ☑ no
Delay after post-DN string	6	Ending trailer string	+++\r
Suppress updates to MWL?	☑ yes ☐ no		

Figure 5-2 Sample RS-232 Message Waiting Indicators Interface Worksheet

Pre-DN Off String

This string is sent before the directory number (extension number) to instruct the PBX to turn the message waiting indicator off at that station.

Table 5-3 RS-232 Message Waiting Indicators Interface (ASCII) Codes

Code	Explanation
\r	carriage return
\n	new line
\t	tab
\b	backspace
\f	form feed
\\	backslash
\"	double quotes
\?	question mark
.	no string needed

Post-DN On String

Enter the coding, if any, that must be sent after the directory number to turn message waiting indicators on. There is no default post-DN on string.

Post-DN Off String

Enter the coding, if any, that must be sent after the directory number to turn message waiting indicators off. There is no default post-DN off string.

Department Code as DN?

Enter Yes if you want the server to send the department code as the DN when issuing a request to turn indicators on or off. When this feature is set at the default value, No, the server sends the mailbox number as the DN.

Unplayed Number Sent?

Enter Yes if you want the server to send the number of unplayed messages after the DN, when issuing a request to turn indicators on. The default value is No.

Delay After Post-DN String

This parameter is the period of time, in seconds, between the post-DN off string and the ending trailer string. This delay gives the PBX time to process each request

correctly. If requests come too quickly, the PBX could drop or corrupt them. From 0 to 255 seconds can be specified. There is no default delay.

Ending Trailer String

If the PBX requires this string, the server sends it after the delay just described. Use the characters in Table 5-3 to create this string, up to 30 characters long. There is no default ending trailer string.

Suppress Updates to MWL?

A server administrator can configure whether message waiting indicators on or off requests are sent out for every new unplayed message, or only when the message waiting indicators state changes from off to on or from on to off. Using the latter functionality (only when the message waiting indicators state changes) makes better use of server resources.

The server does not suppress message waiting indicators updates by default. To suppress them, you must enter the message waiting type number of your RS-232 system, then enter Yes. (The default is No for all types.)

Message waiting types are listed in Table 5-4.

Testing

Create at least one mailbox with the RS-232 message waiting type that is appropriate for your server. To test RS-232 message waiting indicators, choose the Lights Test option from the server maintenance console, and select the proper message waiting type. See the task list for testing procedures.

Table 5-4 Message Waiting Types

Number	Message Waiting Type
0	None
1	Not available
2	AC message lamp
3	DTMF-to-PBX
4	Fixed RS-232 (and Hitachi DX)
5	Pager
6	SL-1
7	Program RS-232
8	Tip & Ring RS-232
9	Centrex RS-232
10	Intecom RS-232
11	NEC RS-232
12	Video Dispatch
13	ITT RS-232
14	TextMemo
15	AT&T System 75
16	HIS PMS
17	Unified Integrations
18	ROLM
19	Mitel
20	SL-1 Message Waiting
21	Hitachi PMS
22	SL-1 Enhanced Meridian
23	Fujitsu 960
24	SMS-MWI

Message Waiting Application Task List

VoiceMemo Release 6.0A and later

Task *Procedure*

Message Waiting Indicators

DTMF-to-PBX Message Waiting Indicators Configuration..... CP 3323
Pre-programmed RS-232 Interfaces Configuration ..... CP 3325
Programmable RS-232 Interface Configuration ..... CP 3324
Assign Message Waiting Indicators to a Mailbox ..... CP 5031
Compensate for Different Directory and Mailbox Numbers ..... CP 5032
Create an RS-232 Programmable Interface String ..... CP 5036
Define an RS-232 Serial Port ..... CP 5038
Enable or Disable Light-on Requests for Successive Messages..... CP 5034
Send the Number of Unplayed Messages Through the RS-232 Interface.. CP 5039
Set Delay Times for RS-232 Message Waiting Indicators Requests ..... CP 5040
Set DTMF-to-PBX Protocols ..... CP 8008

DTMF-to-PBX Message Waiting Indicator Configuration

VoiceMemo Release 6.0A and later

This procedure summarizes the steps for configuring DTMF-to-PBX message waiting indicators in a Series 6 server. It assumes that the appropriate server hardware and software have been installed.

Step	*Reference*
1. Complete a DTMF-to-PBX Message Lights Worksheet. Blank worksheets are near the back of this manual.	
CAUTION! You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.	
2. Define a line group to be used for the DTMF-to-PBX Message Lights application. You must define at least one line to serve as an outdialer of message indicator requests.	CP 5010, Ch. 1
3. Set parameters in the DTMF-to-PBX Message Lights application through the VoiceMemo Configuration Offline Menu.	CP 8008
a. If integrating with most PBXs, enable a wait for an initial dial tone.	
b. If integrating with cellular or other non-PBX equipment that cannot produce a dial tone, disable a wait for an initial dial tone.	
c. Enable or disable dial tone confirmation.	
d. Create the dial string, made up of these parts:	
• PBX special access code, if any. If you enable a wait for an initial dial tone, do not enter a T (wait for dial tone) as the first part of the special access code.	
• Any of the applicable indicator-on or indicator-off request strings (pre-DN ON, pre-DN OFF, post-DN ON, post-DN OFF)	
e. Enable or disable indicator-on requests for successive messages.	
f. Enable or disable a wait for a dial tone after a message indicators request.	
4. If user mailbox numbers are different from extension numbers, configure the server to use alternate codes.	CP 5032
• Set the Enable Alternate Code parameter in the DTMF-to-PBX Application menu to Yes.	
• Enter the directory number in the Department Code parameter of the mailbox.	
5. Verify that the configuration is correct.	CP 5015, Ch. 1
6. Activate the configuration.	CP 7002, Ch. 1

Step	*Reference*
7. Assign message waiting type 3 as the first or second message waiting type in mailboxes that are to send message waiting indicator requests.	CP 5031
8. Test the DTMF-to-PBX Message Lights application.	CP 3359, Ch. 6

Pre-Programmed RS-232 Interface Configuration

This procedure describes how to set parameters for one of these pre-programmed RS-232 interfaces:

- AC (BSR) message waiting indicators
- Centigram standard interface
- SL-1 background terminal facility
- Tip & Ring message waiting indicators

It assumes that the appropriate server hardware and software have been installed.

The RS-232 Message Waiting Lights application is configured entirely offline, through the RS-232 Only Application Menu.

Step	*Reference*
1. Complete an RS-232 Message Waiting Indicators Interface Worksheet. Blank worksheets are near the back of this manual.	
CAUTION! You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.	
2. Reach the VoiceMemo Configuration Offline Menu, then go to the RS-232 Only Application Menu.	Menu Map 8
3. Define a serial port, which enables the RS-232 Message Waiting Indicators Interface application and allows for RS-232 cabling.	CP 5038
4. Choose the desired interface. *Prompt:* `RS232 Only:` *Response:* One of the following letters: **A** = AC Message Waiting Lights (BSR) **C** = Centigram Standard Interface **S** = SL-1 Background Terminal Facility **T** = Tip-Ring Message Waiting Lamps To enable the AC Message Waiting Lights (BSR) Interface or the Tip-Ring Message Waiting Lamps Interface, the related extra hardware and software must be installed. All other pre-programmed interfaces are optional features. They can be configured only if the respective optional feature or hardware is installed. See the *Series 6 Optional Features Manual* for directions about choosing and configuring any of these interfaces.	

Step	*Reference*
5. Proceed with the applicable steps that follow.	
AC Message Waiting Indicators	
1. Specify an AC controller. *Select:* (1) AC Controller I *or* (2) AC Controller II *Response:* The server displays a message that confirms your selection and identifies the defined serial port.	
2. Save the setting by exiting to the VoiceMemo Configuration Main Menu.	
3. Verify that the configuration is correct.	CP 5015, Ch. 1
4. Activate the configuration.	CP 7002, Ch. 1
5. Assign message waiting type 2 through the first or second message waiting type prompt in mailboxes that are to receive message waiting indicator requests. Configuration of this interface is completed.	CP 5031
Centigram Standard Interface	
1. The server displays a message that confirms your selection and identifies the defined serial port.	
2. Save the setting by exiting to the VoiceMemo Configuration Main Menu.	
3. Verify that the configuration is correct.	CP 5015, Ch. 1
4. Activate the configuration.	CP 7002, Ch. 1
5. Assign message waiting type 4 through the first or second message waiting type prompt in mailboxes that are to receive message waiting indicator requests.	CP 5031
6. After the RS-232 cable is connected to the defined serial port, configuration of this interface is completed.	

Step	*Reference*
Tip & Ring Message Waiting Indicators	
1. The server displays a message that confirms your selection and identifies the defined serial port.	
2. Save the setting by exiting to the VoiceMemo Configuration Main Menu.	
3. Verify that the configuration is correct.	CP 5015, Ch. 1
4. Activate the configuration.	CP 7002, Ch. 1
5. Assign message waiting type 8 through the first or second message waiting type prompt in mailboxes that are to receive message waiting indicator requests. Configuration of this interface is completed.	CP 5031

Programmable RS-232 Interface Configuration

VoiceMemo Release 6.0A and later

This procedure summarizes the steps for configuring the programmable RS-232 message waiting indicators interface in an Series 6 server.

It assumes that the appropriate server hardware and software have been installed.

The programmable RS-232 message waiting indicators interface is configured entirely offline, through the RS-232 Only Application Menu.

Step	*Reference*
1. Complete an RS-232 Message Waiting Indicators Interface Worksheet. Blank worksheets are near the back of this manual.	
CAUTION! You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.	
2. Define a serial port, which enables the RS-232 Message Waiting Indicators Interface application and allows for RS-232 cabling.	CP 5038
3. Create the interface string.	CP 5036
4. Set delay times to allow for PBX processing of RS-232 message waiting indicators requests.	CP 5040
5. Enable or disable indicator-on requests for successive messages.	CP 5034
6. If desired, have the number of unplayed messages sent after the directory number when the server issues a request to turn indicators on.	CP 5039
7. Compensate for different directory number and mailbox numbers, if necessary. • Set the Dept Code As DN parameter in the RS-232 Programmable Menu to Yes. • Enter the directory number in the Department Code parameter of the mailbox.	CP 5032
8. Verify that the configuration is correct.	CP 5015, Ch. 1
9. Activate the configuration.	CP 7002, Ch. 1
10. Assign message waiting type 7 (programmable interface) through the first or second message waiting type prompt in mailboxes that are to receive message waiting indicator requests.	CP 5031
11. Test the RS-232 Message Waiting Indicators Interface application.	CP 3359, Ch. 6

Assign Message Waiting Indicators to a Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to assign different types of message waiting indicators to a mailbox.

Step | *Reference*

1. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed mailbox worksheet. — Menu Map 3

Using the Scrolling Interface

2. Identify the mailbox to be created or modified.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: **Number** of the new mailbox you want to assign the message waiting indicator type to.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of the existing mailbox you want to assign the message waiting indicator type to.

   Note: The prompts are almost the same for creating a new mailbox or modifying an existing one, except that "New" precedes each prompt when you select Modify Mailboxes.

3. Press **Enter** until the first or second message waiting type prompt appears.

4. Assign the applicable message waiting type to the mailbox.

   Prompt: `Message waiting type #1:` or `Message Waiting Type #2:`
   Response: One of the Message Waiting Type **numbers** in Table 1.

   - If you assign message waiting type 8, specify the chassis and line numbers:

   Prompt: `Chassis number:`
   Response: The **number** (1-16) of the chassis.

   Prompt: `Line number:`
   Response: The **number** (1-96) of the line.

5. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number.

   At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

Step *Reference*

Table 1 Message Waiting Types

Number	Message Waiting Type
0	None
1	Not Available
2	AC Message Lamp
3	DTMF to PBX
4	Fixed RS-232
5	Pager (See Pagers Task List for further pager configuration)
6	SL-1
7	Programmable RS-232
8	Tip and Ring RS232
9	Centrex RS232
10	InteCom RS232
11	NEC RS232
12	Video Dispatch
13	ITT RS232
14	TextMemo
15	AT&T System 75
16	HIS PMS
17	Unified Integrations
18	ROLM
19	MITEL
20	SL-1 Message Waiting
21	Hitachi PMS
22	SL-1 Enhanced Meridian
23	Fijutsu 960
24	SMS-MWI

Step *Reference*

Using the Full-Screen Interface

2. Specify the mailbox to be created or modified.

   Select: (C) Create/Modify/Delete Mailboxes
   Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new mailbox you want to assign the message waiting indicator type to.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F10** to edit the mailbox information.

3. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen. Move to the first or second message waiting prompt.

   Prompt: `Message waiting 1:` *or* `Message waiting 2:`
   Response: One of the Message Waiting Type **numbers** in Table 1.

   - If you assign message waiting type 8, specify the chassis and line numbers. You must press the **End** key to access these prompts. If you did not assign type 8, skip to the next step.

   Prompt: `Chassis number:`
   Response: The **number** (1-16) of the chassis.

   Prompt: `Line number:`
   Response: The **number** (1-96) of the line.

   After the last prompt, the Tip and Ring field entry screen goes away, returning you to the Mailbox Maintenance screen. You can press **End** again to confirm your settings and re-edit the fields. Also, within the field entry screen, you can always press **F10** to save your settings or **F9** to cancel them.

4. Save the settings for the mailbox. Press **F10** to save your settings or **F9** to cancel them. At this point, you can continue with mailbox configuration by entering another mailbox number, or exit the mailbox maintenance screen by pressing **F9**.

Compensate for Different Directory and Mailbox Numbers

VoiceMemo Release 6.0A and later

This procedure describes how to configure the server when the directory number differs from the mailbox number in the DTMF-to-PBX Message Lights application or the RS-232 Message Waiting Indicators Interface application.

Step	*Reference*

DTMF-to-PBX Message Waiting Lights

1. Reach the VoiceMemo Configuration Main Menu, then go to the VoiceMemo Configuration Offline Menu. — Menu Map 2

CAUTION!

You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.

2. If desired, duplicate the configuration.

   Select: (B) Duplicate Active Configuration
   Response: The server copies the current (active) configuration. When copying is completed, the short form of the Offline Menu appears.

   All subsequent steps in this procedure – along with any other configuration entries – affect just the copy, and take effect only after you activate the configuration.

3. Specify the line group to which the DTMF-to-PBX Message Lights application is assigned.

   Select: (G) Group Selected
   Prompt: `Enter a group number =`
   Response: The **number** of the line group (1-24) to which the DTMF-to-PBX Message Lights application is assigned.

   or

   Press **Enter** if the current number is the DTMF-to-PBX Message Lights application line group.

4. Return to the Offline Menu, then go to the DTMF Applications Menu. — Menu Map 7

5. Enable an alternate code.

   Select: (T) Enable Alternate Code
   Prompt: `Enable alternate code (y/n) =`
   Response: **Y** for yes.

6. Save the setting by exiting to the VoiceMemo Configuration Main Menu.

Step	*Reference*
7. Go to the Mailbox Maintenance Menu, then identify the mailbox that will use the alternate code. If you are using the full-screen interface, skip to step 11. *Select:* (C) Create New Mailboxes *Prompt:* `Mailbox to create:` *Response:* The **number** of the new mailbox. or *Select:* (M) Modify Mailboxes *Prompt:* `Mailbox to modify:` *Response:* The **number** of the existing mailbox. **Note:** The prompts are almost the same for creating a new mailbox and modifying an existing one, except that "New" precedes each prompt when you select Modify Mailboxes.	Menu Map 3
8. Press **Enter** until the Department Code prompt appears.	
9. Enter the DN. *Prompt:* `Department code:` *Response:* The DTMF **string** (directory number), which is the alternate code the server transmits after the pre-DN ON string. Valid characters are: 0-9 * # 10. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number. At this point, the parameter settings are saved and you can continue with mailbox configuration or exit. **Note:** Ignore the remaining steps in this section as they are for the full-screen interface.	

Step | *Reference*

11. Specify the mailbox that will use the alternate code.

    Select: (C) Create/Modify/Delete Mailboxes
    Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new mailbox.

    Prompt: `Mailbox: 00000000nnn`
    Response: Press **F10** to edit the mailbox information.

12. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen. Move to the Department code prompt.

    Prompt: `Code:`
    Response: The DTMF **string** (directory number), which is the alternate code the server transmits after the pre-DN ON string. Valid characters are:

    0-9

    *

    #

13. Save the settings for the mailbox. Press **F10** to save your settings or **F9** to cancel them. At this point, you can continue with mailbox configuration by entering another mailbox number, or exit the mailbox maintenance screen by pressing **F9**.

RS-232 Message Waiting Indicators Interface

1. Reach the VoiceMemo Configuration Main Menu, then go to the VoiceMemo Configuration Offline Menu. — Menu Map 2

CAUTION!

You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.

Step	*Reference*
2. If desired, duplicate the configuration. *Select:* (B) Duplicate Active Configuration *Response:* The server copies the current (active) configuration. When copying is completed, the short form of the Offline Menu appears. All subsequent steps in this procedure – along with any other configuration entries – affect just the copy, and take effect only after you activate the configuration.	
3. Reach the RS-232 Only Application Menu, then go to the RS-232 Programmable Menu.	Menu Map 6
4. Enable an alternate code. *Select:* (D) Dept Code As DN? *Prompt:* `Enter "N" for mailbox #, "Y" for dept code =` *Response:* **Y** for department code.	
5. Save the setting by exiting to the VoiceMemo Configuration Main Menu.	
6. Go to the Mailbox Maintenance Menu, then identify the mailbox that will use the alternate code. If you are using the full-screen interface, skip to step 10. *Select:* (C) Create New Mailboxes *Prompt:* `Mailbox to create:` *Response:* The **number** of the new mailbox. or *Select:* (M) Modify Mailboxes *Prompt:* `Mailbox to modify:` *Response:* The **number** of the existing mailbox. **Note:** The prompts are almost the same for creating a new mailbox and modifying an existing one, except that "New" precedes each prompt when you select Modify Mailboxes.	Menu Map 3
7. Press **Enter** until the Department Code prompt appears.	

Step *Reference*

8. Enter the DN.

   Prompt: `Department code:`
   Response: The **string** (directory number), which is the alternate code the server transmits after the pre-DN ON string. Any ASCII character is valid in this string.

9. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number.

   At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

   Note: Ignore the remaining steps in this section as they are for the full-screen interface.

10. Specify the mailbox that will use the alternate code.

    Select: (C) Create/Modify/Delete Mailboxes
    Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new mailbox.

    Prompt: `Mailbox: 00000000nnn`
    Response: Press **F10** to edit the mailbox information.

11. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen. Move to the Department code prompt.

    Prompt: `Code:`
    Response: The **string** (directory number), which is the alternate code the server transmits after the pre-DN ON string. Any ASCII character is valid in this string.

12. Save the settings for the mailbox. Press **F10** to save your settings or **F9** to cancel them. At this point, you can continue with mailbox configuration by entering another mailbox number, or exit the mailbox maintenance screen by pressing **F9**.

Create an RS-232 Programmable Interface String

VoiceMemo Release 6.0A and later

This procedure describes how to create a string of ASCII codes for the RS-232 programmable interface. The interface string consists of these parts:

- Initialization string, if required by the PBX.
- Reply string, if required by the PBX.
- Any of the applicable indicator-on or indicator-off request strings (pre-DN ON, pre-DN OFF, post-DN ON, post-DN OFF, ending trailer string).

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu, then go to the VoiceMemo Configuration Offline Menu.	Menu Map 2

CAUTION!

You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.

2. If desired, duplicate the configuration.

   Select: (B) Duplicate Active Configuration
   Response: The server copies the current (active) configuration. When copying is completed, the short form of the Offline Menu appears.

   All subsequent steps in this procedure – along with any other configuration entries – affect just the copy, and take effect only after you activate the configuration.

3. Go to the RS-232 Programmable Menu. Menu Map 6

4. Specify an initialization string.

   Select: (I) Initialization String
   Prompt: `RS232 initialize string (0 - 30 chars) =`
   Response: The ASCII **string** (0-30 characters) required by the PBX,

   or

   A **period** (.) to delete an existing string.

   To create the string, consult the PBX operating manual or the PBX vendor for the correct code, and use Table 1 at the end of this procedure.

Step	*Reference*

5. Specify a reply string.

   Select: (R) Reply String
   Prompt: `RS232 reply string (0 - 30 chars) =`
   Response: The ASCII **string** (0-30 characters) sent by the PBX,

   or

   A **period** (.) to delete an existing string.

   To create the string, consult the PBX operating manual or the PBX vendor for the correct code, and use Table 1 at the end of this procedure.

6. Specify the pre-DN ON string.

   Select: (O) Pre-DN ON String
   Prompt: `RS232 pre-DN ON string (0 - 30 chars) =`
   Response: If the PBX requires the string before the directory number (sometimes called extension number), create an ASCII string (0-30 characters) using the characters in Table 1.

   If the PBX sends the string after the directory number:

   - Enter a **period** (.) to delete an existing string, if necessary.
   - Enter values for the Post-DN ON String and Post-DN OFF String parameters.

7. Specify the pre-DN OFF string.

   Select: (F) Pre-DN OFF String
   Prompt: `RS232 pre-DN OFF string (0 - 30 chars) =`
   Response: If the PBX requires the string *before* the directory number, create an ASCII string (0-30 characters) using the characters in Table 1.

   If the PBX sends the string after the directory number:

   - Enter a **period** (.) to delete an existing string, if necessary.
   - Enter values for the Post-DN ON String and Post-DN OFF String parameters.

Step	*Reference*

8. Specify the post-DN ON string.

   Select: (P) Post-DN ON String
   Prompt: `RS232 post-DN ON string (0 - 30 chars) =`
   Response: If the PBX requires the string *after* the directory number, create an ASCII string (0-30 characters) using the characters in Table 1.

   If the PBX sends the string before the directory number:

   - Enter a **period** (.) to delete an existing string, if necessary.
   - Enter values for the Pre-DN ON String and Pre-DN OFF String parameters.

9. Specify the post-DN OFF string.

   Select: (Q) Post-DN OFF String
   Prompt: `RS232 post-DN OFF string (0 - 30 chars) =`
   Response: If the PBX requires the string *after* the directory number, create an ASCII string (0-30 characters) using the characters in Table 1.

   If the PBX sends the string before the directory number:

   - Enter a **period** (.) to delete an existing string, if necessary.
   - Enter values for the Pre-DN ON String and Pre-DN OFF String parameters.

10. Specify the ending trailer string.

    Select: (M) Ending Trailer String
    Prompt: `RS232 trailer string (0 - 30 chars) =`
    Response: If the PBX requires this string, create an ASCII string (0-30 characters) using the characters in Table 1.

    If no such string is required, enter a **period** (.) to delete an existing string.

11. Save the parameter settings by exiting to the Main Menu.

Step *Reference*

Table 1 ASCII Codes

Character	Explanation
\b	Backspace
\f	Form feed
\n	New line
\r	Carriage return
\t	Tab
\\	Backslash
\"	Double quotes
\?	Question mark

Define an RS-232 Serial Port

VoiceMemo Release 6.0A and later

This procedure describes how to define a serial port that enables the RS-232 Message Waiting Indicators Interface application and allows for RS-232 cabling.

Step	*Reference*
1. Reach the VoiceMemo Configuration Offline Menu.	Menu Map 2

CAUTION!

You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.

2. If desired, duplicate the configuration.

   Select: (B) Duplicate Active Configuration
   Response: The server copies the current (active) configuration. When copying is completed, the short form of the Offline Menu appears.

   All subsequent steps in this procedure – along with any other configuration entries – affect just the copy, and take effect only after you activate the configuration.

3. Go to the RS-232 Only Application Menu. — Menu Map 6

4. Specify the serial port index.

   Select: (P) Serial Port Selected
   Prompt: `Enter a serial port index (0-2) =`
   Response: **1** to indicate index 1,

   or

   2 to indicate index 2,

   or

   0 to disable the port, and thus the RS-232 Message Waiting Indicators Interface application.

5. Specify the serial port type.

   Prompt: `Enter the serial port type, 1 for cpu, 2 for smart card:`
   Response: **1** to indicate that you will send signals through a CPU-based serial port (serial port 1 or serial port 2),

   or

   2 to indicate a smartcard-based serial port, which allows up to 32 ports.

Step	*Reference*

6. Specify the serial port number.

   Prompt: `Enter the serial port number, 1-2:`
   Response: **1** to indicate CPU-based serial port 1,

   or

   2 to indicate CPU-based serial port 2,

   or

   1-32 to indicate a smartcard-based serial port.

   Note: Do not select serial port 1 if you are using this port for your console.

7. Save the parameter settings by exiting to the Main Menu.

Enable or Disable Light-on Requests for Successive Messages

VoiceMemo Release 6.0A and later

This procedure describes how to turn on or turn off message waiting light-on requests for successive messages

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu, then go to the VoiceMemo Configuration Offline Menu.	Menu Map 2

CAUTION!

You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.

2. If desired, duplicate the configuration.

   Select: (B) Duplicate Active Configuration
   Response: The server copies the current (active) configuration. When copying is completed, the short form of the Offline Menu appears.

   All subsequent steps in this procedure – along with any other configuration entries – affect just the copy, and take effect only after you activate the configuration.

3. Go to the RS-232 Programmable Menu. — Menu Map 6

4. Enable or disable updates to message waiting lights. Enabling this feature stops updates after a user accesses the mailbox without a message waiting lights status change.

   Select: (S) Suppress Updates to MWL
   Prompt: `Suppress updates of MWL (y/n) = [] ?`
   Response: Enter **Y** to suppress updates of Message Waiting Lights, *or*
   Enter **N** to permit updates as normal.

5. Save the parameter settings by exiting to the Main Menu.

Send the Number of Unplayed Messages Through the RS-232 Interface

VoiceMemo Release 6.0A and later

This procedure describes how to configure the server to send the number of unplayed messages through the RS-232 interface after the directory number in a message light-on request.

Step	*Reference*
1. Reach the VoiceMemo Configuration Offline Menu.	Menu Map 2
CAUTION! You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.	
2. If desired, duplicate the configuration. *Select:* (B) Duplicate Active Configuration *Response:* The server copies the current (active) configuration. When copying is completed, the short form of the Offline Menu appears. All subsequent steps in this procedure – along with any other configuration entries – affect just the copy, and take effect only after you activate the configuration.	
3. Go to the RS-232 Programmable Menu.	Menu Map 6
4. Request that the number of unplayed messages be sent. *Select:* (U) Unplayed Number Sent? *Prompt:* `Enter "Y" to send # of unplayed messages after DN =` *Response:* **Y** to send the number of unplayed messages, *or* **N** to not send this information.	
5. Save the parameter settings by exiting to the Main Menu.	

Set Delay Times for RS-232 Message Waiting Indicators Requests

VoiceMemo Release 6.0A and later

This procedure describes how to set the delay time between successive message waiting indicators requests, and how to set the delay time between the post-DN OFF string and the ending trailer string.

WARNING!

This procedure makes changes to the inactive configuration. You must activate the inactive configuration for the changes to take effect. See CP 7002 for instructions.

Step	*Reference*
1. Reach the VoiceMemo Configuration Offline Menu.	Menu Map 2

CAUTION!

You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.

2. If desired, duplicate the configuration.

   Select: (B) Duplicate Active Configuration
   Response: The server copies the current (active) configuration. When copying is completed, the short form of the Offline Menu appears.

   All subsequent steps in this procedure – along with any other configuration entries – affect just the copy, and take effect only after you activate the configuration.

3. Go to the RS-232 Programmable Menu. Menu Map 6

4. Set the time for delays between requests.

   Select: (K) Delay Between Requests
   Prompt: `Delay in secs (0 - 255) =`
   Response: The **seconds** (0-255) that the server should delay between successive message waiting indicators requests.

5. Set the time for delays between the post-DN OFF string and ending trailer string.

   Select: (L) Delay After Post-DN String
   Prompt: `Post-DN delay in secs (0 - 255) =`
   Response: The **seconds** (0-255) that the server should delay after sending the post-DN OFF string and before sending the ending trailer string.

6. Save the parameter settings by exiting to the Main Menu.

Set DTMF-to-PBX Protocols

VoiceMemo Release 6.0A and later

This procedure describes how to set these parameters for DTMF-to-PBX message waiting indicators:

- Dial strings (feature access codes) that the server must send to the PBX before or after the mailbox number in order to set message waiting indicators
- Places in the dial string at which the server must wait for dial tone from the switch while setting message waiting indicators
- Whether the server should send a message wait "on" request to the switch for every new message, or only when a mailbox with no new messages receives a message

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu, then go to the VoiceMemo Configuration Offline Menu.	Menu Map 2

CAUTION!

You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.

2. If desired, duplicate the configuration.

   Select: (B) Duplicate Active Configuration
   Response: The server copies the current (active) configuration. When copying is completed, the short form of the Offline Menu appears.

   All subsequent steps in this procedure – along with any other configuration entries – affect just the copy, and take effect only after you activate the configuration.

3. Go to the DTMF Applications Menu. — Menu Map 7

   Select: (T) DTMF to PBX Message Lights
   Response: The DTMF Applications Menu

4. Specify the DTMF-to-PBX Message Lights line group.

   Select: (G) Group Selected
   Prompt: `Enter a group number =`
   Response: The **number** of the line group (1-24),

   or

   Press **Enter** if the current number is correct.

Step	*Reference*

5. Specify the DTMF-to-PBX Message Lights application..

   Select: (D) DTMF to PBX Message Lights

Set Pre- and Post-DN Dial Strings

6. If it is required by the PBX, specify a special access code to be dialed first.

   Select: (A) PBX Special Access Code
   Prompt: `PBX special access code (0 - 24 chars) =`
   Response: The dial **string** (0-24 characters) required by the PBX. Consult the PBX operating manual or the PBX vendor for the correct code,

   or

   A **period** (.) to delete an existing dial string.

   Use the characters in Table 1 at the end of this procedure to create the special access code.

7. If the PBX requires a dial string *before* the directory number to turn the message waiting indicator *on*, specify the pre-DN ON dial string.

   Select: (D) Pre-DN ON Dial String
   Prompt: `Pre-DN ON dial string (0-24 chars) =`
   Response: The dial **string** (0-24 characters) required by the PBX,

   or

   A **period** (.) to delete an existing dial string.

   Use the characters in Table 1 at the end of this procedure to create the pre-DN ON dial string.

Step	*Reference*

8. If the PBX requires a dial string *before* the directory number to turn the message waiting indicator *off*, specify the pre-DN OFF dial string.

   Select: (F) Pre-DN OFF Dial String
   Prompt: `Pre-DN OFF dial string (0-24 chars) =`
   Response: The dial **string** (0-24 characters) required by the PBX,

   or

   A **period** (.) to delete an existing dial string.

   Use the characters in Table 1 at the end of this procedure to create the pre-DN OFF dial string.

9. If the PBX requires a dial string *after* the directory number to turn the message waiting indicator *on*, specify the post-DN ON dial string.

   Select: (P) Post-DN ON Dial String
   Prompt: `Post-DN ON dial string (0-24 chars) =`
   Response: The dial **string** (0-24 characters) required by the PBX,

   or

   A **period** (.) to delete an existing dial string.

   Use the characters in Table 1 at the end of this procedure to create the pre-DN ON dial string.

10. If the PBX requires a dial string *after* the directory number to turn the message waiting indicator *off*, specify the post-DN OFF dial string.

    Select: (Q) Post-DN OFF Dial String
    Prompt: `Post-DN OFF dial string (0-24 chars) =`
    Response: The dial **string** (0-24 characters) required by the PBX,

    or

    A **period** (.) to delete an existing dial string.

    Use the characters in Table 1 at the end of this procedure to create the post-DN OFF dial string.

Step *Reference*

Set Dial Tone Call Progress Verification

11. Enable or disable a wait for an initial dial tone.

    Select: (I) Initial Dialtone Detect
    Prompt: `Initial dialtone detect (y/n) =`
    Response: **Y** if integrating with PBX equipment that produces an initial dial tone, *or*
    N if integrating with cellular or other non-PBX equipment that cannot produce a dial tone.

12. Enable or disable dial tone confirmation.

    Select: (C) Dial Tone Confirmation
    Prompt: `Dial tone confirmation (y/n) =`
    Response: **Y** if a PBX special access code is required and the PBX expects the server to wait for a dial tone before outdialing any other digits, *or*
    N in all other cases.

13. Enable or disable a wait for a dial tone after a message indicators request.

    Select: (W) Wait for Dial Tone
    Prompt: `Wait for dial tone (y/n) =`
    Response: **Y** if the PBX returns a dial tone to indicate that a message indicator request was successful, *or*
    N in all other cases.

Set Successive Indicator "On" Requests

14. Enable or disable successive indicator-on requests.

    Select: (S) Suppress Updates to MWL
    Prompt: `Suppress updates of MWL (y/n) =`
    Response: **Y** to disable successive requests, *or*
    N to enable successive requests.

15. Save the settings by exiting to the VoiceMemo Configuration Main Menu.

Step *Reference*

Table 1 Dial String Characters

Character	Explanation
0-9, *, #	Keys on a standard pushbutton telephone
A-D	Fourth column DTMF keys
( )	Dial Pulse (10PPS) the characters between the parentheses
+	Pause for one second
T	Go off-hook, wait for dial tone
P	Go off-hook, do not wait for dial tone
E	Go off-hook, wait for dial tone or other steady tone then do next item in string
G	Greet - Wait for a voice or computer tone answer
H	Hang up (go on-hook)
F	Switch hook flash and wait for dial tone
S	Switch hook flash, no wait required
N	Start a new activity; do not go off-hook
L	Wait for an answer supervision signal that indicates the receiving phone has gone off-hook, then dial remaining characters after receiving the signal. Valid only with four-wire connections, not with loop start or ground start phone lines.

6 Mailboxes

This chapter describes the most common component of the Series 6 server software applications, the mailbox. These topics are covered:

- Outside callers and Mailbox Owners
- Mailbox Creation and Modification
- Worksheets
- Classes of Service
- Greetings
- Distribution Lists
- Other Configuration Parameters
- Unplayed Messages and Receipts
- Types of Mailboxes
- Outdial Billing

Overview

Mailboxes are the user component of a server. Every server user has at least one mailbox, and the server administrator must make a number of configuration decisions that affect mailboxes. Some configuration is server-wide, and has been discussed in the previous application chapters. This chapter describes different mailbox configuration options and how to do them.

Outside Callers vs. Mailbox Owners

In many discussions of server mailboxes, you encounter the terms *caller, outside caller, user, owner,* or *mailbox owner.* There is a difference between (outside) callers and (mailbox) owners or users. A caller dials the server number, enters a mailbox number, listens to the mailbox greeting or prompt (such as "Please leave a message for Kim Smith"), then leaves a message. A person who is assigned a mailbox is a "mailbox owner." Owners can log into their own mailboxes, play messages, choose selections from a User Options Menu, and select other voice messaging operations. The term "user" usually refers to mailbox owners, as opposed to outside callers, as they are users on the server.

Mailbox Creation and Modification

Mailbox creation, deletion, and modification are implemented in different ways depending on how your terminal has been configured.

Scrolling Interface

If you are using the scrolling menu interface, then mailbox creation and modification are similar to that used in the Release 5.04 VoiceMemo application. Creation, deletion, and modification are three different menu choices. Mailbox creation and modification both generate a set of prompts for the administrator to answer, one at a time. If you mistakenly answer one prompt incorrectly, you cannot return to it; you must finish the prompts and recreate or remodify that mailbox again. The advantage of this method is that it works on any kind of terminal.

Full-Screen Interface

The server has a full-screen interface you use to create, modify or delete mailboxes. All three options are combined in one menu choice. You use function keys for different options when in this mailbox menu. The mailbox screen is shown in Figure 6-1. The function keys you can use in the mailbox maintenance screen are:

Function Key	Explanation
F1	Display next mailbox
F2	Display previous mailbox
F6	Delete mailbox
F8	Statistics
F9 or **Esc**	Exit the Mailbox Screen
F10	Edit current mailbox's information

These are the appropriate function keys when you are editing a mailbox's parameters (after pressing **F10**):

Function Key	Explanation
F6	Billing
F7	Family/Guest Mailbox Setup (for VMUIF interface only)
F8	Display Statistics
F9	Cancel edit session and ignore changes
F10	Exit and Save new information
Home	Help (based on where cursor is located)
End	Edit Additional Fields (where cursor is located)

Figure 6-2 shows the Message Waiting Indicator screen, which you can edit for Message Waiting 1, 2, and 3. Use the mailbox worksheets when creating new mailboxes. The worksheets are described in the next section.

```
Mailbox:  00000000998                    Code:
Name:
Classes of Service
Limits:   Default              1         Tenant:    Default TCOS 1        1
Features: UNLIMITED            1         Restriction:                     1
Group:    Default GCOS 1       1
Network:  Default              1
Bad Login Count:               0         Last Login Time:          NEVER
Access Code:                             Speech Quality Msgs:  0  Greets:  0
Password:           N                    Tutorial:             N
Day Treatment:      M                    Night Treatment:      M
Extension:     998                       Index:                0
Atten DN:                                Index:                0
                                         CallPlacement Index:  N TimeZone: 0
                                         Message Waiting 1:    0 None
                                         Message Waiting 2:    0 None
                                         Message Waiting 3:    0 None
                                         List Rights: Review:   Change:

 F1 Next  F2 Prior  F6 Delete  F8 Stats  F9 or Esc Exit  F10 Edit
Enter mailbox number to modify or create.
```

Figure 6-2 Mailbox Maintenance Screen

There are additional fields to edit for the three Message Waiting Indicator Fields, and for the two List Rights fields. In both cases, press the **End** key to edit the Use this screen to configure paging or message waiting. Figure 6-3 shows the List Rights screen, which you use when editing distribution list change or review rights.

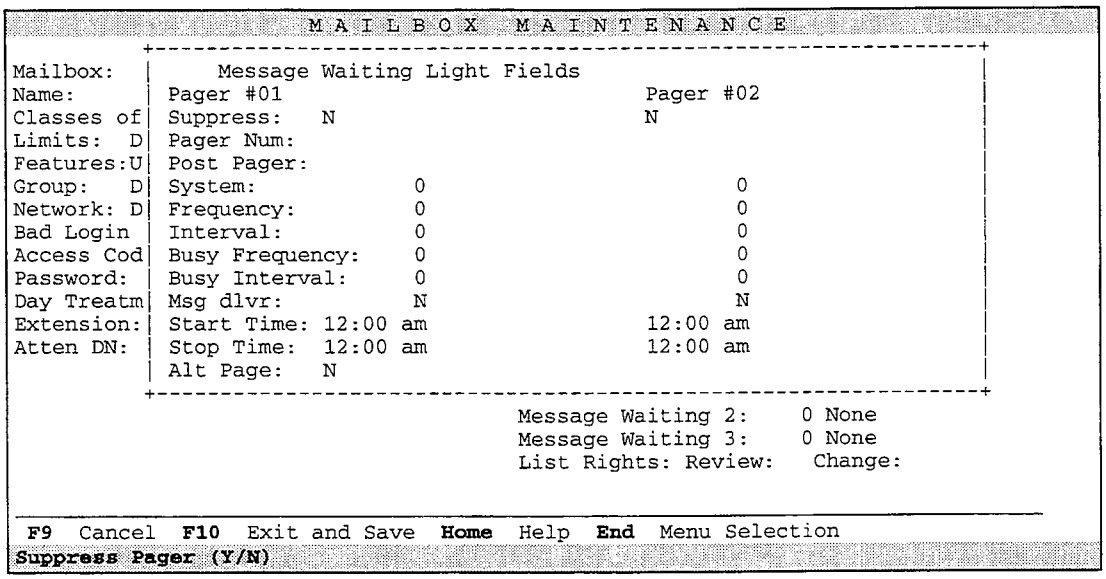


Figure 6-2 Message Waiting Indicator Screen

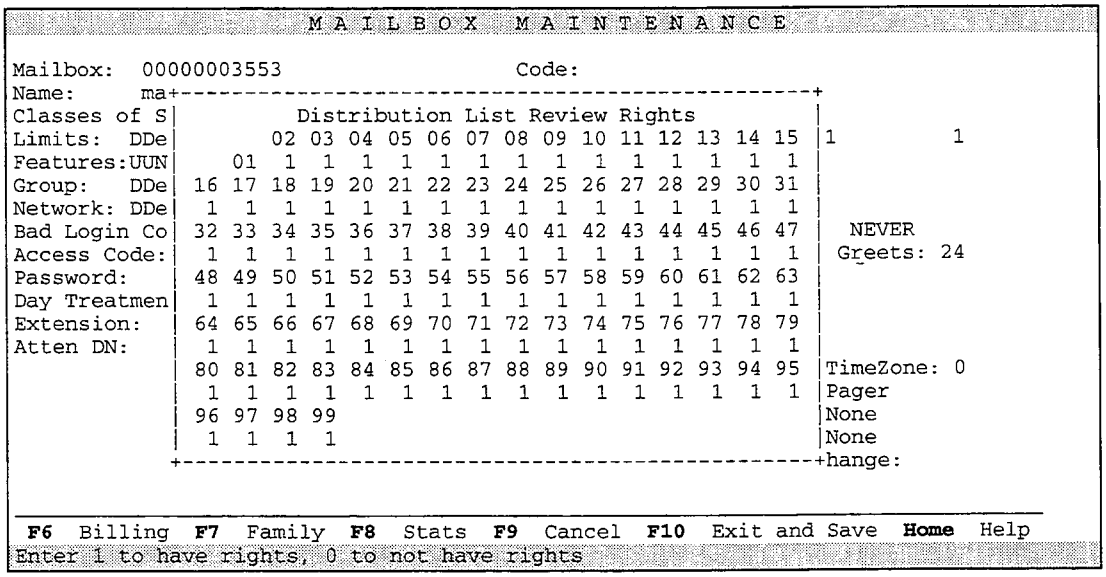


Figure 6-3 Distribution List Rights Screen

Mailbox Maintenance

Mailbox maintenance allows you to:

- Search for mailboxes meeting specified configuration criteria (Search for Mailboxes option)
- Obtain configuration information about a specific mailbox (Inquire About Mailboxes option)

- Obtain configuration information about every mailbox in the system (Mailbox Data Report option)
- View comprehensive details about mailbox activity that is helpful for debugging mailbox configuration (Mailbox Dump option)

You can also obtain a summary report about disk speech usage for a given mailbox. This report shows the number of messages played, unplayed, and urgent; message receipts; and the recorded name and greetings for the mailbox. A report option allows you to obtain the total disk usage for a range of mailboxes.

Any of these options presents a report that you can have displayed at the server maintenance console or printed at a console printer. For sample reports and detailed explanations about their contents, see the Reports chapter.

Mailbox Worksheets

Before configuring a standard mailbox, complete the Mailbox Individual Worksheet. Each worksheet entry is explained in the following sections. Pre-programmed (default) values for entries are also given in the Menu Parameters chapter, where applicable. If you want to use a default value, indicate that fact on the worksheet. Then you will not need to select or enter any information for that parameter during reconfiguration. Figure 6-4 shows a sample Mailbox Individual Worksheet. A blank Mailbox Individual Worksheet is supplied behind the "Worksheets" tab.

If you are configuring a mailbox for paging, message delivery, or call placement, see also "Mailbox Configuration" in the Pager Application chapter.

When you need to organize information for large groups of mailboxes, you can use a Mailbox Group Worksheet (Figure 6-5). This worksheet allows you to enter configuration values for several mailboxes on a single sheet. Use it in conjunction with the Mailbox Individual Worksheet when appropriate. A blank Mailbox Group Worksheet is supplied behind the "Worksheets" tab.

Classes of Service

Each mailbox is assigned classes of service. A Feature Class of Service (FCOS) is a collection of mailbox features, options, and abilities, called *feature bits.* A Limits Class of Service (LCOS) is a group of mailbox limits, such as how many messages a user can store. The LCOS also determines the mailbox prompts language. A Group Class of Service (GCOS) determines which mailboxes can communicate with each other. A Restriction Class of Service (RCOS) establishes a calling area for a mailbox that is subject to NPA/NXX call screening. For further information on FCOSs and feature bits, see the Features Class of Service chapter. For information on LCOSs

and limits, GCOSs and groups, and RCOSs, refer to the Other Classes of Service chapter.

A Network Class of Service (NCOS) and Tenant Class of Service (TCOS)—parts of optional features—can also be assigned to mailboxes.

For more information about NCOSs and TCOSs, respectively, see *The MESA-Net Digital Network* and *Enhanced SMDI VoiceMemo Integration Installation User's Manual.*

Mailbox Individual Worksheet

Mailbox Type

Standard [✓] Tree [ ] (also complete Tree Mailbox Worksheet) Rotational [ ] (also complete Rotational Maibox Worksheet)

Create New Mailboxes

Mailbox to create	3442	Name	Jones, Fred
Department code	Reserve	Access code	
Receptionist day treatment		Receptionist night treatment	
Mailbox's extension number		Mailbox's extension pre-dial index	
Attendant extension number		Attendant extension pre-dial index	

Features Class of Service	1	Limits Class of Service	1	Group Class of Service	4	Network Class of Service	
Tenant Class of Service		Restriction Class of Service		Temporary passcode	5		
Message waiting type #1	2	Message waiting type #2	5	Message waiting type #3			
Call placement pager access type		Turn off pager/outcall notification?	[ ] yes [✓] no	Time zone offset			
Lists with change rights	2, 3-6			Lists with review rights	2, 3-6		
Message speech quality	18	Name/greeting speech quality	18				

For outdial billing only

Internal outdial index	0	Billed outdial index	1	Unbilled outdial index	2
Billing number	103-444-9801	Billing dialing order	[✓] NB [ ] BN		

For AC message lamp (message waiting type # 2only)

AC message waiting lamp address: A3

For message waiting type 5 only

Pager access type	B	Pager number	5557979	Post-pager number	++G9117#
Pager frequency		Pager interval		Message delivery? [ ] yes [ ] no	Suppress pages? [ ] yes [ ] no
Busy pager attempts		Busy pager interval		Pager start time AM PM	Pager stop time AM PM

Define additional pager number? [ ] yes [ ] no

Figure 6-4 Sample Mailbox Individual Worksheet

Customer

Page of

Mailbox Group Worksheet

Mailbox # 201 — Name: S. Hill

Dep't	Access code	Day	Night	MB ext	Pdial index	Attn ext	F COS	L COS	G COS	N COS	T COS	Passcode	Wake up	MWI 1	MWI 2	MWI 3	AC MWL	Call P type	TZ offset	Chng lists	Review lists
				3032		0	41					201									

Msg. spch qual.	Name/grt spch qual	Pager type	Outdial index	Post outdial index	Freq	Interval	Msg dely?	Spress pgs?	Busy attempts	Busy interval	Start time	Stop time	Add pager?	Intrnl od idx	Billed od idx	Unbilled od idx	Billing #	Bill dial order
18	18						no											

Mailbox # 202 — Name: C. Tran

Dep't	Access code	Day	Night	MB ext	Pdial index	Attn ext	F COS	L COS	G COS	N COS	T COS	Passcode	Wake up	MWI 1	MWI 2	MWI 3	AC MWL	Call P type	TZ offset	Chng lists	Review lists
				3199	1	3174	44	2				202		5							

Msg. spch qual.	Name/grt spch qual	Pager type	Outdial index	Post outdial index	Freq	Interval	Msg dely?	Spress pgs?	Busy attempts	Busy interval	Start time	Stop time	Add pager?	Intrnl od idx	Billed od idx	Unbilled od idx	Billing #	Bill dial order
18	18		91	G	5	15	no						Y					

Mailbox # 203 — Name: F. Fitzgerald

Dep't	Access code	Day	Night	MB ext	Pdial index	Attn ext	F COS	L COS	G COS	N COS	T COS	Passcode	Wake up	MWI 1	MWI 2	MWI 3	AC MWL	Call P type	TZ offset	Chng lists	Review lists
2				3420		0	41	1	1			203									

Msg. spch qual.	Name/grt spch qual	Pager type	Outdial index	Post outdial index	Freq	Interval	Msg dely?	Spress pgs?	Busy attempts	Busy interval	Start time	Stop time	Add pager?	Intrnl od idx	Billed od idx	Unbilled od idx	Billing #	Bill dial order
24	24						N											

Mailbox # — Name

Dep't	Access code	Day	Night	MB ext	Pdial index	Attn ext	F COS	L COS	G COS	N COS	T COS	Passcode	Wake up	MWI 1	MWI 2	MWI 3	AC MWL	Call P type	TZ offset	Chng lists	Review lists

Msg. spch qual.	Name/grt spch qual	Pager type	Outdial index	Post outdial index	Freq	Interval	Msg dely?	Spress pgs?	Busy attempts	Busy interval	Start time	Stop time	Add pager?	Intrnl od idx	Billed od idx	Unbilled od idx	Billing #	Bill dial order

Mailbox # — Name

Dep't	Access code	Day	Night	MB ext	Pdial index	Attn ext	F COS	L COS	G COS	N COS	T COS	Passcode	Wake up	MWI 1	MWI 2	MWI 3	AC MWL	Call P type	TZ offset	Chng lists	Review lists

Msg. spch qual.	Name/grt spch qual	Pager type	Outdial index	Post outdial index	Freq	Interval	Msg dely?	Spress pgs?	Busy attempts	Busy interval	Start time	Stop time	Add pager?	Intrnl od idx	Billed od idx	Unbilled od idx	Billing #	Bill dial order

18 18

Figure 6-5 Mailbox Group Worksheet

Names and Greetings

A mailbox owner can record a name for the mailbox. If the owner does not record a name, the server uses the mailbox number instead. For example, if you have mailbox 5731 and record "Kevin Lee" as your name, other users hear "Kevin Lee" when they make messages for your mailbox. If you do not record a name, users hear "Mailbox fifty-seven thirty-one." Users also hear mailbox names when they play messages from other users. If you get a message from an outside caller, no name is used.

Greetings are played when callers or users reach your mailbox, either by entering your mailbox number or by dialing your extension (if you have an integration that supports this feature). Mailbox owners can choose various types of greetings, depending on their FCOS. In many of the integrations that a server supports, owners can choose greetings that respond to the condition under which a call has been received by the server: Ring No Answer, Busy, or Forward. Personal greetings for these three possible conditions are called *conditional greetings.* To have the same greeting played under all conditions, a user would enable the *primary greetings.*

The general greeting option allows a user to select whether to use personal or server greetings. If conditional greetings are also enabled, the user can select conditional server greetings that play in response to line conditions as shown in Table 6-1.

Table 6-1 Greetings Supplied by the Server

Condition	Greeting
Ring No Answer	"I'm sorry, [name] does not answer. Please leave your message at the tone."
Busy	"I'm sorry, [name] is on another call. Please leave your message at the tone."
Call Forward	"I'm sorry, [name] is not available. Please leave your message at the tone."

You can copy a mailbox greeting to a mailbox name and copy a mailbox name to a greeting.

Distribution Lists

This section covers:

- How distribution lists are used in the server software
- Interactions between distribution lists and various class of service settings
- Distribution list administration

Overview

A distribution list allows a mailbox owner to send the same message to a number of recipients by entering the distribution list number instead of entering each mailbox number. Mailbox owners can create distribution lists by phone, or a server administrator can create them at the server maintenance console.

There are two types of distribution lists: mailbox owner distribution lists (sometimes called "user distribution lists"), which are only accessible by the mailbox owner, and master distribution lists (sometimes called "system distribution lists"), which are accessible by all users of a line group.

In addition to addressing messages, distribution lists control the actions of several special mailbox features. The distribution lists in tree mailboxes and rotational mailboxes identify child mailboxes, and the distribution lists in broadcast mailboxes identify the recipients of broadcast messages, greetings, etc.

Distribution list administration involves many parts of server administration:

- FCOS settings allow mailbox owners to send to and receive from distribution lists.
- LCOS settings control the maximum number of list per mailbox, up to 99, and the maximum number of recipients per list, up to 65,535.
- GCOS settings identify which mailboxes can exchange messages.
- Mailbox settings control the ability of mailbox owners to review and/or modify distribution lists.

Once you have configured mailboxes appropriately, you can create distribution lists – including master distribution lists – and maintain them from a telephone. In addition, you can create distribution lists from the server console using the List Maintenance Menu.

Mailbox Owner Distribution Lists

Mailbox owners can create up to 99 distribution lists for groups of people that they communicate with frequently. Mailbox owner distribution lists are only accessible by the mailbox owner. Although a server administrator can create distribution lists for any mailbox, it is usually easier to let the mailbox owners create and maintain their own lists.

When mailbox owners are given the capability to create and use their own distribution lists, the server plays the appropriate prompts and options in the User Options Menu. Besides adding and deleting members, mailbox owners can review the members of a list and record a spoken name for it to serve as a confirmation when addressing messages to the list.

A server administrator can control whether or not a mailbox owner can review or modify distribution lists. Turning off both capabilities can be useful for broadcast mailboxes, while turning off the modify capability can be useful in service bureau environments in which the service bureau maintains the lists for the customers.

Mailbox owners address messages to their distribution lists by pressing a 0 (zero) before the list number, for example "015" to address a message to distribution list 15. If feature bit 036 is enabled, the sender receives a receipt listing which recipients have and have not listened to the message.

Master Lists

Master lists are useful when more than one person must send messages to the same group of people. A master list is a line group-specific distribution list that you can define in the administrator's mailbox for that line group. There can be up to 99 master lists. All mailbox owners who call in on that particular line group can use a master list by pressing "00" before the list number; for example, "009" to address a message to master distribution list 9, or "0025" for master list 25.

A master list defined for one line group is not necessarily a distribution list for another line group. They can share master lists if they share the same administrator's mailbox.

Although you can create master distribution lists over the phone, it is usually easier to use the server maintenance console due to the size of some lists. It is often necessary to add newly-created mailboxes to one or more master list. You must use the phone to log in to the administrator' mailbox and record spoken names for master distribution lists.

Distribution Lists and Special Mailboxes

Several types of special-function mailboxes use distribution lists to accomplish their purposes. These include:

- Tree and rotational mailboxes
- Broadcast message mailboxes
- Broadcast password mailboxes
- Broadcast greeting mailboxes
- Broadcast name mailboxes

Tree, rotational, and broadcast message mailboxes all use distribution list 1 to define child or recipient mailboxes. For tree and rotational mailboxes, the order of child mailboxes in the distribution list can affect what callers hear.

Broadcast greeting, name and passcode mailboxes use distribution list 9 to identify the recipients of the broadcasts. Using list 9 for these features allows these mailboxes to also perform other special functions, such as broadcast messages, which use distribution list 1. The mailbox owner can define the remaining distribution lists.

For more information on special mailboxes, see the Special Mailbox section, later in this chapter.

Nesting Distribution Lists

"Nesting" refers to the ability to make one distribution list a member of another list. This allows you to create a distribution list for each department, and then create a company-wide distribution list that only contains the department lists. Any changes to the department lists are automatically picked up by the company-wide list.

The server allows unlimited distribution list nesting by default, except in a broadcast mailbox. Nesting operates as shown in Figure 6-6.

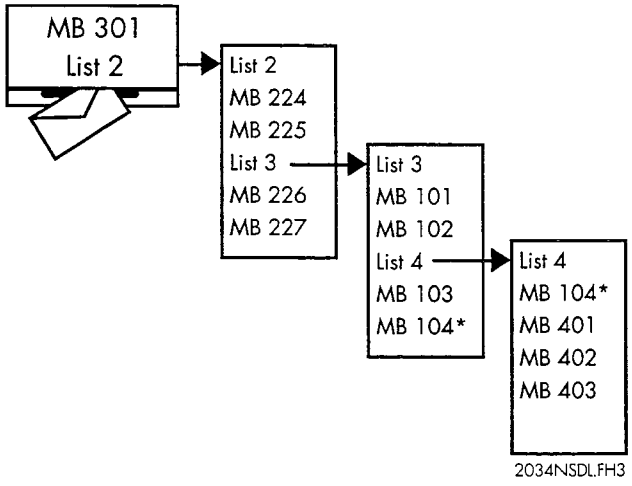


Figure 6-6 Distribution List Nesting

Once the lists in Figure 6-6 are set up, mailbox 301 can make a message to list 2, and the following mailboxes receive the message: 224 through 227, 101 through 104, and 401 through 403. Mailbox 104 only receives one copy of the message, even though it appears in both lists 3 and 4.

Feature bit 222 prevents mailbox owners from nesting distribution lists.

If you are creating the distribution list from the server console, identify a nested distribution list by including "D" before the list number (for example, D03). This is not needed when creating a list from the telephone; just enter the list number (for example, 03). For complete information refer to the procedures section.

Note: If you send a message to a nested list that contains many mailboxes, a mailbox owner can receive a message twice. This can happen if a mailbox appears in two lists and the mailbox owner receives the message while the server is still processing the rest of the list. If the mailbox owner discards the message, the server can send another copy when it reaches to the second occurrence of the mailbox. This is only an issue with very large nested distribution lists.

Distribution List Interaction With FCOS

You can use the mailbox FCOS to control the ability to send messages to distribution lists, receive messages sent to other lists, or create or modify distribution lists. As described above, a feature bit prevents distribution list nesting. Additional feature bits control whether mailbox owners can use master distribution lists.

The feature bits listed in Table 6-2 affect distribution list use.

Table 6-2 Feature Bits that Control Distribution Lists

Feature Bit	Description
032	Make (messages) to user distribution list
033	Give (messages) to user distribution list
034	Make to master distribution list
035	Give to master distribution list
036	Auto-receipt for user distribution list messages
044	Receive user distribution list messages
045	Receive master distribution list messages
074	Create or modify user distribution list
134	Broadcast message waiting status
222	Deny nesting of distribution lists

In addition, these limits affect distribution lists:

- Maximum number of distribution lists (maximum 99)
- Maximum recipients count (maximum 65,535)

For more information, see the Features Class of Service and Other Classes of Service chapters.

Distribution List Interaction With LCOS

You can use LCOS settings to control the number of distribution lists per mailbox, the number of members per list, and the maximum number of recipients for any message. The specific limits that apply to distribution lists are:

- Maximum members per distribution list (maximum 65,535)
- Maximum number of distribution lists (maximum 99)
- Maximum recipients count (maximum 65,535)

You can use the "Maximum recipients count" limit to control the impact of nested distribution lists. The server does not deliver the message to more recipients than this limit allows, even if the total recipients in the nested distribution lists is greater.

Note: The maximum for a distribution list in a tree or rotational mailbox is 190 members.

For more information on any of these features, see the Other Classes of Service chapter.

Distribution List Interaction With GCOS

Distribution lists are affected by the GCOS settings that control the ability of any mailbox owner to send messages to other mailbox owners. You must ensure that all members of a master distribution list have GCOS settings that allow them to exchange messages. Mailbox owners cannot add recipients who do not share GCOS settings to their distribution lists.

For more information on Group Class of Service, see the Other COS Chapter.

Mailbox Settings for Distribution Lists

Each mailbox has two parameters that are specific to distribution lists:

- Lists with review rights
- Lists with change rights

These parameters control which lists a mailbox owner can review or change. Review rights allow the owner to play the names and numbers of all mailboxes in a list. Denying review rights can keep the contents of a list confidential. Change rights allow the owner to add or delete mailboxes in a list. Denying change rights prevents the user from altering a distribution list, which is helpful for certain applications, such as networking, that require distribution lists.

List Maintenance

The List Maintenance Menu allows you to create, modify, delete and view distribution lists in any mailbox. You can also locate all lists that contain a specific mailbox, and delete that mailbox from all lists.

By using Administration by Phone you can create, modify, delete and review master distribution lists in an administrator's mailbox, and you can record names for those lists. From an administrator's mailbox you can create and modify master lists from 1 to 99, just like a mailbox owner's personal lists. Administrators' mailboxes do not have user (mailbox owner) distribution lists, only master lists.

Other Mailbox Configuration Parameters

Along with other parameters in a mailbox configuration, you can also specify a message waiting type that determines how mailbox owners are notified when unplayed messages arrive in their mailboxes. Mailboxes can also be configured for paging and message delivery. Refer to the Pager Application chapter for more information on these topics.

Mailboxes can be password-protected.

Variable Length Mailbox Numbers

The variable length mailbox number capability allows the server administrator greater flexibility when assigning mailbox numbers. You can configure a dialing plan to allow variable length mailbox numbers. Code a V in the desired digit position in the dialing plan, as described in the VoiceMemo Application chapter under "Mailbox Dialing Plan."

Without this capability, all mailboxes in the same line group that begin with the same digit must be the same length. If, for example, you specify "3" as the mailbox number length for mailboxes beginning with 1, then all 1-series mailboxes must be three digits long: 100, 101, 102-199, etc. This means you have only 100 mailboxes available beginning with 1.

When you specify that mailboxes beginning with a certain digit can be variable length, those mailboxes can be as short as one digit (9), or as long as 11 (99999999999). This allows you over 11 billion different mailboxes beginning with 9! (You cannot, of course, configure 11 billion mailboxes, since that would exceed the storage capacity of the disk.)

Hotel installations can make good use of variable length mailboxes. It is convenient for a guest's mailbox number, telephone number, and room number to be the same, but this is impossible to achieve with fixed length mailbox numbers and a single line group. To understand why, realize that most hotel dialing plans assign three-digit

numbers to rooms on floors one through nine, and four-digit numbers to rooms on floor 10 and above. If the mailbox for room 111 matched the phone number, the mailbox for room 1111 could not.

Variable length mailboxes allow you to keep all mailboxes in a single line group and still assign mailboxes that match room and telephone numbers.

Configuration Considerations

If you configure variable length mailboxes, mailbox owners must modify their interactions in these ways:

- When addressing a message to multiple recipients, they must enter a pound sign (#) after each mailbox number that is variable length, or wait for the server to prompt for the next recipient's mailbox number.

Note: If mailbox owners enter a pound sign after a mailbox number that is not variable length, the server interprets it to mean that message addressing is complete. This can be confusing to mailbox owners, who find that pressing a pound sign at "the same time" elicits differing prompts. To avoid this confusion, Centigram recommends that you make either all mailboxes variable length, or none.

- After entering the final mailbox number and pound sign, they must do one of the following:
  - Enter an additional pound sign to get the "Begin recording..." prompt.
  - Wait for the "Begin recording..." prompt.

Integrations Supported

You can configure variable length mailboxes with all integrations supported by Centigram except for the Omni S1 series and the MD-110.

Server Time-and-Date Stamp for Messages

The time-and-date stamp is optional information that the server can add to every message, to tell the recipient when the message was recorded. If a mailbox owner plays the message the same day it arrives, only the time is given (for example, 2 p.m.). If the mailbox owner plays the message on a later day within the same week, the day of the week and the time are announced (for example, Monday, 2 p.m.). If the mailbox owner plays a message more than a week after it was received, the day of the week, date, and time are given (for example, Monday, May 11, 2 p.m.).

Time Zone Offset

A mailbox time zone offset is a number the server adds to or subtracts from the hour portion of a message's time stamp. This allows mailbox owners to convert the time stamp on a message to the time zone of their choice.

The server converts the time in a mailbox, so only the mailbox owner hears the converted time stamp for a message. Users sending messages to or receiving messages from such a mailbox hear the server's normal time stamp.

This ability is useful for mailbox owners who live and work in a time zone different from the one where their server is located.

The time zone offset affects all types of messages except call placement.

Mailbox Configuration Parameters

When you create a mailbox from the console, the time zone offset is one of the mailbox configuration parameters.

The Mailbox Data Report displays the time zone offset, along with other parameter settings.

Example of Use

Suppose a mailbox owner works in Atlanta, but uses an server based in San Jose. By default, all the mailbox owner's messages would have a time stamp based on San Jose's time zone. If someone sends the mailbox owner a message at 2 p.m. Pacific Standard Time, that is the time stamp the mailbox owner hears for this message.

However, if the time zone offset in a mailbox owner's mailbox has a value of 3, the server tells the mailbox owner that same message was sent at 5 p.m. The sender of the message, though, hears that the server sent the message at 2 p.m.

Tutorials

The standard tutorial, which gives basic instructions to a mailbox owner on how to set up a new mailbox, is automatically enabled when a mailbox is created. The standard tutorial is *not* available, however, if TDDMemo is enabled. When the tutorial is accessed the first time on a new mailbox, it directs the new owner to record a name and greeting, and to set a passcode. There are times when mailbox owners do not want to hear the tutorial (for example, if they are setting up a series of tree mailboxes for directory assistance). The Set Passcode/Tutorial option from the Mailbox Maintenance menu is used to disable (or enable) a standard tutorial, when desired.

Instead of the standard tutorial, customized information tailored to an individual installation can be recorded in the attendant's mailbox and played for new mailbox owners. This is a site tutorial, a greeting typically recorded by a server administrator.

Unplayed Messages and Message Receipts

The server offers customers message processing flexibility in two related areas:

- Defining unplayed messages
- Controlling when the server sends receipts

Unplayed Messages

Feature bit 145 (Message stays in original queue) determines how the server classifies a message if a mailbox owner does not explicitly keep a message (by pressing K) or discard it (by pressing D).

Message Receipts

Feature bit 147 (Send receipt after full play) controls whether the server waits for a mailbox owner to explicitly keep a message (by pressing K) or discard it (by pressing D) before sending a receipt to the sender of that message. The server makes this decision only after a mailbox owner plays the entire message.

The presence of this feature bit works on a partially played message exactly as it does on a completely played message. Otherwise, it would be possible for the server to put a partially played message into a mailbox owner's saved queue but not send a receipt.

147 has an effect only when it and feature bit 145 are in the same FCOS. Refer to the Features Class of Service chapter for more information on how these two feature bits interact.

Types of Mailboxes in a Typical Installation

Besides standard mailboxes, a server typically has an administrator's mailbox, up to five attendant's mailboxes, and other special mailboxes. Basically, special mailboxes have all the characteristics of standard mailboxes, plus special privileges and capabilities.

Standard Mailboxes

A standard mailbox is a collection point for voice messages. It also has greetings and prompts associated with it and can be configured to provide an array of capabilities

related to voice messaging. The classes of service mentioned earlier are the means by which you can configure mailboxes to provide the desired capabilities.

Special Mailboxes

The following sections describes the types of special mailboxes listed at the beginning of the chapter. There are 13 types of special mailboxes:

- Administrator's mailbox
- Attendant's mailbox
- Broadcast
- Chain
- Check-In and check-out mailboxes
- Greeting-Only mailboxes
- Guest mailboxes
- Mailbox on Demand templates
- Rotational mailboxes
- Shared extension mailboxes (a variation of a tree mailbox)
- Template mailboxes (MESA Forms)
- Tree (bulletin board) mailboxes

Administrator's Mailbox

The initial software installation contains an administrator's mailbox that has these special privileges:

- Contains the company greetings
- Can create or edit master distribution lists that can be used by any mailbox owner in the server (with an appropriate FCOS)
- Can add mailboxes, delete mailboxes, and change mailbox configuration, by phone

For more information about the administrator's mailbox, see the VoiceMemo Application chapter.

Attendant's Mailbox

The initial software installation also contains an attendant's mailbox. This mailbox supplies these functions:

- Its greeting is the message of the day, which is stored only in the attendant's mailbox.
- A customized site tutorial (a form of greeting) can be recorded from the attendant's mailbox.

- When outside callers access the message center, they are prompted to enter a mailbox number or wait. Callers who wait are then prompted to leave a name and a message. These unaddressed messages are stored in the attendant's mailbox.

For more information about the attendant's mailbox, see the VoiceMemo Application chapter.

Broadcast Mailboxes *Broadcast mailboxes*

With a broadcast mailbox, any caller can send a single message to multiple mailboxes. In addition, mailbox owners can send names and greetings to other mailbox owners. This capability is particularly useful for disaster recovery or overflow mailboxes. Broadcast mailboxes other than broadcast message mailboxes can also send a message waiting status to multiple mailboxes.

To illustrate use of a broadcast message mailbox, suppose the manager of a company health club wants club members to know about an upcoming tournament. The manager logs in to his or her mailbox and makes a message for the broadcast message mailbox. The broadcast message mailbox, in turn, sends the message to all members' mailboxes (this is sometimes called the "bulletin board feature").

In this example, the server administrator assigns a Broadcast FCOS to one mailbox. The server administrator then creates distribution list 01 for that mailbox, including the mailbox numbers of all the club members, to a maximum of 65,535.

This is a useful feature if you have mailboxes accessed in different calling areas. You can update the greeting for all the mailboxes, and then callers can reach the local mailbox to get the information they need. Or, you could use it to broadcast to remote mailboxes through MESA-Net (an optional feature).

Broadcast Message Mailbox

A broadcast message mailbox must contain a distribution list 01. If you want the broadcast message mailbox to be able to keep messages that have been broadcasted, it must first be able to receive messages. Add any of the "receive" feature bits to the broadcast message mailbox. Feature bit 043 (Receive message of the day) is needed only if the broadcast message mailbox is also the user's *only* mailbox. In the LCOS assigned to this mailbox, you should set a shorter message length so the mailbox will not fill up too quickly.

Broadcast Greeting, Name, or Passcode Mailbox

Broadcast greeting is a method of propagating a newly recorded or modified greeting to a list of mailboxes, similar to the method used for propagating messages with broadcast messages mailboxes. Broadcast name is identical in concept to broadcast greeting, except that newly recorded and modified names will be propagated to the

broadcast list. Broadcast passcode is similar, except that it propagates a new mailbox passcode to the list.

You can create the broadcast list for a broadcast greeting, name or passcode mailbox like any distribution list, either from the User Options menu or from the List Maintenance Menu at the server maintenance console. All three of these mailbox types use distribution list 09. By assigning the appropriate feature bits to a mailbox, one, two, or all three of these capabilities can be performed by one mailbox.

Greeting A broadcast greeting mailbox requires feature bit 174 (Define broadcast greeting) in its FCOS. All types of greetings and all names created or modified on these broadcast mailboxes will be broadcasted, including:

- Day/night company greetings for the administrator's mailbox
- Message of the day
- Site tutorial for attendant mailboxes
- Multiple mailbox greetings

Name You can record a name in the broadcast name mailbox and have it announced. The mailbox is defined by the presence of feature bit 178 (Define broadcast name mailbox) in the FCOS. Since the name in the mailbox should be the name of the recipient group, such as "Sales Bulletin Board," users must remember to state their names at the beginning of their messages. This name override capability is enabled through feature bit 123 (Announce broadcast mailbox name) in the mailbox FCOS. With this feature, if you do not record a name in the broadcast mailbox, the mailbox number is announced. In addition, answers to the messages are also broadcasted. Without this feature, the server announces the name of the broadcast message originator, if that person is a server user. In this case, answers to a message go to the sender only. Outside callers must remember to announce their names if they want recipients to know who sent the message.

Passcode You can change the passcode in the broadcast passcode mailbox and have it transmitted to all mailboxes in the distribution. This feature is enabled through feature bit 231 (Passcode Broadcast Mailbox) in the mailbox FCOS.

Multiple Mailbox Greetings Mailboxes with multiple mailbox greetings defined broadcast each individual greeting as it is created or modified, and a recipient mailbox is checked to see if its FCOS has feature bit 175 (Receive broadcast greeting) or feature bit 179 (Receive broadcast name), or feature bit 232 (Allow receipt of passcode broadcasts). Mailboxes generating broadcast greetings that also have multiple mailbox greetings enabled can only send messages to recipient mailboxes that also have multiple mailbox greetings enabled.

Broadcast Message Waiting Status

The server also has the ability to automatically send the message waiting status of a mailbox to a distribution list of mailboxes without sending the actual message. This is useful in a business where any one of a number of people can respond to a message, but only one person needs to. A single response eliminates redundant answers to a message, thereby raising staff productivity and satisfying the sender of the message.

Example of Use In a brokerage firm, any of six account executives can respond to potential clients' requests for information. If the request results in a sale, the account executive who answered the request receives credit for that sale.

Broadcasting the message waiting status of a mailbox gives this firm an easy and efficient way to pass these potential sales on to its brokers. The brokerage first routes all prospects to a main mailbox in which they can leave requests. When callers leave requests, the server automatically turns on the message waiting lights on brokers' phones. The first available broker then logs into the main mailbox and responds to the request.

Configuration Requirements The broadcast message waiting status capability uses a server feature plus distribution list 01 of a mailbox:

- You must include feature bit 134 (Broadcast message waiting only) in the FCOS assigned to a mailbox before it can send its message waiting status to a distribution list.
- You must also set up distribution list 01 of a mailbox to include all the destination mailboxes to which to send the message waiting status of the main mailbox.

Multiple Mailboxes per User Each mailbox in distribution list 01 always reflects the message waiting status of the main mailbox, regardless of how many messages are in that destination mailbox. Therefore, you may want to assign a separate mailbox to users for their messages and reserve the destination mailbox simply to notify them a message is in the main mailbox.

Incompatibility With Broadcast Message Feature A mailbox can either send its messages or its message waiting status to the mailbox in its distribution list 01, but not both. This means the FCOS assigned to a mailbox cannot have both of these feature bits:

- 122 (Define broadcast mailbox)
- 134 (Broadcast message waiting only)

Combining Broadcast Mailbox Types

In addition to being a standard mailbox, a broadcast greeting, name, or passcode mailbox can also be a tree mailbox. A broadcast greeting, name or passcode mailbox can itself be a broadcast message mailbox that contains different broadcast lists for messages and greetings. To have both messages and greetings broadcasted to the same list of recipients, it is necessary to make distribution lists 01 and 09 identical. List 01 controls the messages broadcasted to recipients, and list 09 controls the greeting, name, or passcode broadcasted to recipients.

Limits

Standard server limits on greeting and name length also restrict the broadcast greeting or name lengths for the sending mailbox; limits for recipient mailboxes are ignored.

Greetings will not be broadcasted when modified through the console Greeting Copy/Delete Menu at the server maintenance console.

Statistical or billing information is not available for broadcast greeting activity.

Non-Delivery Receipts

Non-delivery receipts are deposited in the broadcast mailbox under any of the following conditions:

- The recipient mailbox does not have the appropriate bit in its FCOS to receive a broadcasted greeting or name.
- A remote recipient mailbox could not be reached because of network blockage.
- A greeting could not be copied or recorded for a mailbox (local or remote) for miscellaneous reasons.

Chain Mailbox

Chain mailboxes play a greeting, then route calls to the mailbox selected by the caller. The chain mailbox itself cannot accept messages from users or callers. Chain mailboxes are useful for routing incoming callers. For example, a chain mailbox greeting could say, "Welcome to the Acme Company Credit Department. If you are calling about new home mortgages, enter 100 on your pushbutton phone. If you want to refinance your existing mortgage, enter 110. For car and truck loans, enter 120. If there is a problem with your credit report, enter 130. If you wish to speak to an operator, or have a rotary phone, please wait." The caller can then dial the appropriate mailbox number and be transferred to it.

A mailbox owner can log into a chain mailbox and change the mailbox name, greeting, and passcode, but cannot make messages, or create or use distribution lists.

Check-In/Check-Out Mailboxes

These mailboxes are used by hotels.

A check-in mailbox is a special mailbox that manipulates other mailboxes. When a check-in mailbox is accessed, the server prompts for the mailbox number to be checked in, then prompts the caller (usually a hotel or motel attendant) to record a name and enter a passcode for the mailbox. More than one desk clerk can call into a single check-in mailbox at one time, so it is unnecessary to create more than one check-in mailbox for your server .

A check-out mailbox is the counterpart of the check-in mailbox. When the attendant calls a check-out mailbox, the server prompts for the mailbox number to be checked out. It then gives the attendant the choice of either keeping or discarding any messages left in the mailbox. Finally, the server purges the guest's name, greeting and passcode, and follows the attendant's command about messages. The mailbox is then ready to be checked in for the next guest.

A check-out mailbox must also be created to use the hotel check-in/check-out feature of the server.

Greeting-Only Mailboxes

When a caller reaches a Greeting-Only mailbox, the server plays the greeting and then hangs up. Greeting-Only mailboxes are established by assigning FCOS 6 (Greeting Only) or a similar FCOS to them.

To illustrate a use of a Greeting-Only mailbox, imagine that a theater manager wants callers to hear an announcement of show times. The manager would create a mailbox with this FCOS, call the mailbox, log in, then record a greeting.

The mailbox user can change the mailbox name, greeting, and passcode but cannot create or use distribution lists. No one can make messages for or give messages to a Greeting-Only mailbox.

A Greeting-Only mailbox must have a greeting; otherwise the server considers the mailbox invalid. To log into a Greeting-Only mailbox that does not have a greeting, press the star (*) key on the phone key pad; then enter the mailbox number. You may choose to remove feature bit 066 (Login during greeting in Greeting-Only mailbox) after you record a greeting for the mailbox.

Guest Mailboxes

A guest mailbox is one that is assigned to each guest, typically in a hotel or motel. You establish a guest mailbox by assigning an FCOS, such as the Lodging FCOS described in the Feature Classes of Service chapter, to it. These mailboxes are

particularly appreciated by users who might be unfamiliar with voice messaging systems, and their uninitiated callers.

The guest does not need to do any kind of mailbox set-up, such as recording a name and passcode, before using the mailbox.

The server can usually be integrated with the hotel/motel telephone system to allow the user to log in simply by pressing a button on the telephone and entering a passcode, when prompted by the server. Immediately after the guest logs in, the server will play the first message automatically. The guest is given the options of keeping or discarding the message; when the choice is made, the next message, if any, is played without any input from the guest.

Prompts for a guest mailbox are in the form, "Press P, the 7 key, to play your message...." in order to be most helpful to the uninitiated user.

Callers also hear these expanded prompts, "Press R, the 7 key, to review your message..."

As a variation, a hotel or motel may wish to assign the full-feature guest mailbox. This is a mailbox with FCOS 2 (Full Guest) or its equivalent in the mailbox configuration. The desk clerk would still check in this mailbox; however, the guest would be able to change the name and passcode, and would also be able to record a personal greeting, make messages for other guest's mailboxes, and so on.

Mailbox on Demand Template Mailboxes

Mailbox on Demand is an optional feature where the AIP system creates mailboxes only when they are needed. A Mailbox on Demand template mailbox is used as a model for the temporary mailboxes that this application creates. Typically, temporary mailboxes have their LCOS limits set to very small numbers (such as a day or two).

Rotational Mailbox

A rotational mailbox allows callers to hear greetings that change. Greetings change either by time and date (in a "period" rotational mailbox) or with every call (in an index type rotational mailbox).

A rotational mailbox of either the period type or the index type plays its greeting, then plays the greeting of a child mailbox. Distribution list 01 in the rotational mailbox controls the rotating (or cycling) of callers through the child mailboxes. Rotational mailboxes do not require greetings, which can be useful in some applications.

You make a standard mailbox rotational by assigning FCOS 17 (Rotational) to it. You make a standard mailbox a child mailbox by including it in the distribution list of the rotational mailbox.

Callers cannot leave messages in the rotational mailbox itself, but they can leave messages in one of the child mailboxes, if the child mailbox is assigned an FCOS that allows callers to leave messages. You may have up to 190 child mailboxes in the rotational mailbox's distribution list 01.

Period-Type Rotational Mailboxes

To illustrate a use of a period-type rotational mailbox, suppose that a restaurant owner wants all callers to hear the special of the day. Tuesday callers, for example, would hear the restaurant greeting and the special for Tuesday; Wednesday callers would hear the restaurant greeting and the special for Wednesday, and so on. Figure 6-7 illustrates this example.

In this example, the restaurant owner would assign FCOS 17 (Rotational Mailboxes) to one mailbox (mailbox 100) and record a restaurant greeting for this mailbox. For this mailbox, the owner would also create distribution list 01 containing seven child mailboxes (mailboxes 101-107). To each of the seven child mailboxes the owner would assign FCOS 6 (Greeting Only); for each the owner would also record the daily special. The owner would then set the start date and start time for the rotation and the length of time before the server rotates to the next mailbox (24 hours in this example).

Index-Type Rotational Mailboxes

The server assigns a sequential index to each member of the rotational mailbox's distribution list. If a sorted list is created, mailboxes are indexed starting with the lowest-numbered mailbox. If an unsorted list is created, mailboxes are indexed starting with the first mailbox entered in the list. The first caller reaches the first indexed mailbox; the second caller reaches the second indexed mailbox, and so on. When the last-indexed mailbox is reached, the cycle starts over at the first indexed mailbox.

As an example of an index-type rotational mailbox, imagine that a veterinarian wants pet owners to hear three pet-care messages over an unspecified period of time. Each time pet owners call the veterinarian's number, they (are likely to) hear a different one of the three messages.

In this example (Figure 6-8) the veterinarian assigns FCOS 17 (Rotational Mailboxes) to one mailbox (mailbox 781) and records a standard veterinary-practice greeting for this mailbox. For this mailbox the veterinarian also creates distribution list 01 containing three mailboxes (mailboxes 711-713). To each of the three mailboxes, the veterinarian assigns FCOS 6 (Greeting Only); for each, the veterinarian also records a different pet-care message.

Messages

Callers cannot leave messages in the rotational mailbox itself, but they can leave messages in one of the child mailboxes, if the child mailbox is assigned an FCOS that

allows callers to leave messages. You may have up to 190 child mailboxes in the rotational mailbox's distribution list 01.

Greetings

If you want the server to hang up after it plays the child mailbox greeting, assign a Greeting-Only FCOS to these child mailboxes, including feature bit 062 (Hang up immediately after greeting).

If you want each mailbox to provide an introductory announcement before connecting the caller with an employee, give the child mailboxes an FCOS that includes feature bit 063 (Call mailbox attendant after greeting) or feature bit 064 (Call mailbox's extension number after greeting). Do *not* include feature bit 062 (Hang up after greeting). Be sure to include the attendant's or extension number in the appropriate field when creating the mailbox.

Rotational mailboxes can also be used with MESA Forms applications (see FCOS 16).

Mailbox Status

You can obtain information on existing rotational mailbox parameters, such as whether the mailbox is the period or index type, by using the Mailbox Dump option in the Mailbox Maintenance menu.

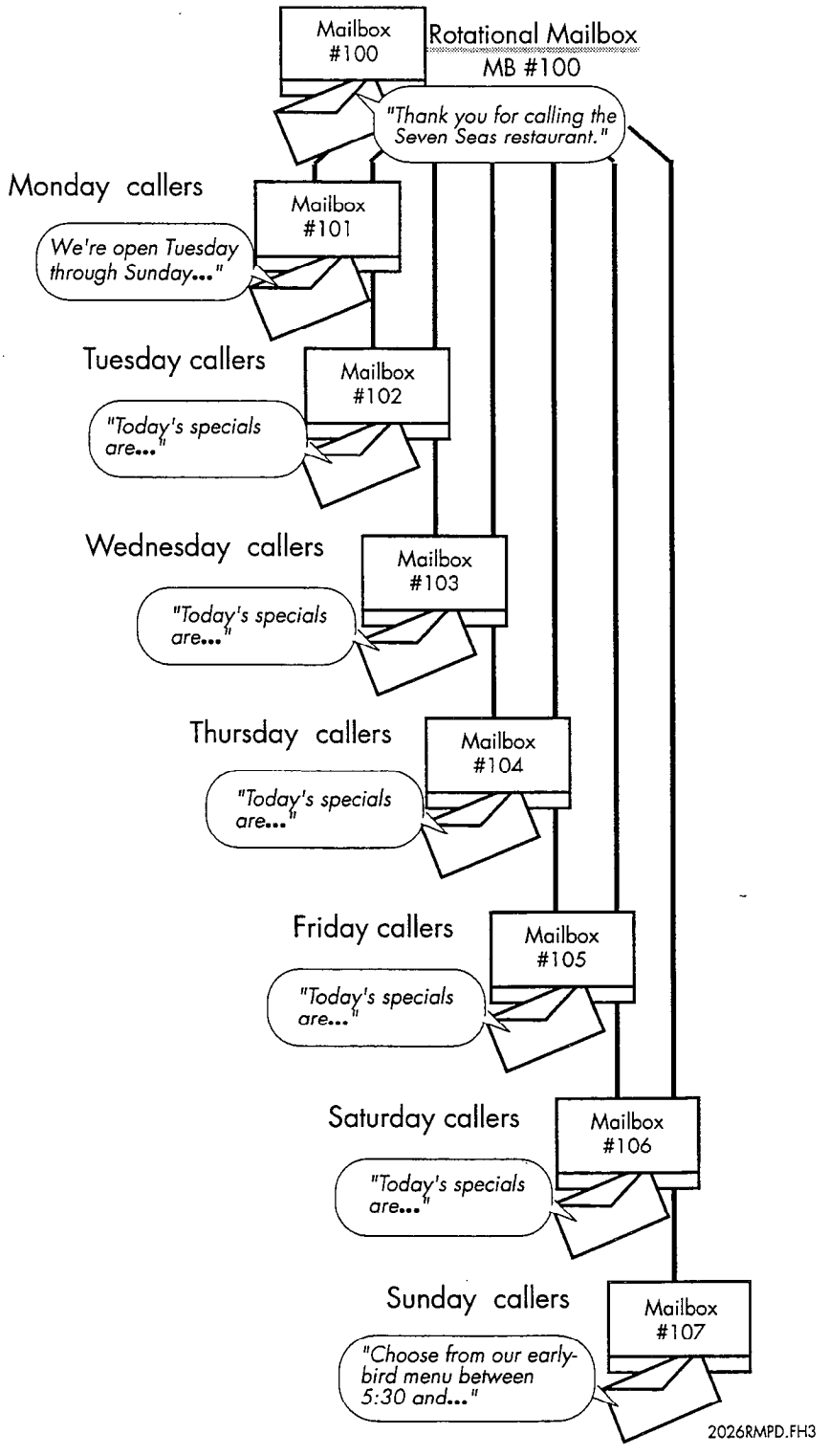


Figure 6-7 Sample Period-Type Rotational Mailbox

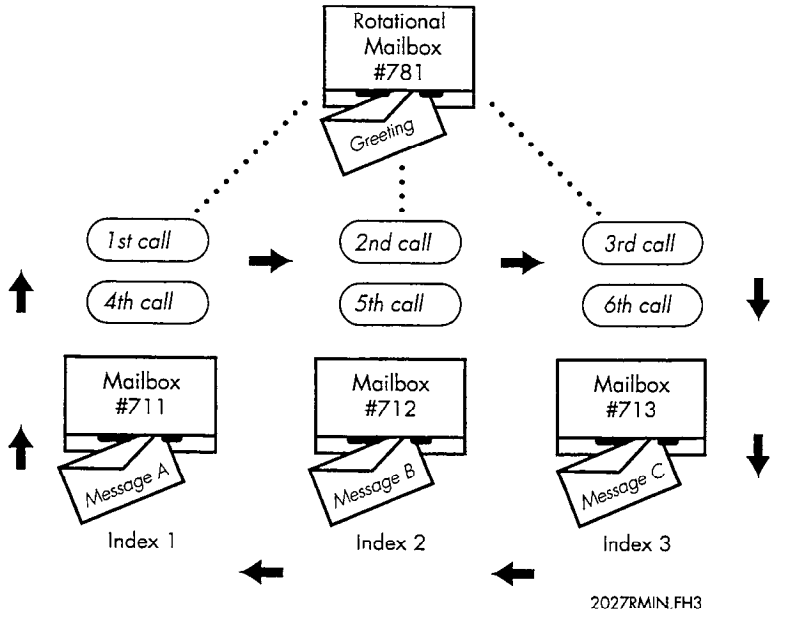


Figure 6-8 Sample Index-Type Rotational Mailbox

Nested Rotational Mailboxes

You can build nested rotational mailbox arrangements by making a child mailbox itself a rotational mailbox. Figure 6-9 shows an arrangement in which the rotational mailbox has three child mailboxes. One of the child mailboxes (mailbox 426) is itself a rotational mailbox, with three other child mailboxes (mailboxes 432, 433, and 444).

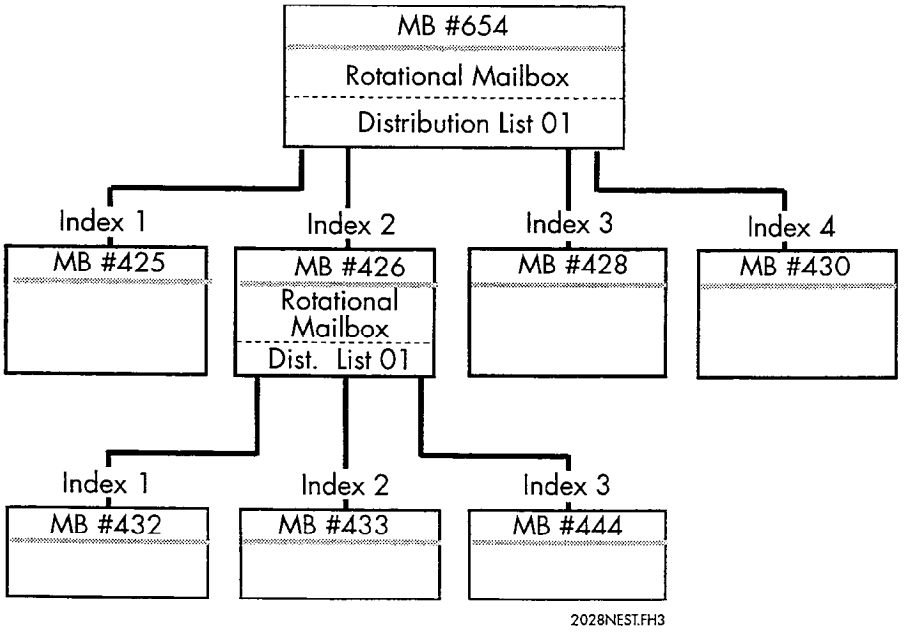


Figure 6-9 Sample Nested Rotational Mailboxes

Rotational Mailbox Diagram

Before configuring a rotational mailbox, complete a Mailbox Worksheet and a Rotational Mailbox Diagram. Each diagram entry is explained in the following paragraphs. Pre-programmed (default) values for entries are given, where applicable. If you want to use a default value, indicate that fact on the diagram. Then you will not need to select or enter any information for that parameter during reconfiguration. Figure 6-10 shows a sample Rotational Mailbox diagram. Blank worksheets and diagrams are supplied behind the "Worksheets" tab.

Mailbox No. Enter the number of the rotational mailbox in the topmost box on the worksheet. Enter the numbers of all mailboxes that are members of the rotational mailbox's distribution list 01 (child mailboxes) in the remaining boxes. For every mailbox number you identify in the Rotational Mailbox Diagram, you should complete a corresponding Mailbox Worksheet (as described later in this chapter under "Mailbox Worksheets").

FCOS The FCOS assigned to a child mailbox determines its relationship to the rotational mailbox and also determines how it is used. For example, FCOS 17 or a customized equivalent enables a rotational mailbox; FCOS 6 or a customized equivalent enables the mailbox to give the caller information then hang up. Use either one of the defaults described in the Feature Class of Service chapter or a customized FCOS that includes all the applicable feature bits.

Index If you want rotation to start at the first child mailbox in the rotational mailbox's distribution list 01, just enter a check mark; otherwise, enter the index number of the mailbox you want the rotation to start at. Rotation starts with the lowest-numbered index.

Period If you want the rotation to cycle on a time-and-date basis, enter the number of hours in the period. This is the length of time before the server rotates to the next child mailbox. All callers reach the same mailbox in the distribution list during the stated period. (No index is necessary.)

Start date For the period type of rotation, enter the date on which the rotation cycle is to start.

Start time For the period type of rotation, enter the time at which the rotation cycle is to start.

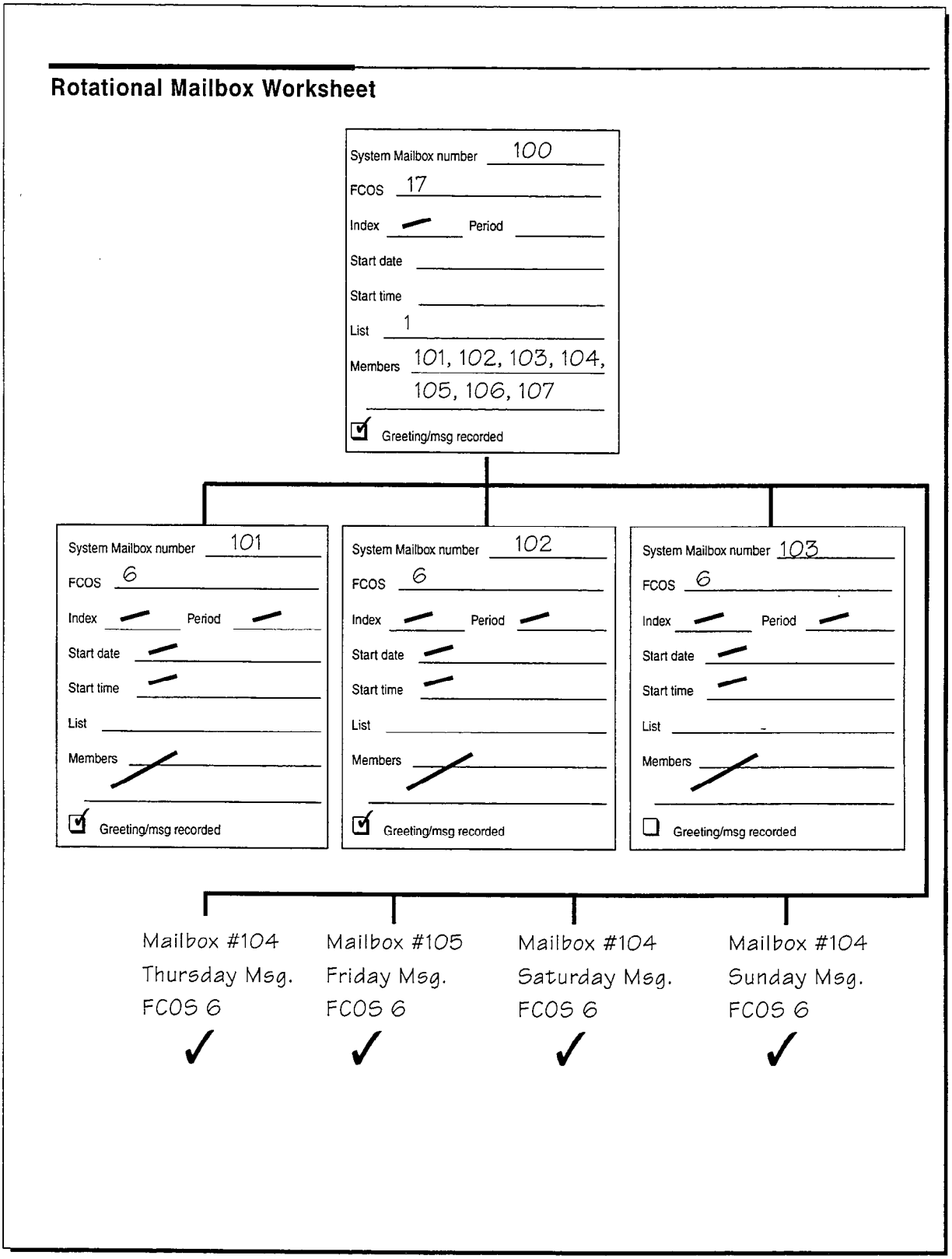


Figure 6-10 Sample Rotational Mailbox Diagram

List A rotational mailbox must have distribution list 01, whose members are the mailboxes that are rotated to. If the list is sorted when it is created, the rotation cycle begins with the lowest-numbered mailbox. If the list is unsorted when it is created, the rotation cycle begins with the first mailbox entered in the list. Distribution lists are allowed in child mailboxes (for example, to create a nested arrangement) but they are not needed for the rotational arrangement to work.

Members Identify all child mailboxes as members of distribution list 01 in the rotational mailbox.

Template (MESA Forms) Mailboxes

MESA Forms is an optional feature, and provides an information template function (voice forms) for a server.

A MESA Forms mailbox plays the greetings stored in its child mailboxes, sequentially, and records a message after each greeting. A typical application must have a rotational mailbox, with several child MESA Forms mailboxes, all pointing to the same list of Greeting-Only mailboxes.

Tree Mailboxes

A tree mailbox provides a call routing capability. It plays a greeting then prompts the caller to enter a single digit to obtain more information. After entering the desired digit, the caller is routed to a child mailbox. A tree mailbox is sometimes called a "bulletin board" mailbox.

A mailbox owner can set up a tree mailbox by creating distribution list 01, then adding the numbers of the child mailboxes into this list. The lowest-numbered mailbox number can be reached by pressing 1 after the greeting, the next lowest-numbered mailbox number can be reached by pressing 2, etc. Up to 190 child mailboxes can be added. A greeting that directs a caller to enter an appropriate number must be recorded.

As an example of a tree mailbox, suppose that a major hotel chain wants to route callers to a particular reservations desk. The tree mailbox greeting could be: "Welcome to Globe Hotels' world-wide reservation service. Press 1 for hotels in Canada and the US; press 2 for hotels in Mexico and South America; press 3 for hotels in Europe." Figure 6-11 illustrates this arrangement.

To implement this arrangement, you would first plan for two series of numbers to be processed in the same order:

- The mailbox numbers for the three reservations desks
- The single-digit numbers callers press on the key pad to reach these mailboxes

The chart below gives an example.

Department	Mailbox #	Digit callers press to reach mailbox
Canada/US.	104	1
Mexico/S. America	106	2
Europe	107	3

Second, you would assign the Tree FCOS to a standard mailbox that acts as the tree mailbox. You would then create standard mailboxes for each reservation desk to act as child mailboxes. Next, you would add the child mailbox numbers to distribution list 01 of the tree mailbox. Finally, you would record a greeting, similar to the one mentioned earlier, for the tree mailbox.

Types of Child Mailboxes

Child mailboxes in the distribution list of a tree mailbox can themselves be trees or any other types of mailboxes. For example, by assigning an FCOS such as Unlimited or Restricted to a child mailbox, callers can leave messages.

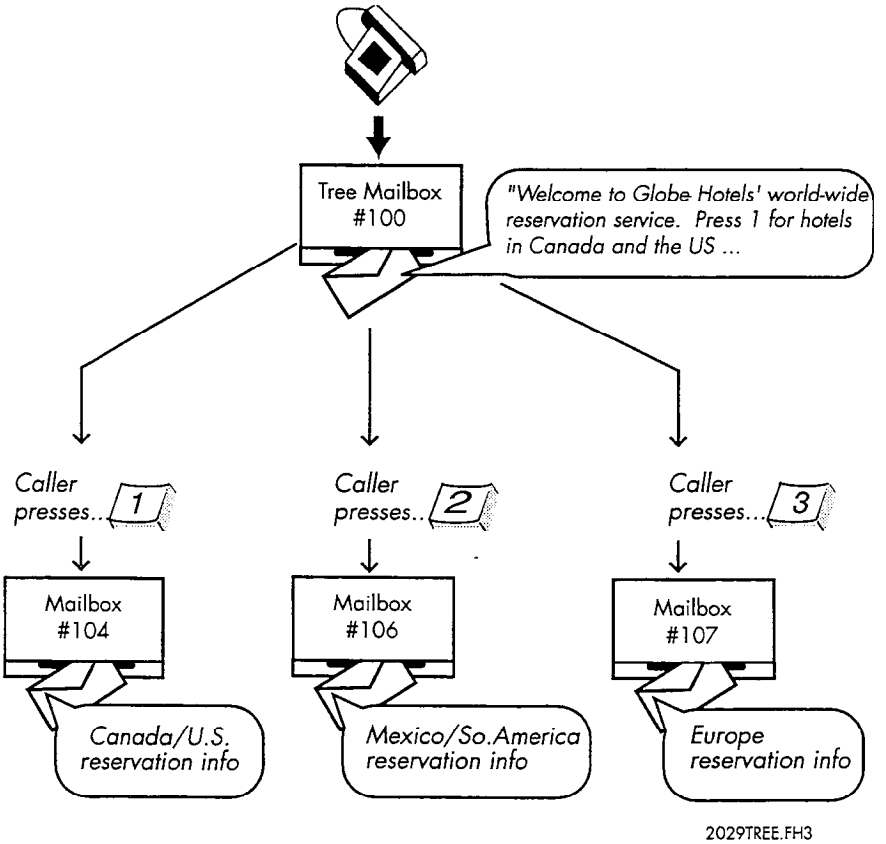


Figure 6-11 Sample Tree Mailbox Arrangement

Server Assigns Caller Input Digits

The server assigns the digits 1, 2, and 3 to the mailboxes in distribution list 01: digit 1 to the first mailbox in the list, digit 2 to the second mailbox in the list, and so on. If the list is sorted, digit 1 is assigned to the lowest numbered mailbox, digit 2 to the next lowest numbered mailbox , and so on. If you assign additional mailboxes to the list, then you should change the tree mailbox's greeting to reflect the new choices available. For sorted distribution lists, if you delete a mailbox from the list, or if new numbers are assigned to mailboxes, you must change the greeting to reflect the new order. These changes would not affect unsorted distribution lists.

More Than Nine Child Mailboxes

If you have more than nine child mailboxes, the server pauses briefly after single-digit entries to allow for more digits. To speed up processing, the greeting should tell users they can enter **2#** instead of **2** for the second branch.

Routing of Calls

If callers do not enter a digit after listening to the greeting in a tree mailbox, they are routed to the attendant's mailbox. If feature bit 120 (Default to first child mailbox of tree mailbox) is included in the FCOS, callers are routed to the first mailbox in the list. The server then processes the call according to the FCOS assigned to the first child mailbox. Feature bit 186 (Default to last child mailbox of tree mailbox) works similarly, defaulting to the last mailbox in the list.

Shared Extension Mailbox

To configure a tree mailbox where several people share one telephone extension, you can use the suggested additional FCOS for Shared Extension Mailbox (see "Suggested Additional FCOSs" in the Feature Class of Service chapter.)

The shared extension mailbox must contain distribution list 01 with all child mailboxes as members. You can record a greeting for the mailbox; the server automatically prompts the user with the child mailboxes' names.

Each child mailbox must have an FCOS that contains feature bit 134 (Broadcast message waiting only), and distribution list 01 with the parent mailbox as the only member. Each child mailbox can have a name recorded so the shared extension mailbox plays its greeting with user names. If you don't record a name, the mailbox number is played instead.

Here is an example of what a caller would hear: "You have reached Ivy Dormitory, room 18" (a custom greeting). Then follows a standard greeting: "To leave a message for Cindy Jones, press 1. To leave a message for Laura Smith, press 2." If a user does not record a name, the prompt would be: "To leave a message for mailbox 203, press 3."

A user of a shared extension mailbox would be prompted to enter the same digits when logging in, for example, "Hello Ivy Dormitory, room 18. To retrieve messages for Cindy Jones press 1, to retrieve messages for Laura Smith, press 2." Then the user would be prompted with a name confirmation, and asked for the child mailbox's passcode.

If a user moves to another room or telephone station, you can transfer the child mailbox to another shared mailbox extension without losing any messages. To do this, you would remove the child mailbox from distribution list 01, and add it to another shared mailbox extension's distribution list. Then you would change the child mailbox's distribution list to point to the new parent mailbox. All settings for the child mailbox, such as messages, greetings, name, etc. will remain intact.

Receptionist II Considerations

Feature bit 121 (Define tree mailbox) lets a child mailbox also be a tree mailbox. Feature bit 141 (Define chain mailbox in Receptionist II) allows a child mailbox to act as a chain mailbox. In addition, with these feature bits included in the mailbox's FCOS, Receptionist II can route a call from a chain mailbox to a tree mailbox and vice-versa.

Callers can bypass the single-digit tree options if they want to enter an extension number instead. In the greeting of the tree mailbox, tell callers they can press # to bypass the single-digit tree options. Be sure to tell callers that they can press # only while the greeting is playing; at any other time during the call, if callers press #, they will be disconnected. The greeting should also state that callers can reach an attendant by pressing 0.

Tree Mailbox Diagram

Before configuring a tree mailbox, complete a Mailbox Worksheet and a Tree Mailbox Diagram. Each diagram entry is explained in the following paragraphs. Pre-programmed (default) values for entries are given, where applicable. If you want to use a default value, indicate that fact on the diagram. Then you will not need to select or enter any information for that parameter during reconfiguration. Figure 6-12 shows a sample Tree Mailbox diagram. A blank Mailbox Group Worksheet is supplied behind the "Worksheets" tab.

Mailbox No. Enter the number of the tree mailbox in the topmost box on the worksheet. Enter the number of all mailboxes that are members of the tree mailbox's distribution list 01 (child mailboxes) in the remaining boxes. For every mailbox number identified in the Tree Mailbox Diagram, there should be a corresponding Mailbox Worksheet completed (see "Mailbox Worksheets" later in this chapter).

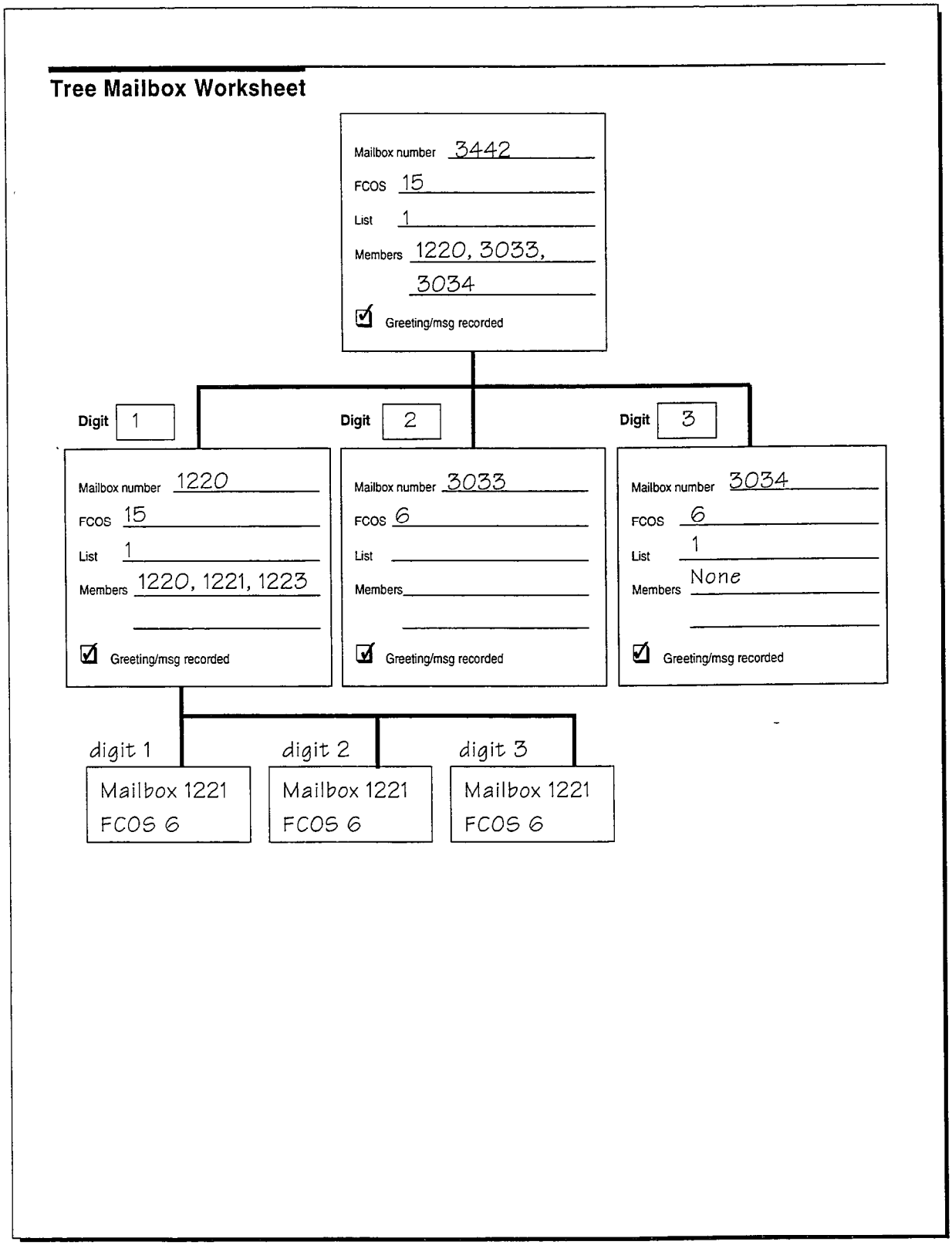


Figure 6-12 Sample Tree Mailbox Diagram

FCOS The FCOS assigned to a child mailbox determines its relationship to the tree mailbox and also determines how it is used. For example, FCOS 15 (Tree)or a customized equivalent enables a tree mailbox; FCOS 17 (Rotational Mailboxes)or a customized equivalent enables branching to another mailbox; FCOS 6 (Greeting Only) or a customized equivalent enables the mailbox to give the caller information then hang up; FCOS 1 (Unlimited)allows the mailbox to play a greeting then allows a caller to leave a message. Use either one of the defaults described in the Feature Class of Service chapter or a customized FCOS that includes all the applicable feature bits.

List A tree mailbox must have distribution list 01, whose members are the mailboxes that are branched to when a caller presses the associated digit.

Members Identify all child mailboxes as members of distribution list 01 in the tree mailbox.

Greeting recorded You must record a greeting in the tree mailbox, to tell callers which digit to press for the desired mailbox. You should also record appropriate greetings or messages in the child mailboxes.

Billing Outdials to an Account or Long Distance Carrier

You can configure a mailbox so that outdials from that mailbox are charged to the individual mailbox owner or to another billing account that you specify. This billing account can be a telephone credit card, a service bureau account, or any other billing account. You can also specify a carrier for long distance outdials made from a mailbox. For more information on billing features, see the Billing chapter.

Applicable Outdial Types

Outdial billing to an account or long distance carrier applies to:

- Pages
- Message Delivery
- Call placement
- FaxMemo
- Auto Wakeup
- Any other type of outdial

Any combination of these outdials can be billed or unbilled, depending on how you set the following parameters in a mailbox configuration:

- Billed outdial index
- Internal outdial index
- Unbilled outdial index
- Access type

For example, you can have call placement outdials, but not internal FaxMemo deliveries or paging calls, billed to the originating mailboxes' accounts

Configuration Summary

Configuring this feature involves:

1. Configuring the access code that the outdial index represents in the Pager application
2. Establishing a minimum billed number length in the LCOS assigned to the originating mailbox
3. Setting these outdial billing parameters in the configuration of the originating mailbox:
   - Internal outdial index
   - Billed outdial index
   - Unbilled outdial index
   - Billing number
   - Billing dialing order

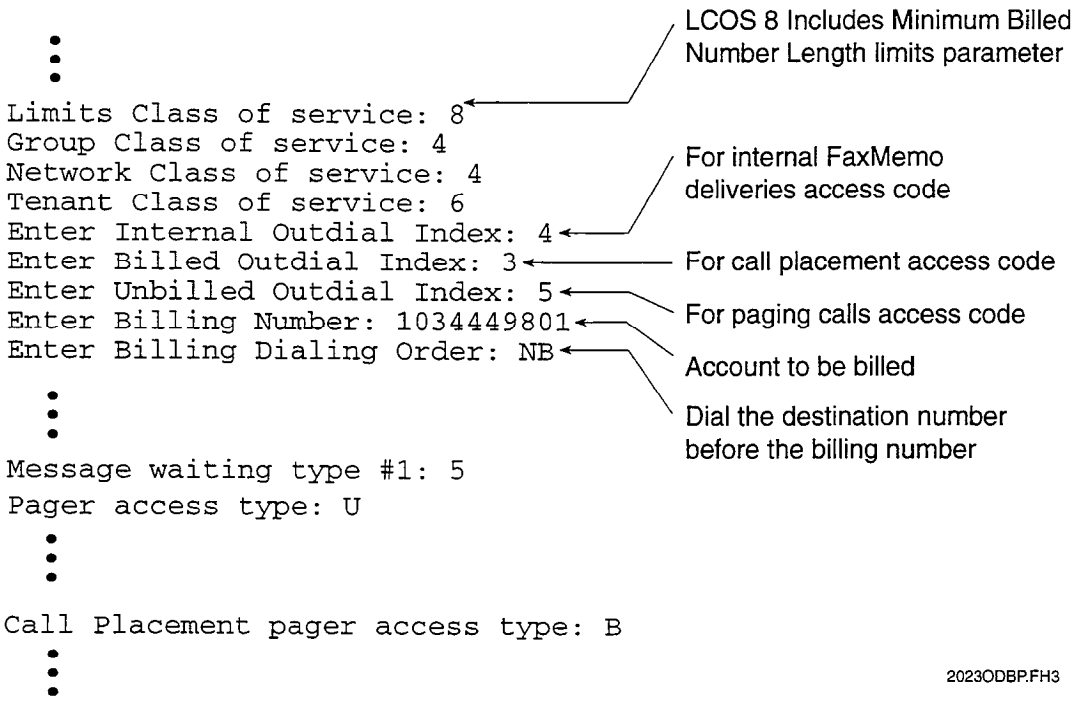
Example

Building on the example mentioned earlier, suppose you want call placement outdials carried by common carriers and billed to the mailbox owner's common carrier calling card. You also want to allow unbilled FaxMemo deliveries and unbilled paging calls. The mailbox owner's billing number is 103-444-9801. To do this, you:

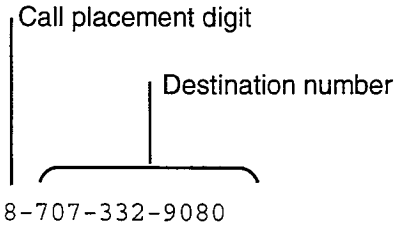
1. Configure indexes and access codes such as

Index	*Access code (Dial String)*	*Outdial type (Outdial System Name)*
3	`T+9+T+103330+G`	`Call place/Sprint`
4	`T`	`Internal`
5	`T9T`	`Paging`

2. Set the appropriate mailbox configuration parameters as shown in Figure 6-13.



The mailbox owner would dial a number such as:



The system dial number thus:

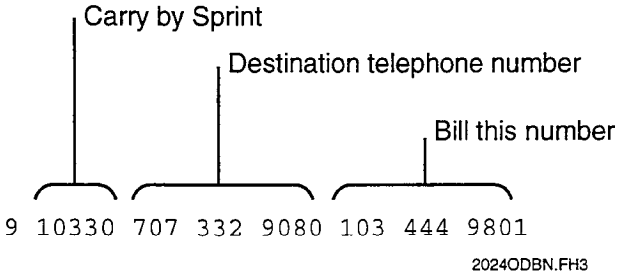


Figure 6-13 Outdial Billing Configuration

Mailboxes Task List

VoiceMemo Release 6.0A and later

Task *Procedure*

Distribution Lists

Distribution Lists Configuration ..... CP 3315
Allow Broadcasting to a Broadcast Mailbox ..... CP 3316
Configure a Mailbox for Distribution Lists ..... CP 5037
Configure for Name and Greeting Broadcast ..... CP 3318
Create a Master Distribution List ..... CP 3302
Create or Modify a List for Mailbox Owners ..... CP 5025
Delete a Distribution List ..... CP 5026
Delete a Member from All Distribution Lists ..... CP 5027
Nest a Distribution List or Prevent Nesting ..... CP 3319
View All Lists Containing a Specified Member ..... CP 5028
View Members of a Single List ..... CP 5029

Greetings and Prompts

Allow a Transfer Automatically After a Greeting ..... CP 5049
Configure for Name and Greeting Broadcast ..... CP 3318
Configure for a Receipt Notice or Receipt Summary ..... CP 3322
Copy a Mailbox Greeting ..... CP 5051
Enable an Alternate Company Greeting ..... CP 5042
Enable or Disable a Message of the Day ..... CP 3307
Enable or Disable Tutorials ..... CP 3308
Record an Alternate Company Greeting ..... CP 5041
Record Company Greetings ..... CP 5043
Schedule Company Greetings ..... CP 5024
Set Languages for Prompts ..... CP 3312
Test Conditional Greetings ..... CP 6047

Mailboxes

Mailboxes Configuration ..... CP 3310
Configure a Broadcast Mailbox ..... CP 3326
Configure a Chain Mailbox ..... CP 3292
Configure a Rotational Mailbox ..... CP 3313
Configure a Standard Mailbox ..... CP 3305
..... CP 3328

Mailboxes Task List

VoiceMemo Release 6.0A and later

Task	*Procedure*
Configure a Tree Mailbox	CP 3311
Configure an Overflow Mailbox	CP 3329
Define an Administrator's Mailbox	CP 3303
Define an Attendant's Mailbox	CP 3304
Delete a Mailbox	CP 5046
Inquire About Mailboxes	CP 5045
Modify a Mailbox Configuration	CP 5047
Search for Mailboxes	CP 5005
Set the Passcode, Passcode Count and Tutorial Setting for a Mailbox	CP 5048
Test Mailbox Capabilities	CP 3360
Test Message Waiting Indication	CP 3359

Distribution List Configuration

VoiceMemo Release 6.0A and later

This procedure summarizes the steps for allowing distribution lists as a user option, and for configuring the available types and functions of distribution lists in a server.

Step	*Reference*
1. Customize an FCOS to include some or all of the following feature bits, as applicable: 20 (make messages) 24 (give messages) 32 (make to user distribution list) 33 (give to user distribution list) 34 (make to master distribution list) 35 (give to master distribution list) 36 (auto-receipt for user dist list msgs) 40 (receive messages from other users) 44 (receive user dist list messages) 45 (receive master dist list messages) 70 (User Options Menu) 74 (create or modify user distribution list) **Note:** Feature bit 74 alone does not allow all distribution lists to be modified; you must also allow change rights in the mailbox configuration.	
• Either add the bit to an existing FCOS, *or* • Copy an FCOS and edit it as necessary.	CP 5011, Ch. 1 or CP 5007, Ch. 1
2. Customize an LCOS to include the desired limits parameters listed in Table 1.	CP 5017, Ch. 8
3. Customize a GCOS to include a group shared by all members of the same distribution list.	CP 5030, Ch. 8
4. Configure the desired mailboxes, entering the correct FCOS, LCOS, GCOS and allow parameters to allow review and change rights for distribution lists.. Once mailboxes have been appropriately configured, distribution lists – including master distribution lists – can be created and maintained from the mailboxes. In addition, you can create distribution lists for mailbox owners – and master distribution lists – from the List Maintenance Menu.	CP 5037

Step *Reference*

Table 1 Menus for Limits Parameters

Parameter	Menu
Max Number of Distribution Lists (from 0 through 99; 0 is the same as 99)	Even More Limits Parameter Menu
Max Members Per Distribution List (from 0 through 65535; 0 is the same as 65535)	Even More Limits Parameter Menu
Max Recipients Count (from 0 through 65535; 0 is the same as 65535)	Even More Limits Parameter Menu
Min Number of Recipients for Receipt Summary (from 0 through 65535; 0 is the same as 65535)	Even More Limits Parameter Menu
Other limits parameters as desired	Limits Parameters Menu, More Limits Parameters Menu, Off System Message Menu

Allow Broadcasting to a Broadcast Mailbox

This procedure explains how to allow a broadcast mailbox to send a message to another broadcast mailbox, which can rebroadcast the message.

Step	*Reference*
1. Customize an FCOS to include some or all of the following feature bits, as applicable: 174 (define broadcast greeting mailbox) 175 (receive broadcast greeting) 178 (define broadcast name mailbox) 179 (receive broadcast name)	
• Either add the bit to an existing FCOS,	CP 5011, Ch. 1
or	or
• Copy an FCOS and edit it as necessary.	CP 5007, Ch. 1
2. Assign the number 1 to the distribution list in the receiving broadcast mailbox.	
3. Include the receiving broadcast mailbox in Distribution List 1 of the sending broadcast mailbox.	
4. Configure the receiving broadcast mailbox with the applicable FCOS, LCOS, and GCOS the same as for any distribution list message receiving.	CP 3315

Configure a Mailbox for Distribution Lists

VoiceMemo Release 6.0A and later

This procedure summarizes how to configure a mailbox for distribution lists.

Note: This procedure assumes that CP 3315 (Configure Distribution Lists) has been completed.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu.	Menu Map 3

Using the Scrolling Interface

2. Identify the mailbox.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: **Number** of the new mailbox you want to configure for distribution lists.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of the existing mailbox you want to configure for distribution lists. If you want this mailbox to hold master distribution lists, specify the administrator's mailbox number

3. Press **Enter** to reach the Feature Class of Service prompt.
4. Assign the appropriately-customized FCOS to the mailbox.

   Prompt: `(New) Features class of service:`
   Response: **Number** of the FCOS (1-640) that is customized for distribution lists.

5. Press **Enter** to reach the Limits Class of Service prompt.
6. Assign the appropriately customized LCOS to the mailbox.

   Prompt: `(New) Limits class of service:`
   Response: **Number** of the LCOS (1-640) that is customized for distribution lists.

7. Press **Enter** to reach the Group Class of Service prompt.
8. Assign the appropriately-customized GCOS to the mailbox.

   Prompt: `(New) Group class of service`
   Response: **Number** of the GCOS (1-32,000) containing a group that is shared by all members of the same distribution list.

9. Press **Enter** to reach the lists prompt.

Step *Reference*

10. Allow the mailbox owner to have review rights and/or change rights for the mailbox owner's distribution lists. Change rights allow the mailbox owner to change the contents of a list; review rights allow the owner to play the mailbox numbers on the list.

    Note: This mailbox parameter alone does not allow change rights; you must also include feature bit 74 (create or modify user distribution list) in the FCOS.

    Prompt: `Lists with review rights:`
    Response: Any of the following entries:

    A for all distribution lists

    A single **list**, for example, 2

    A series of **lists**, for example, 1,3,4,6,

    A **range of lists**, for example, 1-6

    A combination of any of the above entries; for example,

    1-5,8,12,50-70,90

    Prompt: `Lists with change rights:`
    Response: Same as just described for review rights.

11. After the last entry, the server displays the mailbox configuration, then prompts for the next mailbox number.

    At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

Using the Full-Screen Interface

2. Identify the mailbox.

    Select: (C) Create/Modify/Delete Mailboxes
    Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

3. Move the cursor, using the arrow keys, the **Tab** key, or **Enter**, to reach the parameters you want to change.

4. Assign the appropriately customized LCOS to the mailbox.

    Prompt: `Limits:`
    Response: **Number** of the LCOS (1-640) that is customized for distribution lists.

Step	*Reference*

5. Assign the appropriately-customized FCOS to the mailbox.

   Prompt: `Features:`
   Response: **Number** of the FCOS (1-640) that is customized for distribution lists.

   You can press the **Home** key to see a list of defined FCOSs. Then press any key to return to the FCOS prompt.

6. Assign the appropriately-customized GCOS to the mailbox.

   Prompt: `Group:`
   Response: **Number** of the GCOS (1-32,000) containing a group that is shared by all members of the same distribution list.

7. Allow the mailbox owner to have review rights or change rights, or both, for the mailbox owner's distribution lists. Change rights allow the mailbox owner to change the contents of a list; review rights allow the owner to play the mailbox numbers on the list.

   Note: This mailbox parameter alone does not allow change rights; you must also include feature bit 74 (create or modify user distribution list) in the FCOS.

   Prompt: `List rights: Review:`
   Response: Press the **End** key to edit the Review List Rights table. Using the arrow keys, move the cursor to the fields corresponding to the lists you want to change rights for. Enter **0** to deny review rights and **1** to allow review rights for each list. The default is 1 (allow review rights) for all lists.

   Press **F10** to save your changes, or **F9** to cancel your changes to the list review rights.

   Prompt: `Change:`
   Response: Press the **End** key to edit the Change List Rights table. Using the arrow keys, move the cursor to the fields corresponding to the lists you want to change rights for. Enter **0** to deny change rights and **1** to allow change rights for each list. The default is 1 (allow change rights) for all lists.

   Press **F10** to save your changes, or **F9** to cancel your changes to the list change rights.

8. After the last entry, the cursor returns to the first entry. You can change any of the parameters until your are satisfied with your entries..

9. Press **F10** to save your changes, or, if you made a mistake, press **F9** to cancel your changes.

Step	*Reference*
10. You can either create or modify another mailbox, or exit. Press **F9** to exit the Mailbox Maintenance entry screen.	

Configure for Name and Greeting Broadcast

This procedure describes how to use a distribution list for broadcasting greetings or names.

Step	*Reference*
The mailbox used for broadcasting greetings or names can be a standard mailbox, broadcast mailbox, or tree mailbox.	
1. Customize an FCOS to include the following feature bits, as applicable: 174 (define broadcast greeting mailbox) in the FCOS assigned to the mailbox that will broadcast greetings. 175 (receive broadcast greeting) in the FCOS assigned to the mailbox that will receive broadcasted greetings. 178 (define broadcast name mailbox) in the FCOS assigned to the mailbox that will broadcast names. 179 (receive broadcast name) in the FCOS assigned to the mailbox that will receive broadcasted names.	
• Either add the bit to an existing FCOS,	CP 5011, Ch. 1
or	or
• Copy an FCOS and edit it as necessary.	CP 5007, Ch. 1
2. Create a Distribution List 1 and 9 to contain the greeting or name broadcast list.	CP 5025
To broadcast messages and greetings to the same list of recipients, make Distribution List 1 for broadcasting messages and keep Distribution List 9 for broadcasting greetings and names. Make Distribution Lists 1 and 9 identical in content.	

Create a Master Distribution List

VoiceMemo Release 6.0A and later

This procedure describes how to create a master distribution list at a server maintenance console or by phone. A master distribution list is created the same way as a mailbox users distribution list. By making the list in the administrator's mailbox, the list is then a master distribution list available for all mailboxes to use.

Step	*Reference*
At a Server Maintenance Console	
1. Make sure the administrator's mailbox is appropriately configured for distribution lists.	
• Check the FCOS assigned to the administrator's mailbox.	CP 5045
• Make sure the FCOS supports distribution lists.	CP 5006, Ch. 7
2. Reach the Mailbox Maintenance Menu, then go to the List Maintenance Menu.	Menu Map 3
3. Modify the distribution list in the administrator's mailbox. All of the following are valid members:	CP 5025
• Mailbox number	
• M and a remote mailbox with a telephone number for AMIS Analog; the remote mailbox and telephone number are separated by a comma (for example, M3788,4283788)	
• N and a remote mailbox for networking	
• P and a remote mailbox with a network prefix for networking	
• T and a telephone number for call placement	
• D and a mailbox owner distribution list number, except in a broadcast mailbox	
• S and a master distribution list number, except in a broadcast mailbox	
By Phone	
1. Make sure the administrator's mailbox is appropriately configured for distribution lists.	
• Check the FCOS assigned to the administrator's mailbox.	CP 5045
• Make sure the FCOS supports distribution lists.	CP 5006, Ch. 7
2. Enter the server's extension number.	

Step	*Reference*

3. Log into the administrator's mailbox:

   Note: The following steps are typical. Logging into the administrator's mailbox could differ at your installation, depending on integrations and other optional features that are installed.

   a. Press (*) and enter the administrator's mailbox number.

   b. Enter the administrator's passcode.

   c. Press (TUV 8) for User Options.

   d. Press (JKL 5) to create or modify a list.

   e. Enter the list number preceded by a 0 (zero); valid list numbers are 1 to 99, entered as "01" through "099."

   f. Press (MNO 6) to name the list.
      - Record a list name.
      - Press (WXY 9) to save the name.

   g. Press (ABC 2) to add a name to the list. Enter the number of the mailbox that you wish to add.
      - The server confirms the entry: "<user's name> added."

   h. Repeat step g for each mailbox to be added.

   i. Press (WXY 9) to save your entries and exit to the Main Menu.

Create or Modify a List for Mailbox Owners

VoiceMemo Release 6.0A and later

This procedure shows how to add members or delete members in a single distribution list, or a master distribution list.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu, then go to the List Maintenance Menu.	Menu Map 3

2. Identify the distribution list.

   Select: (C) Create, Modify, or Show Distribution Lists
   Prompt: `Mailbox:`
   Response: **Number** of the mailbox that contains the list you want to add to or delete from.

   To modify a master distribution list, enter the administrator's mailbox.

   Prompt: `Distribution list:`
   Response: **Number** of the list you want to add to or delete from (1-99). For mailboxes that rotate on full, tree mailboxes, MESA Form mailboxes, and broadcast mailboxes, specify 1. For a name greet mailbox, specify 9.

   Prompt: `(S)orted or (U)nsorted list ?`
   Response: **U** if the list is in a tree mailbox,

   or

   S for all other types of mailboxes. Keep in mind that sorting of lists longer than 190 members can be slow.

3. If desired, check the list to make sure the member is or is not already in the list.

   Prompt: `Check for duplicate before add (y/n) [Y]?`
   Response: **Y** if you want the server to check the list, *or*
   N to bypass the check.

Step	*Reference*

4. Add or delete the desired member.

   Prompt: `(A)dd, (D)elete, or (S)how list ?`
   Response: **A** to add a member,

   or

   D to delete a member.

   Prompt: `Member:`
   Response: The **member** you want to add or delete. All of the following are valid members:

   Mailbox number

   M and a remote mailbox with a telephone number for AMIS Analog; the remote mailbox and telephone number are separated by a comma (for example, M3788,4283788).

   N and a remote mailbox for networking

   T and a telephone number for off-server messaging

   D and a distribution list number, except in a broadcast mailbox

   S and a master distribution list number, except in a broadcast mailbox

   - Mailbox numbers can be entered in any of the formats shown below; the other numbers must be entered one at a time:

     A single mailbox number, for example, 3788
     A continuous range of mailbox numbers, for example, 3001-3788
     A series of mailbox numbers, for example, 3781,3782,3786,3788

   - You can mix formats of mailbox number entries, so you can specify all the mailbox numbers necessary in one attempt. For example, this entry is valid:

     208,222-308,333,334,661

Step	*Reference*

5. After the server confirms that the member just specified was added or deleted, continue adding or deleting or complete the activity.

   Prompt: `(A)dd, (D)elete, or (S)how list ?`

   Response:
   - To add or delete more members from the current list, enter **A** or **D** as described in step 4.
   - To complete adding or deleting members:
     a. Press **Enter**.
     b. When the server asks if you want to save changes to the distribution list, press **Y**. The server reports the current members, reflecting members just added or deleted, and your additions and deletions are saved.

Delete a Distribution List

VoiceMemo Release 6.0A and later

This procedure explains how to delete distribution lists from a mailbox.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu, then go to the List Maintenance Menu *Select:* (D) Delete Distribution Lists *Prompt:* `Mailbox for distribution list to delete:` *Response:* **Number** of the mailbox containing the distribution list you want to delete. *Prompt:* `List to delete:` *Response:* **Number** of the list (1-99) you want to delete from this mailbox.	Menu Map 3
2. The server shows the current members in the list. *Prompt:* `Delete (y/n):` *Response:* **Y** for yes.	
3. The server confirms that the list just specified was deleted. *Prompt:* `Mailbox for distribution list to delete:` *Response:* Enter the same mailbox **number** as in step 1 if you want to delete more distribution lists from it; otherwise, enter the **number** of another mailbox that has distribution lists you want to delete. When you have completed deleting distribution lists, just press **Enter**. This takes you back to the List Maintenance Menu.	

Delete a Member from All Distribution Lists

VoiceMemo Release 6.0A and later

This procedure shows how to delete a member from all distribution lists in the server.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu, then go to the List Maintenance Menu.	Menu Map 3
2. Identify the mailbox to delete from the distribution lists. *Select:* (F) Find and/or Delete Mailboxes From All Lists *Prompt:* `Mailbox to search for:` *Response:* **Number** of a mailbox to be deleted from all distribution lists. *Prompt:* `Enter another mailbox or <CR>:` *Response:* Another mailbox **number** of a mailbox to be deleted from all distribution lists, *or* Press **Enter** if done entering mailbox numbers. *Prompt:* `Delete from lists?` *Response:* **Y** to remove mailbox(es) from all distribution lists in the server.	
3. The server responds with a message telling you which lists the member was deleted from. *Prompt:* `Mailbox to search for:` *Response:* Another mailbox **number** (member) to delete, or just press **Enter** to go back to the List Maintenance Menu.	

Test Conditional Greetings

VoiceMemo Release 6.0A and later

This procedure describes the nesting of a distribution list within a distribution list. It also describes how to prevent mailbox owners from nesting distribution lists.

Step	*Reference*
Nesting a Distribution List	
To nest a list: 1. Specify it as a member of the list being created or modified. 2. Make sure the number of a nested list is different from the number of the distribution list that contains it.	CP 5025
Preventing a Nested Distribution List	
• To prevent nesting, include feature bit 222 (deny nesting of distribution lists) in the FCOS.	CP 5011, Ch. 1

View All Lists Containing a Specified Member

VoiceMemo Release 6.0A and later

This procedure describes how you can find and view all distribution lists containing a specified member.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu, then go to the List Maintenance Menu. *Select:* (F) Find and/or Delete Mailboxes From All Lists *Prompt:* `Mailbox to search for:` *Response:* **Number** of a mailbox (member) that you want to find. *Prompt:* `Enter another mailbox or <CR>:` *Response:* Another mailbox **number** of a mailbox to be found, *or* Press **Enter** if done entering mailbox numbers. *Prompt:* `Delete from lists?` *Response:* **N** for no. The server responds with a message telling you which lists in which mailboxes contain the specified member.	Menu Map 3
2. Continue the viewing or go back to the List Maintenance Menu. *Prompt:* `Mailbox to search for:` *Response:* The next mailbox **number** (member) to find, or just press **Enter** to go back to the List Maintenance Menu.	

View Members of a Single List

VoiceMemo Release 6.0A and later

This procedure describes how to view the members of a distribution list.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu, then go to the List Maintenance Menu. *Select:* (C) Create, Modify, or Show Distribution Lists *Prompt:* `Mailbox:` *Response:* **Number** of the mailbox that contains the list you want to view. *Prompt:* `Distribution list:` *Response:* **Number** of the list you want to view. *Prompt:* `(S)orted or (U)nsorted list ?` *Response:* **U** if the list is in a tree mailbox, *or* **S** for all other types of mailboxes. Keep in mind that sorting of lists longer than 190 members can be slow. *Prompt:* `Check for duplicate before add (y/n)?` *Response:* **N** to bypass the check. *Prompt:* `(A)dd, (D)elete, or (S)how list ?` *Response:* **S** to show the list. The server lists the current members and their names.	Menu Map 3
2. Continue the viewing or go back to the List Maintenance Menu. *Prompt:* `Mailbox:` *Response:* The next mailbox **number** containing a distribution list you want to view, or just press **Enter** to go back to the List Maintenance Menu.	

Allow a Transfer Automatically After a Greeting

VoiceMemo Release 6.0A and later

This procedure describes how to allow a caller to be transferred automatically to an attendant or a mailbox extension after playing a greeting.

Step	*Reference*

Transfer to an Attendant

1. Ensure that the mailbox from which a caller is transferred contains the desired greeting.
2. Specify an attendant extension in the mailbox.

   Prompt: `Attendant extension number:`

   Response: The **number** of the attendant's extension that the caller is automatically transferred to after playing the greeting.

   Note: If you are using the full-screen interface, the above prompt would be "Atten DN:"
3. Assign an FCOS to the mailbox that transfers a caller to an attendant after the greeting plays.

   Prompt: `Features class of service:`

   Response: The **number** of an FCOS that includes feature bit 063 (Call mailbox attendant after greeting). Ensure that this FCOS does *not* include bit 062 (Hang up immediately after greeting).

   Note: If you are using the full-screen interface, the above prompt would be "Features:"

Transfer to a Mailbox Extension

1. Ensure that the mailbox from which a caller is transferred contains the desired greeting.
2. Specify an extension for the mailbox.

   Prompt: `Mailbox's extension number:`

   Response: The **number** of the mailbox's extension that the caller is automatically transferred to after playing the greeting.

   Note: If you are using the full-screen interface, the above prompt would be "Extension:"

Step	*Reference*

3. Assign an FCOS to this mailbox that transfers a caller to the mailbox's extension after the greeting plays.

   Prompt: `Features class of service:`

   Response: The **number** of an FCOS that includes feature bit 064 (Call mailbox user extension after greeting). Ensure that this FCOS does not include bit 062 (Hang up immediately after greeting).

   Note: If you are using the full-screen interface, the above prompt would be "Features:"

Configure for a Receipt Notice or Receipt Summary

VoiceMemo Release 6.0A and later

This procedure shows how to delay a requested receipt notice, configure the playing of a receipt summary, and allow a distribution list message to automatically generate a receipt notice.

Step	*Reference*

Delaying a Receipt Notice

Include feature bit 223 (delay requested receipt for 24 hours) in the FCOS to be assigned to the mailbox. When this bit is in the FCOS, the mailbox owner will not hear any requested receipts until 24 hours later.

- Either add the bit to an existing FCOS, *or* — CP 5011, Ch. 1
- Copy an FCOS and edit it as necessary. — CP 5007, Ch. 1

Allowing an Automatically-Generated Receipt Notice

1. Include the following feature bits in the FCOS to be assigned to the sending mailboxes.

   36 (auto-receipt for user dist list msgs)

   20 (make messages)

   Either 32 (make to user distribution list) *or* 33 (give to user distribution list)

   - Either add the bit to an existing FCOS, *or* — CP 5011, Ch. 1
   - Copy an FCOS and edit it as necessary. — CP 5007, Ch. 1

2. Include feature bit 44 (receive user dist list messages) in the FCOS to be assigned to the *receiving* mailboxes.

   - Either add the bit to an existing FCOS, *or* — CP 5011, Ch. 1
   - Copy an FCOS and edit it as necessary. — CP 5007, Ch. 1

When bit 36 is in the FCOS, the server automatically generates a receipt notice for a message sent to a distribution list. When mailbox owners log into their mailboxes, the receipt announces:

"The following users have not played your message." (list of mailbox names)

"The following users have played your message." (list of mailbox names, each followed by the time the user played the message, such as "Joe Snow, 3:42 p.m.")

Each time mailbox owners log in, they hear the updated receipt notice. Receipts are updated until mailbox owners discard them.

Step	*Reference*
Configuring for a Receipt Summary	
1. Set the Min Number of Recipients for Receipt Summary parameter in the LCOS, to a number from 1 through 65,535. Specify 0 to disable the playing of a receipt summary.	CP 5017, Ch. 8
2. Assign the LCOS to the mailbox that will receive receipts.	CP 4351, Ch. 8
3. After a distribution list message is made to at least the number of recipients specified, the server plays the following receipt summary, in this order: "n recipients could not receive your message." "n recipients have not played your message." "n recipients have played your message."	

Copy a Mailbox Greeting

VoiceMemo Release 6.0A and later

This procedure describes how to copy a mailbox greeting, name, or fax cover page from one mailbox to another. You must perform this procedure at a server maintenance console, after a greeting has been recorded for the source mailbox.

Step	*Reference*
1. Reach the Main Menu, then go to the Mailbox Maintenance Menu.	Menu Map 3

2. Choose to copy a mailbox greeting.

   Select: (K) Copy/Delete/Enable Mailbox Greetings
   Prompt: `COMMAND (Copy, Delete, or Enable ?):`
   Response: **C** to copy.

3. Identify the source and destination mailboxes.

   Prompt: `Enter mailbox to copy name/greeting from:`
   Response: The mailbox **number** of the source mailbox.

   Prompt: `Enter mailbox to copy name/greeting to:`
   Response: The mailbox **number** of the target mailbox. You can copy the greeting to more than one mailbox by using any of the formats shown below:

   - A single mailbox number, for example 3788
   - A continuous range of mailbox numbers, for example 3001-3788
   - A series of mailbox numbers, for example 3781,3782,3786,3788

   You can mix formats of mailbox number entries, so you can specify all the mailbox numbers necessary in one attempt. For example, this entry is valid:

   208,222-308,333,334,661

Step	*Reference*

4. Identify what is to be copied.

   Prompt:
   ```
   0    Name
   1-4  Greeting 1-4
   5    Fax Cover Sheet

   COMMAND (Enter source name/greeting number (0-5) [1]):
   ```

   Response: For a user's mailbox:
   enter **1** for the Personal greeting.

   For an administrator's mailbox:
   Enter **1** for the Day company greeting,
   Enter **2** for the Night company greeting,
   Enter **4** for the Alternate greeting.

   For an attendant's mailbox:
   Enter **1** for the Message of the Day,
   Enter **2** for the Site tutorial,
   Enter **4** for the Alternate greeting.

   For all mailboxes:
   Enter **0** for the Name,
   Enter **5** for the Fax Cover Sheet.

   Prompt:
   ```
   COMMAND (Enter destination name/greeting
   number (0-5) [1]): 1
   ```

   Response: Enter one of the same values as above.

5. The server confirms that the greeting/name has been copied. You can choose to copy more greetings, or press **Enter** to exit to the Mailbox Maintenance Menu.

Enable an Alternate Company Greeting

VoiceMemo Release 6.0A and later

This procedure describes how to enable an alternate greeting at a server maintenance console or by phone, once an alternate greeting has been recorded. This procedure assumes that you have defined an administrator's mailbox for the line group (CP 3303).

Step	*Reference*

At a Server Maintenance Console

1. Reach the Main Menu, then go to the Mailbox Maintenance Menu. — Menu Map 3

   Select: (K) Copy/Delete/Enable Mailbox Greetings
   Prompt: `COMMAND (Copy, Delete, or Enable ?):`
   Response: **E** for enable.

   Prompt: `Enter mailbox to enable greeting:`
   Response: The administrator's mailbox **number**.

   Prompt: `COMMAND (Enter type of greeting to enable (a/d/p) [p]):`
   Response: **A** for the alternate greeting.

   Prompt: `COMMAND (Copy, Delete, or Enable ?):`
   Response: Press **Enter**.

2. Exit to the Main Menu to make the recorded alternate greeting take effect. The alternate greeting plays instead of the company day greeting and night greeting.

By Phone

1. Dial the server extension number.
2. Log into the administrator's mailbox.
   a. Press (*) then enter the administrator's mailbox number.
   b. Enter the administrator's passcode.
   c. Press (TUV 8) for User Options.
3. Press (GHI 4) for Greetings.

Step	*Reference*

4. Specify an alternate for the company day greeting or night greeting, or both, as follows:
   - For an alternate to the day greeting, press DEF 3 followed by DEF 3.
   - For an alternate to the night greeting, press MNO 6 followed by DEF 3.
   - For an alternate to both greetings, press ABC 2.
5. Press WXY 9 to exit to the Main Menu and make the alternate greeting take effect. The alternate greeting will play instead of the company greeting(s) specified in the preceding step.

Enable or Disable a Message of the Day

VoiceMemo Release 6.0A and later

This procedure describes how to configure a Series 6 server so that a message of the day can be recorded and played, how to record a message of the day, and how to prevent a message of the day from playing. This procedure assumes that you have defined an attendant's mailbox for the line group (CP 3304).

Step | *Reference*

Enabling a Message of the Day

1. Assign an FCOS containing feature bit 43 to each mailbox you want to receive the message of the day. — CP 5003 Ch. 1
2. Record the message of the day in the attendant's mailbox.
   a. Dial the server extension number.
   b. Log into the attendant's mailbox.

      Note: If your server has more than one attendant's mailbox, record the message of the day from the primary attendant's mailbox. (The primary attendant's mailbox is the first mailbox number listed in the configuration report.)

      - Press (*) then enter the attendant's mailbox number.
      - Enter the attendant's passcode.

   c. Press (TUV 8) for User Options.
   d. Press (GHI 4). The server prompts, "Press M to record the message of the day; T to record the site tutorial."
   e. Press (MNO 6) to record the message of the day.
   f. Press (PRS 7) to start recording the message.
   g. After you have recorded the message of the day, press (PRS 7) to review it.
      - To add information to the message, press (ABC 2).
      - To discard the message and record a new one, press (DEF 3).
      - To abandon the task, press (DEF 3) then press (WXY 9) before the recording prompt plays.
   h. When you are satisfied with the Message of the Day that you have recorded, press (WXY 9) to save the recording and return to the Main Menu.

Disabling a Message of the Day

You can disable a message of the day by phone or through the maintenance console.

To disable a message of the day by phone, record a new message then discard it:

1. Dial the server extension number.

Step	*Reference*

2. Log into the Attendant's Mailbox.

   a. Press (*) then enter the attendant's mailbox number.

   b. Enter the attendant's passcode.

3. Press (TUV 8) for User Options.

4. Press (GHI 4). The server prompts, "Press M to record the message of the day; T to record the site tutorial."

5. Press (MNO 6) to record the message of the day.

6. In quick succession, record any words, press (DEF 3), then press (WXY 9). You will hear "Nothing recorded. Message changed." The original message and anything just recorded are deleted.

To disable a message of the day through the server maintenance console:

1. Reach the Mailbox Maintenance Menu. — Menu Map 3

2. Choose the Copy/Delete/Enable Mailbox Greetings option.

   Select: (K) Copy/Delete/Enable Mailbox Greetings
   Prompt: `Report destination (c/s1/s2) [c]:`
   Response: Press **Enter**.

   Prompt: `COMMAND (Copy, Delete, or Enable ?):`
   Response: **D**

3. Identify the attendant's mailbox to delete the message of the day from.

   Prompt: `Enter mailbox to delete name/greeting from:`
   Response: The attendant's mailbox **number**.

4. Specify the message of the day.

   Prompt: `COMMAND (Enter source name/greeting number (0-5):`
   Response: **1**

   The server displays a message confirming that greeting 1 (the message of the day) is deleted from the identified attendant's mailbox.

   Prompt: `COMMAND (Copy, Delete, or Enable ?):`
   Response: Press **Enter**.

5. Exit to the Main Menu.

Enable or Disable Tutorials

VoiceMemo Release 6.0A and later

This procedure covers the standard tutorial (also called user tutorial or new user tutorial) and site tutorial. It describes how to configure a server so that a site tutorial can be recorded and played, and how to record a site tutorial. It also describes how to prevent both types of tutorial from playing. This procedure assumes that you have defined an attendant's mailbox for the line group (CP 3304).

Step	*Reference*

Enable Only the Standard Tutorial

Enable the standard tutorial in the mailbox you want to change. Change only the tutorial setting to **Y**, press **Enter** to skip the other fields. — CP 5048

Note: The standard tutorial is set to play by default when a new mailbox is created. When mailbox owners log in to their mailboxes for the first time, they automatically hear the user tutorial.

Enable All Tutorials

1. Record the site tutorial in the attendant's mailbox. The site tutorial is a form of greeting.
   a. Dial the server extension number.
   b. Log into the attendant's mailbox.

      Note: If your server has more than one attendant's mailbox, record the site tutorial from the primary attendant's mailbox. (The primary attendant's mailbox is the first mailbox number listed in the configuration report.)

      1) Press (*) then enter the attendant's mailbox number.
      2) Enter the attendant's passcode.

   c. Press (TUV 8) for User Options.
   d. Press (GHI 4) for Greetings. The server prompts, "Press M to record the message of the day; T to record the site tutorial."
   e. Press (TUV 8) to record the site tutorial.
   f. After you have recorded the site tutorial, press (PRS 7) to review it.
      - To add information to it, press (ABC 2).
      - To discard it and record a new one, press (DEF 3).
      - To abandon the task, press (DEF 3), then press (WXY 9) before the recording prompt plays.

Step	*Reference*
g. When you are satisfied with the site tutorial that you have recorded, press (WXY 9) to save the recording and return to the main menu.	
2. Turn on the tutorials in the mailbox. Change only the tutorial setting to **Y**, press **Enter** to skip the other fields. The two tutorials will play only when new mailbox owners first log in.	CP 5048
3. To allow mailbox owners to hear the tutorials any time:	
a. Enable the tutorials as described above.	
b. Include feature bits 70 (User Options Menu) and 78 (activate user tutorial) in the FCOS to be assigned to the mailboxes.	
• Either add the bits to an existing FCOS,	CP 5011 Ch. 1
or	or
• Copy an FCOS and edit it as necessary.	CP 5007 Ch. 1
c. Assign the FCOS containing bits 70 and 78 to the desired mailboxes.	CP 5003 Ch. 1
Disable All Tutorials	
Modify the mailbox that you want to turn off the tutorials. Change only the tutorial setting to **N**, press **Enter** to skip the other fields.	CP 5048

Record an Alternate Company Greeting

VoiceMemo Release 6.0A and later

This procedure describes how to record an alternate greeting that, when enabled, plays instead of the company greeting. This procedure assumes that you have defined an administrator's mailbox for the line group (CP 3303).

Step	*Reference*

1. Log into the administrator's mailbox.
   a. Dial the server extension number.
   b. Press (*) then enter the administrator's mailbox number.
   c. Enter the administrator's passcode.
2. Record the alternate greeting.
   a. Press (TUV 8) for User Options.
   b. Press (GHI 4) for Greetings.
      - For an alternate day greeting, press (DEF 3) followed by (PRS 7).
      - For an alternate night greeting, press (MNO 6) followed by (PRS 7).
      - For an alternate to both day and night greetings, press (ABC 2) then (PRS 7).
3. After you have recorded the greeting, press (PRS 7) to review it.
   - To add information to it, press (ABC 2).
   - To discard it and record a new one, press (DEF 3).
   - To abandon the task, press (DEF 3) then press (WXY 9) before the recording prompt plays.
4. When you are satisfied with the greeting that you have recorded, press (WXY 9) to save the recording and return to the Main Menu.
5. If you have administrator's mailboxes defined for other line groups and you want an alternate greeting to play in those line groups:
   a. Log into the administrator's mailbox for the next desired line group.
   b. Record the alternate greeting for that administrator's mailbox.

Record Company Greetings

VoiceMemo Release 6.0A and later

This procedure describes how to record a company day greeting and night greeting. This procedure assumes that you have defined an administrator's mailbox for the line group (CP 3303).

Step	*Reference*

1. Log into the administrator's mailbox.
   a. Enter the server extension number.
   b. Press (*) then enter the administrator's mailbox number.
   c. Enter the administrator's passcode.
2. Record the company greeting.
   a. Press (TUV 8) for User Options.
   b. Press (GHI 4) for Greetings. The server prompts, "Press D to record the day greeting; N to record the night greeting."
   c. Press (DEF 3) or (MNO 6), then record the appropriate greeting.
   d. After you have recorded the greeting, press (PRS 7) to review it.
      - To add information to it, press (ABC 2).
      - To discard it and record a new one, press (DEF 3).
      - To abandon the task, press (DEF 3) then press (WXY 9) before the recording prompt plays.
   e. When you are satisfied with the greeting that you have recorded, press (WXY 9) to save the recording and return to the Main Menu.
3. To record a company greeting for the other period, repeat the process just described in step 2.

   If only a day greeting or a night greeting is recorded, the following prompt plays during the period for which no greeting was recorded:

   "Welcome to the message center. Please enter a mailbox number or wait."
4. If you have administrator's mailboxes defined for other line groups and you want a company greeting to play in those line groups:
   a. Log into the administrator's mailbox for the next desired line group.
   b. Record the company greeting for the other period.

Schedule Company Greetings

VoiceMemo Release 6.0A and later

This procedure describes how to designate when a company day greeting plays and when a company night greeting plays.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
3. Specify the line group to which this function applies. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
4. Reach the VoiceMemo Application Menu, then go to the Day/Night Menu.	Menu Map 2
5. Designate the work day. *Select:* (S) Start Time of the Workday *Prompt:* `Start time of the workday (hh:mm [am/pm])` *Response:* The **time** a workday starts, which will be the time when the company day greeting begins to play. Enter the time in the format indicated by the prompt; for example, 8:30am. If you do not specify "a.m." or "p.m.," the server assumes that the time is "a.m." *Select:* (E) End Time of the Workday *Prompt:* `End time of the workday (hh:mm [am/pm])` *Response:* The **time** a workday ends, which will be the time when the company night (off hours; after hours) greeting begins to play. Enter the time in the format indicated by the prompt; for example, 5:30pm. If you do not specify "a.m." or "p.m.," the server assumes that the time is "p.m."	

Note: To have the same greeting play all the time, specify 12:00pm as both the start and end times of the workday.

Step	*Reference*

6. Designate the work week.

   Select: (W) Weekend Days
   Prompt: `Workdays (Monday thru Sunday) [DN]`
   Response: **N** or **D** in each of seven positions. **N** designates weekend days; **D** designates work days. For example, a work week of Monday through Friday, which is the default, is designated by DDDDDNN.

   The company day greeting does not play on weekend days.

7. Save your entries by exiting to the Main Menu.

Set Languages for Prompts

VoiceMemo Release 6.0A and later

This procedure describes how to set a default language other than English, and additional languages for server prompts.

All languages other than English are optional features. If an additional language is desired, the appropriate additional-language prompts diskettes must be installed before performing this procedure.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
3. Specify the line group to which the default language applies. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
4. Go to the VoiceMemo Application Menu.	Menu Map 2

5. Set the default language.
Select: (L) Default Language for Prompts = [English]
Prompt: `DEFAULT PROMPT LANGUAGE`
`(1) English`
`(2) French`
`(3) English TDD`
`(X) Exit (No change)`
`COMMAND (1/2/3/X):`
Response: Enter the **number** corresponding to the language you want. Only languages already installed on the server are displayed. If you don't want to change the default language, press **X** to exit.
Note: The above prompt varies depending on which languages you have installed on your server.	

6. Save your entry by exiting to the Main Menu.	

Step	*Reference*
7. If a secondary prompt language is desired, create or modify an LCOS to specify that language.	CP 5017, Ch. 8
Then assign the LCOS with the desired language to those mailboxes that are to play the secondary prompt language.	CP 4351, Ch. 8

Test Conditional Greetings

This procedure describes how to test conditional greetings for these line conditions:

- Ring No Answer
- Busy
- Call Forward

Prerequisites to this procedure are as follows:

- The server must be installed with Centrex.
- At least two test telephones must be available.
- Telephone numbers for which greetings will be tested must have the call-forward capability.
- Feature bit 161 must be included in the FCOS assigned to mailboxes for which greetings will be tested.

Step	*Reference*

1. Prepare test mailbox A for a telephone located near the server maintenance console.
   a. Log into the test mailbox.
   b. Press TUV 8 to select user options.
   c. Press GHI 4 to select the Personal Greeting Menu.
2. Record and enable a greeting for the Ring No Answer condition.
   a. Press ABC 2 to select the Conditional Personal Greeting Menu.
   b. Press MNO 6 to select the No Answer Greeting Menu.
   c. Press PRS 7 to select the Record option.
   d. Record a greeting of your choice, then press WXY 9 twice.
   e. Press DEF 3 to select Enable. If general greetings (feature bit 162) are not available, this toggles between Primary and Conditional greetings. If general greetings are available, you hear a menu asking you to choose one of Conditional, Primary, or General greetings. If you do *not* get this menu, press WXY 9 twice and skip step f.
   f. Press ABC 2 to enable conditional greetings, then press WXY 9 three times.

Step	*Reference*

3. Record and enable a greeting for the Busy condition.
   a. Press (ABC 2) to select the Conditional Personal Greeting Menu.
   b. Press (ABC 2) to select the Busy Greeting Menu.
   c. Press (PRS 7) to select the Record option.
   d. Record a greeting of your choice, then press (WXY 9) twice.
   e. Press (DEF 3) to select Enable. If general greetings (feature bit 162) are not available, this toggles between Primary and Conditional greetings. If general greetings are available, you hear a menu asking you to choose one of Conditional, Primary, or General greetings. If you do *not* get this menu, press (WXY 9) twice and skip step f.
   f. Press (ABC 2) to enable conditional greetings, then press (WXY 9) three times.
4. Record and enable a greeting for the Call Forward condition.
   a. Press (ABC 2) to select the Conditional Personal Greeting Menu.
   b. Press (DEF 3) to select the Forward Greeting Menu.
   c. Press (PRS 7) to select the Record option.
   d. Record a greeting of your choice, then press (WXY 9) twice.
   e. Press (DEF 3) to select Enable. If general greetings (feature bit 162) are not available, this toggles between Primary and Conditional greetings. If general greetings are available, you hear a menu asking you to choose one of Conditional, Primary, or General greetings. If you do *not* get this menu, press (WXY 9) twice and skip step f.
   f. Press (ABC 2) to enable conditional greetings, then press (WXY 9) three times.
5. Test the greeting for the Ring No Answer condition.
   a. Go to test telephone B.
   b. Call test telephone A (which you prepared in step 1).
   c. Let the telephone ring until the greeting plays.
   d. Verify that the greeting is the one you recorded in step 2.
   e. Hang up.
6. Test the greeting for the Busy condition.
   a. Go to test telephone A and take the receiver off-hook.
   b. Return to test telephone B and call test telephone A.
   c. Listen for the greeting. Verify that it is the one you recorded in step 3, then hang up.

Step	*Reference*
7. Test the greeting for the Call Forward condition. a. Go to test telephone A and forward calls to another extension. b. Return to test telephone B and call test telephone A. c. Listen for the greeting. Verify that it is the one you recorded in step 4, then hang up.	

Mailbox Configuration

VoiceMemo Release 6.0A and later

This procedure summarizes the steps involved in configuring, maintaining, and searching for mailboxes.

Step	*Reference*
Configure Mailboxes	
1. Complete Mailbox Worksheets. Blank Mailbox Worksheets are at the back of this manual.	
2. Configure each standard mailbox in accordance with completed Mailbox Worksheets.	CP 3305
3. Configure administrator's mailboxes. One administrator's mailbox can be configured for each line group.	CP 3303
4. Configure attendant's mailboxes. Up to five attendant's mailboxes per line group can be configured.	CP 3304
5. Configure tree mailboxes, if needed.	CP 3311
6. Configure rotational mailboxes, if needed.	CP 3313
7. Configure broadcast mailboxes, if needed.	CP 3326
Maintain Mailboxes	
As necessary, maintain mailboxes.	
1. To delete and reassign mailboxes, delete the mailbox through the Delete Mailboxes option of the Mailbox Maintenance Menu. Reassign it by configuring it again through the Create New Mailboxes option of the Mailbox Maintenance Menu.	CP 5046
2. To modify a mailbox configuration, use Modify Mailboxes.	CP 5047
Note: If you are using the full-screen interface, create, modify, and delete are all performed from the same menu item, Create/Modify/Delete Mailboxes. The procedures referred to in the above two steps also discuss full-screen interface.	
3. To set or clear a passcode to a mailbox, use the Set Passcode/Tutorial option of the Mailbox Maintenance Menu.	CP 5048
4. To activate a tutorial, just create a new mailbox if you want the standard tutorial to play; or record a site tutorial in the attendant's mailbox then use the Set Passcode/Tutorial option of the Mailbox Maintenance Menu.	CP 3308
5. To deactivate a tutorial, use the Set Passcode/Tutorial option of the Mailbox Maintenance Menu (for the standard tutorial or site tutorial).	CP 3308

Step	*Reference*
Search for Mailboxes As necessary, search for mailboxes through the Search for Mailboxes option in the Mailbox Maintenance Menu. With this option, you can: • Search for specific mailbox(es) by mailbox number(s). • Search for all mailboxes meeting specified search criteria.	CP 5005

Configure a Broadcast Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to configure these types of broadcast mailboxes:

- Broadcast message mailbox
- Broadcast name mailbox
- Broadcast greeting mailbox (including automatic transfer to an attendant or a mailbox extension)
- Broadcast passcode mailbox
- Broadcast message waiting mailbox

It also describes how to broadcast messages, names, and greetings to the same recipients.

Step	*Reference*
1. Complete a Mailbox Worksheet. Blank Mailbox Worksheets are at the back of this manual.	
2. Enter the requested information, as described in the following sections, from your completed worksheet.	
3. Proceed with the applicable steps that follow.	

Broadcast Message Mailbox

1. Configure a broadcast message mailbox the same as a standard mailbox, except for the FCOS.	CP 3305
2. Assign to this mailbox an FCOS designed for broadcasting messages. *Prompt:* `Features class of service:` *Response:* The **number** of a customized FCOS that includes these feature bits: 40 (receive messages from other users) 44 (receive user distribution list messages) 122 (define broadcast mailbox) **Note:** If you are using the full-screen interface, the above prompt would be "Features:"	
3. Create Distribution List 1 for the broadcast message mailbox just configured, adding as members all the mailboxes that are to receive messages made for the broadcast mailbox.	CP 5025

Step	*Reference*
Broadcast Name Mailbox	
1. Configure a broadcast name mailbox the same as a standard mailbox, except for the FCOS.	CP 3305
2. Assign to this mailbox an FCOS designed for broadcasting names. *Prompt:* `Features class of service:` *Response:* The **number** of an FCOS that includes feature bit 178 (define broadcast name mailbox). **Note:** If you are using the full-screen interface, the above prompt would be "Features:"	
3. Assign an FCOS that includes feature bit 179 (receive broadcast name) to every receiving mailbox.	CP 3305
4. Create Distribution List 9 for the broadcast name mailbox, adding as members all the mailboxes that are to receive names sent on from the broadcast mailbox.	CP 5025
Broadcast Greeting Mailbox	
1. Configure a broadcast greeting mailbox the same as a standard mailbox, except for the FCOS.	CP 3305
2. Assign to this mailbox an FCOS designed for broadcasting greetings. *Prompt:* `Features class of service:` *Response:* The **number** of an FCOS that includes feature bit 174 (define broadcast greeting mailbox). **Note:** If you are using the full-screen interface, the above prompt would be "Features:"	
3. Assign an FCOS that contains the following feature bits to every receiving mailbox: 161 (enable mailbox's conditional greetings) 162 (enable mailbox's general greetings) 175 (receive broadcast greeting)	CP 3305
4. Create Distribution List 9 for the broadcast greeting mailbox, adding as members all the mailboxes that are to receive greetings sent on from the broadcast mailbox.	CP 5025
Broadcast Greeting Then Transfer to an Attendant	
1. Configure a broadcast greeting mailbox as described earlier, except for the attendant extension and the FCOS.	

Step	*Reference*

2. Specify an attendant extension in the broadcast greeting mailbox.

   Prompt: `Attendant extension number:`
   Response: The **number** of the attendant's extension that the caller is automatically transferred to after playing the greeting.

   Note: If you are using the full-screen interface, the above prompt would be "Atten DN:"

3. Assign to this mailbox an FCOS that transfers a caller to an attendant after the greeting plays.

   Prompt: `Features class of service:`
   Response: The **number** of an FCOS that includes FCOS bit 63 (call mailbox attendant after greeting) and FCOS bit 174 (define broadcast greeting mailbox).

Broadcast Greeting Then Transfer to a Mailbox Extension

1. Configure a broadcast greeting mailbox as described earlier, except for the mailbox's extension and the FCOS.
2. Specify an extension for the broadcast greeting mailbox.

   Prompt: `Mailbox's extension number:`
   Response: The **number** of the mailbox's extension that the caller is automatically transferred to after playing the greeting.

   Note: If you are using the full-screen interface, the above prompt would be "Extension:"

3. Assign to this mailbox an FCOS that transfers a caller to the mailbox's extension after the greeting plays.

   Prompt: `Features class of service:`
   Response: The **number** of an FCOS that includes feature bits 64 (Call mailbox user extension after greeting) and 174 (Define broadcast greeting mailbox).

   Note: If you are using the full-screen interface, the above prompt would be "Features:"

Broadcast Passcode Mailbox

1. Configure a broadcast passcode mailbox the same as a standard mailbox, except for the FCOS. — CP 3305

Step	*Reference*
2. Assign to this mailbox an FCOS designed for broadcasting a passcode. *Prompt:* `Features class of service:` *Response:* The **number** of an FCOS that includes feature bit 231 (Passcode broadcast mailbox). **Note:** If you are using the full-screen interface, the above prompt would be "Features:"	
3. Assign an FCOS that includes the following feature bits to every receiving mailbox: 125 (Clear user passcode) 232 (Allow receipt of passcode broadcasts)	CP 3305
4. Create Distribution List 9 for the broadcast passcode mailbox, adding as members all the mailboxes that are to receive the broadcasted passcode.	CP 5025
Broadcast Message Waiting Mailbox	
1. Configure a broadcast message waiting mailbox the same as a standard mailbox, except for the FCOS.	CP 3305
2. Assign to this mailbox an FCOS designed for broadcasting the message-waiting status. *Prompt:* `Features class of service:` *Response:* The **number** of a customized FCOS that includes feature bit 134 (Broadcast message waiting only). **Note:** If you are using the full-screen interface, the above prompt would be "Features:"	
3. Create Distribution List 1 for the broadcast message waiting mailbox, adding as members all the mailboxes that are to receive the message-waiting status.	CP 5025
Same Recipients for Messages, Names, and Greetings	
1. Create Distribution Lists 1 and 9 for the broadcast message mailbox. Make the two lists identical.	CP 5025
2. Use Distribution List 1 for broadcasting messages.	
3. Use Distribution List 9 for broadcasting names and greetings from the broadcast message mailbox.	

Configure a Chain Mailbox

This procedure describes how to configure a chain mailbox.

Step	*Reference*
1. Complete a Mailbox Worksheet. Blank worksheets are at the back of this manual.	
2. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed worksheet and diagram.	Menu Map 3

Using the Scrolling Interface

3. Identify the chain mailbox.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: **Number** of the new mailbox.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of the existing mailbox.

   Note: Prompts are almost the same for creating a new mailbox and modifying an existing one, except that "New" precedes a prompt when you select Modify Mailboxes.

   To leave an existing parameter setting unchanged, just press **Enter** to go to the next prompt.

4. Set the mailbox parameters the same as for a standard mailbox, except for the FCOS. — CP 3305

5. Assign an FCOS designed for a chain mailbox.

   Prompt: `Features class of service:`
   Response: **8** (the default Chain FCOS)

   or

   The **number** of a customized FCOS that includes all the applicable bits for a chain mailbox.

6. After responding to the last mailbox parameter, the server displays the mailbox configuration, then prompts for the next mailbox number. At this point, the parameter settings for the chain mailbox are saved.

7. Record a mailbox owner's greeting for the chain mailbox.

Step	*Reference*
Using the Full-Screen Interface	
3. Identify the chain mailbox. *Select:* (C) Create/Modify/Delete Mailboxes *Response:* You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox. *Prompt:* `Mailbox: 00000000nnn` *Response:* Press **F10** to edit the mailbox information.	
4. Set the mailbox parameters the same as for a standard mailbox, except for the FCOS. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen, stopping at parameters you wish to change.	CP 3305
5. Assign an FCOS designed for a chain mailbox. *Prompt:* `Features:` *Response:* **8** (the default Chain FCOS), *or* The **number** of a customized FCOS that includes all the applicable bits for a chain mailbox.	
6. Press **F10** to save your changes, or, if you made a mistake, press **F9** to cancel your changes.	
7. Press **F9** to exit the Mailbox Maintenance entry screen.	
8. Record a mailbox owner's greeting for the chain mailbox.	

Configure a Rotational Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to configure a rotational mailbox, including the index-type and period-type of rotational mailbox.

Step	*Reference*
1. Complete a Mailbox Worksheet and a Rotational Mailbox Diagram. Blank worksheets are at the back of this manual.	
2. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed worksheet and diagram.	Menu Map 3

Using the Scrolling Interface

3. Identify the rotational mailbox.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: **Number** of the new mailbox.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of the existing mailbox.

   Note: Prompts are almost the same for creating a new mailbox and modifying an existing one, except that "New" precedes a prompt when you select Modify Mailboxes.

   To leave an existing parameter setting unchanged, just press **Enter** to go to the next prompt.

4. Set the remaining mailbox parameters the same as for a standard mailbox, except for the FCOS and GCOS. — CP 3305

5. Assign an FCOS designed for a rotational mailbox.

   Prompt: `Features class of service:`
   Response: **17** (the default Rotational FCOS),

   or

   The **number** of a customized FCOS that includes all the applicable bits for a rotational mailbox.

Step	*Reference*

6. Assign the same GCOS to the rotational mailbox that is assigned to its child mailboxes.

   Prompt: `Group class of service:`
   Response: The **number** of the GCOS (1-32,000) that contains groups shared by the rotational mailbox and all its child mailboxes.

7. After responding to the last mailbox parameter, the server displays the mailbox configuration, then prompts for the next mailbox number. At this point, the parameter settings for the rotational mailbox are saved.

8. Configure the first child mailbox (the mailbox that callers should be routed to through the rotational mailbox).

   Prompt: `Mailbox to create: or Mailbox to modify:`
   Response: The **number** of the first child mailbox.

9. Set all applicable parameters for the child mailbox the same as for a standard mailbox, except for the FCOS and GCOS.

10. Assign an FCOS that makes the child mailbox a greeting-only mailbox.

    Prompt: `Features class of service:`
    Response: **6** (the default Greeting Only FCOS),

    or

    The **number** of a customized FCOS that includes all the applicable bits for a greeting-only mailbox.

11. Assign the same GCOS to the child mailbox that you assigned to the rotational mailbox.

    Prompt: `Group class of service:`
    Response: The **number** of the GCOS (1-64) shared by the rotational mailbox and all its child mailboxes. Or, use an affinity GCOS (65-32,000), where the rotational mailbox and all subordinates have the same GCOS number.

12. Configure all remaining child mailboxes as just described.

13. Disable the tutorials in the child mailboxes. Change only the tutorial setting to **N**, press **Enter** to skip the other fields. — CP 5048

14. Create distribution list 1 for the rotational mailbox just configured, adding as members all the child mailboxes. — CP 5025

Step	*Reference*

15. Specify the type of rotation.

Select: (R) Rotational Mailboxes
Prompt: `Mailbox # to be rotated:`
Response: The **number** of the rotational mailbox.

- To specify the period-type of rotation, enter the period, start date, and start time.

Prompt: `Period (hours):`
Response: The **hours** (0-255) that one child mailbox greeting plays before rotating to the next child mailbox greeting.

Prompt: `Start date (MM-DD-YY):`
Response: The **month**, **day**, and **year** when the cycle starts, in the format shown.

Prompt: `Start time (HH:MM [am/pm] ):`
Response: The time at which the cycle starts; for example, "9:00am".

- To specify the index-type of rotation, disable the "Period" prompt and enter an index number.

Prompt: `Period (hours):`
Response: A **period** (.).

Prompt: `Index:`
Response: If you want the cycle to begin with the first child mailbox in the list, just press **Enter**,

or

If you want the cycle to begin with a child mailbox other than the first one in the list, enter the **index number** of that mailbox. Up to 190 indexes are allowed.

Prompt: `Mailbox # to be rotated:`
Response: Press **Enter** then exit to the Main Menu.

16. Record an applicable greetings in the rotational mailbox and all child mailboxes.

Step	*Reference*

Using the Full-Screen Interface

3. Identify the rotational mailbox.

   Select: (C) Create/Modify/Delete Mailboxes
   Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F10** to edit the mailbox information.

4. Set the remaining mailbox parameters the same as for a standard mailbox, except for the FCOS and GCOS. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen, stopping at parameters you wish to change. — CP 3305

5. Assign an FCOS designed for a rotational mailbox.

   Prompt: `Features:`
   Response: **17** (the default Rotational FCOS),

   or

   The **number** of a customized FCOS that includes all the applicable bits for a rotational mailbox.

6. Assign the same GCOS to the rotational mailbox that is assigned to its child mailboxes.

   Prompt: `Group:`
   Response: The **number** of the GCOS (1-64) that contains groups shared by the rotational mailbox and all its child mailboxes. Or, use an affinity GCOS (65-32,000), where the rotational mailbox and all subordinates have the same GCOS number.

7. Press **F10** to save your changes, or, if you made a mistake, press **F9** to cancel your changes.

8. Configure the first child mailbox (the mailbox that callers should be routed to through the rotational mailbox).

   Prompt: `Mailbox:`
   Response: The **number** of the first subordinate mailbox.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F10** to edit the mailbox information.

9. Set all applicable parameters for the child mailbox the same as for a standard mailbox, except for the FCOS and GCOS.

Step	*Reference*

10. Assign an FCOS that makes the child mailbox a greeting-only mailbox.

    Prompt: `Features:`
    Response: **6** (the default Greeting Only FCOS),

    or

    The **number** of a customized FCOS that includes all the applicable bits for a greeting-only mailbox.

11. Assign the same GCOS to the child mailbox that you assigned to the rotational mailbox.

    Prompt: `Group:`
    Response: The **number** of the GCOS (1-64) shared by the rotational mailbox and all its child mailboxes. Or, use an affinity GCOS (65-32,000), where the rotational mailbox and all subordinates have the same GCOS number.

12. Disable the tutorials in each child mailbox.

    Prompt: `Tutorial:`
    Response: **N** to disable the tutorial.

13. Save changes to the child mailbox by pressing **F10**.

14. Configure all remaining child mailboxes as just described.

15. Exit Mailbox Maintenance (when done with all mailboxes) by pressing **F9**.

16. Create distribution list 1 for the rotational mailbox just configured, adding as members all the child mailboxes. — CP 5025

17. Specify the type of rotation.

    Select: (R) Rotational Mailboxes
    Prompt: `Mailbox # to be rotated:`
    Response: The **number** of the rotational mailbox.

    - To specify the period-type of rotation, enter the period, start date, and start time.

    Prompt: `Period (hours):`
    Response: The **hours** (0-255) that one child mailbox greeting plays before rotating to the next child mailbox greeting.

    Prompt: `Start date (MM-DD-YY):`
    Response: The **month**, **day**, and **year** when the cycle starts, in the format shown.

    Prompt: `Start time (HH:MM [am/pm] ):`
    Response: The time at which the cycle starts; for example, "9:00am".

Step	*Reference*

- To specify the index-type of rotation, disable the "Period" prompt and enter an index number.

Prompt: `Period (hours):`
Response: A **period** (.).

Prompt: `Index:`
Response: If you want the cycle to begin with the first child mailbox in the list, just press **Enter**,

or

If you want the cycle to begin with a child mailbox other than the first one in the list, enter the **index number** of that mailbox. Up to 190 indexes are allowed.

Prompt: `Mailbox # to be rotated:`
Response: Press **Enter** then exit to the Main Menu.

18. Record an applicable greetings in the rotational mailbox and all child mailboxes.

Configure a Standard Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to configure a standard mailbox on the Series 6 server. It can be used either to create a new mailbox or to modify an existing mailbox.

Step | *Reference*

1. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed Mailbox Worksheet. — Menu Map 3

Using the Scrolling Interface

Note: Directions for the full-screen interface begin on page 9.

2. Identify the mailbox to be created or modified.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: **Number** of the new mailbox you want to configure.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of the existing mailbox you want to reconfigure.

   Note: Prompts are almost the same for creating a new mailbox and modifying an existing one, except that "New" precedes each prompt when you select Modify Mailboxes.

   Note: You may see prompts that are not in this procedure. These depend on which optional features are installed on your server. Refer to the optional feature documentation if you have questions about responding to these prompts.

   To leave an existing parameter setting unchanged, just press **Enter** to go to the next prompt.

3. Specify the mailbox.

   Prompt: `Mailbox to create:`
   or
   `Mailbox to modify:`
   Response: The **mailbox number** that you are creating or modifying. The number must conform to the Dial Plan.

4. Name the mailbox.

   Prompt: `Name:`
   Response: A **name**, up to 31 alphanumeric characters, that describe the purpose, membership, ownership, or function of the mailbox. If you plan to implement Dial-by-Name, enter the name with the last name first (for example, "Smith, Harry").

Step	*Reference*

5. If a department code or alternate code is required for message waiting lights, specify it.

   Prompt: `Department code:`

   Response: The string (directory number) of up to 10 characters which is the alternate code the server transmits after the pre-DN ON string.

   For DTMF-to-PBX message waiting lights, valid characters are:

   0-9

   *

   #

   For RS-232 message waiting lights, any ASCII character is valid.

6. If an access code must be dialed before an outside caller can access the mailbox, specify it here.

   Prompt: `Access code:`

   Response: A **code** of up to 10 characters which specifies how a caller can reach the mailbox:

M	to require the caller to enter a mailbox number
P	to require the caller to enter a mailbox number and a passcode
code	to require the caller to enter a specific access code of up to 10 digits. Valid characters are 0-9, A-D, * (star key),and # (pound key).

   You can enter any combination of the above. Leave this field blank for no access code.

   Note: You must also assign an FCOS with feature bit 137 to enable the access code. — CP 5011

7. If Receptionist II is installed in your server, refer to the *VoiceMemo Receptionist II Manual* for Receptionist parameters; otherwise, press **Enter** to skip the parameters.

Step *Reference*

8. If this mailbox uses DTMF-to-PBX message waiting lights or if Receptionist II is installed in your server, specify the mailbox's extension number if different than the mailbox number.

   Prompt: `Mailbox's extension number:`
   Response: The PBX extension **number plus dial string codes**, from Table 1 at the end of this procedure.

   or

   A **string**, as explained in the *VoiceMemo Receptionist II Manual*, if Receptionist II is installed in your server.

   or

   Leave blank if the extension number is the same as the mailbox number.

9. If Receptionist II is installed in your server, refer to the *VoiceMemo Receptionist II Manual* for the mailbox's extension pre-dial index; otherwise, press **Enter** to skip over the parameter.

10. If an attendant is available to this mailbox, specify the attendant extension number.

    Prompt: `Attendant extension number:`
    Response: The extension **number** of the mailbox attendant that the mailbox owner or caller is transferred to after pressing 0.

    or

    Leave blank.

    or

    Refer to the *VoiceMemo Receptionist II Manual* for directions, if Receptionist II is installed in your server.

11. If the attendant extension exceeds 15 digits, or if Receptionist II is installed in your server, specify the excess dial string.

    Prompt: `Attendant extension pre-dial index:`
    Response: The dial string **characters** (Table 1) that point to the dial string the server must process before dialing the attendant extension number.

    or

    Leave blank.

    or

    Refer to the *VoiceMemo Receptionist II Manual* for directions, if Receptionist II is installed in your server.

Step	*Reference*

12. Assign the FCOS to this mailbox.

    Prompt: `Features class of service:`
    Response: **Number** (1-640) of the FCOS that governs this mailbox. The default value is 1.

    or

    Enter **?** for a list of defined FCOSs. You are prompted for FCOS again.

13. Assign the LCOS to this mailbox.

    Prompt: `Limits class of service:`
    Response: **Number** (1-640) of the LCOS that governs this mailbox. The default value is 1.

    or

    Enter **?** for a list of defined LCOSs. You are prompted for LCOS again.

14. Assign the GCOS to this mailbox.

    Prompt: `Group class of service:`
    Response: **Number** (1-32,000) of the GCOS that governs this mailbox. The default value is 1.

    or

    Enter **?** for a list of defined bitmapped GCOSs. You are prompted for GCOS again.

15. If MESA-Net is installed in your server, refer to the *MESA-Net Digital Network* document for the Network Class of Service (NCOS).

16. If Enhanced SMDI is installed in your server, refer to the *Enhanced SMDI VoiceMemo Integration Installation User's Manual* for the Tenant Class of Service (TCOS).

17. Assign the RCOS to this mailbox.

    Prompt: `Restriction class of service:`
    Response: **Number** (1-64) of the RCOS that governs this mailbox.

    or

    Enter **?** for a list of defined RCOSs. You are prompted for RCOS again.

Step *Reference*

18. If a temporary passcode is required, specify it.

    Prompt: `Enter a temporary passcode:`
    Response: Any **digits** 0 through 9, within the minimum and maximum lengths specified in the application configuration.

    or

    R to have the server generate a passcode for you (and display it in the mailbox configuration report that automatically appears after you respond to the last mailbox parameter)

    or

    S to make the passcode the same as the mailbox number (unless mailbox number is three digits or fewer).

19. Enable or disable the standard tutorial (also called new user tutorial, user tutorial, and VoiceMemo tutorial). The server default is generally for the standard tutorial to play when a new mailbox is created.

    Prompt: `Tutorial (y/n):`
    Response: **Y** to enable the tutorial, *or*
    N to disable it.

20. Specify the speech quality for this mailbox's recorded messages.

    Prompt: `Enter the message speech quality:`
    Response: Enter the **speech quality** for the mailbox messages. Values you can enter are:

    0 to use the default for the line group

    18 for 18.3 kilobytes per second (kbps) speech quality

    24 for 24 kbps speech quality

    32 for 32 kbps speech quality

    Note: Higher speech quality values uses more disk space.

    Note: NMS line cards can use values above 18 kbps; AT line card can only use 18 kbps. Higher values are incompatible with OneView release 1.0 and MESA-Net.

21. Specify the speech quality for this mailbox's name and greetings.

    Prompt: `Enter the name and greeting speech quality:`
    Response: Enter the **speech quality** for the mailbox names and greetings. Refer to the values and notes for message speech quality, above.

Step *Reference*

22. If outdials from this mailbox are being billed to a long distance carrier or other account, continue with the next step, otherwise, press **Enter** to skip to the Message Waiting Type parameter, and continue with step 28.

23. Specify the index number for internal calls.

    Prompt: `Enter Internal Outcall Index:`
    Response: The index **number** (0-15) representing the access code for internal calls.

    or

    Enter **?** for a list of defined index numbers. You are prompted for the index again.

24. Specify the billed outdial index.

    Prompt: `Enter Billed Outcall Index:`
    Response: The index **number** (0-15) representing the access code for outdials to be charged to a billing account.

    or

    Enter **?** for a list of defined index numbers. You are prompted for the index again.

    Note: The Internal Outcall Index and the Billed Outcall Index must be different numbers.

25. Specify the index for non-billed outdials.

    Prompt: `Enter Non-billed Outcall Index:`
    Response: The index **number** (0-15) representing the access code for outdials not charged to a billing account.

    or

    Enter **?** for a list of defined index numbers. You are prompted for the index again.

26. Specify the calling card number to which outdials are to be billed.

    Prompt: `Enter Billing Number:`
    Response: The **number**, up to 24 digits, that outdials are billed to. You can use any of the characters in Table 1.

    Note: If you use this field then you cannot use MWI2 with an alternate pager.

Step	*Reference*

27. Specify the order in which the server processes the billing number and destination telephone number in the outdial dial string.

    Prompt: `Enter billing dialing order:`
    Response: **bn** to require the billing number to be processed before the destination telephone number,

    or

    nb to require the destination telephone number to be processed before the billing number.

28. Specify the type of message waiting indication.

    Prompt: `Message waiting type #1:`
    Response: A number from **2** through **22**, from Table 2 at the end of this procedure. If more than one type of message waiting indication is used, this is the primary type.

    or

    0 for none.

    Prompt: `Message waiting type #2:`
    Response: Same as for the first message waiting type parameter, but this is the secondary type.

    If message waiting type 5 was specified at the first or second message waiting type parameter, set the mailbox parameters for paging or message delivery, or both. — CP 5019, Ch. 4

29. If you need a third type of message waiting indication, specify it.

    Prompt: `Message waiting type #3:`
    Response: Message waiting type **9** or **17**.

30. If call placement will be used, specify the call placement pager access type; otherwise, press **Enter** to skip to the Time Zone Offset parameter.

    Prompt: `Call placement pager access type:`
    Response: Enter either a **number** from 0 to 15 representing the pager access index number, or a **billed index**:

    B for Billed Outdial Index

    I for Internal Outdial Index

    N for Undefined Index

    U for Non-billed Outdial Index

Step *Reference*

31. If a time zone offset is needed, specify it.

    Prompt: `Time zone offset:`
    Response: The **hours** of difference, from -23 through 23, between the mailbox owner's time zone and the VoiceMemo module time zone.

32. Allow the mailbox owner to have review rights or change rights, or both, for the mailbox owner's distribution lists. Change rights allow the mailbox owner to change the contents of a list; review rights allow the owner to play the mailbox numbers on the list.

    Note: This mailbox parameter alone does not allow change rights; you must also include feature bit 74 (create or modify user distribution list) in the FCOS.

    Prompt: `Lists with change rights:`
    Response: Any of the following entries:

    A single **list**, for example 2

    A series of **lists**, for example, 1,3,4,6,

    A **range of lists**, for example 1-6

    A combination of any of the above entries; for example:

    1-5,8,12,50-70,90

    A for all distribution lists

    N for no distribution lists

    Prompt: `Lists with review rights:`
    Response: Same as just described for review rights.

33. After the last entry, the server displays the mailbox configuration, then prompts for the next mailbox number.

    At this point, the parameter settings are saved and you can continue with mailbox configuration or press **Enter** to exit.

Step *Reference*

Using the Full-Screen Interface

2. Identify the mailbox to be created or modified.

   Select: (C) Create/Modify/Delete Mailboxes
   Response: You are placed in the Mailbox Maintenance entry screen. Enter the **Number** of the new or existing mailbox. It must conform to the Dial Plan.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F10** to edit the mailbox information.

3. Enter parameters as described in the following steps. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen, stopping at the parameters you wish to change. You can also use the following function keys when editing mailboxes:

   - **F6** Billing
   - **F7** Family/Guest Mailbox Setup (for VMUIF interface only)
   - **F8** Display Statistics
   - **F9** Cancel edit session and ignore changes
   - **F10** Exit and Save new information
   - **Home** Help (based on where cursor is located)
   - **End** Edit Additional Fields (where cursor is located)

4. If a department code or alternate code is required for message waiting lights, specify it.

   Prompt: `Code:`
   Response: The string (directory number) of up to 10 characters which is the alternate code the server transmits after the pre-DN ON string.

   For DTMF-to-PBX message waiting lights, valid characters are:

   0-9

   *

   #

   For RS-232 message waiting lights, any ASCII character is valid.

Step	*Reference*

5. Name the mailbox.

   Prompt: `Name:`
   Response: A **name**, up to 31 alphanumeric characters, that describe the purpose, membership, ownership, or function of the mailbox. If you plan to implement Dial-by-Name, enter the name with the last name first (for example, "Smith, Harry").

6. Assign the LCOS to this mailbox.

   Prompt: `Limits:`
   Response: **Number** (1-640) of the LCOS that governs this mailbox. The default value is 1.

7. If Enhanced SMDI is installed in your server, refer to the *Enhanced SMDI Integration Installation User's Manual* for the Tenant Class of Service (TCOS).

   Prompt: `Tenant:`
   Response: **Number** (1-128) of the TCOS that governs this mailbox. The default value is 1.

8. Assign the FCOS to this mailbox.

   Prompt: `Features:`
   Response: **Number** (1-640) of the FCOS that governs this mailbox. The default value is 1.

   If you want a list of defined FCOSs, press the **Home** key to display them. Then press any key to return to the FCOS prompt.

9. Assign the RCOS to this mailbox.

   Prompt: `Restriction:`
   Response: **Number** (1-64) of the RCOS that governs this mailbox.

   If you want a list of defined RCOSs, press the **Home** key to display them. Then press any key to return to the RCOS prompt.

10. Assign the GCOS to this mailbox.

    Prompt: `Group:`
    Response: **Number** (1-32,000) of the GCOS that governs this mailbox. The default value is 1.

Step | *Reference*

11. If MESA-Net is installed in your server, refer to the *MESA-Net Digital Network* document for the Network Class of Service (NCOS).

    Prompt: `Network:`
    Response: **Number** (1-64) of the NCOS that governs this mailbox. The default value is 1.

12. If an access code must be dialed before an outside caller can access the mailbox, specify it here.

    Prompt: `Access code:`
    Response: A **code** of up to 10 characters which specifies how a caller can reach the mailbox:

    M to require the caller to enter a mailbox number

    P to require the caller to enter a mailbox number and a passcode

    code to require the caller to enter a specific access code of up to 10 digits. Valid characters are 0-9, A-D, * (star key), and # (pound key).

    You may enter any combination of the above. Leave this field blank for no access code.

    Note: You must also assign an FCOS with feature bit 137 to enable the access code. — CP 5011

13. Specify the speech quality for this mailbox's recorded messages.

    Prompt: `Speech Quality Msgs:`
    Response: Enter the **speech quality** for the mailbox messages. Values you can enter are:

    0 to use the default for the line group

    18 for 18.3 kilobytes per second (kbps) speech quality

    24 for 24 kbps speech quality

    32 for 32 kbps speech quality

    Note: Higher speech quality values uses more disk space.

    Note: NMS line cards can use values above 18 kbps; AT line card can only use 18 kbps. Higher values are incompatible with OneView release 1.0 and MESA-Net.

Step	*Reference*

14. Specify the speech quality for this mailbox's name and greetings.

    Prompt: `Speech Quality Greets:`
    Response: Enter the **speech quality** for the mailbox names and greetings. Refer to the values and notes for message speech quality, above.

15. If a temporary passcode is required, specify it.

    Prompt: `Passcode:`
    Response: Any **digits** 0 through 9, within the minimum and maximum lengths specified in the application configuration.

    or

    R to have the server generate a passcode for you (and display it in the mailbox configuration report that automatically appears after you respond to the last mailbox parameter)

    or

    S to make the passcode the same as the mailbox number (unless mailbox number is three digits or fewer).

    Note: The passcode is displayed only if the mailbox has never been logged into. Otherwise, the field only displays a Y to indicate that the mailbox has a passcode, or an N for no passcode assigned.

16. Enable or disable the standard tutorial (also called new user tutorial, user tutorial, and VoiceMemo tutorial). The server default is generally for the standard tutorial to play when a new mailbox is created.

    Prompt: `Tutorial:`
    Response: **Y** to enable the tutorial, *or*
    N to disable it.

17. If Receptionist II is installed in your server, refer to the *VoiceMemo Receptionist II Manual* for Receptionist day and night treatment parameters; otherwise, press **Enter** to skip the parameters.

    Prompt: `Day Treatment:`
    Response: a **number** from 1 to 16, or **0** for no treatment.

    Prompt: `Night Treatment:`
    Response: a **number** from 1 to 16, or **0** for no treatment.

Step	*Reference*

18. If this mailbox uses DTMF-to-PBX message waiting lights or if Receptionist II is installed in your server, specify the mailbox's extension number if different than the mailbox number.

    Prompt: `Extension:`
    Response: The PBX extension **number plus dial string codes**, from Table 1 at the end of this procedure.

    or

    A **string**, as explained in the *VoiceMemo Receptionist II Manual*, if Receptionist II is installed in your server.

    or

    Leave blank if the extension number is the same as the mailbox number.

19. If Receptionist II is installed in your server, refer to the *VoiceMemo Receptionist II Manual* for the mailbox's extension pre-dial index; otherwise, skip over the parameter.

    Prompt: `Index:`
    Response: a **number** from 0 to 16.

20. If an attendant is available to this mailbox, specify the attendant extension number.

    Prompt: `Atten DN:`
    Response: The extension **number** (up to 15 digits) of the mailbox attendant that the mailbox owner or caller is transferred to after pressing 0.

    or

    Leave blank.

    or

    Refer to the *VoiceMemo Receptionist II Manual* for directions, if Receptionist II is installed in your server.

21. If the attendant extension exceeds 15 digits, or if Receptionist II is installed in your server, specify the excess dial string as an index.

    Prompt: `Index:`
    Response: a **number** from 0 to 16.

Step | *Reference*

22. If call placement will be used, specify the call placement pager access type; otherwise, skip over the parameter.

    Prompt: `CallPlacement index:`
    Response: Enter either a **number** from 0 to 15 representing the pager access index number, or a **billed index**:

    B for Billed Outdial Index

    I for Internal Outdial Index

    N for Undefined Index

    U for Non-billed Outdial Index

    You can press **Home** for a list of pager access index codes. Press any key to then view the Billed Index abbreviations, and press another key to return to the Call Placement prompt.

23. Specify the type of message waiting indication.

    Prompt: `Message waiting 1:`
    Response: A number from **2** through **22**, from Table 2 at the end of this procedure. If more than one type of message waiting indication is used, this is the primary type.

    or

    0 for none.

    Prompt: `Message waiting type #2:`
    Response: Same as for the first message waiting type parameter, but this is the secondary type.

If message waiting type 5 was specified at the first or second message waiting type parameter, set the mailbox parameters for paging or message delivery, or both. | CP 5019, Ch. 4

24. If you need a third type of message waiting indication, specify it.

    Prompt: `Message waiting 3:`
    Response: Message waiting type **0** (none), **9** or **17**.

25. If a time zone offset is needed, specify it.

    Prompt: `TimeZone:`
    Response: The **hours** of difference, from -23 through 23, between the mailbox owner's time zone and the VoiceMemo module time zone.

Step *Reference*

26. Allow the mailbox owner to have review rights or change rights, or both, for the mailbox owner's distribution lists. Change rights allow the mailbox owner to change the contents of a list; review rights allow the owner to play the mailbox numbers on the list.

    Note: This mailbox parameter alone does not allow change rights; you must also include feature bit 74 (create or modify user distribution list) in the FCOS.

    Prompt: `List rights: Review:`

    Response: Press the **End** key to edit the Review List Rights table. Using the arrow keys, move the cursor to the fields corresponding to the lists you want to change rights for. Enter **0** to deny review rights and **1** to allow review rights for each list. The default is 1 (allow review rights) for all lists.

    Press **F10** to save your changes, or **F9** to cancel your changes to the list review rights.

    Prompt: `Change:`

    Response: Press the **End** key to edit the Change List Rights table. Using the arrow keys, move the cursor to the fields corresponding to the lists you want to change rights for. Enter **0** to deny change rights and **1** to allow change rights for each list. The default is 1 (allow change rights) for all lists.

    Press **F10** to save your changes, or **F9** to cancel your changes to the list change rights.

27. If outdials from this mailbox are being billed to a long distance carrier or other account, press **F6** to set the billing parameters. If not, skip to step 35.

28. You are now in the Outdial Billing Fields entry screen. You can press **F9** at any time to leave this screen without saving your changes.

29. Specify the index number for internal calls.

    Prompt: `Internal:`

    Response: The index **number** (0-15) representing the access code for internal calls,

    or

    Enter **N** for no internal outdial index.

Step	*Reference*

30. Specify the billed outdial index.

    Prompt: `Billed:`

    Response: The index **number** (0-15) representing the access code for outdials to be charged to a billing account,

    or

    Enter **N** for no billed outdial index.

    Note: The Internal Outcall Index and the Billed Outcall Index must be different numbers.

31. Specify the index for non-billed outdials.

    Prompt: `UnBilled:`

    Response: The index **number** (0-15) representing the access code for outdials not charged to a billing account,

    or

    Enter **N** for no non-billed outdial index.

32. Specify the calling card number to which outdials are to be billed.

    Prompt: `Number:`

    Response: The **number**, up to 24 digits, that outdials are billed to. You can use any of the characters in Table 1. If a paging access prefix code is not used, you may need to enter **T** (wait for dial tone) as the first digit.

    Note: If you use this field then you cannot use MWI2 with an alternate pager.

33. Specify the order in which the server processes the billing number and destination telephone number in the outdial dial string.

    Prompt: `Dial Order:`

    Response: **bn** to require the billing number to be processed before the destination telephone number,

    or

    nb to require the destination telephone number to be processed before the billing number.

34. After you enter the last billing parameter, the Outdial Billing Fields entry screen goes away and you are returned to the Mailbox Maintenance entry screen.

35. After the last entry, the cursor returns to the first entry. You can change any of the parameters until your are satisfied with your entries..

Step *Reference*

36. Press **F10** to save your changes, or, if you made a mistake, press **F9** to cancel your changes.

37. Press **F9** to exit the Mailbox Maintenance entry screen.

Table 1 Dial String Characters

Character	Explanation
0-9, *, #	Keys on a standard pushbutton telephone
(	The following digits should be dial pulsed (10 PPS)
)	Stop pulsing; resume sending DTMF tones
+	Pause for one second
A-D	Fourth column DTMF keys
E	Go off-hook, wait for dial tone or other steady tone (pager go-ahead or confirmation tone, for example), then do next item in string
F	Switch hook flash and wait for dial tone
G	Greet - Wait for a voice or computer tone answer
H	Hang up (go on-hook)
L	Wait for an answer supervision signal that indicates the receiving phone has gone off-hook, then dial remaining characters after receiving the signal. Valid only with four-wire connections, not with loop start or ground start phone lines.
N	Start a new activity; do not go off-hook
O	Ring once
P	Go off-hook, do not wait for dial tone
S	Switch hook flash, no wait required
T	Go off-hook, wait for dial tone
V	Play three seconds of the message for voice pager

Step *Reference*

Table 2 Message Waiting Types

Number	Message Waiting Type
0	None
1	Not available
2	AC message lamp
3	DTMF to PBX
4	Fixed RS-232
5	Pager
6	SL-1
7	Program RS-232
8	Tip & Ring RS-232
9	Centrex RS-232
10	Intecom RS-232
11	NEC RS-232
12	Video Dispatch
13	ITT RS-232
14	TextMemo
15	AT&T System 75
16	HIS PMS
17	Unified integrations
18	ROLM
19	Mitel
20	SL-1 Message Waiting
21	Hitachi PMS
22	SL-1 Enhanced Meridian
23	Fujitsu 960
24	SMS-MWI

Configure a Shared Extension Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to configure the shared-extension capability in a tree mailbox. This capability allows multiple users who share a telephone extension to each have a private mailbox.

Step	*Reference*
1. In the configuration of a tree mailbox, assign a customized FCOS that includes the following feature bits: All the feature bits typically required for a tree mailbox, as in FCOS 15 (Tree). 229 (Play names of list 1 children) 234 (Check message wait status of children)	CP 3311
• Either add the bits to an existing FCOS, *or* • Copy an FCOS and edit it as necessary.	CP 5011, Ch. 1 or CP 5007, Ch. 1
2. Add the same GCOS to the tree mailbox that is assigned to its child mailboxes (the mailboxes that share the extension).	
3. For each child mailbox: • Assign an FCOS that includes feature bit 134 (Broadcast message waiting status). • Assign the same GCOS that you assigned to the tree mailbox.	
4. Create Distribution List 1 for the tree mailbox just configured, adding all the child mailboxes.	CP 5025
5. Create Distribution List 1 for each child mailbox. Make the tree mailbox the only member.	CP 5025
6. Record a greeting for the tree mailbox. For example, "Thank you for calling Redwood Realty." The server automatically supplements this greeting with directions for the caller to press a different number for each person sharing the tree mailbox (extension). For example, "To leave a message for John McSales, press 1, for Jane VanBroker, press 2, for Lee Smith, press 3."	
7. Direct mailbox owners of the child mailboxes to record their own names and greetings in their respective mailboxes, if desired.	

Configure a Tree Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to configure a simple tree mailbox and a nested tree mailbox.

Step	*Reference*
1. Complete a Mailbox Worksheet and a Tree Mailbox Diagram. Blank worksheets are at the back of this manual.	
2. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed Mailbox Worksheets.	Menu Map 3

Using the Scrolling Interface

3. Identify the tree mailbox.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: Number of the new mailbox.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of the existing mailbox.

   Note: Prompts are almost the same for creating a new mailbox and modifying an existing one, except that "New" precedes each prompt when you select Modify Mailboxes.

   To leave an existing parameter setting unchanged, just press **Enter** to go to the next prompt.

4. Set the remaining mailbox parameters the same as for a standard mailbox, except for the FCOS and GCOS. — CP 3305

5. Assign an FCOS designed for a tree mailbox.

   Prompt: `Features class of service:`
   Response: **15** (the default Tree FCOS),

   or

   The number of a customized FCOS that contains all the features of a typical tree mailbox.

   If you want callers who do not enter a digit promptly after the tree mailbox greeting to be routed to the *first* subordinate mailbox, include feature bit 120 (default to first child of tree mailbox) in the mailbox FCOS.

   If you want these callers to be routed to the *last* subordinate mailbox, include feature bit 186 (default to last child of tree mailbox) in the mailbox FCOS.

Step	*Reference*
6. Assign the same GCOS to the tree mailbox that is assigned to its subordinate mailboxes. *Prompt:* `Group class of service:` *Response:* The **number** of the GCOS (1-32,000) that contains groups shared by the tree mailbox and all its subordinate mailboxes.	
7. After responding to the last mailbox parameter, the server displays the mailbox configuration, then prompts for the next mailbox number. At this point, the parameter settings for the tree mailbox are saved.	
8. Configure the first subordinate mailbox (the mailbox that callers should be routed to through the tree mailbox). *Prompt:* `Mailbox to create:` *or* `Mailbox to modify:` *Response:* The **number** of the first subordinate mailbox.	
9. Set all applicable parameters for the subordinate mailbox the same as for a standard mailbox, except for the GCOS.	
10. Assign the same GCOS to the subordinate mailbox that you assigned to the tree mailbox. *Prompt:* `Group class of service:` *Response:* The **number** of the GCOS (1-32,000) that contains groups shared by the tree mailbox and all its subordinate mailboxes.	
11. Configure all subordinate mailboxes as just described.	
12. Disable the tutorials in the child mailboxes. Change only the tutorial setting to **N**, press **Enter** to skip the other fields.	CP 5048
13. Create distribution list 1 for the tree mailbox just configured, adding as members all the subordinate mailboxes.	CP 5025
14. Record an appropriate greeting in the tree mailbox and all child mailboxes.	

Step	*Reference*

Using the Full-Screen Interface

3. Identify the tree mailbox.

   Select: (C) Create/Modify/Delete Mailboxes
   Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F10** to edit the mailbox information.

4. Set the remaining mailbox parameters the same as for a standard mailbox, except for the FCOS and GCOS. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen, stopping at parameters you wish to change. — CP 3305

5. Assign an FCOS designed for a tree mailbox.

   Prompt: `Features:`
   Response: **15** (the default Tree FCOS),

   or

   The number of a customized FCOS that contains all the features of a typical tree mailbox.

   If you want callers who do not enter a digit promptly after the tree mailbox greeting to be routed to the *first* subordinate mailbox, include feature bit 120 (default to first child of tree mailbox) in the mailbox FCOS.

   If you want these callers to be routed to the *last* subordinate mailbox, include feature bit 186 (default to last child of tree mailbox) in the mailbox FCOS.

6. Assign the same GCOS to the tree mailbox that is assigned to its subordinate mailboxes.

   Prompt: `Group:`
   Response: The **number** of the GCOS (1-64) that contains groups shared by the tree mailbox and all its subordinate mailboxes. Or, use an affinity GCOS (65-32,000), where the tree mailbox and all subordinates have the same GCOS number.

7. Press **F10** to save your changes, or, if you made a mistake, press **F9** to cancel your changes.

Step	*Reference*

8. Configure the first subordinate mailbox (the mailbox that callers should be routed to through the tree mailbox). Follow the same steps as in configuring the tree mailbox except as listed below.

   Prompt: `Mailbox:`
   Response: The **number** of the first subordinate mailbox.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F10** to edit the mailbox information.

9. Set all applicable parameters for the subordinate mailbox the same as for a standard mailbox, except for the GCOS.

10. Assign the same GCOS to the subordinate mailbox that you assigned to the tree mailbox.

    Prompt: `Group:`
    Response: The **number** of the GCOS (1-64) that contains groups shared by the tree mailbox and all its subordinate mailboxes. Or, use an affinity GCOS (65-32,000), where the tree mailbox and all subordinates have the same GCOS number.

11. Disable the tutorials in each subordinate mailbox.

    Prompt: `Tutorial:`
    Response: N to disable the tutorial.

12. Save changes to the subordinate mailbox by pressing **F10**.

13. Configure all subordinate mailboxes as just described.

14. Exit Mailbox Maintenance (when done with all mailboxes) by pressing **F9**.

15. Create distribution list 1 for the tree mailbox just configured, adding as members all the subordinate mailboxes. — CP 5025

16. Record an appropriate greeting in the tree mailbox and all child mailboxes.

Nested Tree Mailbox

1. Choose the subordinate mailbox that you want to be a tree mailbox.

2. Configure the mailbox through the Mailbox Maintenance Menu as described earlier in this procedure.

3. Create distribution list 1 for the nested tree mailbox just configured, adding as members all the subordinate mailboxes related to the nested tree mailbox. — CP 5025

4. Record a greeting in the nested tree mailbox.

Configure as Overflow Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to configure an overflow mailbox that accepts messages when a primary mailbox is full.

Step	*Reference*
1. Create a standard mailbox that will be the overflow mailbox, or use an existing standard mailbox.	CP 3305
2. Create Distribution List 1 for the primary mailbox, and add the overflow mailbox as the member. You can add more than one mailbox to the list and the server uses each one as an overflow mailbox when the previous overflow mailbox fills up.	CP 5025
3. Configure the primary mailbox (the mailbox that is to rotate to the overflow mailbox when full) the same as a standard mailbox, except for the FCOS and change rights.	CP 3305
4. Assign an FCOS that includes feature bit 189 (rotate on full mailbox). *Prompt:* `Features class of service:` *Response:* The **number** of an FCOS that includes feature bit 189. **Note:** If you are using the full-screen interface, the above prompt would be "Features:"	
5. If the primary mailbox has change rights for Distribution List 1, remove them. *Prompt:* `Lists with change rights:` *Response:* If Distribution List 1 currently has change rights, re-specify all lists currently having change rights except Distribution List 1. Use any of the following formats: • A single **list**, for example, 2 • A series of **lists**, for example, 3,4,5,6, • A **range of lists**, for example, 2-15 • A combination of any of the above entries; for example, 2-5,8,12,50-70,90 *or* **N** if no distribution lists should have change rights, *or* Press **Enter** if Distribution List 1 currently has no change rights. **Note:** If you are using the full-screen interface, the above prompt would be "Change:" You would edit a Change List Rights table by pressing the **End** key, and changing all ones (allow change rights) to zeros.	CP 3305
6. When a new message is received by a full mailbox, it is routed to the first available mailbox in the full mailbox's Distribution List 1 (the overflow mailbox).	

Define an Administrator's Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to define an administrator's mailbox.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
3. Specify the line group that this administrator's mailbox serves. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24) *or* Press **Enter** if the current number is correct.	
4. Check the dialing plan for the specified line group. Make sure the administrator's mailbox number you wish to designate is compatible with the number of digits allowed by the plan, does not start with a prohibited digit, and so on.	
5. Reach the VoiceMemo Application Menu, then go to the Dial String and Mailbox Menu. *Select:* (C) Administrator's Mailbox # *Prompt:* `Administrator's mailbox # =` *Response:* The **number** you wish to designate as the administrator's mailbox. The administrator's mailbox can be the default (998), one of the numbers already reserved for it, or any other number in the server, as long as it matches the dialing plan. Numbers reserved for the administrator's mailbox are: • 98 • 998 • 9998 • 99998 • 999998 • 9999998 • 99999998 • 999999998 • 9999999998 • 99999999998	Menu Map 2
6. Save the mailbox designation you just entered by exiting to the Main Menu.	

Step	*Reference*
7. If the administrator's mailbox number is not the default or is not one of the numbers reserved for it, create the mailbox through the Mailbox Maintenance Menu. Set the mailbox parameters the same as for a standard mailbox, with this exception: Assign an FCOS that contains all the features of a typical administrator's mailbox—such as default FCOS 1 (Unlimited) or default FCOS 10 (VIP)—to the mailbox. **Note:** To enhance server security, Centigram strongly recommends that you select a number other than the default or one of the reserved numbers.	CP 3305
8. To define an administrator's mailbox for another line group, select the desired line group, then repeat the preceding steps. You can use a different number for each administrator's mailbox if you want each line group to have a different company greeting.	

Define an Attendant's Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to define an attendant's mailbox.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. *Select:* (E) Modify Active Configuration *or* (F) Modify Inactive Configuration	
3. Specify the line group which this attendant's mailbox serves. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24) *or* Press **Enter** if the current number is correct.	
4. Check the dialing plan for the s specified line group. Make sure the administrator's mailbox number you wish to designate is compatible with the number of digits allowed by the plan, does not start with a prohibited digit, and so on.	
5. Reach the VoiceMemo Application Menu then go to the Dial String and Mailbox Menu. *Select:* (D) Attendant's Mailbox # *Prompt:* `Attendant's mailbox # =` *Response:* The **number** or **numbers** you wish to designate as the attendant's mailbox(es). Up to five attendant's mailboxes can be defined per line group. Enter multiple attendant's mailbox numbers separated by commas; for example: 5999,6999,7999,8999,9999 The attendant's mailbox can be the default (999), one of the numbers already reserved for it, or any other number in the server, as long as it matches the dialing plan. Numbers reserved for the attendant's mailbox are: • 99 • 999 • 9999 • 99999 • 999999 • 9999999 • 99999999 • 999999999 • 9999999999 • 99999999999	Menu Map 2
6. Save the mailbox designation(s) you just entered by exiting to the Main Menu.	

Step	*Reference*
7. If the attendant's mailbox number is not the default or is not one of the numbers reserved for it, create the mailbox through the Mailbox Maintenance Menu. Set the applicable mailbox parameters the same as for a standard mailbox. **Note:** To enhance server security, Centigram strongly recommends that you select a number other than the default or one of the reserved numbers.	CP 3305
8. To define an attendant's mailbox for another line group, select the desired line group, then repeat the preceding steps. Use a different number for each attendant's mailbox.	

Delete a Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to delete a single mailbox or multiple mailboxes from the server. Deleting a mailbox removes the mailbox number and the entire configuration of the mailbox; clears the greeting and passcode; erases all old messages; and zeros all billing counters.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu.	Menu Map 3

Using the Scrolling Interface

2. Delete a single mailbox or a range of mailboxes.

   Select: (D) Delete Mailboxes
   Prompt: `Mailbox to delete:`
   Response: The **number** of the mailbox you want to delete, *or*

   The first and last **numbers** of the mailboxes to delete in a range, separated by a hyphen. For example, "101-203".

3. If you specified a single mailbox, the server displays the configuration of the mailbox you just specified, then prompts you to confirm or deny the deletion.

   Prompt: `Delete (y/n):`
   Response: **Y** for yes.

   The server reports the mailboxes deleted.

4. If you specified a range of mailboxes, the server displays a confirmation warning.

   Prompt: `Deleting mailboxes n through n`
   `WARNING: If you really want to delete these mailboxes enter "delete"`
   Response: **delete** in lowercase letters

   Prompt: `Delete (y/n):`
   Response: **Y** for yes.

   The server reports the mailboxes deleted.

5. Continue deleting mailboxes or go back to the Mailbox Maintenance Menu.

   Prompt: `Mailbox to delete:`
   Response: The **number** of the next mailbox you want to delete, or just press **Enter** to go back to the Mailbox Maintenance Menu.

Step *Reference*

Using the Full-Screen Interface

2. Delete a single mailbox.

   Select: (C) Create/Modify/Delete Mailboxes
   Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the mailbox you want to delete.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F6** to delete the mailbox.

3. The server displays the configuration of the mailbox you just specified, then prompts you to confirm or deny the deletion.

   Prompt: `Confirm to delete this mailbox (Y/N):`
   Response: **Y** for yes.

4. If you want to delete a range of mailboxes, use the **F1** (next mailbox) and **F2** (previous mailbox) keys to select the next mailbox to delete, then repeat step 3.

5. Continue deleting mailboxes. When done, go back to the Mailbox Maintenance Menu by pressing **F9**.

Inquire About Mailboxes

VoiceMemo Release 6.0A and later

This procedure describes how to obtain data about a single mailbox or a range of mailboxes. The data shows message counts, class of service assignments, message waiting type, the passcode, and login status.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu, then specify the mailbox(es) you want information about.. *Select:* (I) Inquire About Mailboxes *Prompt:* `Mailbox to display:` *Response:* A mailbox **number**; for example, 4321, *or* A range of mailbox **numbers**; for example, 4320-4321. The server displays (or prints) data about the mailbox(es) specified. For each specified mailbox, this data consists of message statistics, class-of-service assignments, message waiting type assigned, passcode, and login information.	Menu Map 3
2. Continue the inquiry or exit. *Prompt:* `Mailbox to display:` *Response:* The **number(s)** of the next mailbox(es) to inquire about, *or* Press **Enter** to exit.	

Modify a Mailbox Configuration

VoiceMemo Release 6.0A and later

This procedure describes how to modify the configuration parameters of an existing mailbox.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu.	Menu Map 3

Using the Scrolling Interface

2. Identify the mailbox you want to modify.

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of the existing mailbox you want to modify.

   The server displays the configuration of the mailbox you just specified, then prompts for a new mailbox number.

   Note: Parameters are the same for modifying an existing mailbox and creating a new one, except that "New" precedes each parameter when you select Modify Mailboxes.

3. Enter new values for parameters as desired, or press **Enter** to leave an existing parameter setting unchanged. (Existing settings are not displayed, but remain in effect unless changed.)
4. Use the applicable procedure(s) identified under "Mailboxes" in the task list for values to enter.
5. After the last parameter, the server displays the mailbox configuration, then prompts for the next mailbox number to modify.

   Prompt: `Mailbox to modify:`
   Response: The **number** of the next mailbox to modify,

   or

   Press **Enter** to go back to the Mailbox Maintenance Menu.

Step *Reference*

Using the Full-Screen Interface

2. Identify the mailbox you want to modify.

   Select: (C) Create/Modify/Delete Mailboxes
   Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F10** to edit the mailbox information.

   Note: Parameters are the same for modifying an existing mailbox and creating a new one.

3. Enter new values for parameters as desired. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen, stopping at parameters you wish to change.
4. Use the applicable procedure(s) identified under "Mailboxes" in the task list for values to enter.
5. Save changes to the mailbox by pressing **F10**. To cancel changes, press **F9**.
6. Modify additional mailboxes as described above. When done, exit Mailbox Maintenance by pressing **F9**.

Search for Mailboxes

VoiceMemo Release 6.0A and later

This procedure describes how to search for mailboxes that meet specified search criteria, and how to view the configuration of specified mailboxes.

Step | *Reference*

1. Go to the Mailbox Maintenance Menu. — Menu Map 3

   Select: (S) Search for Mailboxes
   Prompt: `Report destination :`
   Response: Press **Enter** to send the report to the console,
   S1 to send the report to serial port #1, *or*
   S2 to send the report to serial port #2.

   The server displays a Search Pattern Menu that offers various mailbox configuration criteria you can choose. This is followed by a mailbox configuration "template."

2. Choose the first search criterion.

   Prompt: `COMMAND:`
   Response: The **letter** from the Search Pattern Menu that represents the criterion you want. Table 1 lists the valid search patterns.

   A prompt displays after choosing a criterion. The valid responses to each of these prompts are given in Table 1 at the end of this procedure.

3. Start the search.

   Prompt: `COMMAND:`
   Response: **S** for start.

   The server displays the configuration of every mailbox meeting the search criterion just specified, or reports that there is no match (or prints this information if you designated a printer in step 1).

4. Choose the next search criterion, start the next search, view the results, and so on until you have finished all desired searching.

Step *Reference*

Table 1 Valid Entries for Search Patterns

Select:	(A) All Mailboxes
Response:	The server displays (or prints) the configurations of all existing mailboxes.
Select:	(B) Internal Outdial Index
Prompt:	`Mailbox internal outdial index to display (cr for all):`
Response:	The index **number** (0-15) representing the access code for internal outdials. *or* Press **Enter** to find all mailboxes with any internal outdial index.
Select:	(C) FCOS - Feature Class of Service
Prompt:	`Mailbox FCOS to find (cr for all):`
Response:	An FCOS **number** (1-640), *or* Press **Enter** to find all mailboxes that have any FCOS.
Select:	(D) Billed Outdial Index
Prompt:	`Mailbox billed outdial index to display (cr for all):`
Response:	The index **number** (0-15) representing the access code for external outdials charged to a billing account. *or* Press **Enter** to find all mailboxes with any billed outdial index.

Step *Reference*

Table 1 Valid Entries for Search Patterns (continued)

Select:	(E) Mailbox's Extension
Prompt:	`Mailbox's extension to find (cr for all):`
Response:	The PBX **extension number** or **directory number** (1-15 digits) assigned to mailboxes, *or* An asterisk (*) with a **number** to match any string with at least one known digit. For example, "5*" searches for any extension starting with 5; "*4" searches for any extension ending with 4. *or* Press **Enter** to find all mailboxes with any extension or directory number.
Select:	(F) Mailbox's Extension Pre-dial Index
Prompt:	`Mailbox's extension pre-dial index to find (cr for all):`
Response:	A pre-dial string **index** (1-16). *or* Press **Enter** to find all mailboxes with any pre-dial string index.
Select:	(G) GCOS–Group Class of Service
Prompt:	`Mailbox GCOS to find (cr for all):`
Response:	A GCOS **number** (1-32,000), *or* Press **Enter** to find all mailboxes with any GCOS.

Step *Reference*

Table 1 Valid Entries for Search Patterns (continued)

Select:	(H) Department Code
Prompt:	`Department code to display (cr for all):`
Response:	The department **code** (1-10 alphanumeric characters). *or* An * (asterisk) with a **character** to match any code with at least one known character. For example, "M*" searches for any code starting with M; "*4" searches for any code ending with 4. *or* Press **Enter** to find all mailboxes with any department code.
Select:	(I) Name
Prompt:	`Mailbox name to display (cr for all):`
Response:	A mailbox **name** (1-31 alphanumeric characters), *or* An * (asterisk) with a **character** to match any name with at least one known character. For example, "S*" searches for any name starting with S, such as Smith. *or* Press **Enter** to find all mailboxes with any name.
Select:	(J) Unbilled Outdial Index
Prompt:	`Mailbox unbilled outdial index to display (cr for all):`
Response:	The index **number** (0-15) representing the access code for external outdials that are not charged to a billing account. *or* Press **Enter** to find all mailboxes with any unbilled outdial index.

Step *Reference*

Table 1 Valid Entries for Search Patterns (continued)

Select: (K) Billing Number
Prompt: `Mailbox billing number to display (cr for all):`
Response: The **number** of the account, up to 24 digits, that outdials are billed to.

or

Press **Enter** to find all mailboxes with any billing number.

Select: (L) LCOS–Limits Class of Service
Prompt: `Mailbox LCOS to display (cr for all):`
Response: An LCOS **number** (1-640),

or

Press **Enter** to find all mailboxes with any LCOS.

Select: (M) Message Waiting Type
Prompt: `Message waiting type to display (cr for all):`
Response: Any of the following types:

0 = None	**13** = ITT RS-232
1 = Not Available	**14** = TextMemo
2 = AC Message Lamp	**15** = AT&T System 75
3 = DTMF-to-PBX	**16** = HIS PMS
4 = Fixed RS-232	**17** = Unified Integrations
5 = Pager	**18** = ROLM
6 = SL-1	**19** = Mitel
7 = Program RS-232	**20** = SL-1 Message Waiting
8 = Tip And Ring RS-232	**21** = Hitachi PMS
9 = Centrex RS-232	**22** = SL-1 Enhanced Meridian
10 = Intecom RS-232	**23** = Fujitsu 960
11 = NEC RS-232	**24** = SMS-MWI
12 = Video Dispatch	

or

Press **Enter** to find all mailboxes with any message waiting type.

Select: (N) No Passcode
Response: The server displays (or prints) the configurations of all mailboxes that do not have a passcode.

Step *Reference*

Table 1 Valid Entries for Search Patterns (continued)

Select:	(O) Attendant Extension
Prompt:	`Mailbox attendant extension to display (cr for all):`
Response:	The system attendant's **extension number**, *or* An * (asterisk) with a **character** to match any system attendant's extension with at least one known character. For example, "5*" searches for any extension starting with 5; "*4" searches for any extension ending with 4. *or* Press **Enter** to find all mailboxes with any system attendant's extension number.
Select:	(P) Attendant Pre-dial Index
Prompt:	`Attendant extension pre-dial index to display (cr for all):`
Response:	An attendant extension pre-dial **index** (1-16). *or* Press **Enter** to find all mailboxes with any attendant extension pre-dial index.
Select:	(Q) NCOS–Network Class of Service
Prompt:	`Mailbox NCOS to display (cr for all):`
Response:	An NCOS **number** (1-64). (NCOSs are associated with the MESA-Net optional feature.) *or* Press **Enter** to find all mailboxes with any NCOS.
Select:	(R) Range of Mailboxes
Prompt:	`Mailbox(es) to display (cr for all):`
Response:	A mailbox **number**, *or* The first and last **numbers** of the mailboxes in a range to be searched for, separated by a hyphen. For example, "101-203".
Select:	(T) Tutorial Enabled
Response:	The server displays (or prints) the configurations of all mailboxes that have either a site tutorial or standard tutorial enabled.

Step *Reference*

Table 1 Valid Entries for Search Patterns (continued)

Select:	(U) TCOS–Tenant Class of Service
Prompt:	`Mailbox TCOS to display (cr for all):`
Response:	A TCOS **number** (1-128). (TCOSs are associated with the Enhanced SMDI optional feature.) *or* Press **Enter** to find all mailboxes with any TCOS.
Select:	(V) Billed Outdial Dialing Order
Prompt:	`Mailbox billed dial order to display (cr for all):`
Response:	**BN** to find all mailboxes that require the billing number to be dialed before the destination telephone number, *or* **NB** to find all mailboxes that require the destination telephone number to be dialed before the billing number.

Set or Clear a Mailbox Passcode or Tutorial

VoiceMemo Release 6.0A and later

This procedure describes how to set or clear a passcode for a mailbox, how to turn on or off the tutorial, and how to clear or keep the bad passcode count. You must also have configured the desired passcode parameters (CP 5021, Chapter 10).

Step	*Reference*
1. Reach the Mailbox Maintenance Menu.	Menu Map 3

2. Identify the mailbox to change.

   Select: (P) Set Passcode/Tutorial
   Prompt: `Set passcode for mailbox:`
   Response: **Number(s)** of the mailbox(es) you do not want to hear the tutorials. Mailbox numbers can be entered in either of these formats:

   - A single **mailbox**, for example 4443
   - A **range of mailboxes**, for example 4443-4451

3. Set or clear the passcode.

   Prompt: `New passcode:`
   Response: To set a passcode, enter the 4-10 **digits** desired.

   To clear an existing passcode, enter **0** (zero).

4. Turn the tutorial on or off.

   Prompt: `Tutorial (y/n):`
   Response: **Y** to turn of the tutorial,

   N to turn off the tutorial,

   or

   Press **Enter** to leave the tutorial specification unchanged.

5. Specify whether the bad passcode count is to be cleared.

   Prompt: `Clear bad passcode count (y/n):`
   Response: **Y** to clear the count,

   N to keep the count in effect

   or

   Press **Enter** to leave the passcode count specification unchanged.

6. The server confirms your entries, then asks for the next mailbox number. Enter the next mailbox number to change, or press **Enter** to exit.

Test Mailbox Capabilities

VoiceMemo Release 6.0A and later

This procedure describes how to test mailbox capabilities that have been established by an FCOS, LCOS, and GCOS.

Step	*Reference*
1. If you have not already done so, obtain a System Configuration Report. Refer to the report as needed for such information as the FCOS, LCOS, and GCOS that have been assigned to mailboxes.	CP 4353, Ch. 1
2. If you have not already done so, obtain these reports:	
• Feature Class of Service Report	CP 5006, Ch. 7
• Limits Class of Service Report	CP 6048, Ch. 8
• Group Class of Service Report	CP 6049, Ch. 8
3. Create two test mailboxes that include each FCOS, LCOS, and GCOS used.	CP 3305
4. Refer to the Feature Class of Service Report as needed to identify the feature bits in the FCOS assigned to the mailbox you are going to test.	
5. Place a butt set in the monitor position on the telephone line connected to the server.	
6. Call test mailbox B and leave a message.	
7. Check the called telephone (test mailbox B) to verify that the message waiting indication (light or tone) is turned on.	
8. Log into test mailbox B and play the message.	
9. Verify that your message completes under each of the following conditions:	
• You stop speaking and the server hears 3 seconds of silence.	
• You entered a valid DTMF tone (if the Caller's Menu is enabled in the mailbox's FCOS).	
• The server hears 5 seconds of dial tone.	
• You reach the maximum message length established by the LCOS assigned to the mailbox.	
10. Test all the capabilities of the mailbox allowed by the feature bits in the FCOS.	
• Leave or make messages as appropriate to test the various feature bits.	
• Verify that all appropriate prompts are played.	
• Pay particular attention to possible feature bit conflicts.	
11. Refer to the Limits Class of Service Report as needed to identify the limits parameters.	
12. Test the mailbox for all limits parameters that comprise the LCOS. For example, make a message and test the length limit.	
13. Log out of test mailbox B.	

Step	*Reference*
14. Verify that the message waiting indication is turned off.	
15. Log into test mailbox A.	
16. Refer to the Group Class of Service Report as needed to identify groups.	
17. Make three messages and send them to test mailbox B with these respective special delivery options: • Mark one of the messages urgent. • Mark one of the messages confidential. • Request a receipt for one of the messages.	
18. Log into test mailbox B, play the messages, and verify that they are urgent and confidential, respectively.	
19. Log out of test mailbox B.	
20. Log into test mailbox A and verify that it plays the receipt notice.	
21. Create a distribution list that includes test mailbox B.	
22. Make a message to the distribution list that includes test mailbox B.	
23. Log out of test mailbox A.	
24. Log into test mailbox B and play the distribution list message.	
25. Log out of test mailbox B.	
26. Log into test mail box A and verify the answer from test mailbox B.	

Test Message Waiting Indication

VoiceMemo Release 6.0A and later

This procedure describes how to test message waiting lights after they have been configured for mailboxes in your server. Prerequisites for this procedure are:

- All appropriate hardware has been installed.
- Telephone lines have been installed and tested for dial tone.
- Test mailboxes have been configured for message waiting lights.

Step	*Reference*
1. If you have not already done so, obtain a System Configuration Report. Refer to the report as needed for the configuration parameters that you have set.	DP 4353, Ch. 1
2. Use Event Recorder to monitor server activity during test pages and report the resulting data: a. Specify the line on which the pager being tested is defined. b. Specify the message level to be saved. c. Enable Event Recorder. d. Run Event Recorder. e. Display the data at the server maintenance console.	*Series 6 Installation and Service Manual*
3. Reach the System Maintenance Menu, then go to the Additional Options Menu.	Menu Map 12
4. Start the Lights Test. *Select:* (L) Lights Test *Prompt:* `Mailbox to light (1-99999999999):` *Response:* The **number** of the mailbox, *or* A **range** of mailbox numbers separated by a hyphen. **Note:** If you select a large range of mailboxes, the Lights Test could queue up a long list of message waiting requests and could take a long time to process.	
5. Turn lights off. *Prompt:* `Light off/on/existing value (0/1/2):` *Response:* **0** to turn the message waiting lights off.	
6. Specify the message waiting type.	

Step	*Reference*

Prompt: `Message waiting type (0 or <cr> for all):`
Response: **Enter** for all message waiting types,

or

The **number** of the message waiting type assigned to the mailboxes you selected. Table 1 lists the message waiting types available.

7. The server prompts for another mailbox to light. Enter the same mailbox number(s).

   Prompt: `Mailbox to light (1-99999999999):`
   Response: The **number** of the mailbox,

   or

   A **range** of mailbox numbers separated by a hyphen.

8. Turn lights on.

   Prompt: `Light off/on/existing value (0/1/2):`
   Response: **1** to turn the message waiting lights on.

9. Specify the message waiting type.

   Prompt: `Message waiting type (0 or <cr> for all):`
   Response: **Enter** for all message waiting types,

   or

   The **number** of the message waiting type assigned to the mailboxes you selected. Table 1 lists the message waiting types available.

10. The server prompts for another mailbox to light. To repeat the test, perform steps 4 through 9 again.

11. Review Event Recorder data reported at the server maintenance console to determine if any errors were encountered.

12. Continue the Lights Test for remaining mailboxes or stop the Lights Test.

    Prompt: `Mailbox to light (1-99999999999):`
    Response: The **number**(s) of the next mailbox(es) to test,

    or

    Press **Enter** to stop the Lights Test, then Exit to the Main Menu.

Step *Reference*

Table 1 Message Waiting Types

Number	Message Waiting Type
0	None
1	Not Available
2	AC msg lamp
3	DTMF to PBX
4	Fixed RS-232 (and Hitachi DX)
5	Pager
6	SL1
7	Program RS-232
8	Tip & Ring RS-232
9	Centrex RS-232
10	Intecom RS-232
11	NEC RS-232
12	Video Dispatch
13	ITT RS-232
14	TextMemo
15	AT&T System 75
16	HIS PMS
17	Unified Integration
18	ROLM
19	Mitel
20	SL1 Msg Waiting
21	Hitachi PMS
22	SL1 Enhanced Meridian
23	Fujitsu 960
24	SMS-MWI

7 Features Class of Service

This chapter covers:

- Overview and Quick Reference Tables
- Feature bit categories
- Default FCOSs available with VoiceMemo
- Suggested additional FCOSs
- Customizing your FCOS
- Feature bit descriptions

Overview

The Series 6 server provides a broad range of software tools that allow you to customize your server to the needs of your own company. This chapter introduces you to one of those tools, the Features Class of Service (FCOS), and explains what you can do with an FCOS you assign to mailboxes. You can use the tables in this overview section as a quick reference when configuring an FCOS. The tables summarize frequently-used information about FCOSs and their components.

An FCOS contains one or more *feature bits*, each of which control how the application software handles different kinds of messages. You do not assign the feature bits to a mailbox; instead you assign groups of them to an FCOS and assign the FCOS to a mailbox. Feature bits are sometimes called as "FCOS bits;" this manual uses the former term as the latter leads to confusion between the bit and the FCOS. FCOS bits are also referred to as "features." This is a better term, but again can lead to confusion since many aspects of the server are also called features.

Feature Bit Summary

Table 7-1 lists all the feature bits. Master feature bits, which are required for other related feature bits to work, are indicated in bold type.

See "Feature Bit Descriptions," later in this chapter, for a full explanation of each feature's use and characteristics.

Table 7-1 Feature Bits Available in VoiceMemo

001	Login to mailbox	036	Auto-receipt for user dist list msgs
002	Transfer to mailbox attendant	037	Not used
003	Return to welcome prompt	038	Attach original message to answer
004	**Outside caller functions**	039	Notification tone when new msg arrives
005	Play Outside Caller Menu prompts	040	Receive messages from other users
006	Rewind and fast-forward during playback	041	Receive messages from outside callers
007	Pause in record or play	042	Not used
008	Mailbox can be checked in/out	043	Receive message of the day
009	Automatic logout if no messages/receipts	044	Receive user dist list messages
010	Not used	045	Receive master dist list messages
011	Not used	046	Announce receipt count at login
012	Not used	047	Notification prompt when new msg arrives
013	Not used	048	No auto-time stamp of unplayed msgs
014	Not used	049	No auto-time stamp of played msgs
015	Change wakeup options	**050**	**Play messages**
016	Deny recycling with * key	051	Do not switch language for outside callers
017	Fast line release from outside caller	052	Auto-play unplayed messages
018	Give and mark urgent	**053**	**Keep messages**
019	Answer and mark urgent	054	Auto-keep messages
020	**Make messages**	**055**	**Discard messages**
021	Make and request receipt	056	Auto-discard messages
022	Make to multiple destinations	057	Play saved messages in FIFO order
023	Make and mark confidential	058	Play unplayed messages in FIFO order
024	**Give messages**	059	Play unplayed messages first
025	Give and request receipt	060	Ignore DTMFs during greeting
026	Give to multiple destinations	061	Wait to record (time-out = # key)
027	Give and mark confidential	062	Hang up immediately after greeting
028	Give with comments	063	Call mailbox attendant after greeting
029	**Answer messages**	064	Call mailbox user ext after greeting
030	Answer and request receipt	065	Play system time after greeting
031	Answer and mark confidential	066	Login during greeting in greet-only mbx
032	Make to user distribution list	067	Not used
033	Give to user distribution list	068	Define rotational mailbox
034	Make to master distribution list	069	Passcode required for mobile DID
035	Give to master distribution list	**070**	**User Options Menu**

Table 7-1 Feature Bits Available in VoiceMemo (continued)

071	Record or change mailbox name
072	Record or change mailbox greeting
073	Enter and change mailbox passcode
074	Create or modify user distribution list
075	Audit receipt message
076	Play urgent messages in FIFO order
077	Change pager schedule
078	Activate user tutorial
079	Set msg wait #1 for urgent msgs only
080	Set msg wait #2 for urgent msgs only
081	Only one correct passcode for login
082	Soft play (interrupt) message count
083	Soft play (interrupt) most prompts
084	Give receipt message with comments
085	Give receipt message to multiple dests
086	**Give receipt message**
087	Make and mark urgent
088	Receive urgent messages
089	Auto-play all msgs (new and saved)
090	Check in other mailboxes
091	Check out other mailboxes
092	User will be in Dial-by-Name database
093	Deny change of passcode in first tutorial
094	Change message delivery options
095	Mark message for future delivery
096	Make messages before keep/discard
097	Do not say "I will ring <name>" in AR (Receptionist II)
098	Say "Press 0" to caller before beep
099	Not used
100	Not Used
101–109	Deny login on line groups 1–9
110	Make/give to telephone number
111–119	Deny message receipt on line groups 1–9
120	Default to first child of tree mailbox
121	**Define tree mailbox**
122	**Define broadcast mailbox**
123	Announce broadcast mailbox name
124	Change paging phone number
125	Clear user passcode
126	Make/give to mailbox with empty GCOS
127	Deny receipt of msgs before tutorial run
128	Family head
129	Host mailbox
130	Passcode cannot be same as mailbox
131	Don't say limits of liability statement
132	Bad passcode lockout if over limit
133	Don't say: "You may start your msg now"
134	Broadcast message waiting status
135	Define template mailbox (MESA-Forms)
136	Don't say: "End of message"
137	Caller must enter access code
138	Don't say: "Message complete"
139	Template: assume last greet mbx FCOS
140	Say full date when playing messages
141	Define chain mailbox in Receptionist
142	Must run tutorial from own phone (SMDI)
143	Change message delivery phone number
144	Skip forward to next message
145	Message stays in original queue
146	Don't say "VoiceMemo storage is full"
147	Send receipt after full play
148	Change auto-wakeup phone number
149	Login to template thru rotational mbox
150	Not used
151	Deny 333 access for mobile DID

Table 7-1 Feature Bits Available in VoiceMemo (continued)

152	Deny login within tree	186	Default to last child of tree mailbox
153	Don't jump to new message from saved queue	187	Receptionist call-transfer tree mailbox
154	Announce text (E-mail) message count	188	Append # to end of cut-thru page number
155	Payphone user/recipient interface	189	Rotate on full mailbox
156	Deny login after greeting	190	Receive fax messages
157	Repeat message for answering machine	191	Make fax messages
158	Continue sending message (* key)	192	Give fax messages
159	Say "Press 0 to return to receptionist"	193	Deliver fax to default number
160	Caller must enter linegroup access code	194	Deliver fax online
161	Conditional greetings	195	Specify fax delivery number
162	General greetings	196	Change default fax number
163	Don't play message count	197	Fax-on-demand for greeting-only mailbox
164	Skip/pause during greeting in Greet-only mbox	198	Receive fax messages only
165	Pound key (#) login	199	Auto-receipt for fax send
166	AMIS Analog Networking	200	Personal fax cover page
167	Reserved	201	Deny trivial passcode
168	Message wait 1, pager requeue	202	Do not play mailbox name or ext number
169	Message wait 2, pager requeue	203	Walkaway fax for callers
170	Transfer to Voice Gateway System	204	Message skip, forward and backward
171	Cut-through Paging	205	Do not use text count for message waiting
172	Cut-through Paging and messaging	206	Discard fax message after delivery
173	Receive cut-through page notify receipt	207	Fax verify (sending system not self)
174	Define broadcast greeting mailbox	208	Play reorder tone after CTP or greet only
175	Receive broadcast greeting	209	Tone only pager mailbox interface
176	Say "Press # for more options" to callers	210	Numeric display pager mailbox interface
177	Reminder calls	211	Voice pager mailbox interface
178	Define broadcast name mailbox	212	Send page upon answer, greet-only mbx
179	Receive broadcast name	213	Edit CTP num with * key if no caller menu
180	Record personal wakeup message	214	Not used
181	Paging over msgdel, mwi1 over mwi2	215	Don't auto-play first msg (w/auto-play)
182	Use pri/alt as week/weekend for mwi1	216	Play receipts after urgent messages
183	Use pri/alt as week/weekend for mwi2	217	Announce text msgs without count
184	Append mailbox number to VG transfer	218	Passcode not needed on direct calls
185	Receive wakeup call notification receipt	219	Login with 0 using cut-thru paging

Table 7-1 Feature Bits Available in VoiceMemo (continued)

220	No dial ext, E-mail, or VG if unplayed msgs
221	Deny caller transfer to E-mail/VG
222	Deny nesting of distribution lists
223	Delay requested receipt for 24 hours
224	Auto-transfer to task before greeting
225	Auto-transfer to task upon login
226	Auto Transfer to task after unplayed msgs
227	Undelete last message with * key
228	Set msg wait #3 for urgent msgs only
229	Play names of list 1 children
230	Deny change of fax cover page options
231	Passcode Broadcast mailbox
232	Allow receipt of passcode broadcasts
233	Not used
234	Check message wait status of children
235	Display FROM field on fax cover page
236	Display promotional message on fax cover page
237	Automatically delivers fax message to default number
238	End-of-session multiple fax delivery
239	Retrieve all unplayed faxes through user option
240	Receive fax on voice recording timeout
241	Suppress broadcast forced receipt
242	Say variable passcode prompts for business guest mailboxes
243	(VMUIF) Transfer to API on Main Menu key 4
244	(VMUIF) Transfer to API on Main Menu key 5
245	(VMUIF) Transfer to API on Personal Options Menu key 6
246	(VMUIF) Transfer to API on Personal Options Menu key 7
247	Don't play any prompt to fax call placement recipient
248	(VMUIF) Deny Transfer to API for guest mailboxes
249	Allow transfer to Help Desk during tutorial
250	Allow OneView login
251	Allow OneView telephone playback/record
252	Allow OneView client to change mailbox ID
254	Not used
255	Delete mailbox without unplayed messages

Quick Reference to Feature Bits by Category

Table 7-2 groups all feature bits by category. Use it as a quick reference to all of the feature bits in any of the feature categories described in the next section. For a full explanation of each category, see "Feature Bit Categories," later in this chapter.

Table 7-2 List of Feature Bits by Category

1. Greeting Features

060 Ignore DTMFs during greeting
062 Hang up immediately after greeting
063 Call mailbox attendant after greeting
064 Call mailbox user extension after greeting
065 Play system time after greeting
161 Conditional greetings
162 General greetings
164 Skip/pause greeting in Greeting-only mailbox
224 Auto-transfer to task before greeting

2. Login Features

001 Login to mailbox
016 Deny recycling with * key
066 Login during greeting in greet-only mbx
069 Passcode required for mobile DID
081 Only one correct passcode needed for log in
101-109 Deny login on line groups 1-9
132 Bad passcode lockout if over limit
151 Deny 333 access for mobile DID
152 Deny login within tree
156 Deny login after greeting
160 Caller must enter line group access code
165 Pound key (#) login
218 Passcode not needed on direct calls
219 Login with 0 using cut-thru paging
225 Auto-transfer to task upon login

3. Logout Features

003 Return to Welcome prompt
009 Automatic logout if no messages/receipts
170 Transfer to Voice Gateway System
220 No dial extension, E-mail or VG if unplayed msgs

4. Attendant Call Features

002 Transfer to mailbox attendant
098 Say "Press 0" to caller before beep
159 Say "Press 0 to return to Receptionist"

5. Outside Caller Features

002 Transfer to mailbox attendant
004 Outside caller functions (master feature)
005 Play outside caller menu prompts
017 Fast line release from outside caller
041 Receive messages from outside callers
051 Do not switch language for outside callers
092 User will be in dial-by-name database
098 Say "Press O" to caller before beep
111-119 Deny message receipt on line groups 1-9
137 Caller must enter access code
160 Caller must enter line group access code
176 Say "Press 0 for more options" to callers
203 Walkaway fax for callers
221 Deny caller transfer to E-mail /VG

6. Prompts Features

051 Do not switch language for outside callers
082 Soft play (interrupt) message count
083 Soft play (interrupt) most prompts
097 Do not say "I will ring (recipient's name)" in AR (Receptionist II)
098 Say "press 0" to caller before beep
131 Don't say limits of liability statement
133 Don't say "You may start your msg now"
136 Don't say "End of message"
138 Don't say "Message complete"
140 Say full date when playing messages
146 Don't say "VoiceMemo storage is full"
155 Payphone user/recipient interface
159 Say "Press 0 to return to Receptionist"
163 Don't play message count
176 Say "Press 0 for more options" to callers
202 Do not play mailbox name or extension number
208 Play reorder tone after CTP or greet-only
209 Tone only pager mailbox interface
210 Numeric display pager mailbox interface
211 Voice pager mailbox interface

Table 7-2 List of Feature Bits by Category (continued)

7. Receive Messages Features

039 Notification tone when new msg arrives
040 Receive messages from other users
041 Receive messages from outside callers
043 Receive message of the day
044 Receive user dist list messages
045 Receive master dist list messages
046 Announce receipt count at login
088 Receive urgent messages
111-119 Deny message receipt on line groups 1-9
127 Deny receipt of msgs before tutorial run
173 Receive cut-through page notify receipt
175 Receive broadcast greeting
179 Receive broadcast name
185 Receive wake-up call notification receipt
190 Receive fax messages
198 Receive fax messages only
199 Auto-receipt for fax send
223 Delay requested receipt for 24 hours

8. Play Messages Features

006 Rewind and fast forward during playback
007 Pause in record or play
039 Notification tone when new msg arrives
046 Announce receipt count at login
047 Notification prompt when new msg arrives
048 No auto-time stamp of unplayed msgs
049 No auto-time stamp of played msgs
050 Play messages (master feature)
052 Auto-play unplayed messages
057 Play saved messages in FIFO order
058 Play unplayed messages in FIFO order
059 Play unplayed messages first
075 Audit receipt message
076 Play urgent messages in FIFO order
089 Auto-play all msgs (new and saved)
144 Skip forward to next message
145 Message stays in original queue
147 Send receipt after full play
153 Don't jump to new message from saved queue
204 Message skip, forward and backward
215 Don't auto-play first msg (w/auto-play)
216 Play receipts after urgent messages
255 Delete mailbox without unplayed messages

9. Answer Messages Features

029 Answer messages (master feature)
019 Answer and mark urgent
030 Answer and request receipt
031 Answer and mark confidential
038 Attach original message to answer
147 Send receipt after full play
158 Continue sending message

10. Keep/Discard Messages Features

053 Keep messages (master feature)
054 Auto-keep messages
055 Discard messages (master feature)
056 Auto-discard messages
145 Message stays in original queue
227 Undelete last message with * key

11. Make Messages Features

020 Make messages (master feature)
021 Make and request receipt
022 Make to multiple destinations
023 Make and mark confidential
032 Make to user distribution list
034 Make to master distribution list
061 Wait to record
087 Make and mark urgent
092 User will be in Dial-by-Name database
096 Make messages before keep/discard
110 Make/give to telephone number

11. Make Messages Features (continued)

157 Repeat message for answering machine
158 Continue sending message
168 Message wait 1, pager requeue
169 Message wait 2, pager requeue
171 Cut-through Paging
172 Cut-through Paging and messaging
188 Append # to end of cut-thru page number
191 Make fax messages

12. Give Messages Features

024 Give messages (master feature)
086 Give receipt message (master feature)

Table 7-2 List of Feature Bits by Category (continued)

12. Give Messages Features, continued

018 Give and mark urgent
025 Give and request receipt
026 Give to multiple destinations
027 Give and mark confidential
028 Give with comments
033 Give to user distribution list
035 Give to master distribution list
061 Wait to record
084 Give receipt message with comments
085 Give receipt message to multiple dests
110 Make/give to telephone number
126 Make/give to mailbox with empty GCOS
157 Repeat message for answering machine
158 Continue sending message
192 Give fax messages

13. Message Addressing Features

018 Give and mark urgent
019 Answer and mark urgent
021 Make and request receipt
023 Make and mark confidential
025 Give and request receipt
027 Give and mark confidential
030 Answer and request receipt
031 Answer and mark confidential
087 Make and mark urgent
095 Mark message for future delivery

14. User Options Features

070 User Options Menu (master feature)
015 Change wakeup options
071 Record or change mailbox name
072 Record or change mailbox greeting
073 Enter or change mailbox passcode
074 Create or modify user distribution list
077 Change pager schedule.
078 Activate user tutorial
093 Deny change of passcode in first tutorial
094 Change message delivery options
095 Mark message for future delivery
124 Change paging phone number
125 Clear user passcode
127 Deny receipt of messages before tutorial run
130 Passcode cannot be same as mailbox
142 Must run tutorial from own phone (SMDI)
143 Change message delivery phone number
148 Change auto-wakeup phone number
180 Record personal wake-up message
195 Specify fax delivery number
196 Change default fax number
201 Deny trivial passcode

15. User Distribution Lists features

032 Make to user distribution list
033 Give to user distribution list
036 Auto-receipt for user dist list messages
044 Receive user dist list messages
074 Create or modify user distribution list
134 Broadcast message waiting status
222 Deny nesting of distribution lists

16. Master Distribution Lists Features

034 Make to master distribution list
035 Give to master distribution list
045 Receive master dist list messages

17. Check In/Check Out Features

008 Mailbox can be checked in/out
090 Check in other mailboxes
091 Check out other mailboxes

18. Super User Features

121 Define tree mailbox (master feature)
122 Define broadcast mailbox (master feature)
068 Define rotational mailbox
120 Default to first child of tree mailbox
123 Announce broadcast mailbox name
141 Define chain mailbox in Receptionist
147 Send receipt after full play
152 Deny login within tree
174 Define broadcast greeting mailbox
178 Define broadcast name mailbox
186 Default to last child of tree mailbox
187 Receptionist call-transfer tree mailbox
189 Rotate on full mailbox

Table 7-2 List of Feature Bits by Category (continued)

18. Super User Features, continued

231 Passcode Broadcast mailbox
232 Allow receipt of passcode broadcasts

19. Message Waiting Indicators Features

079 Set msg wait #1 for urgent msgs only
080 Set msg wait #2 for urgent msgs only
134 Broadcast message waiting status
182 Use pri/alt as week/weekend for mwi1
183 Use pri/alt as week/weekend for mwi2
205 Do not use text count for message waiting
228 Set message wait #3 for urgent messages only
234 Check message wait status of children

20. FaxMemo Features

190 Receive fax messages
191 Make fax messages
192 Give fax messages
193 Deliver fax to default number
194 Deliver fax online
195 Specify fax delivery number
196 Change default fax number
197 Fax-on-demand for greeting-only mailbox
198 Receive fax messages only
199 Auto-receipt for fax send
200 Personal fax cover page
203 Walkaway fax for callers
206 Discard fax message after delivery
207 Fax verify
230 Deny change of fax cover page options
235 Display FROM field on fax cover page
236 Display promotional message on fax cover page
237 Automatically delivers fax message to default number
238 End-of-session multiple fax delivery
239 Retrieve all unplayed faxes through user option
240 Receive fax on voice recording timeout
247 No Fax call placement prompts

21. Paging/Message Delivery Features

077 Change pager schedule
124 Change paging phone number
168 Message wait 1, pager requeue
169 Message wait 2, pager requeue
171 Cut-through Paging
172 Cut-through Paging and messaging
173 Receive cut-through page notify receipt
181 Paging over message delivery, message waiting 1 over message waiting 2
188 Append # to end of cut-thru page number
208 Play reorder tone after CTP or greet-only
209 Tone only pager interface
210 Numeric display pager mailbox interface
211 Voice pager mailbox interface
212 Send page upon answer, greeting-only mailbox
213 Edit CTP number with * key if no caller menu
219 Login with 0 using cut-thru paging

22. Voice Gateway and E-mail Features

154 Announce text (E-mail) message count
170 Transfer to Voice Gateway System
184 Append mailbox number to Voice Gateway transfer
205 Do not use text count for message waiting
217 Announce text messages without count
220 No dial extension, E-mail or VG if unplayed messages
221 Deny caller transfer to E-mail/VG
224 Auto-transfer to task before greeting
225 Auto-transfer to task upon login
226 Auto-transfer to task after unplayed messages

23. Network & MESA Forms Features

135 Define template mailbox (MESA-Forms)
139 Template: assume last greet mbx FCOS
149 Login to template thru rotational mailbox
166 AMIS Analog Networking

24. OneView Features

250 Allow OneView login
251 Allow OneView telephone playback/record
252 Allow OneView client to change mailbox ID

Feature Bit Incompatibilities

Certain feature bits should not be combined in the same FCOS, because their interaction causes server malfunctions, operation overrides, etc. Table 7-3 summarizes feature bit combinations you should avoid. For more information, see "Feature Bit Descriptions," later in this chapter.

Table 7-3 Summary of Incompatible Feature Bits

Feature Bit	Remarks
005	Incompatible with 213
009	With 052 and/or 089: affects logout and auto-play (see feature description for 009)
021	Overrides 036
025	Overrides 036
026	Overrides 036
036	Overridden by 021, 025, 026; incompatible with 056 or 089
039	Overridden by 047
041	Overrides 068, 121
047	Overrides 039, 121
048	Overrides 144; overridden by 204
049	Overrides 144; overridden by 204
052	Overridden by 089; with 009 and/or 089: affects logout and auto-play (see feature description for 009)
054	Incompatible with 056
056	Incompatible with 054
060	Overridden by 164
068	Overridden by 041
089	Overrides 047, 052, 120; incompatible with 036, 227; with 009 and/or 052: affects auto-play (see feature description for 009)
120	Overridden by 089, 122, 186
121	Overridden by 041
122	Overrides 120, 134
134	Overridden by 122, 186
140	Overridden by 204; incompatible with 048
144	Overridden by 048, 049, 204
154	Overridden by 217
164	Overrides 060
186	Overrides 120, 134
198	Incompatible with 203

Table 7-3 Summary of Incompatible Feature Bits (continued)

Feature Bit	Remarks
203	Incompatible with 198
204	Overrides all Receive Messages features (category 7); overrides 048, 049, 144
206	Overridden by 237
213	Incompatible with 005
217	Overrides 154
227	Incompatible with 056 or 089
237	Overrides 206
All Receive Message features	Overridden by 204

Feature Bit Categories

In this section, all of the feature bits have been grouped by function. For example, all of the bits that have to do with the greeting function are grouped under category 1 below. This is a useful reference if you must find a feature by function rather than by number. You can also use Table 7-2, List of Features by Category, if you do not need the detailed information in this section.

An experienced server administrator who wants the maximum flexibility in customizing the company phone operations can select feature bits from the categories in the Feature Bit Summary by Category below and write them on the FCOS worksheet in the section "Designing Your FCOS."

The following paragraphs summarize the categories, then give detailed listings of each category.

Note: These categories have nothing to do with any of the numbers you enter into the server, either feature bit number or FCOS number.

1. **Greeting** feature bits control the events that occur during or immediately after the mailbox greeting is played.

2. **Login** feature bits control processing when a user logs into a mailbox.

3. **Logout** feature bits affect a user logout from a mailbox.

4. **Attendant call** feature bits allow the user or caller to call the mailbox attendant while logged into the mailbox (for example, pressing 0 (zero) while logged in).

5. **Outside caller** feature bits are prompts and privileges that allow outside callers to review, discard, and append to their messages. This category also contains a bit that requires a caller to enter an access code before leaving a message.

6. **Prompts** feature bits control processing that allow the user to interrupt (soft play) prompts and affects some Receptionist prompts.

7. **Receive messages** feature bits control processing of messages the user can and cannot receive, as well as notification of the arrival of new messages.

8. **Play messages** feature bits allow the user to play messages. This category also contains notification, time stamp, and order-of-play features.

9. **Answer messages** feature bits allow answers to messages from other users. This category also contains attach-message bits. The ability to mark an answer "confidential," and to activate a return receipt for the answer, are found under Message Addressing (category 13).

10. **Keep/discard messages** feature bits control processing after users play their messages, namely the keep and discard options.

11. **Make messages** feature bits allow users to record (Make) a message and send it to one or more users. This category also contains two timing feature bits. The ability to mark a message "confidential," and to activate a return receipt for the message, are found under Message Addressing (category 13).

12. **Give messages** feature bits allow users to forward (Give) messages they have received to one or more users, with or without additional comments. This category also contains receipt feature bits. The ability to mark the given message (and comments, if applicable) "confidential," and to activate a return receipt, are found under Message Addressing (category 13).

13. **Message addressing** feature bits allow a user to add a confidential designation to a message, to make a message urgent, to request a return receipt, or to set future delivery.

14. **User options** feature bits allow users to reach the User Options Menu and record names or greetings, set passcodes, make distribution lists, activate the user tutorial, allow a pager, or activate auto-wakeup.

15. **User distribution lists** feature bits allow the user to reach distribution list features needed to compile and use distribution lists, and to receive their messages (other than those present in Category 14). Distribution lists designate to which group of mailboxes the same message is to be sent.

16. **Master lists** feature bits allow the server administrator to create and use master distribution lists. They also allows the user to make messages for a Master List, and to receive Master List messages.

17. **Check-in/check-out** feature bits allow the hotel/motel or TAS operator to set up a mailbox for a guest/client by recording a name or greeting, setting a passcode, or activating the tutorial. The operator can also clear messages after a guest/client has checked out.

18. **Super user** feature bits are for creating tree, broadcast, and rotational mailboxes.

19. **Message waiting indicators** feature bits activate primary and secondary message waiting indicators .

20. **FaxMemo** feature bits control use of the FaxMemo options. FaxMemo is an optional feature.

21. **Paging** feature bits control use of paging and message delivery options.

22. **Voice Gateway and E-mail** feature bits control use of Voice Gateway or the E-mail interface, or the text counter. Voice Gateway and E-mail interface are optional features.

23. **Network and voice forms** feature bits control the AMIS Analog or MESA-Forms optional features of a server.

24. **OneView** feature bits allow personal computer users to send, receive, create, edit, and store voice and fax messages in the Microsoft® Windows™ environment. OneView is an optional feature.

Feature Bit Summary by Category

The following pages summarize the server's feature bits according to the categories described above. The summaries are useful when modifying an existing FCOS or designing a new one.

Following the name of each category is a summary of its function. The first feature bit listed in each category is the **master feature bit**—the bit that allows other bits within the same functional category to operate. The identifying numbers of the master feature bits are shown in bold type. Not all categories have master feature bits. Descriptions of all bits are found under Feature Bit Descriptions.

Note: The category numbers are not used for console input. They are provided for reference when designing an FCOS.

Category 1 - Greeting Feature Bits

These bits tell the server what to do either during or after the mailbox greeting is played. To allow the mailbox user to record the greeting, the FCOS must also contain the following bits:

- 070 (User Options Menu)
- 072 (Record or change mailbox greeting)

Feature	Description	Feature	Description
060	Ignore DTMFs during greeting	161	Conditional greetings
062	Hang up immediately after greeting	162	General greetings
063	Call mailbox attendant after greeting	164	Skip/pause greeting in Greeting-only mbox
064	Call mailbox ext after greeting	224	Auto-transfer to task before greeting
065	Play system time after greeting		

Category 2 - Login Feature Bits

Login contains bits that control processing when users log into (enter) their mailboxes.

Note: Zero is an acceptable login character for a line group only when the Configuration Report shows "Key 0 for transfer to attendant during greeting = [N]."

Feature	Description	Feature	Feature
001	Login to mailbox	152	Deny login within tree
016	Deny recycling with * key	156	Deny login after greeting
066	Login during greeting in greet-only mbx	160	Caller must enter linegroup access code
069	Passcode required for mobile DID	165	Pound key (#) login
081	Only one correct passcode for login	218	Passcode not needed on direct calls
101–109	Deny login on line groups 1-9	219	Login with 0 using cut-thru paging
132	Bad passcode lockout if over limit	225	Auto-transfer to task upon login
151	Deny 333 access for mobile DID		

Category 3 - Logout Feature Bits

If users have the ability to log in, they automatically are given the ability to log out, either by pressing X, hanging up, or by not responding to repeated server prompts. Category 3 contains special logout feature bits.

Feature	Description
003	Return to welcome prompt
009	Automatic logout if no messages/receipts
170	Transfer to Voice Gateway System
220	No dial ext, E-mail, or VG if unplayed msgs

Category 4 - Attendant Call Feature Bits

Attendant Call contains bits that control processing when a user or caller presses 0 (zero) to reach an attendant.

Feature	Description
002	Transfer to mailbox attendant
098	Say "Press 0" to caller before beep
159	Say "Press 0 to return to receptionist"

Category 5 - Outside Caller Feature Bits

Outside Caller contains bits that control processing after a caller leaves a message in a mailbox. This category also contains bits that requires a caller to enter an access code before leaving a message.

Feature	Description	Feature	Description
004	**Outside caller functions**	098	Say "press 0" to caller before beep
002	Transfer to mailbox attendant	111–119	Deny message receipt on line groups 1-9
005	Play Outside Caller Menu prompts	137	Caller must enter access code
017	Fast line release from outside caller	160	Caller must enter linegroup access code
041	Receive messages from outside callers	176	Say "Press # for more options" to callers
051	Do not switch language for outside callers	203	Walkaway fax for callers
092	User will be in Dial-by-Name database	221	Deny caller transfer to E-mail/VG

Category 6 – Prompts Feature Bits

This category contains bits that allow the user to interrupt (soft play) prompts. It also allows the administrator to modify what prompts the users hear.

Feature	Description	Feature	Description
051	Do not switch language for outside callers	146	Don't say "VoiceMemo storage is full."
051	Do not switch language for outside callers	163	Don't play message count
082	Soft play (interrupt) message count	157	Repeat message for answering machine
082	Soft play (interrupt) message count	159	Say "Press 0 to return to receptionist"
083	Soft play (interrupt) most prompts	163	Don't play message count
097	Do not say "I will ring <name>" in AR (Receptionist II)	176	Say "press # for more options" to callers
098	Say "press 0" to caller before beep	202	Do not play mailbox name or ext number
131	Don't say limits of liability statement	208	Play reorder tone after CTP or greet only
133	Don't say: "You may start your msg now"	209	Tone only pager mailbox interface
136	Don't say: "End of message"	233	Portuguese language prompts (Brazilian)
136	Don't say: "End of message"	210	Numeric display pager mailbox interface
138	Don't say: "Message complete"	211	Voice pager mailbox interface
140	Say full date when playing messages		

Category 7 – Receive Messages Feature Bits

This category specifies the sources from whom mailboxes can receive messages, as well as notification of the arrival of new messages. Several message sending capabilities require one or more of these Receive Messages bits in recipient's mailboxes in order to work properly.

Feature	Description	Feature	Description
039	Notification tone when new msg arrives	111–119	Deny message receipt on line groups 1-9
040	Receive messages from other users	127	Deny receipt of msgs before tutorial run
041	Receive messages from outside callers	173	Receive cut-through page notify receipt
042	Not used	175	Receive broadcast greeting
043	Receive message of the day	179	Receive broadcast name
044	Receive user dist list messages	185	Receive wakeup call notification receipt
045	Receive master dist list messages	190	Receive fax messages
046	Announce receipt count at login	198	Receive fax messages only
047	Notification prompt when new msg arrives	199	Auto-receipt for fax send
088	Receive urgent messages	223	Delay requested receipt for 24 hours

Category 8 – Play Messages Feature Bits

Play Messages contains bits that control processing when the user plays messages. This category also contains notification, time stamp, confidential and/or urgent, and order-of-play bits.

Feature	Description	Feature	Description
050	**Play messages**	075	Audit receipt message
006	Rewind and fast forward during playback	076	Play urgent messages in FIFO order
007	Pause in record or play	089	Auto-play all msgs (new and saved)
039	Notification tone when new msg arrives	144	Skip forward to next message
046	Announce receipt count at login	145	Message stays in original queue
047	Notification prompt when new msg arrives	147	Send receipt after full play
048	No auto-time stamp of unplayed msgs	153	Don't jump to new message from saved queue
049	No auto-time stamp of played msgs	204	Message skip, forward and backward
052	Auto-play unplayed messages	215	Don't auto-play first msg (w/auto-play)
057	Play saved messages in FIFO order	216	Play receipts after urgent messages
058	Play unplayed messages in FIFO order	255	Delete mailbox without unplayed messages
059	Play unplayed messages first		

Category 9 – Answer Messages Feature Bits

This category controls the Answer function. Messages can be answered when they are sent, using the make or give command, from another server user's mailbox. This category also contains attach-message feature bits.

Feature	Description
029	**Answer messages**
019	Answer and mark urgent
030	Answer and request receipt
031	Answer and mark confidential
038	Attach original message to answer
147	Send receipt after full play
158	Continue sending message (* key)

Category 10 – Keep or Discard Messages Feature Bits

These bits control what users do with messages after they play them; accordingly, all keep/discard options require bit 050 (Play messages). You should include bit 053 (Keep messages) and/or 055 (Discard messages) for any mailbox that can receive messages. Otherwise the user cannot play more than one message during the same session.

Feature	Description
053	**Keep messages**
054	Auto-keep messages
055	**Discard messages**
056	Auto-discard messages
145	Message stays in original queue
227	Undelete last message with * key

Category 11 – Make Messages Feature Bits

Make Messages contains bits that control processing when the user records a message and wants to send it to a single user or to numerous users. This category also contains two timing bits.

Feature	Description	Feature	Description
020	**Make messages**	096	Make messages before keep/discard
021	Make and request receipt	110	Make/give to telephone number
022	Make to multiple destinations	126	Make/give to mailbox with empty GCOS
023	Make and mark confidential	157	Repeat message for answering machine
032	Make to user distribution list	158	Continue sending message (* key)
034	Make to master distribution list	171	Cut-through Paging
061	Wait to record (timeout = # key)	172	Cut-through Paging and messaging
087	Make and mark urgent	188	Append # to end of cut-thru page number
092	User will be in Dial-by-Name database	191	Make fax messages

Category 12 – Give Messages Feature Bits

Give Messages contains bits that control processing when users want to forward messages they have received to a single or numerous users with or without additional comments. This category also contains receipt bits.

Feature	Description	Feature	Description
024	**Give messages**	061	Wait to record (timeout = # key)
086	**Give receipt message**	084	Give receipt message with comments
018	Give and mark urgent	085	Give receipt message to multiple dests
025	Give and request receipt	110	Make/give to telephone number
026	Give to multiple destinations	126	Make/give to mailbox with empty GCOS
027	Give and mark confidential	157	Repeat message for answering machine
028	Give with comments	158	Continue sending message (* key)
033	Give to user distribution list	192	Give fax messages
035	Give to master distribution list		

Category 13 – Message Addressing Feature Bits

Message addressing contains bits that control processing after the user makes, gives, or answers a message and wants to mark a message confidential and/or urgent and/or to request a return receipt.

Feature	Description	Feature	Description
018	Give and mark urgent	027	Give and mark confidential
019	Answer and mark urgent	030	Answer and request receipt
021	Make and request receipt	031	Answer and mark confidential
023	Make and mark confidential	087	Make and mark urgent
025	Give and request receipt	095	Mark message for future delivery

Category 14 – User Options

User Options contains bits that control processing when users want to record names or greetings, set passcodes, make distribution lists, activate the user tutorial, allow a pager, or activate auto wakeup.

Feature	Description	Feature	Description
070	**User Options Menu**	125	Clear user passcode
015	Change wakeup options	127	Deny receipt of msgs before tutorial run
071	Record or change mailbox name	130	Passcode cannot be same as mailbox
072	Record or change mailbox greeting	142	Must run tutorial from own phone (SMDI)
073	Enter and change mailbox passcode	143	Change message delivery phone number
074	Create or modify user distribution list	148	Change auto-wakeup phone number
077	Change pager schedule	180	Record personal wakeup message
078	Activate user tutorial	195	Specify fax delivery number
093	Deny change of passcode in first tutorial	196	Change default fax number
094	Change message delivery options	201	Deny trivial passcode
095	Mark message for future delivery	242	Say variable passcode prompts for guest mailbox
124	Change paging phone number	124	Change paging phone number

Category 15 – User Distribution Lists Feature Bits

User Distribution Lists contains bits that control processing when the user wants to create and use distribution lists. Distribution lists designate a group of mailboxes so same message can be sent to each.

A user distribution list can have up to 65,535 mailboxes. Each mailbox can have up to 99 distribution lists. User distribution lists can be reached only by someone who is logged into the mailbox in which the list is stored.

Feature	Description	Feature	Description
032	Make to user distribution list	074	Create or modify user distribution list
033	Give to user distribution list	134	Broadcast message waiting status
036	Auto-receipt for user dist list msgs	222	Deny nesting of distribution lists
044	Receive user dist list messages	044	Receive user dist list messages

Category 16 – Master Distribution Lists Feature Bits

Master Lists are distribution lists that are stored in the administrator's mailbox. Distribution lists designate to which group of mailboxes the same message is to be sent. An ordinary user distribution lists can be reached only by someone who is logged into the mailbox in which the list is stored. Master distribution lists are available to any mailbox with the appropriate feature bits listed below.

There are 99 master lists available. Master distribution list numbers have an additional leading zero. To address a message to the administrator's mailbox distribution list 1, enter 001. For master list 99, enter 0099.

Feature	Description
034	Make to master distribution list
035	Give to master distribution list
045	Receive master dist list messages

Category 17 – Check In/Check Out

Check In/Check Out contains bits that control processing when the hotel/motel or TAS operator sets up a mailbox for a guest/client by recording a name or greeting, setting a passcode, or activating the tutorial.

The operator can also clear messages after a guest/client has departed.

Feature	Description
008	Mailbox can be checked in/out
090	Check in other mailboxes
091	Check out other mailboxes

Category 18 – Super User Feature Bits

Super User contains features that control processing for defining rotational, tree or broadcast mailboxes. These mailboxes require distribution lists to indicate which child mailboxes to branch to.

Feature	Description	Feature	Description
121	**Define tree mailbox**	178	Define broadcast name mailbox
122	**Define broadcast mailbox**	186	Default to last child of tree mailbox
068	Define rotational mailbox	187	Receptionist call-transfer tree mailbox
120	Default to first child of tree mailbox	189	Rotate on full mailbox
123	Announce broadcast mailbox name	229	Play names of list 1 children
141	Define chain mailbox in Receptionist	231	Passcode Broadcast mailbox
147	Send receipt after full play	231	Allow receipt of passcode broadcast
152	Deny login within tree	234	Check message wait status of children
174	Define broadcast greeting mailbox	174	Define broadcast greeting mailbox

Category 19 – Message Waiting Indicators Feature Bits

Message Waiting Indicators (MWIs) contains bits that control processing when the server administrator wants to activate primary and/or secondary message-waiting indication.

Feature	Description	Feature	Description
079	Set msg wait #1 for urgent msgs only	183	Use pri/alt as week/weekend for mwi 2
080	Set msg wait #2 for urgent msgs only	205	Do not use text count for message waiting
134	Broadcast message waiting status	228	Set message wait #3 for urgent msgs only
182	Use pri/alt as week/weekend for mwi 1	234	Check message wait status of children

Category 20 – FaxMemo Feature Bits

FaxMemo contains bits that control processing when using the FaxMemo optional feature to VoiceMemo. The FaxMemo hardware and software must be properly installed to use these bit.

Feature	Description	Feature	Description
190	Receive fax messages	203	Walkaway fax for callers
191	Make fax messages	206	Discard fax message after delivery
192	Give fax messages	207	Fax verify (sending system not self)
193	Deliver fax to default number	230	Deny change of fax cover page options
194	Deliver fax online	235	Display FROM field on fax cover page
195	Specify fax delivery number	236	Display promo message on fax cover page
196	Change default fax number	237	Automatically delivers fax to default number
197	Fax-on-demand for greeting-only mailbox	238	End-of-session multiple fax delivery
198	Receive fax messages only	239	Retrieve all unplayed faxes as user option
199	Auto-receipt for fax send	240	Receive fax on voice recording timeout
200	Personal fax cover page	247	No Fax call placement prompts

Category 21 – Paging and Message Delivery Feature Bits

Paging contains bits that control processing when using radio pagers or message delivery. Some bits allow the user to override default schedules or pager numbers. The Pager application must be set up correctly to use these bits.

Cut-through Paging is an optional feature.

Feature	Description	Feature	Description
077	Change pager schedule	188	Append # to end of cut-thru page number
124	Change paging phone number	208	Play reorder tone after CTP or greet-only
168	Message Wait 1, pager requeue	209	Tone only pager mailbox interface
169	Message Wait 2, pager requeue	210	Numeric display pager mailbox interface
171	Cut-through Paging	211	Voice pager mailbox interface
172	Cut-through Paging and messaging	212	Send page upon answer, greeting-only mbx
173	Receive cut-through page notify receipt	213	Edit CTP num with * key if no caller menu
181	Paging over msgdel, mwi1 over mwi2	219	Login with 0 using cut-thru paging

Category 22 – Voice Gateway and E-mail Feature Bits

Voice Gateway, Text, and OneCall contain bits that control processing when using the Voice Gateway or E-mail interface to the server. Other applications can take advantage of the text counter; for example, a hotel environment can use the text counter to show physical (written) messages waiting for a guest. The OneCall environment also uses these bits.

The Voice Gateway or E-mail interface must be set up correctly to use these bits.

Feature	Description	Feature	Description
154	Announce text (E-mail) message count	220	No dial ext, E-mail or VG if unplayed msgs
170	Transfer to Voice Gateway system	221	Deny caller transfer to E-mail/VG
184	Append mailbox number to VG transfer	224	Auto-transfer to task before greeting
205	Do not use text count for msg waiting	225	Auto-transfer to task upon login
217	Announce text msgs without count	226	Auto-transfer to task after unplayed msgs

Category 23 – Network and MESA Forms

Network and MESA Forms contains feature bits that control processing when using the AMIS Analog or MESA Forms optional features. You must have optional feature software and you must configure it correctly to use it.

Feature	Description	Feature	Description
135	Define template mailbox (MESA-Forms)	149	Login to template thru rotational mbox
139	Template: assume last greet mbox FCOS	166	AMIS Analog Networking

Category 24 - OneView Feature Bits

OneView is an optional feature that integrates multimedia messaging by allowing personal computer users to send, receive, create, edit, and store voice and fax messages in a Microsoft Windows environment. With the OneView optional feature, mailbox owners can have an "InBox" window for their messages and they can play voice messages by clicking a mouse button. You must have OneView optional feature software and you must configure it correctly to use it.

Feature	Description
250	Allow OneView login
251	Allow OneView telephone playback/record
252	Allow OneView client to change mailbox ID

FCOS Description and Usage

An FCOS determines what voice mail capabilities a mailbox owner has. An FCOS contains numbered components, called "feature bits," that determine how each call is processed. There are over 250 feature bits that can affect processes such as using passcodes, issuing foreign language prompts, and broadcasting messages.

The server administrator assigns one FCOS to each mailbox. Each mailbox must be assigned an FCOS; if you do not, the default FCOS 1 is assigned. You cannot assign an individual feature bit to a mailbox; you must assign a feature bit to an FCOS.

VoiceMemo software allows you to customize an FCOS. FCOSs control the mailbox owner's access to mailbox operations and user options, and allow you to create mailboxes with special functions, such as tree and broadcast mailboxes.

Default FCOSs Available With VoiceMemo

Several FCOSs are pre-programmed into the default configuration. Select a default FCOS that matches your needs, and assign it to a mailbox. If you wish to customize your own FCOS, you can use these as templates.

This section describes the default FCOSs.

Note: All operations that involve interactions with other mailboxes (make, give, answer) are limited to those mailboxes with compatible GCOSs. For more information on this topic, see Chapter 8.

FCOS 1: Unlimited

This FCOS contains most standard feature bits except for the message-addressing options. The user can record name and greeting, change passcode, and receive messages from other users and outside callers. The user can also play, keep, discard, answer, give messages and make new messages for other server users or for distribution lists, as well as create and modify distribution lists.

Although this FCOS suits the needs of users with standard applications, it should not be thought of as truly "unlimited" (which implies that there are no restrictions on the mailbox). It is more accurately the *basic* FCOS for a server.

New mailboxes have FCOS 1 assigned to them by default unless you specify another FCOS.

001	Login to mailbox
002	Transfer to mailbox attendant
003	Return to welcome prompt
004	**Outside caller functions**
005	Play Outside Caller Menu prompts
006	Rewind and fast-forward during playback
020	**Make messages**
024	**Give messages**
028	Give with comments
029	**Answer messages**
032	Make to user distribution list
033	Give to user distribution list
034	Make to master distribution list
035	Give to master distribution list
040	Receive messages from other users
041	Receive messages from outside callers
042	Not used
043	Receive message of the day
044	Receive user dist list messages
045	Receive master dist list messages
050	**Play messages**
053	**Keep messages**
055	**Discard messages**
058	Play unplayed messages in FIFO order
059	Play unplayed messages first
066	Login during greeting in greet-only mbx
070	**User Options Menu**
071	Record or change mailbox name
072	Record or change mailbox greeting
073	Enter and change mailbox passcode
074	Create or modify user distribution list
077	Change pager schedule
098	Say "Press 0" to caller before beep
125	Clear user passcode
126	Make/give to mailbox with empty GCOS

FCOS 2: Full Guest

This FCOS is used in the hotel/motel environment where no Property Management System (PMS) integration is available. It has fewer capabilities than FCOS 1 (Unlimited). However, there are feature bits that allow this type of mailbox to be reached by check-in and check-out mailboxes.

001	Login to mailbox
002	Transfer to mailbox attendant
003	Return to welcome prompt
004	**Outside caller functions**
005	Play Outside Caller Menu prompts
006	Rewind and fast-forward during playback
008	Mailbox can be checked in/out
020	**Make messages**
024	**Give messages**
028	Give with comments
029	**Answer messages**
032	Make to user distribution list
033	Give to user distribution list
034	Make to master distribution list
035	Give to master distribution list
040	Receive messages from other users
041	Receive messages from outside callers
042	Not used
043	Receive message of the day
044	Receive user dist list messages
045	Receive master dist list messages
050	**Play messages**
053	**Keep messages**
055	**Discard messages**
058	Play unplayed messages in FIFO order
059	Play unplayed messages first
066	Login during greeting in greet-only mbx
070	**User Options Menu**
071	Record or change mailbox name
072	Record or change mailbox greeting
073	Enter and change mailbox passcode
074	Create or modify user distribution list
077	Change pager schedule
126	Make/give to mailbox with empty GCOS

FCOS 3: Restricted

This FCOS is used by hotels. Guests or customers cannot do the following: enter or change their names, greetings, or passcodes; make, answer, or give messages; or create or use distribution lists. They can, however, keep and discard messages.

Only the attendant can record names and greetings and assign passcodes. For a hotel or motel application, a name and passcode are usually entered for this type of mailbox by using a special check-in (see default FCOS 4) mailbox. Callers hear the greeting "Please leave a message for [name]."

A guest (or customer) logs into the mailbox and hears the count of unplayed messages. Unplayed messages are automatically played (that is, the guest hears the first message and all succeeding messages without having to press P). All messages are automatically kept, unless the guest presses D (to delete messages) within a few seconds.

001	Login to mailbox	043	Receive message of the day
002	Transfer to mailbox attendant	044	Receive user dist list messages
003	Return to welcome prompt	**050**	**Play messages**
004	**Outside caller functions**	052	Auto-play unplayed messages
005	Play Outside Caller Menu prompts	**053**	**Keep messages**
006	Rewind and fast-forward during playback	054	Auto-keep messages
008	Mailbox can be checked in/out	**055**	**Discard messages**
009	Automatic logout if no message/receipts	058	Play unplayed messages in FIFO order
040	Receive messages from other users	059	Play unplayed messages first
041	Receive messages from outside callers	066	Login during greeting in greet-only mbx
042	Not used		

FCOS 4: Check In

This FCOS is used by hotels. It is a special mailbox that manipulates other mailboxes. When a check-in mailbox is reached, the server prompts for the mailbox number to be checked in, then prompts the caller (usually a hotel or motel attendant) to record a name and enter a passcode for the mailbox.

Guest mailboxes controlled by FCOS 4 must contain feature bit 008 (Mailbox can be checked in/out). Guest mailboxes are therefore usually assigned default FCOS 2 (Full Guest) or default FCOS 3 (Restricted).

001	Login to mailbox	**070**	**User Options Menu**
004	Outside caller functions	071	Record or change mailbox name
005	Play Outside Caller Menu prompts	072	Record or change mailbox greeting
066	Login during greeting in greet-only mbx	090	Check in other mailboxes

FCOS 5: Check Out

A check-out mailbox is the counterpart of the check-in mailbox. This FCOS is used by hotels.

When the attendant calls a check-out mailbox, the server prompts for the mailbox number to be checked out. It then gives the attendant the choice of either keeping or discarding any messages left in the mailbox. Finally, the server purges the guest's name, greeting, and passcode, and follows the attendant's command about messages. The mailbox is then ready to be checked in for the next guest.

You must create a check-out mailbox to use the hotel check-in/check-out feature of VoiceMemo. Guest mailboxes controlled by FCOS 4 must contain feature bit 008 (Mailbox can be checked in/out). Guest mailboxes are therefore usually assigned default FCOS 2 (Full Guest) or default FCOS 3 (Restricted).

001	login to mailbox	071	Record or change mailbox name
066	Login during greeting in greet-only mbx	072	Record or change mailbox greeting
070	**User Options Menu**	091	Check out other mailboxes

FCOS 6: Greeting Only

When a caller reaches a Greeting-Only mailbox, the server plays the greeting and then hangs up.

To illustrate a use of a Greeting-Only mailbox, imagine that a theater manager wants callers to hear an announcement of show times. The manager would create a mailbox with this FCOS, call the mailbox, log in, then record a greeting.

The mailbox user can change the mailbox name, greeting, and passcode, but cannot create or use distribution lists. No one can make messages for or give messages to a Greeting-Only mailbox.

A Greeting-Only mailbox must have a greeting; otherwise the server considers the mailbox invalid. To log into a Greeting-Only mailbox that does not have a greeting, press the star (*) key on the phone key pad; then enter the mailbox number. You can choose to remove feature bit 066 (Login during greeting in greet-only mbx) after you record a greeting for the mailbox.

001	Login to mailbox	**070**	**User Options Menu**
002	Transfer to mailbox attendant	071	Record or change mailbox name
003	Return to welcome prompt	072	Record or change mailbox greeting
060	Ignore DTMFs during greeting	073	Enter and change mailbox passcode
062	Hang up immediately after greeting		
066	Login during greeting in greet-only mbx		

FCOS 7: Not Used

FCOS 8: Chain

Chain mailboxes play a greeting, then route calls to the mailbox selected by the caller. The chain mailbox itself cannot accept messages from users or callers. Assign this chain FCOS to a mailbox and record a greeting for the mailbox.

A chain mailbox prompts callers to enter a mailbox number or to wait. If callers enter a mailbox number, the chain mailbox simply routes the call to the user's mailbox. If callers wait (do not immediately enter a mailbox number), VoiceMemo transfers the call to the attendant's mailbox or to the attendant, depending on your configuration.

When a mailbox owner logs in to this type of mailbox, VoiceMemo prompts, "Press U to change user options, X to exit." The mailbox owner can change the mailbox name, greeting, and passcode, but cannot make messages or create or use distribution lists.

Note: Chain mailbox is a default, unless the FCOS has one of the following feature bits: 062 (Hang up immediately after greeting), one of the receive message feature bits, or any of the tree, rotational, or broadcast mailbox feature bits. The *lack* of these feature bits plays the general greeting, which asks the caller for a mailbox number.

001	Login to mailbox	071	Record or change mailbox name
002	Transfer to mailbox attendant	072	Record or change mailbox greeting
003	Return to welcome prompt	073	Enter and change mailbox passcode
066	Login during greeting in greet-only mbx	141	Define chain mailbox in Receptionist
070	**User Options Menu**		

Receptionist II and the Chain FCOS The mailbox number is called an "extension number" in Receptionist II.

If the caller does not enter an extension number, the server transfers the call to the attendant's extension, if one is defined; otherwise Receptionist II transfers the call to the attendant's mailbox

If you include feature bit 141 (Define chain mailbox in Receptionist), a chain mailbox routes a call to an extension even if the chain mailbox has no greeting. In addition, Receptionist II can route a call from a chain mailbox to a tree mailbox and vice-versa.

FCOS 9: Time

This is a Greeting-Only mailbox that plays its greeting, announces the server time, and asks for a mailbox number. The feature bit responsible for the time is 065 (Play system time after greeting); if you want this functionality without having the time announced, you could make a copy of this FCOS and leave feature bit 065 out of the new version.

A user can log in and change user options (mailbox name, greeting, and passcode), but cannot create or use distribution lists. No one can make a message for a time mailbox or give messages to it.

001	Login to mailbox	071	Record or change mailbox name
065	Play system time after greeting	072	Record or change mailbox greeting
066	Login during greeting in greet-only mbx	073	Enter and change mailbox passcode
070	**User Options Menu**		

FCOS 10: VIP

This FCOS provides advanced options for the experienced user. It has more feature bits than FCOS 1: Unlimited.

It contains these features: Multiple make/give, Attach original message to answer, and Message addressing options (New Message Notification, Mark Confidential, and Return Receipt). This FCOS also includes the Outside Caller's Menu.

001	Login to mailbox	**024**	**Give messages**
002	Transfer to mailbox attendant	025	Give and request receipt
003	Return to welcome prompt	026	Give to multiple destinations
004	**Outside caller functions**	027	Give and mark confidential
005	Play Outside Caller Menu prompts	028	Give with comments
006	Rewind and fast-forward during playback	**029**	**Answer messages**
007	Pause in record or play	030	Answer and request receipt
015	Change wakeup options	031	Answer and mark confidential
018	Give and mark urgent	032	Make to user distribution list
019	Answer and mark urgent	033	Give to user distribution list
020	**Make messages**	034	Make to master distribution list
021	Make and request receipt	035	Give to master distribution list
022	Make to multiple destinations	036	Auto-receipt for user dist list msgs
023	Make and mark confidential	038	Attach original message to answer

FCOS 10: VIP (continued)

040	Receive messages from other users
041	Receive messages from outside callers
042	Not used
043	Receive message of the day
044	Receive user dist list messages
045	Receive master dist list messages
046	Announce receipt count at login
047	Notification prompt when new msg arrives
050	**Play messages**
053	**Keep messages**
055	**Discard messages**
058	Play unplayed messages in FIFO order
059	Play unplayed messages first
061	Wait to record (timeout = # key)
066	Login during greeting in greet-only mbx
070	**User Options Menu**
071	Record or change mailbox name
072	Record or change mailbox greeting
073	Enter and change mailbox passcode
074	Create or modify user distribution list
075	Audit receipt message
076	Play urgent messages in FIFO order
077	Change pager schedule
078	Activate user tutorial
082	Soft play (interrupt) message count
083	Soft play (interrupt) most prompts
084	Give receipt message with comments
085	Give receipt message to multiple dests
086	**Give receipt message**
087	Make and mark urgent
088	Receive urgent messages
092	User will be in Dial-by-Name database
094	Change message delivery options
095	Mark message for future delivery
096	Make messages before keep/discard
098	Say "Press 0" to caller before beep
110	Make/give to telephone number
124	Change paging phone number
125	Clear user passcode
126	Make/give to mailbox with empty GCOS

FCOS 11-14: Reserved

FCOS 15: Tree

This FCOS is used to specify a tree mailbox. It causes a greeting to be played which ends with a prompt to enter a single digit. When the caller presses a digit, the call is transferred to another mailbox.

001	Login to mailbox
002	Transfer to mailbox attendant
003	Return to welcome prompt
066	Login during greeting in greet-only mbx
070	**User Options Menu**
071	Record or change mailbox name
072	Record or change mailbox greeting
073	Enter and change mailbox passcode
074	Create or modify user distribution list
121	**Define tree mailbox**

FCOS 16: MESA Forms

This FCOS is used in the MESA Forms application to allow the information template function. It is sometimes called "template" FCOS. MESA Forms is an optional feature, that provides "voice forms" for a server.

A mailbox with this FCOS plays the greetings stored in its child mailboxes, sequentially, and records a message after each greeting. A typical application might have a rotational mailbox (see FCOS 17), with several child MESA Forms mailboxes, all pointing to the same list of Greeting-Only mailboxes.

Other relevant feature bits that you can use with the MESA Forms application are:

- 139 (Template: assume last greet mbox FCOS)
- 149 (Log into template thru rotational mbox)

001	Login to mailbox	**053**	**Keep messages**
002	Transfer to mailbox attendant	054	Auto-keep messages
003	Return to welcome prompt	**055**	**Discard messages**
004	**Outside caller functions**	058	Play unplayed messages in FIFO order
005	Play Outside Caller Menu prompts	059	Play unplayed messages first
006	Rewind and fast-forward during playback	066	Login during greeting in greet-only mbx
007	Pause in record or play	**070**	**User Options Menu**
020	**Make messages**	071	Record or change mailbox name
041	Receive messages from outside callers	072	Record or change mailbox greeting
043	Receive message of the day	073	Enter and change mailbox passcode
048	No auto-time stamp of unplayed msgs	133	Don't say: "You may start your msg now"
049	No auto-time stamp of played msgs	135	Define template mailbox (MESA Forms)
050	**Play messages**	136	Don't say: "End of message"
052	Auto-play unplayed messages	138	Don't say: "Message complete"

FCOS 17: Rotational Mailboxes

Rotational mailboxes allow the caller to hear greetings that change. Greetings change either by time and date (in a "period" rotational mailbox) or with every call (in an "index" rotational mailbox).

Rotational mailboxes can also be used with MESA Forms applications (see FCOS 16).

001	Login to mailbox	071	Record or change mailbox name
002	Transfer to mailbox attendant	072	Record or change mailbox greeting
003	Return to welcome prompt	073	Enter and change mailbox passcode
066	Login during greeting in greet-only mbx	074	Create or modify user distribution list
068	Define rotational mailbox		
070	**User Options Menu**		

You can also use any one of these features in a rotational mailbox:

062	Hang up immediately after greeting
063	Call mailbox attendant after greeting
064	Call mailbox user ext after greeting

Suggested Additional FCOSs

Here are some additional FCOSs. These are not defaults, but are available for you to number and assign if needed. Create an FCOS, give it an unused number, assign the feature bits specified, and then specify the new FCOS for specific mailboxes. Any FCOS number from 18 through 20 or 25 through 640 is acceptable. See "Customizing Your FCOS" in the next section for more details.

Lodging

This FCOS is designed for hotel or motel applications. It has fewer features for guests than default FCOS 2 (Full Guest), but more than FCOS 3 (Restricted).

Also see "Hotel Guest: Basic" following this description.

001	Login to mailbox	041	Receive messages from outside callers
002	Transfer to mailbox attendant	**050**	**Play messages**
004	**Outside caller functions**	052	Auto-play unplayed messages
005	Play Outside Caller Menu prompts	**053**	**Keep messages**
006	Rewind and fast-forward during playback	**055**	**Discard messages**
008	Mailbox can be checked in/out	057	Play saved messages in FIFO order
009	Automatic logout if no messages/receipts	059	Play unplayed messages first
040	Receive messages from other users		

Hotel Guest: Basic

This FCOS is designed for hotel or motel applications, and has fewer features than FCOS 3 (Restricted). It provides basic play, keep, and discard capabilities and results in the simplest, most user-friendly menus for guests. Mailboxes using this FCOS require no passcodes, recorded names, or personal greetings. You can use this FCOS with PMS integrations or with the VoiceMemo application alone.

When using this FCOS, disable the passcode and user tutorial in the mailbox, and enter **0000** at the Temporary Passcode prompt from the telephone.

001	Login to mailbox	052	Auto-play unplayed messages
002	Transfer to mailbox attendant	**053**	**Keep messages**
006	Rewind and fast-forward during playback	**055**	**Discard messages**
008	Mailbox can be checked in/out	057	Play saved messages in FIFO order
009	Automatic logout if no messages/receipts	058	Play unplayed messages in FIFO order
016	Deny recycling with * key	059	Play unplayed messages first
040	Receive messages from other users	**122**	**Define broadcast mailbox**
041	Receive messages from outside callers	123	Announce broadcast mailbox name
050	**Play messages**		

Broadcast

With this FCOS, both server users and outside callers can send a single message to multiple users.

Required features:

001	Login to mailbox
070	**User Options Menu**
071	Record or change mailbox name
073	Enter and change mailbox passcode
074	Create or modify user distribution list
122	**Define broadcast mailbox**

Optional features:

040	Receive messages from other users
041	Receive messages from outside callers
042	Not used
043	Receive message of the day
044	Receive user dist list messages
045	Receive master dist list messages
123	Announce broadcast mailbox name

Feature bit 043 (Receive message of the day)is needed only if the broadcast mailbox is also the user's *only* mailbox.

There are other feature bits that you can use with broadcasting. They are not included in the Broadcast FCOS definition, but you can choose to add or substitute them into your custom FCOS. See the feature bit descriptions for more information on these capabilities:

- 134 (Broadcast message waiting status)
- 174 (Define broadcast greeting mailbox)
- 178 (Define broadcast name mailbox)

Administrator's "No Login" Class of Service

This FCOS allows you to set up the administrator's mailbox (record company greetings and compile master distribution lists), and prevent unauthorized access.

The No Login FCOS is a copy of the VIP FCOS (FCOS 10), but with feature bit 001 (Login to mailbox) removed. Initially, assign the VIP FCOS to the administrator's mailbox. After you record company greetings and compile master lists, change the FCOS to No Login. This prevents unauthorized use of the administrator's mailbox. You can switch the FCOS back to VIP whenever you need to reach the administrator's mailbox again.

Customizing Your FCOS

Use an FCOS Worksheet and the guidelines in this section to design a customized FCOS.

Methods of Customizing an FCOS

You can customize an FCOS in one of four ways:

Renumber one of the default FCOSs

The feature bits in these FCOSs have already been combined, and the FCOS has been assigned a number. You need only renumber the appropriate default FCOS, then assign it the desired mailboxes when creating or modifying a mailbox.

Create a new FCOS

While this option gives the experienced server administrator the maximum flexibility in customizing call processing, this is definitely the most complex option. Be aware that not all feature bits are compatible. See "Feature Bit Categories by Function," "Feature Bit Descriptions," and "Suggested Additional FCOSs" in this chapter for more information. Also refer to Table 7-3 for a list of known incompatibilities.

Modify a copy of an FCOS

With this method, you make a copy of an existing FCOS to use as a basis, then add or delete any desired feature bits. You should give the modified copy a new name and new FCOS number.

Modify a default FCOS

With this method, you choose the default FCOS you wish to modify, then add or delete the desired feature bits. You can rename the modified default, if desired. If you are unhappy with the results, you can reset a default FCOS to its original condition.

Note: If you modify an FCOS that is already assigned to a mailbox, all mailboxes with that FCOS behave according to the new definition of that FCOS, not the original definition. Centigram recommends creating new FCOSs to give users different sets of feature bits rather than modifying default FCOSs.

Compatibility of Classes of Service

When you assign an FCOS, an LCOS, and a GCOS to a mailbox, be aware that certain options within each COS and between them interact; some options require the presence of other options, and some combinations are not compatible.

Carefully analyze the intended function of each mailbox before you begin assigning COSs.

FCOSs

Some features cannot function without a master feature bit in an FCOS. For example, an FCOS with feature bit 021 (Make and request receipt), must also include the master feature bit 020 (Make messages). Master feature bits are shown in bold type in this chapter.

Some feature bits override others within the same FCOS. For example, if bits 039 (Notification tone when new msg arrives) and 047 (Notification prompt when new message arrives) are both in the same FCOS, the server uses bit 047, not 039. Any feature that can override another is indicated in "Feature Bit Descriptions." Also refer to Table 7-3.

LCOSs

The Limits Class of Service (LCOS) that you assign can affect the function of a feature. For example, if you give a mailbox the ability to receive user messages (bit 040), but you assign an LCOS that has a User Message Length limit of 0 seconds, the mailbox cannot store any user message.

GCOSs

Interaction between mailboxes is limited by the GCOS that you assign to each mailbox, and by the FCOS that is assigned to the other mailboxes within this GCOS. A user in one GCOS may not receive any messages from a user in another GCOS, regardless of their FCOSs. An FCOS that allows a user to make confidential messages (bit 023), other users within the same GCOS must be able to receive messages from other users (bit 040), and to play messages (bit 050), or the make confidential message feature is useless.

FCOS Worksheet

Once you are familiar with the features you can add to an FCOS, use the FCOS and feature bit descriptions in this chapter as a basis for completing your FCOS Worksheet. Refer to Figure 7-1 for an example. Fill in an FCOS number ("FCOS to modify") and name, and indicate if it is based on an existing FCOS ("FCOS to copy"). Circle all feature bits you wish to include. If you are including all the bits in a category, just circle the category name. In category 6, Prompts, the two areas labeled (1) mean select one bit only (Language and Interface).

Assign any number from 18 through 20 or 25 through 640 to your FCOS, and any name that helps you easily identify it. Complete one worksheet for each FCOS you design. You should keep your completed sheets for future reference.

Note: FCOS information is stored in blocks of 64 FCOSs per OAA record. To save disk space, use all FCOSs in the range 1-64 before assigning higher numbers. Then use the range 65-128, etc.

Note: You probably will not use all categories listed. For those categories you do use, be sure to include the master feature bits– the bits that enable any other bits within the same functional category.

See the Task List for procedures on customizing an FCOS or changing the mailbox FCOS.

FCOS Worksheet

FCOS

FCOS to modify: 60 FCOS name: Greet-Ring Ext.

Feature Bits

1	Greeting	060	062	063	064	165	161	162	(164)	224										
2	Login	001	016	066	069	081	101	102	103	104	105	106	107	108	109	132	151	152	156	160
3	Logout	003	009	170	220															
4	Attendant call	002	098	159																
5	Outside caller	**004**	002	005	017	041	051	092	098	111	112	113	114	115	116	117	118	119	137	160
6	Prompts	051	082	083	097	098	099	131	133	136	138	140	146	155	157	159	163	176	202	208
	Interface (choose 1)	(209)	210	211																
7	Receive messages	039	040	041	043	044	045	046	047	088	111	112	113	114	115	116	117	118	119	127
		199	223																	
8	Play messages	**050**	006	007	039	046	047	048	049	052	057	058	059	075	076	089	144	145	147	153
9	Answer messages	**029**	019	030	031	038	147	158												
10	Keep/discard msg	**053**	**055**	054	056	145	227													
11	Make message	**020**	021	022	023	032	034	061	087	092	096	110	126	157	158	171	172	188	191	
12	Give messages	**024**	**086**	018	025	026	027	028	033	035	061	084	085	110	126	157	158	192		
13	Message address	018	019	021	023	025	027	030	031	087	095									
14	User options	**070**	015	071	072	073	074	077	078	093	094	095	124	125	127	130	142	143	148	180
15	User dist. list	032	033	036	044	074	134	222												
16	Master dist. list	034	035	045																
17	Check in/out	008	090	091																
18	Super user	**121**	**122**	068	120	123	141	147	152	174	178	186	187	189	229	231	232	234		
19	Msg. wait indicator	079	080	134	182	183	205	228	234											
20	~~Fax Meme~~	190	191	192	193	194	195	196	197	198	199	200	203	206	207	230	235	236	237	238
21	Paging	077	124	068	169	171	172	173	181	188	208	209	210	211	212	213	209			
22	VG, E-mail	154	170	184	205	217	220	221	224	225	226									
23	Network/VForms	~~135~~	~~139~~	~~149~~	~~166~~															
24	OneView	~~250~~	~~251~~	~~252~~																

Figure 7-1 Sample FCOS Worksheet

Feature Bit Descriptions

This section describes all standard feature bits. They are listed in numerical order. Master feature bits are specifically identified. If one feature bit overrides or interferes with another, this fact is noted. Any master feature bit needed to enable another bit is also highlighted.

If you need to find a feature bit and know its function, check in the appropriate feature bit category so you can look up its number.

Note: When designing your server, remember that mailbox FCOSs are not the only determinant of how VoiceMemo behaves. Be sure that other classes of service, especially the LCOS and GCOS, are also set properly. For example, if you use bitmapped GCOSs, and if some do not share common group numbers, one mailbox cannot send a message to another, even though the FCOS contains the send and receive features.

001 Login to mailbox

This feature bit allows users to reach their mailboxes. If a passcode is set, the user must enter it before gaining access.

Without this bit, a user hears, "I'm sorry. You cannot reach your mailbox at this time. Good-bye." This is a good way to force users to contact the server administrator.

002 Transfer to mailbox attendant

This feature bit allows a *user* – while logged in – to press 0 at any time during the session to be connected to an attendant for assistance. This feature also allows a *caller* – while in a mailbox – to press 0 and be connected to an attendant.

If the configuration is set for "Key 0 to reach attendant during greeting = N," then a caller must wait until after the greeting. If a caller does not wait, the 0 is interpreted as a login character.

The server calls the extension number of the mailbox attendant; if none is defined, the server transfers the user to the system attendant.

If neither attendant is configured, the user or caller hears, "I'm sorry. I don't understand that command."

003 Return to welcome prompt

This feature bit is also known as the "recycle" feature. The user logs out by pressing X and then pressing any key to return to the main company greeting. If this feature is not present, a user must hang up and call back into the server. This feature allows the user to avoid toll charges for succeeding calls.

If the user logs out from a port configured for Receptionist II:

- The server prompts the user to press 0 to return to Receptionist II. If the user presses 0, Receptionist II prompts the user to enter an extension number.

- If the user presses a key other than 0, the user is prompted to enter a mailbox number. After this point, users can be connected only to a mailbox, not transferred to an extension.

If the user logs out from a port configured as a message center (the VoiceMemo application), the user can press any key—including * or 0—during the logout prompt to interrupt the logout prompt ("You have [n] messages remaining. Good-bye.") and return to the welcome prompt. No prompts for the recycle feature are issued.

004 Outside caller functions (master feature bit)

With this feature bit, outside callers who reach these mailboxes can review, discard and re-record, mark urgent, or append to their messages. It is also used for Cut-through Paging: when outside caller functions are on, the caller must enter the feature activation key, **I**, to activate Cut-through Paging; when outside caller functions are off, the caller can enter the telephone number directly without using the feature activation key. Without this bit, messages are delivered after five seconds of silence or when the caller hangs up.

Cut-through Paging is an optional feature.

- This feature bit also requires bit 041 (Receive messages from outside callers).

Note: Feature bit 005 (Play Outside Caller Menu prompts) should be included with this bit to allow the server to prompt for outside caller functions; however, prompts are not required.

005 Play Outside Caller Menu prompts

With this feature bit, a caller hears prompts contained in the caller's menu: "Press R to review a message, A to append it, D to discard it, U for urgent, X to exit the server, and 0 to return to attendant."

This feature bit also requires bits:

- 004 (Outside caller functions)
- 041 (Receive messages from outside callers)

006 Rewind and fast forward during playback

Although the server is not tape-based, it can simulate the actions of a tape recorder. With this feature bit, a user playing a message presses * to "rewind" the message or # to "fast forward" the message. Each time one of these keys is pressed, the server "rewinds" or "fast-forwards" a five-second portion of the message.

- This feature bit also requires bit 050 (Play messages).

007 Pause in record or play

This feature bit allows a mailbox owner to press the 1 key to request a 30-second pause during message recording or playback. If any other key is subsequently pressed, the server beeps, and play is resumed.

No prompts are played; users with this capability must be told that it exists. Beeps every five seconds inform users that the feature has been activated. Outside callers cannot use this feature.

This feature bit also requires *at least one* of the following bits:

- 050 (Play messages)
- 020 (Make messages)
- 024 (Give messages)
- 029 (Answer messages)

008 Mailbox can be checked in/out

This feature bit allows a hotel desk clerk to:

- Record a name and greeting, and to assign a passcode to the mailbox of each new guest or customer

- Clear the name, greeting, passcode and messages from the mailbox of a departing guest or customer

Guest mailboxes (those assigned to individual guests or customers) must have this feature bit.

009 Automatic logout if no messages/receipts

This feature bit automatically logs the user out of the server after the last message in the mailbox is either kept or discarded. This means that the user can run through the queue of unplayed and played messages only once. If the user has no unplayed messages upon login, the server says, "You have no unplayed messages in your mailbox." and automatically logs the user out.

This bit interacts with both feature bits 052 (Auto-play unplayed messages) and 089 (Auto-play all msgs, new and saved). Table 7-4 details the interactions when bit 009 is in the FCOS of a mailbox.

Table 7-4 Logout Interaction With Auto-Play

Message State	Feature Bit 052	Feature Bit 089	VoiceMemo Action
No messages	In or out of FCOS	In or out of FCOS	Logs user out immediately
All unplayed	In FCOS		Logs user out after user plays all messages
	In or out of FCOS	In FCOS	Logs user out after user plays all messages
Receipts only	In or out of FCOS	In FCOS	Logs user out after user plays all messages
Receipts and all unplayed	In or out of FCOS	In FCOS	Logs user out after user plays all messages
Played only	In FCOS		Prompts user to play messages
	In or out of FCOS	In FCOS	Automatically plays all messages, then logs user out
Played and receipts	In or out of FCOS	In FCOS	Automatically plays all receipts and messages then logs user out

010 Not used

011 Not used

012 Not used

013 Not used

014 Not used

015 Change wakeup options

Note: Auto Wakeup is an optional feature.

This feature bit allows users to schedule wakeup calls for themselves from the telephone. The logged-in user presses A to activate auto wakeup, S to schedule a wakeup call, C to cancel a wakeup call, D to make it a daily call, and X to save the choices and exit the server.

There are three considerations for using this feature bit:

- The Auto Wakeup optional feature must be loaded on the server.
- A pager port must be defined in the server configuration.
- Auto-Wakeup must first be defined in the mailbox by the server administrator. The definition includes the phone number the server dials, number of times and frequency the server dials in case of RNA or busy signals.

This bit also requires feature bit 070 (User Options Menu).

016 Deny recycling with * key

This feature bit prevents the user from pressing the star (*) key to return to the company greeting when being prompted for a passcode. This also prevents an unauthorized user or caller from "cycling" through mailboxes in search of one that is not passcode-protected.

You may want to omit this bit in an integrated environment to allow users to log in to their mailboxes from another user's phone.

017 Fast line release from outside caller

Without this feature bit, the caller's menu plays three times unless the caller presses X before hanging up. If the caller does not press X and hangs up, the line can be tied up until the menu plays three times. The exact length of the tie-up varies with the make of the PBX.

With this bit, the caller's menu plays only once. If the caller does not respond within ten seconds, the server thanks the caller and hangs up.

018 Give and mark urgent

This feature bit allows the user to mark a message as urgent that is being given to another user. The user presses G to give the message and records any desired comments. To request that a message be marked urgent, the user presses M to reach the Message Addressing Menu, then presses U for urgent. (To cancel "urgent," the user presses U again.) To send the message, the user presses X until the server responds, "Your message sent."

The server plays urgent messages before all other messages only if the recipient's FCOS includes bit 088 (Receive urgent messages). Otherwise the message plays with all other unplayed messages in the order received.

- This feature bit also requires bit 024 (Give messages).
- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

019 Answer and mark urgent

This feature bit allows the user to mark an answer as urgent that is being sent to another user. The user presses A to answer the message. To request that an answer be marked urgent, the user presses M to reach the Message Addressing Menu, and then presses U for urgent. (To cancel "urgent," the user presses U again.) To send the message, the user presses X until the server responds, "Your answer sent."

The server plays urgent messages before all other messages only if the recipient's FCOS includes bit 088 (Receive urgent messages). Otherwise the message plays with all other unplayed messages in the order received.

- This feature bit also requires bit 029 (Answer messages).
- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

020 Make messages (master feature bit)

Users make messages by logging in to their mailboxes, pressing M (for make), entering the recipient's mailbox number, recording a message, and pressing X to send it.

- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

021 Make and request receipt

This feature bit allows users to request a receipt to inform them that a recipient has played their message. The user presses M to make a message. To request a receipt, the user presses M to reach the Message Addressing Menu, then presses R to request a receipt. (To cancel "receipt," the user presses R again.) To send the message, the user presses X until the server tells the user it has sent the message.

The return receipt works like the Auto-receipt feature for distribution lists described in feature bit 036 (Auto-receipt for user dist list msgs).

- This feature bit also requires bit 020 (Make messages).
- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

022 Make to multiple destinations

This feature bit allows a user to specify up to 200 addresses per message without using a distribution list. After the user presses M for make, the server prompts for a mailbox number. The user adds mailboxes, then presses # to record the message.

The address list that the user builds can include other user mailboxes or distribution lists, if the FCOS also includes bit 032 (Make to user distribution list).

- This feature bit also requires bit 020 (Make messages).
- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

023 Make and mark confidential

This feature bit allows the user to make a message that cannot then be given by the recipient to another user. The user presses M to make a message, and then records a message. To mark the message as confidential, the user presses M to reach the Message Addressing Menu, then presses C for confidential. (To cancel "confidential," the user presses C again.) To send the message, the user presses X until the server responds, "Message sent."

- This feature bit also requires bit 020 (Make messages).
- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

024 Give messages (master feature bit)

With this feature bit, users may send a copy of a message to another user by pressing G, entering the mailbox number of the recipient, and pressing X to send it.

- The message cannot have been marked confidential by the *original* sender.
- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

025 Give and request receipt

This feature bit allows a user to request a return receipt when giving a message to another user. The user presses G to give a message, and then records comments. To request a receipt, the user presses M to reach the Message Addressing Menu, then presses R to "activate" receipt. (To cancel "receipt," the user presses R again.) To give the message, the user presses X until the server tells the user it has sent the message.

- This feature bit also requires bit 024 (Give messages).
- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

If this bit and bit 036 are in the same FCOS, 025 cancels auto-receipt.

026 Give to multiple destinations

This feature bit allows a user to specify up to 200 addresses per message without using a distribution list. After the user presses G to give, the server prompts for a mailbox number. The user adds mailboxes, then presses # to send the message.

The address list that the user builds can include other user mailboxes and/or distribution lists if the FCOS also includes bit 033 (Give to user distribution list).

- This feature bit also requires bit 024 (Give messages).
- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

If this bit and bit 036 are in the same FCOS, 026 cancels auto-receipt.

027 Give and mark confidential

This feature bit allows the user to give a message that cannot then be given by the recipient to another user. The user presses G to give a message, and then records comments. To mark the message as confidential, the user presses M to reach the Message Addressing Menu, and then presses C for confidential. (To cancel "confidential," the user presses C again.) To give the message, the user presses X until the server tells the user it has sent the message.

- This feature bit also requires bit 024 (Give messages).
- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

028 Give with comments

This feature bit requires the user to record additional comments when giving a message to one or more users.

- This feature bit also requires bit 024 (Give messages).

Note: This feature bit cannot be applied to an attendant's mailbox.

029 Answer messages (master feature bit)

This feature bit allows users to answer messages from other users. When users play a message from another user, they can press A to answer the message. The server automatically enters the mailbox number of the sender, so a recipient does not need to know or enter the sender's mailbox number.

030 Answer and request receipt

031 Answer and mark confidential

This feature bit allows the user to answer a message that cannot then be given by the recipient to another user. The user presses A to answer a message, and then records an answer. To mark the message as confidential, the user presses M to reach the Message Addressing Menu, and then presses C for confidential. (To cancel "confidential," the user presses C again.) To send the message, the user presses X until the server tells the user it has sent the message.

- This feature bit also requires bit 029 (Answer messages).
- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

032 Make to user distribution list

This feature bit allows a user to make a message and send it to a distribution list, instead of having to enter the mailbox numbers individually. (A user can also enter *both* individual mailboxes and distribution lists.)

- This feature bit also requires bit 020 (Make messages).

The recipient mailbox FCOS must have bits:

- 040 (Receive messages from other users)
- 044 (Receive user dist list messages)

033 Give to user distribution list

This feature bit allows a user to give a message to a distribution list, instead of having to enter the mailbox numbers individually. The message cannot have been marked "confidential" by the original sender. (A user can also enter both individual mailboxes and distribution lists.)

This feature bit also requires bit 024 (Give messages).

The recipient mailbox FCOS must have bits:

- 040 (Receive messages from other users)
- 044 (Receive user dist list messages)

034 Make to master distribution list

This feature bit allows a user to record a message for delivery to a master distribution list.

- This feature bit also requires bit 020 (Make messages).

The recipient mailbox FCOS must have bits:

- 040 (Receive messages from other users)
- 045 (Receive master dist list messages)

035 Give to master distribution list

This feature bit allows a user to give a message to a master distribution list. The message cannot have been marked confidential by the original sender.

- This feature bit also requires bit 024 (Give messages).

The recipient mailbox FCOS must have bits:

- 040 (Receive messages from other users)
- 045 (Receive master dist list messages)

036 Auto-receipt for user dist list msgs

This feature bit allows the server to automatically generate a receipt for a message sent to a distribution list. When a user logs into a mailbox, the receipt announces which users have not played the message, which users have played the message, and the time users played the message. Each time the user logs in, the updated receipt plays. Receipts are updated until users discard them.

This feature bit also requires bits:

- 020 (Make messages)
- 032(Make to user distribution list) *and/or*
  033 (Give to user distribution list)

The recipient mailbox FCOS must have feature bits:

- 040 (Receive messages from other users)
- 044 (Receive user dist list messages)

Note: Auto-receipt can be canceled if the FCOS also contains *at least* one of feature bits 021 (Make and request receipt) or 025 (Give and request receipt).

037 Not used

038 Attach original message to answer

With this feature bit, the server attaches the original message to the answer. The server plays the answer first, followed by the next most recent message. While this feature is very helpful, since cryptic answers are always accompanied by the original questions, it also results in the use of extra disk space.

If two users with this feature decide to have a "conversation" (for example, user 1 sends a message, user 2 answers it, user 1 answers the answer, etc.), the original message and the entire sequence of answers are sent each time.

If one of the users decides to give an answer from this conversation to another mailbox, the original message plus all accumulated answers are also sent.

- This feature bit also requires bit 029 (Answer messages).

039 Notification tone when new msg arrives

This feature bit causes the server to notify users of any new message that arrives while they are logged into their mailboxes. When users press the keypad after finishing any transaction, they hear a "boop."

Note: Feature bit 047 (Notification prompt when new msg arrives) overrides this bit if they are in the same FCOS.

040 Receive messages from other users

This feature bit allows a user to receive messages from other users. If you use bitmapped GCOSs, then the mailboxes must have a GCOS with at least one matching group.

041 Receive messages from outside callers

This feature bit allows a mailbox to receive messages from outside callers.

Rotational and tree mailboxes do not accept caller messages. Therefore, do not include this bit when creating a rotational mailbox (with feature bit 068, Define rotational mailbox) or a tree mailbox (bit 121, Define tree mailbox). If this feature bit is included, it overrides bits 068 and 121.

042 Not used

043 Receive message of the day

This feature bit allows a user to receive the message of the day. The message of the day is a special announcement that is issued from the attendant's mailbox. The message is played automatically, immediately after a user logs in, and is not played again after it has played twice. The first playing of the message of the day is a hard play (the user must hear it); the second playing is a soft play (the user can enter a command and the rest of the message is ignored).

044 Receive user dist list messages

This feature bit allows a mailbox to be added to the distribution lists of other users, and to receive messages from these distribution lists.

- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

045 Receive master dist list messages

This feature bit allows a mailbox included in one of the master distribution lists to receive user messages that are addressed to the master distribution list. Mailboxes with bits 034 (Make to master distribution list) or 035 (Give to master distribution list) can make or give messages to mailboxes that also have this feature.

- The recipient mailbox FCOS must have feature bit 040 (Receive messages from other users).

046 Announce receipt count at login

This feature bit tells users, when they log in, how many receipts are in their mailboxes. Receipts are kept until users delete them. Without this bit, users can play receipts but are not told how many receipts they have when they log in.

- This feature bit also requires bit 050 (Play messages).

047 Notification prompt when new msg arrives

This feature bit tells users who are logged into their mailboxes that new messages have arrived. The server waits until users have finished a transaction, then plays a prompt telling them how many messages have arrived since they finished their previous transaction.

Note: This feature bit overrides bit 039 (Notification tone when new msg arrives) if both are in the same FCOS.

048 No auto-time stamp of unplayed msgs

With this feature bit, the server does not play the time stamp of unplayed messages; therefore, when users play those messages, they do not know what time the messages were actually received. To hear the time stamp, a user must press T while the message is playing.

The server plays the time stamp when users replay their messages, assuming bit 049 (No auto-time stamp of played msgs) is not in the same FCOS.

This feature bit is useful when the user has a voice pager with limited time.

If bit 204 (Message skip, forward and backward) is also included, then the user must press TI instead of T to hear the time stamp. If, however, bit 144 (Skip forward to next message) is included, the user cannot play the time stamp.

- This feature bit also requires bit 050 (Play messages)

049 No auto-time stamp of played msgs

With this feature bit, the server does not play the time stamp of played messages; therefore, when users play those messages, they do not know what time the messages were actually received. If a user who has this bit gives a message to a user who does not, the server plays the time stamp for the recipient.

This feature bit is useful when the user has limited time. To hear the time stamp, a user must press T while the message is playing.

If bit 204 (Message skip, forward and backward) is also included, then the user must press TI instead of T to hear the time stamp. If, however, bit 144 (Skip forward to next message) is included, the user cannot play the time stamp.

This feature bit also requires bits:

- 050 (Play messages)
- 053 (Keep messages)

050 Play messages (master feature bit)

This bit allows users to play all messages received by their mailboxes.

The ability to receive messages is controlled by feature bits in the Receive Messages category of features. The Keep/Discard category also requires this feature.

051 Do not switch language for outside callers

You can include this feature bit in a mailbox to prevent switching to the mailbox's language for outside callers. When outside callers reach one mailbox from another mailbox, they hear the language of the previous mailbox if this bit is included. For example, if an outside caller reaches a chain mailbox (with Spanish designated) from a mailbox (with English designated), and if bit 051 is assigned, that outside caller hears English.

Without this bit, outside callers hear the prompts play in the mailbox's language.

Languages are designated by the line group and the mailbox LCOS.

052 Auto-play unplayed messages

This feature bit signals the server to automatically play the next unplayed message in the queue after the current message has been discarded or kept.

- This feature bit also requires bit 050 (Play messages).

Note: Feature bit 089 (Auto-play all msgs, new and saved) overrides this feature if they are both in the same FCOS. See Table 7-4 under feature bit 009 for more information.

With bit 215 (Don't auto-play first msg, w/auto-play), a mailbox does not automatically play the first message and the user can perform other functions in the mailbox. If the user presses P to play the first unplayed or saved message, all subsequent unplayed messages after the first message are then played.

053 Keep messages (master feature bit)

Users press K to keep a message they want to save to replay later. VoiceMemo then plays the "message kept" prompt. The message is then stored in the played messages queue.

You should include this feature bit in any mailbox that can receive messages.

- This feature bit also requires bit 050 (Play messages).

054 Auto-keep messages

WARNING!

Never put feature bits 054 and 056 in the same FCOS. Doing so causes a server malfunction.

This bit signals the server to automatically keep a message after it has been played. The user hears the "message kept " prompt.

This feature bit also requires bits:

- 050 (Play messages)
- 053 (Keep messages)

Note: If feature bit 055 (Discard messages) is included, a user is given a few seconds to manually keep or delete the message before it is kept.

055 Discard messages (master feature bit)

To delete a message, the user presses D, for discard. VoiceMemo then plays the "message discarded " prompt.

You should include this feature bit in any mailbox that can receive messages. If a user can receive messages but cannot discard them, messages can only be deleted by automatically or manually purging them. (The LCOS assigned to a mailbox determines the timing of automatic purges.)

- This feature bit also requires bit 050 (Play messages).

056 Auto-discard messages

WARNING!

Never put feature bits 054 and 056 in the same FCOS. Doing so causes a server malfunction.

This bit signals the server to automatically discard a message after it has been played. You cannot use this bit with bit 227 (Undelete last message with * key).

Note: Use discretion when assigning this feature bit. If a user is somehow disconnected while the message is playing, the message that is playing is considered a played message and is discarded.

This feature bit also requires bits:

- 050 (Play messages)
- 055 (Discard messages)

Note: If feature bit 053 (Keep messages) is included, a user is given a few seconds to manually keep or delete the message before it is discarded.

057 Play saved messages in FIFO order

With this feature bit, the server replays kept messages in a first-in-first-out (FIFO) order so that earlier played messages are played first. Without this bit, messages are played in a last-in-first-out (LIFO) order.

This feature bit also requires bits:

- 050 (Play messages)
- 053 (Keep messages)

058 Play unplayed messages in FIFO order

With this feature bit, the server plays unplayed messages in a first-in-first-out (FIFO) order so that earlier unplayed messages are played first. Without this bit, unplayed messages are played in a last-in-first-out (LIFO) order.

- This feature bit also requires bit 050 (Play messages)

059 Play unplayed messages first

With this feature bit, the server plays new messages first. Without this bit, new messages are played following those that have previously been kept.

This feature bit also requires bits:

- 050 (Play messages)
- 053 (Keep messages)

060 Ignore DTMFs during greeting

With this feature bit, the user who enters a command while the mailbox greeting is playing must wait until the greeting has finished before the server processes the command. This effectively turns the greeting into a hard-play greeting.

If the FCOS also contains bit 066 (Login during greeting in greet-only mbx) in a Greeting-Only mailbox, the user must try to log in (press * or 0) before entering a mailbox number or while the greeting is playing; otherwise, the server hangs up. The VoiceMemo application does not prompt for the passcode until after the entire greeting has been played.

061 Wait to record (time-out = # key)

With this feature bit, logged-in users who have pressed M for make or G for give can either press # or wait to begin recording. This applies also to multiple make or give. For example, if users want to make or give a message to mailboxes 100, 101, and 102, users can enter either the following sequence: 100 101 102#, or enter a mailbox number and wait until the server prompts them to enter another mailbox number. After the last mailbox number is entered, users can press # or wait to begin recording.

If users press M to make a message but do not enter a mailbox number, they hear the prompt, "Press #, or wait to exit to the main menu."

This feature bit is especially useful for users using phone calling cards, since the # key signals pay phones to terminate the call.

This feature bit also requires *at least* one of the following other feature bits:

- 022 (Make to multiple destinations)
- 026 (Give to multiple destinations)

062 Hang up immediately after greeting

The server plays the greeting, then immediately hangs up. No prompt plays before disconnect, and no outside caller messages can be recorded.

This feature bit is used for Greeting-Only mailboxes, where no other interaction between the caller and the server is desired.

If the FCOS also contains bit 066 (Login during greeting in greet-only mbx), the user must attempt to login (press * or 0) before entering a mailbox number or while the greeting is playing; otherwise, the server hangs up. If it contains both feature bits 060 (Ignore DTMFs during greeting) and 066 (Login during greeting

in greet-only mbx), then the server does not prompt for a passcode until the complete greeting has been played.

063 Call mailbox attendant after greeting

The server automatically transfers the caller to the mailbox attendant's extension after it plays the mailbox greeting. The prompt, "You are being transferred to the attendant" does not play. The server does not provide transfer supervision, so the caller may not reach the attendant, and the caller may even get disconnected.

If no attendant's extension number is defined in the mailbox data file, the server transfers the caller to the system attendant. If neither attendant is configured, the caller is told that no attendant is available, and the server hangs up.

If the FCOS also contains feature bit 066 (Login during greeting in greet-only mbx) in a Greeting-Only mailbox, the user must try to log in (press * or 0) before entering a mailbox number or while the greeting is playing; otherwise, VoiceMemo continues to transfer to the attendant.

064 Call mailbox user ext after greeting

VoiceMemo automatically transfers the caller to the mailbox 's extension after it plays the mailbox greeting. The server does not provide transfer supervision, so the caller cannot reach the extension, and the caller can even get disconnected.

If no extension number is defined in the mailbox data file, the server hangs up after playing the greeting. The caller hears the prompt, "Transfer failed."

If the FCOS also contains feature bit 066 (Login during greeting in greet-only mbx) in a Greeting-Only mailbox, the user must try to log in (press * or 0) before entering a mailbox number or while the greeting is playing; otherwise, VoiceMemo continues to transfer to the extension.

065 Play system time after greeting

The server plays the greeting followed by the server time. This feature bit is necessary for the Tenant Class of Service (TCOS).

066 Login during greeting in greet-only mbx

This feature bit allows a user to press * or 0 to log into a Greeting-Only mailbox while the mailbox greeting is playing. It also works in mailboxes that can receive messages.

Without this bit, a user who wants to log in must press * and then enter the mailbox number. Also, with an integrated phone system, a user could not enter * to log in. Instead, the user must call a non-integrated line or a chain mailbox, and then enter *nnnn, where nnnn is the mailbox number.

067 Not used

068 Define rotational mailbox

When users call a mailbox with this feature bit in the FCOS, they first hear the greeting of the mailbox they called, and then the greeting of a mailbox in distribution list 1 of the mailbox they called. Each of the mailboxes in the distribution list is cycled through, starting with the first one in the list, either on a call-by-call basis or by time.

Any mailbox with this feature bit must also have a distribution list (01), which controls the rotating (or cycling of callers) through the child mailboxes. You can have up to 190 child mailboxes in the rotation.

For example, mailbox 100 has a distribution list with mailboxes 101, 102, 103 in it. If this feature is set up on a call-by-call basis, the first caller hears the greeting for mailbox 100, then mailbox 101. The second caller hears the greeting for mailboxes 100 and 102. The third caller hears the greetings for mailboxes 100 and 103. The fourth caller hears the greetings for mailboxes 100 and 101.

If the feature bit is set up on a time basis, for example one hour, then for the first hour the first caller hears the greeting for mailboxes 100 and 101; for the second hour, for mailboxes 100 and 102; for the third hour, for mailboxes 100 and 103; for the fourth hour, for mailboxes 100 and 101.

For a detailed explanation of rotational mailboxes, in which this feature bit is used, refer to FCOS 17: Rotational Mailboxes, or the Mailboxes chapter.

Note: Rotational mailboxes do not accept caller messages. Therefore, do not include feature bit 041 (Receive messages from outside callers) when creating a rotational mailbox. If bit 041 is included, it overrides bit 068 and disables the mailbox's rotation features.

069 Passcode required for mobile DID

This feature bit is used with the DID VoiceMemo application.

If the Mobile DID option is configured for a DID group, users must always enter their passcodes when logging in. Without this feature bit, users who call in from their own mobile phones need no passcode, even if one is programmed into the mailbox.

070 User Options Menu (master feature bit)

This master feature bit allows the user to press U during the top level (main) menu to reach the user options. This bit is required to use any combination of the User Options features. See User Options Category 14, in the Feature Categories section, for a list of all feature bits that require 070.

071 Record or change mailbox name

This feature bit allows a user to record and change the mailbox name. This prerecorded name is announced any time the user makes a message for, or gives a message to, another user. It is also used by Receptionist II for certain operations. The maximum length of the name is controlled by one of the limits in the LCOS assigned to a user's mailbox.

The logged-in user presses U to reach the User Options Menu and N for name.

- This feature bit also requires bit 070 (User Options Menu).

072 Record or change mailbox greeting

With this feature bit, a user can record or change a personal mailbox greeting. The mailbox greeting is played to outside callers who reach the mailbox. The maximum length of the greeting is controlled by one of the limits in the LCOS assigned to a user's mailbox.

A logged-in user presses U to reach the User Options Menu and G to record the greeting.

- This feature bit also requires bit 070 (User Options Menu).

073 Enter and change mailbox passcode

This feature bit allows a user to set or change the mailbox passcode. A logged-in user presses U to reach the User Options Menu, and then presses P to change the passcode.

Note: Passcodes defined by users cannot be displayed on the console. Also, users cannot clear passcodes, that is, delete them entirely, unless they have feature bit 125 (Clear user passcode) in the FCOS of their mailboxes.

- This feature bit also requires bit 070 (User Options Menu).

See also bit 093 (Deny change of passcode in first tutorial).

074 Create or modify user distribution list

With this feature bit, a user can create or modify a distribution list. A distribution list allows the user to make a single message and send it to more than one mailbox. An individual mailbox can store up to 99 lists, with a maximum of 65,535 recipient mailboxes per list.

Without this bit, distribution lists can only be created or modified by the server administrator from the console.

A logged-in user presses U to reach the User Options Menu, and then presses L for lists.

This feature bit also requires bits:

- 070 (User Options Menu)
- 032 (Make to user distribution list) *and/or*
  033 (Give to user distribution list)

Feature bits 074, 032, 033, and 070 alone do not allow all distribution lists to be modified; you must also allow change rights in the mailbox configuration.

Note: Tree mailboxes do not require either bit 032 or 033.

075 Audit receipt message

This feature bit allows the user to audit (play) the message for which a receipt was requested. When users play a receipt, they may want to listen to their original message. Users can play the original message by pressing A to audit the receipt message.

This feature bit is *not* needed to use the Cut-through Paging optional feature.

- This feature bit also requires bit 050 (Play Messages).

076 Play urgent messages in FIFO order

With this feature bit, the server plays urgent messages in a first-in-first-out (FIFO) order so that earlier urgent messages are played first. Without this bit, urgent messages are played in a last-in-first-out (LIFO) order.

This feature bit also requires bits:

- 050 (Play messages)
- 088 (Receive urgent messages)

077 Change pager schedule

This feature bit allows the user to schedule the mailbox paging function, if the mailbox message waiting type is 5 (Pagers/Message Delivery). The user can then schedule the time periods that the server places a pager call to indicate an unplayed message in the mailbox. The user can schedule paging to work only during work hours, and not during off hours, which makes this feature very convenient.

If this feature bit is absent, the user cannot change the paging schedule or enable paging from the telephone.

This feature bit also requires:

- Feature bit 070 (User Options Menu)
- Message waiting type 1 or 2 to be defined as 5 (Pagers/Message Delivery) in a mailbox
- A pager port to be defined in the VoiceMemo configuration

078 Activate user tutorial

With this feature bit, users can activate the user tutorial. Logged-in users press U to reach the User Options Menu and T for tutorial. Once the tutorial has been activated, it plays immediately.

The tutorial is a series of instructions that guides the users through setting passcodes, making greetings, and recording their names.

You can also record a site tutorial. The site tutorial is a greeting that plays after the VoiceMemo tutorial. Without this feature bit, the two tutorials play only when a new user first logs in or when the administrator activates them from the console.

This bit is useful for mailboxes used for demonstrations.

If bit 073 (Enter and change mailbox passcode) is not in the mailbox's FCOS, then the tutorial only asks for a passcode the first time it is run on a new mailbox. This also interacts with bit 093 (Deny change of passcode in first tutorial).

- This feature bit also requires bit 070 (User Options Menu).

079 Set msg wait #1 for urgent msgs only

This feature bit activates the message waiting type 1 for urgent messages only and not for other unplayed messages.

Message waiting type 1 must be defined for the mailbox.

This feature bit also requires bits:

- 040 (Receive messages from other users) *and/or*
  041 (Receive messages from outside callers)
- 088 (Receive urgent messages)

080 Set msg wait #2 for urgent msgs only

This feature bit activates the message waiting type 2 for urgent messages only and not for other unplayed messages.

Message waiting type 2 must be defined for the mailbox.

This feature bit also requires bits:

- 040 (Receive messages from other users) *and/or*
  041 (Receive messages from outside callers)
- 088 (Receive urgent messages)

081 Only one correct passcode for login

With this feature bit, a user who has entered an incorrect passcode must enter the correct passcode only one more time. The VoiceMemo application limits users to a maximum of three tries. Be aware that you increase your vulnerability to hackers and other unauthorized callers if you include this bit.

Without this bit, the server requires a user to enter his or her passcode two times after the incorrect entry. As a security measure, the server tells a user that it did not get the user's passcode after the first of the two correct entries.

082 Soft play (interrupt) message count

This feature bit allows users to interrupt the number-of-messages prompt ("You have [n] unplayed messages in your mailbox; [n] messages total") by pressing a valid command key. Users can immediately begin using their mailboxes.

083 Soft play (interrupt) most prompts

Many VoiceMemo application prompts are soft-play prompts; that is, users can interrupt them by pressing a valid command key. Certain prompts however, can be interrupted only if this feature bit is in a user's FCOS. Those prompts are listed in Table 7-5.

You can also let callers take advantage of soft-play prompts by including this feature bit in the FCOS assigned to the administrator's mailbox. Since callers reach the administrator's mailbox when they call the server directly, they can also interrupt the prompts that apply to leaving messages for extensions and mailboxes.

Table 7-5 Soft Play Prompts Through FCOS Bit 083

Prompt	Application Used In
I'm sorry, but I don't understand what you pressed; Please try again.	Paging, Message Delivery, Auto Wake-up, VoiceMemo
That is not a valid mailbox number; please try again.	Receptionist, VoiceMemo, hotel guest application
That is not a valid passcode; please try again.	Hotel guest application, VoiceMemo
I'm sorry; I did not get your passcode. Please try again.	VoiceMemo
Mailbox [number] has [x] unplayed messages, [y] urgent messages. *OR* Mailbox [number] has no messages	Hotel guest application (guest mailbox reached from check-out mailbox)
I don't understand that command.	Hotel guest application, Main Menu, VoiceMemo
Press P to enter your new passcode.	User Options
Enter 4 to [max. passcode length] digits for your passcode.	User Options
If you do not wish to have a passcode, enter 4 zeros.	User Options
I'm sorry; that is not a user option.	User Options
You cannot leave a message for this mailbox. Please try again.	VoiceMemo

084 Give receipt message with comments

This feature bit requires the user to record additional comments when giving a message attached to a receipt.

- This feature bit also requires bit 086 (Give receipt message).
- Feature bit 075 (Audit receipt message) is recommended.
- The recipient mailbox FCOS must have bit 040 (Receive messages from other users).

085 Give receipt message to multiple dests

This feature bit allows the user to give a message attached to a receipt to up to 200 destinations, such as mailboxes. If allowed, any of the destinations can be distribution lists, networked mailboxes, or off-system numbers, for example.

This feature bit also requires bits:

- 024 (Give messages)
- 086 (Give receipt message)

Feature bit 075 (Audit receipt message) is recommended.

- The recipient mailboxes' FCOSs must have bit 040 (Receive messages from other users).

086 Give receipt message (master feature)

This feature bit allows users to resend a message that originally had a receipt requested. When users are playing a receipt, they can press G to give the original message that was originally sent with a receipt. The receipt portion of the original message is not sent.

- The recipient mailbox FCOS must have bit 040 (Receive messages from other users).

087 Make and mark urgent

This feature bit allows the user to make a message for another user and mark it urgent. The user presses M to make a message, and then records a message. To request that a message be marked urgent, the user presses M to reach the Message Addressing Menu, then presses U for urgent. (To cancel "urgent," the user presses

U again.) To send the message, the user presses X until the server responds, "Message sent."

The server plays urgent messages before all other messages only if the recipient's FCOS includes bit 088 (Receive urgent messages). Otherwise the message plays with all other unplayed messages in the order received.

- This feature bit also requires bit 020 (Make messages).
- The recipient mailbox FCOS must have bit 040 (Receive messages from other users).

088 Receive urgent messages

With this feature bit, an urgent message is played in a separate queue of urgent messages before any of the other unplayed messages are played. Without this bit, any urgent message is played as a regular unplayed message along with the other unplayed messages in the order in which the urgent message was received.

089 Auto-play all msgs (new and saved)

With this feature bit, the server automatically plays the next message, either played or unplayed, after the user keeps or discards the current message.

Note: If feature bit 052 (Auto-play unplayed messages) is also included, bit 089 overrides it. Refer to Table 7-4 under feature bit 009 for more information.

If bit 054 (Auto-keep messages) is *not* present, bit 145 (Message stays in original queue) has no effect. The message stays in the unplayed queue if the user hangs up before keeping or discarding a message.

With bit 215 (Don't auto-play first msg, w/auto-play), a mailbox does not automatically play the first message and the user can perform other functions in the mailbox. If the user presses P to play the first unplayed or saved message, all subsequent messages after the first message are then played. You cannot use this feature with bit 227 (Undelete last message with * key).

This feature bit also requires bits:

- 050 (Play messages)
- 053 (Keep Messages)

090 Check in other mailboxes

This feature bit creates a mailbox that allows a desk clerk or telephone answering service operator to record a name and assign a passcode to each guest mailbox. Although you only need one check-in mailbox per server, you can create one for each employee telephone station.

A guest mailbox must have:

- Feature bit 008 (Mailbox can be checked in/out)
- The same GCOS as the check-in mailbox

091 Check out other mailboxes

This feature bit creates a mailbox that allows a desk clerk or TAS operator to clear the name, greeting, passcode, and messages from each guest mailbox. Although you only need one check-out mailbox per server, you may want to create one for each employee telephone station.

A guest mailbox must have:

- Feature bit 008 (Mailbox can be checked in/out)
- The same GCOS as the check-out mailbox

092 User will be in Dial-by-Name database

If this feature bit is present in a user's FCOS, the mailbox owner's name is included in the Dial-by-Name database. Absence of this bit leaves the user's name out of the Dial-by-Name database. The database is used for creating a site telephone book, for example.

This information must also be modified:

- The dialing plan for the application must have one digit set to A or the optional star prefix. If you do not set the dialing plan, you can still create a phonebook, but cannot use Dial-by-Name.
- The line group parameters for the application to be modified (Last Name First flag, Exact Match Break, Number of Names Threshold)
- The mailbox owner name to be specified when defining the mailbox

Note: Punctuation characters such as "-" or "," have no effect on the phonebook.

093 Deny change of passcode in first tutorial

This feature bit forbids the mailbox owner from changing the mailbox passcode during the first time through the tutorial. By including bit 078 (Activate user tutorial) and *excluding* 073 (Enter and change mailbox passcode), the tutorial does not prompt for a new passcode.

The server still prompts the mailbox owner for the mailbox passcode upon login.

094 Change message delivery options

This feature bit allows the mailbox owner to schedule the message delivery function, if the mailbox message waiting type is 5 (Pagers/Message Delivery). The mailbox owner can then schedule the time periods the server places a message delivery call to indicate an unplayed message in the mailbox. The mailbox owner can schedule message delivery to work only during work hours, and not during off hours, which makes this feature very convenient.

If this feature bit is absent, the mailbox owner cannot change the message delivery schedule or enable message delivery from the telephone.

This feature bit also requires:

- Feature bit 070 (User Options Menu)
- Message waiting type 1 or 2 to be defined as 5 (pager) in a mailbox owner's mailbox
- Message delivery to be set to Yes in the mailbox configuration
- A pager port to be defined in the VoiceMemo configuration

095 Mark message for future delivery

This feature bit allows the mailbox owner to make a message for another mailbox owner, mark it for future delivery, and audit future delivery messages. Future delivery dates can be up to one year from when the message is marked.

The mailbox owner presses M to make a message, then records a message. To request that a message be marked for future delivery, the mailbox owner presses M to reach the Message Addressing Menu, then presses F for future delivery. The mailbox owner is first prompted for month of delivery (1 through 12), then day (1 through 31), time, and then a.m. or p.m. (A or P). The mailbox owner can cancel future delivery during the date and time input by pressing the star (*) key. After entering the entire date and time and having it confirmed, the mailbox owner can

cancel future delivery by pressing the F key at any time before exiting from the Message-Addressing Menu.

To send the message, the mailbox owner presses X until hearing "Message sent."

- This feature bit also requires bit 020 (Make messages).
- The recipient mailbox FCOS must have bit 040 (Receive messages from other users).

The auditing function allows the mailbox owner to listen to messages sent but not yet delivered. The key pad sequence is U for User Options, C for Call Schedule Options, then F for Future Delivery Audit. To allow the Audit Future Delivery function, bit 070 (User Options Menu) is also required.

096 Make messages before keep/discard

Without this feature bit, users (while playing a message) must first keep or discard the message before they can make a new message (by pressing M). With this bit, users can make a new message (while the original message is playing or after it has played) without having to first keep it or discard it.

- This feature bit also requires bit 020 (Make messages).
- The recipient mailbox FCOS must have bit 040 (Receive messages from other users).

097 Do not say "I will ring <name>" in AR

Note: Receptionist II (AR) is an optional feature.

This feature bit eliminates repeating the recipient's name because it was acknowledged when the caller heard the initial introductory greeting. Without this feature bit, Receptionist II asks the caller to hold and says, "I will ring [recipient's name]."

With or without this bit, when a caller enters an extension, Receptionist II says, "Please hold." If call screening is included, Receptionist II asks the caller's name.

098 Say "Press 0" to caller before beep

If this feature bit is included, callers hear the following prompt: "You may start your message now. Press 0 (zero) to return to the attendant. Beep."

If 0 is pressed, the caller is transferred to the mailbox attendant, or, if none is configured, to the system attendant. If neither is configured, the "Press zero" portion of the prompt does not play.

Receptionist II Usage Note

With Receptionist II, this feature bit works the same way unless you include bit 003 (Return to Welcome prompt). If you include this bit, a user hears the Receptionist greeting, for example, "Welcome to the Automated Receptionist," after pressing 0.

099 Not Used

100 Not Used

101-109 Deny login on line groups 1-9

Users cannot log in on the specified line group. There are nine possible restricted line groups; the feature number minus 100 equals the line group number; for example, 101 = line group 1, 109 = line group 9.

This feature bit allows the server administrator to deny user access to mailboxes through certain line groups. For example, if line group 7 consists of "800" numbers meant only for customers' messages, adding bit 107 to all mailbox FCOSs prevents mailbox owners (employees) from calling in on these lines to log in and play messages.

110 Make/give to telephone number

This feature bit, known as "call placement," allows a mailbox owner to make or give a message to a telephone number outside the mailbox system. To use this functionality, the mailbox owner specifies the number by dialing the call placement digit (set in the dialing plan) and then the telephone number, instead of specifying a mailbox while making or giving a message.

The server prompts the mailbox owner for the name of the recipient.

At least one of the following feature bits are required:

- 020 (Make messages)
- 024 (Give messages)

The following must also be modified:

- The dialing plan digit for call placement messaging must be set to T or the optional star prefix.
- LCOS definitions in the More Limits Parameters menu affect call placement, and you should change them if necessary.
- The Call Placement Access Index Code should be set in the user mailbox. Also known as a pre-dial string, this is entered before the call placement number.
- Post-pager number (dial string must be used after the call placement number).
- An outdial (pager) port must be properly configured

111-119 Deny message receipt on line groups 1-9

This feature bit prevents a caller from leaving a message for a mailbox, when the caller has reached the mailbox through a restricted line group. Callers cannot leave messages from the specified line group(s). There are nine possible restricted line groups; the feature number minus 110 equals the line group number. For example, 111 = line group 1, 119 = line group 9.

This feature bit allows the server administrator to deny access by callers to mailboxes through certain line groups. For example, if line group 7 consists of "800" numbers meant only for a company's sales or service force to retrieve messages, adding FCOS bit 117 to all mailbox FCOSs prevents callers, such as customers, from calling in on these lines to leave messages.

Here is another example. If company A (using line group 1) and company B (using line group 2) share a PBX, company B's server administrator can assign feature bit 111 (Deny message receipt from line group 1) to every FCOS. This ensures that callers do not use company A's lines to reach company B's mailboxes.

120 Default to first child of tree mailbox

This feature bit applies to tree mailboxes. When a time out occurs, this bit causes the server to default to the first mailbox in the list. For an explanation of tree mailboxes, see FCOS 15 (Tree), the Mailboxes chapter, and feature bit 121 (Define tree mailbox).

- This feature bit also requires bit 121 (Define tree mailbox).

Note: This feature bit is overridden by bit 186 (Default to last child of tree mailbox) if both are in the same FCOS.

With this feature bit, callers who do not enter a digit promptly after the tree mailbox greeting are routed to the first child mailbox in the tree mailbox distribution list. Without this bit, callers who do not enter a digit promptly after the tree mailbox greeting are routed to the attendant's mailbox. This is a useful feature to assign if callers do not have pushbutton telephones.

121 Define tree mailbox (master feature bit)

The tree mailbox is used to route callers to "child" mailboxes. When an outside caller reaches a mailbox with this master feature bit, the greeting plays, then the server waits for DTMF input to route the call to the next desired mailbox greeting.

For a full explanation of tree mailboxes, see FCOS 15 (Tree) and also the Mailboxes chapter.

This feature bit also requires these other bits:

- 070 (User Options Menu)
- 072 (Record or change mailbox greeting)

Note: Tree mailboxes do not accept caller messages. Therefore, do not include bit 041 (Receive messages from outside callers) when creating a tree mailbox. If bit 041 is included, it overrides bit 121 and disables the mailbox's tree functionality.

Tree Mailboxes and Receptionist II

If the administrator's mailbox is defined as a tree, callers can exit from the tree structure by pressing # any time during the greeting. Receptionist II then prompts callers to enter an extension number.

This option is available only at the administrator's mailbox or when returning to Receptionist II from VoiceMemo (by pressing 0 within VoiceMemo). At other times, pressing the # key causes Receptionist II to disconnect a caller immediately and without warning.

This option is not announced by the server; if you want callers to know about it, mention this option in the greeting of the administrator's mailbox.

Note: Feature bit 187 (Receptionist call-transfer tree mailbox) cannot be used with bit 12 1.

122 Define broadcast mailbox (master feature bit)

When a message is made for a mailbox with this master feature bit, the message is deposited in the mailboxes of all distribution list 0 1 members. When the message is played by the recipients, the server announces the name that is recorded in the sender's mailbox (or the sender's mailbox number if no recorded name exists). The broadcast mailbox name is not announced. The distribution list must exist to use this feature.

However, if feature bit 123 (Announce broadcast mailbox name) is also included in the broadcast mailbox's FCOS, the server announces the name that is recorded in the broadcast *mailbox.*

For a detailed explanation of broadcast mailboxes, see "Broadcast" under Suggested Additional FCOSs, or the Mailboxes chapter.

This feature bit also requires these other bits:

- 040 (Receive messages from other users) and/or
  044 (Receive user dist list messages)

Note: This feature bit overrides bit 134 (Broadcast message waiting status).

123 Announce broadcast mailbox name

This feature bit is used with broadcast mailboxes. With this bit, the name that is recorded in the broadcast mailbox is announced. Without this bit, the originator's name (the user who sent the message to the broadcast mailbox) is announced.

If no name is recorded in the broadcast mailbox, the originator's name is announced.

This feature bit also requires these other bits:

- 122 (Define broadcast mailbox)
- 070 (User Options Menu)
- 071 (Record or change mailbox name)
- 040 (Receive messages from other users) *and/or*
  044 (Receive user dist list messages)

124 Change paging phone number

This feature bit allows the mailbox owner to change the paging telephone number from a pushbutton telephone. If a mailbox owner changes the telephone number, it does not affect the post-pager dial string, which is set in the mailbox configuration.

If this feature bit is absent, the mailbox owner cannot change the paging telephone number from the telephone.

> **Note:** Do not confuse this feature bit with bit 143 (Change message delivery phone number). This bit is for radio pagers.

This feature bit also requires:

- Feature bit 070 (User Options Menu)
- Message waiting type 1 or 2 to be defined as 5 (pager) in a mailbox owner's mailbox
- A pager port to be defined in the VoiceMemo configuration

125 Clear user passcode

With this feature bit, mailbox owners who do not want to enter a passcode whenever they log in can eliminate their passcodes. Without this bit, mailbox owners can modify their passcodes but not remove them.

Logged-in mailbox owners press U to reach the User Options Menu and P to change their passcodes. Mailbox owners enter four zeros, 0000, at the prompt to clear their passcodes. New mailbox owners can also enter four zeros at the prompt during the tutorial if they do not want to set up their mailboxes with passcodes.

> **Note:** The server administrator can make it a policy that all mailboxes in the company have passcodes. The server administrator can identify those mailboxes that have no passcodes by using the Search Mailbox function on the console.

This feature bit also requires these bits:

- 070 (User Options Menu)
- 073 (Enter and change mailbox passcode)

126 Make/give to mailbox with empty GCOS

This feature bit allows one-way communication to a mailbox that has a GCOS with no groups entered. A mailbox with this bit can make and give messages to

another mailbox that has GCOS 2 (Self). The recipient mailbox cannot answer the message, even if it contains feature bit 029 (Answer messages).

This is a useful feature for service bureau operators, as it allows them to send messages to customers.

- This feature bit also requires bit 020 (Make messages).
- The recipient mailbox FCOS must have bit 040 (Receive messages from other users).

127 Deny receipt of msgs before tutorial run

This feature bit prevents a mailbox from receiving messages before the mailbox owner plays the tutorial. By adding this bit, other mailbox owners cannot leave messages for new mailbox owners who have not learned how to use VoiceMemo.

This feature bit also requires bits:

- 070 (User Options Menu)
- 040 (Receive messages from other users) *and/or*
  041 (Receive messages from outside callers)

128 Family head

This feature bit is only used with the VMUIF user interface of VoiceMemo.

129 Host mailbox

This feature bit is only used with the VMUIF user interface of VoiceMemo.

130 **Passcode** cannot be same as mailbox

This feature bit prohibits a user from assigning a passcode that is the same as the mailbox number. This is a useful security feature to prevent server break-in by hackers.

This feature bit also requires bits:

- 070 (User Options Menu)
- 073 (Enter and change mailbox passcode)

131 Don't say limits of liability statement

This feature bit is only used with the VMUIF user interface of VoiceMemo.

132 Bad passcode lockout if over limit

Each mailbox has a count of bad passcode attempts within a specified time limit. If the limit is reached and this feature bit is present, the mailbox owner hears the prompt, "I'm sorry. You cannot reach your mailbox at this time. Good-bye." The mailbox owner hears this prompt after entering either the mailbox number or one or more bad passcodes (if the limit is reached).

The server administrator must then clear the mailbox at either the server maintenance console (Mailbox Maintenance) or through administration-by-phone.

Without this feature bit, the mailbox owner hears, "Warning! There have been excessive bad passcodes entered for your mailbox." The bad passcode count is automatically cleared after the time limit.

133 Don't say: "You may start your msg now"

Before an outside caller leaves a message, VoiceMemo prompts the caller with, "You may start your message now." This feature bit omits that prompt.

This is useful when time is an issue, such as for service providers who charge by the month instead of by total time used.

This feature bit also requires bits:

- 004 (Outside caller functions)
- 041 (Receive messages from outside callers)

134 Broadcast message waiting status

This feature bit allows the message waiting status, rather than the message itself, to be broadcast to distribution list 01. You must define this list, which includes the destination mailboxes to which to send the message waiting status of the main mailbox.

This feature bit also requires bits:

- 070 (User Options Menu)
- 074 (Create or modify user distribution list)
- 040 (Receive messages from other users) *and/or*
  044 (Receive user dist list messages)

Note: Feature bit 122 (Define broadcast mailbox) overrides this bit.

135 Define template mailbox (MESA Forms)

This feature bit is used with the MESA Forms optional feature. A mailbox with this bit plays the greetings stored in its child mailboxes, sequentially, and records a message after each greeting.

See the MESA Forms optional feature documentation for more information.

136 Don't say: "End of message"

When done playing a message, VoiceMemo prompts the user with, "End of message." This feature bit omits that prompt.

This is useful when time is an issue, such as for the Message Delivery application or for service providers who charge by the month instead of by total time used.

- This feature bit also requires bit 050 (Play messages).

137 Caller must enter access code

With this feature bit, a mailbox can require that callers enter a valid access code ("authorization code" in Receptionist II) before they can leave messages.

Codes can consist of up to ten characters.. Valid characters include any numeric keys on a pushbutton phone. Instead of access codes, a mailbox owner can simply require that callers enter a specific mailbox number or a mailbox number plus its passcode.

The mailbox owner or server administrator creates this access code when setting up a mailbox.

See also feature bit 160 (Call er must enter line group access code), which asks for an access code before playing the initial greeting,

138 Don't say: "Message complete"

After recording a message, VoiceMemo prompts the mailbox owner or caller with, "Message complete." This feature bit omits that prompt.

This is useful when time is an issue, such as for the Message Delivery application or for service providers who charge by the month instead of by total time used.

- This feature bit also requires bit 020 (Make messages).

139 Template: assume last greet mbox FCOS

This feature bit is used with the MESA Forms optional feature. See the documentation for MESA Forms for more information.

- This feature bit also requires bit 135 (Define template mailbox).

140 Say full date when playing messages

When a mailbox user plays a message, the delivery date is shortened as much as possible. If the message was delivered the same day, only the time is played. If it came the same week, only the day of week is played, and so on.

With this feature bit, the full date (time, day, date, month, and year) are announced before playing all messages.

- This feature bit also requires bit 050 (Play messages).

Note: Do not include feature bits 048 (No auto-time stamp of unplayed msgs) and 049 (No auto-time stamp of played msgs) in the mailbox FCOS if this bit is present.

141 Define chain mailbox in Receptionist

With this feature bit, a chain mailbox routes calls to an extension even if the chain mailbox has no greeting. In addition, Receptionist II can route a call from a chain mailbox to a tree mailbox and vice-versa.

Note: Receptionist II is an optional feature.

142 Must run tutorial from own phone (SMDI)

This feature bit is for Centrex and Unified integrations. It requires that the tutorial be played from the teiephone assigned to the mailbox, rather than any telephone. This is useful in an environment where users are assigned default passcodes since it

prevents others from "stealing" mailbox access by dialing in and changing the (default) passcode.

This feature bit also requires bits:

- 070 (User Options Menu)
- 073 (Enter and change mailbox passcode)
- 093 (Deny change of passcode in first tutorial)

143 Change message delivery phone number

This feature bit allows the mailbox owner to change the message delivery telephone number from a pushbutton telephone. This capability is useful if the mailbox owner is expecting a call and is at a different telephone number than the specified message delivery number.

If this bit is absent, the mailbox owner cannot change the message delivery telephone number from the telephone.

This feature bit also requires:

- Feature bit 070 (User Options Menu)
- Message-waiting type 1 or 2 to be defined as 5 (pager) in a mailbox owner's mailbox
- A pager port to be defined in the VoiceMemo configuration

144 Skip forward to next message

This feature bit allows a mailbox owner to skip forward from the current message to the "top" of the next message by pressing the T key. When mailbox owners skip the message they are listening to, the VoiceMemo application always treats the message as unplayed. So, when mailbox owners next log in, the server includes skipped messages in its count of unplayed messages.

Without this feature bit, a mailbox owner must keep, give, or discard a message before playing the next one.

Note: If Feature bit 204 (Message skip, forward and backward) is also included, it overrides bit 144.

If bit 048 (No auto-time stamp of unplayed msgs) or bit 049 (No auto-time stamp of played msgs) is also included, the mailbox owner cannot skip to the next message.

145 Message **stays** in original queue

This feature bit determines how the server classifies a message if a mailbox owner does not explicitly keep a message (by pressing K) or discard it (by pressing D). If this feature bit is present, a mailbox owner who hangs up or logs out after starting to play a message has the message kept in its original queue (unplayed or urgent). Figure 7-2 shows the server's classification process.

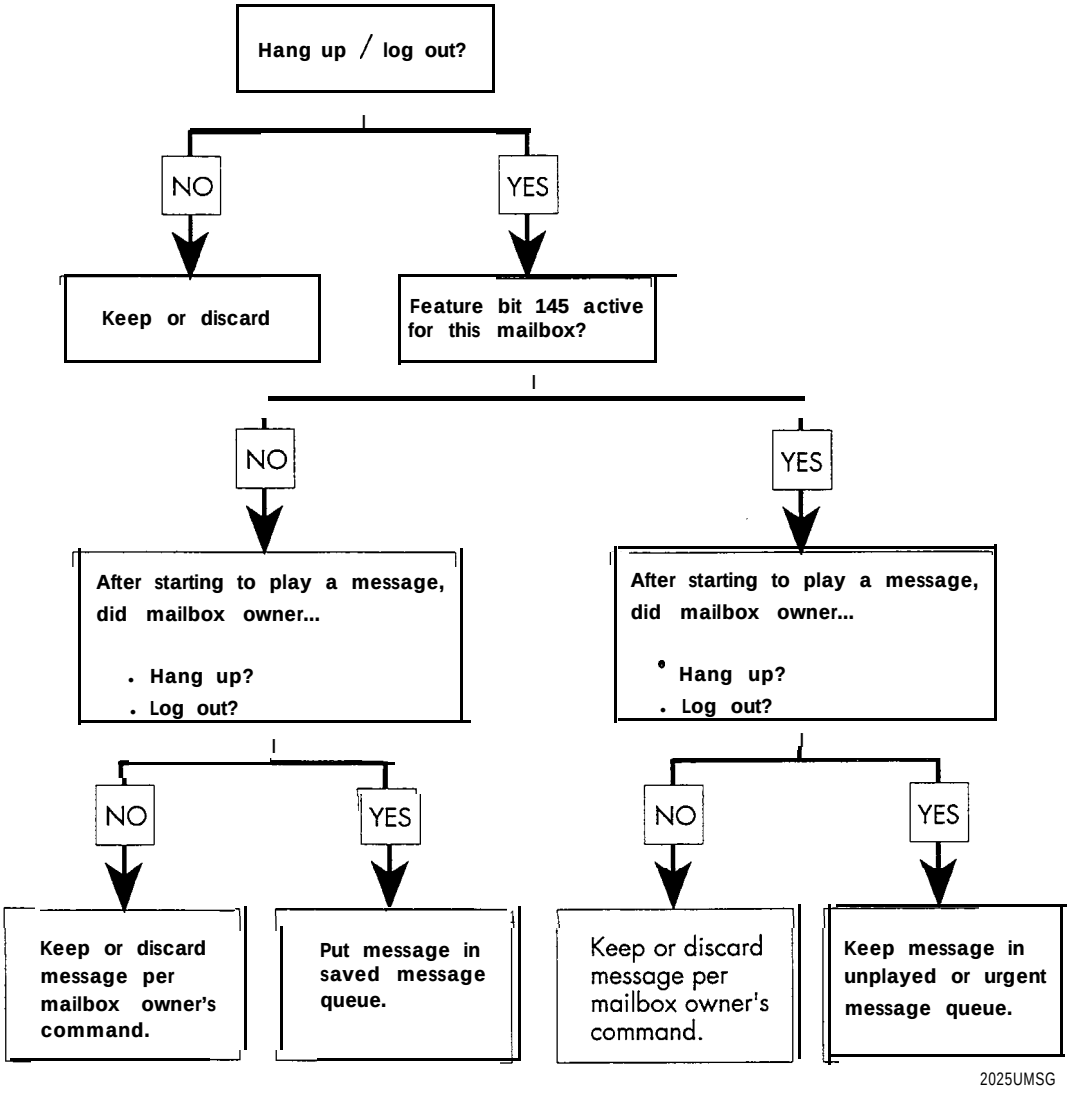


Figure 7-2 Decision Process for Unplayed Messages

If this feature bit is not present, and the mailbox owner hangs up or logs out while playing a message, the message is put in the saved message queue.

Note: If a mailbox owner has feature bit 089 (Auto-play all msgs, new and saved) but not bit 054 (Auto-keep messages), and hangs up

before keeping or discarding a message, the message is kept in the unplayed queue regardless of whether bit 145 is present or not.

Also see feature bit 147 (Send receipt after full play) for information on how 145 and 147 interact.

146 Don't say "VoiceMemo storage is full"

If the server disk storage for voice is 80% full, a warning is played for mailbox owners, when logging in, that encourages them to delete unneeded messages.

This feature bit suppresses the warning. It is useful for service providers who do not want mailbox owners to hear server warnings.

147 Send receipt after full play

This feature bit controls whether or not the server waits for a mailbox owner to explicitly keep a message (by pressing K) or discard it (by pressing D) before sending a receipt to the sender of that message. The server makes this decision only after a mailbox owner plays the entire message.

- This feature bit also requires bit 145 (Message stays in original queue).

The feature bits that control the server's actions on unplayed messages and message receipts work together. The chart in Table 7-6 shows the possible results in a case where a user played a message entirely, but hung up or logged out without keeping or discarding the message.

Table 7-6 Results of Playing a Message Entirely

	Feature bit 147 in FCOS?	
Feature bit 145 in FCOS?	YES	NO
YES	Message stays in unplayed queue, and the server sends receipt.	Message stays in unplayed queue, and the server does not send receipt.
NO	Message goes to saved queue, and the server sends receipt.	Message goes to saved queue, and the server sends receipt.

The next chart (Table 7-7) shows the possible results in a case where a mailbox owner played a message partially but hung up or logged out without keeping or discarding the message. Note in this case that feature bit 147 has no effect whatsoever.

Table 7-7 Results of Playing a Message Partially

	Feature bit 147 in FCOS?	
Feature bit 145 in FCOS?	YES	NO
YES	Message stays in unplayed queue, and the server does not send receipt.	Message stays in unplayed queue, and the server does not send receipt.
NO	Message goes to saved queue, and the server sends receipt.	Message goes to saved queue, and the server sends receipt.

Note: Feature bit 147 works on a partially played message exactly as it does on a completely played message. Otherwise, it would be possible for the server to put a partially played message into a user's saved queue but not send a receipt.

148 Change auto-wakeup phone number

This feature bit allows a user to change the auto wakeup number from a pushbutton telephone. You must install the Auto Wakeup optional feature software, an optional feature, to take advantage of this. Also, there is an LCOS that controls the length of the phone number the user can enter, called Auto Wakeup--Phone Length.

This feature bit also requires:

- Feature bit 070 (User Options Menu)
- Feature bit 015 (Change wakeup options)
- A properly configured outdial or pager port

149 Login to template thru rotational mbox

This feature bit is used with the MESA Forms optional feature. See the optional feature documentation for MESA Forms for more information.

- This feature bit also requires bit 135 (Define template mailbox, MESA-Forms).

150 Not Used

151 Deny 333 access for mobile DID

This feature bit is only used with the DID VoiceMemo application. When this bit is present, mailbox owners cannot log into their mailboxes from a "land line," or a non-mobile telephone. Only mobile telephones can log into the mailbox. The 333 refers to an internal code for a land line access.

The DID line group must be configured for the Mobile DID option.

152 Deny login within tree

This feature bit prohibits callers from logging into VoiceMemo from a tree mailbox or any of its child mailboxes. You can use this bit to keep mailboxes free for information retrieval only.

- This feature bit also requires bit 121 (Define tree mailbox).

153 Don't jump to new message from saved queue

Without this feature bit, if a user is playing saved messages and a new message arrives, VoiceMemo immediately jumps to the new message. Adding this feature bit allows the user to continue playing the saved messages without losing place. A notification message is played. The user can either play all saved messages, and then hear the new message, or, if feature bit 204 (Message skip, forward and backward) is present, skip forward or backward to the new message.

This feature bit also requires bits:

- 050 (Play messages)
- 053 (Keep messages)
- 039 (Notification tone when new msg arrives) or
  047 (Notification prompt when new msg arrives)

154 Announce text (E-Mail) message count

You can use the text counter for textual (as opposed to VoiceMemo or FaxMemo) messages. Examples are electronic mail (E-mail) messages or papers at a hotel front desk such as a letter or a hard copy fax. With this feature bit, the server alerts a user that text messages are available. The default prompts are, "You have one text message." or "You Rave [n] text messages."

Without this feature bit, no prompts are played if the text counter is incremented.

This feature bit is overridden by bit 217 (Announce text msgs without count) if both are present.

155 Payphone user/recipient interface

Reserved for future use.

156 Deny login after greeting

This feature bit only allows a mailbox owner to log in before the greeting or while it is playing. Once the greeting has completed, no logging in is allowed.

157 Repeat message for answering machine

This feature bit is used with call placement. If the called party does not press a key, the message is played twice. This allows an answering machine to receive the message. If the feature bit were not present and an answering machine responded, the message would not be delivered, because the server would wait for a DTMF input and time out.

This feature bit also requires:

- Feature bit 110 (Make/give to telephone number)
- A mailbox configured for call placement
- Outdial (paging) port set up correctly

158 Continue sending message (* key)

This feature bit allows the mailbox owner to continue giving, sending, or answering a message. With this bit included in the FCOS for a mailbox, the mailbox owner is prompted, after a make, give, or answer, to press the star (*) key to add an additional mailbox. If the FCOS has bits 022 (Make to multiple destinations) and 026 (Give to multiple destinations) the mailbox owner can enter more than one mailbox number.

The Continue Sending feature also allows a user to send the most recently made message to more mailboxes until a new message is made from the main menu, provided that the user does not skip to the next message (if that feature is available).

This feature bit also requires at least one of these bits:

- 020 (Make messages)
- 024 (Give messages)
- 029 (Answer messages)

159 Say "Press 0 to return to receptionist"

This feature bit plays a prompt for outside callers. The prompt, "Press zero to return to Receptionist" is played after the mailbox greeting. The optional feature software for Receptionist II must be installed to use this feature.

160 Caller must enter linegroup access code

If this feature bit is present in a mailbox's FCOS, an outside caller must enter an access code to continue. Otherwise VoiceMemo hangs up.

This is a useful feature bit for the administrator's mailbox, for a line group that has 800 (toll-free) service, or for a modem. This functionality is required by law in some countries.

See also feature bit 137 (Caller must enter access code), which requires an access code to leave a message in the mailbox.

161 Conditional greetings

This feature bit allows conditional greetings for a mailbox. This allows the mailbox owner personal or server greetings for each forwarding condition that caused the server to handle the call (Busy, Forward, Ring No Answer).

This functionality only works with PBX integrations that can properly signal VoiceMemo on different conditions.

- This feature bit also requires bit 070 (User Options Menu).

162 General greetings

This feature bit allows general greetings for a mailbox. This allows the mailbox owner to choose personal or server greetings for all call types. The server greeting is the default greeting used when a user has not recorded a personal greeting. When used with feature bit 161, four possible general greetings can be used (primary, busy, call forward, and ring no answer).

This feature bit also requires bit 070 (User Options Menu).

163 Don't play message count

This feature bit suppresses the message count prompt ("You have no messages in your mailbox"). The bit can be used with the Cut-thru Paging option to allow callers to enter DTMF digits and to disallow voice messaging. To use this functionality, create a new FCOS based on FCOS 10, delete bits 4, 20, and 41, and add bits 133, 138, 163, 171, and 213.

164 Skip/pause during greeting in Greeting-only mailbox

This feature bit provides the ability to skip forward ("fast forward"), by pressing the # key, and backward ("rewind"), by pressing the * key, while listening to a greeting. In addition, a user can pause the greeting by pressing 1, or restart the greeting by pressing 7. This functionality is similar to skipping and pausing capabilities available when playing messages (see feature bits 006 and 007). This feature bit allows many people to get the same information simultaneously. It is useful when a greeting is very long and a user wants to verify the information without having to call the mailbox again.

This functionality is overridden when the mailbox is reached by using Dial-by-Name, because Dial-by-Name automatically hard-plays the mailbox greeting.

This feature bit overrides bit 060 (Ignore DTMFs during greeting).

- This feature bit requires a Greeting-only mailbox.

Note: When logging into this mailbox, only use the star (*) key plus mailbox convention, not the mailbox plus star (*) key convention. If you use the latter, the feature bit causes the greeting to skip backward instead of allowing a login.

165 Pound key (#) Login

This feature bit allows users to log into their mailboxes by pressing the pound (#) key on the telephone set, followed by their mailbox number, after dialing into a port used by the VoiceMemo application. Pressing the star key (*) followed by the mailbox number, still logs users into their mailboxes with this feature included.

Note: This functionality takes precedence over Dial an Extension and E-mail.

166 AMIS Analog Networking

This feature bit is used with the AMIS Analog Networking optional feature; it is described in the *VoiceMemo Systems AMIS Analog Networking Guide.*

167 Reserved

168 Message wait 1, pager requeue

If you have paging or message delivery scheduled from 9 a.m. to 5 p.m. and receive a call at midnight, the server does not call you until another message arrives during the scheduling time period. If this feature bit is added, the server pages you at the beginning of the next scheduled pager start time for schedule one (Message Waiting type 1).

This applies to both paging and message delivery.

169 Message wait 2, pager requeue

If you have paging or message delivery scheduled from 9 a.m. to 5 p.m. and receive a call at midnight, the server does not call you until another message arrives during the scheduling time period. If this feature bit is added, the server pages you at the beginning of the next scheduled pager start time for schedule two (Message Waiting type 2).

This applies to both paging and message delivery.

170 Transfer to Voice Gateway System

Do not include this feature bit unless your server is part of a ÕneCall/Voice Gateway system.

With this feature bit, an outside caller can be prompted to transfer into the Voice Gateway or E-mail system. Use it with these other feature bits:

- 004 (Outside caller functions)
- 005 (Play Outside Caller Menu prompts)
- 176 (Say "Press # for more options" to callers)

171 Cut-through Paging

When added to an FCOS, this feature bit activates one of two types of Cut-through Paging for the mailbox. You can combine it with feature bit 173. This bit differs from bit 172 by allowing callers to leave either a telephone number or a message, but not both at the same time.

This feature bit also requires:

- Feature bit 070 (User Options Menu)
- Cut-though Paging optional feature software
- The mailbox must be set up with message waiting type 5

172 Cut-through Paging and messaging

When added to an FCOS, this feature bit activates one of two types of Cut-through Paging for the mailbox. You can combined it with feature bit 173. This bit differs from bit 171 in that it allows callers to leave a telephone number or a message, or both, at the same time.

This feature bit also requires:

- Feature bit 070 (User Options Menu)
- Cut-though Paging optional feature software
- The mailbox must be set up with message waiting type 5

If feature bit 004 (Outside caller functions) is included in the same FCOS, the caller must press the feature activation key, I, to activate Cut-through Paging. If not included, the caller can enter the telephone number without the activation key.

If feature bit 005 (Play Outside Caller Menu prompts) is norincluded, then the caller does not receive function prompts. Note that bit 005 requires bit 004.

173 Receive cut-through page notify receipt

This feature bit works with the Cut-through Paging optional feature. When included in an FCOS, all paging attempts generate a receipt. You can combine this bit with bit 171 or 172.

This feature bit also requires these bits:

- 070 (User Options Menu)
- 075 (Audit receipt message)
- 171 (Cut-through Paging) or 172 (Cut-though Paging and messaging)

In addition, the following are required-

- The Cut-through Paging optional feature software
- The mailbox must be set up with message waiting type 5

174 Define broadcast greeting mailbox

A mailbox with this feature bit in the FCOS can propagate recorded greetings to a list of other mailboxes, similarly to how a broadcast mailbox can send on a message to other mailboxes. Use distribution list 09 for the broadcast greeting mailbox list.

Mailboxes receiving the broadcasted greeting must have these feature bits in their FCOSs:

- 175 (Receive broadcast greeting)
- 161 (Conditional greetings) for multiple mailbox greetings
- 162 (General greetings) for multiple mailbox greetings

A broadcast greeting mailbox can also be a tree mailbox or a broadcast message mailbox. The distribution list 01 is used for the tree or broadcast feature. List 09 controls the greeting broadcast to recipients.

This feature bit can also be used with bit 178 (Define broadcast name mailbox). Both would use the same distribution list 09.

175 Receive broadcast greeting

A mailbox with this feature bit in its FCOS can have its greeting changed by a broadcast greeting mailbox. See feature bit 174 (Define broadcast greeting mailbox) for information on the broadcast greeting mailbox.

To have multiple mailbox greetings changes, the following features bits are also needed:

- 161 (Conditional greetings)
- 162 (General greetings)

176 Say: "Press # for more options" to callers

This feature bit prompts outside callers if more options are available. It is used with Dial an Extension or transferring to Voice Gateway or E-mail. The user hears, "Press the pound key for more options." If the user presses #, VoiceMemo then plays, "Press 1 to dial an extension, 2 to transfer to E-mail," if both these optional features are available. If only one is installed, pressing # initiates the option.

This feature bit also requires bits:

- 004 (Outside caller functions)
- 005 (Play Outside Caller Menu prompts)

Feature bit 170 (Transfer to Voice Gateway System) is needed for the prompt to include E-mail.

177 Reminder calls

This feature bit is only used with the VMUIF user interface of VoiceMemo.

178 Define broadcast name mailbox

A mailbox with this feature bit in its FCOS can propagate recorded names to a list of mailboxes, similarly to how a broadcast mailbox can send on a message to other mailboxes. Use distribution list 09 for the broadcast name mailbox list.

All names created or modified are broadcasted.

Mailboxes receiving the broadcasted greeting must have feature bit 179 (Receive broadcast name) in their FCOSs.

A broadcast name mailbox can also be a tree mailbox or a broadcast message mailbox. The distribution list 01 is used for the tree or broadcast feature. List 09 controls the name broadcast to recipients.

This feature bit can also be used with bit 174 (Define broadcast greeting mailbox). Both would use the same distribution list 09.

179 Receive broadcast name

A mailbox with this feature bit in its FCOS can have its recorded name changed by a broadcast name mailbox. See feature bit 178 (Define broadcast name mailbox) for information on the broadcast name mailbox.

180 Record personal wakeup message

This feature bit is only used with the VMUIF user interface of VoiceMemo. It allows the mailbox owner to record a personal message for the next wakeup call, which is used instead of the normal wakeup message. It also requires the Auto-Wakeup optional feature.

181 Paging over msgdel, mwi1 over mwi2

This feature bit sets the order of selection for pagers. It is designed for situatio when paging schedules might overlap.

- If either message waiting type 1 or message waiting type 2 is a pager, the pager *instead* of message delivery.
- If both types are for pagers, use message waiting type 1.

This feature bit also requires:

- Feature bit 070 (User Options Menu)
- Feature bit 077 (Change pager schedule)
- Message waiting type 1 or 2 to be defined as 5 (pager) in a mailbox owner's mailbox
- A pager port to be defined in the VoiceMemo configuration

182 Use pri/alt as week/weekend for mwi1

This feature bit changes the operation of the primary and alternate message wa type 1 (MWI 1). By adding this bit, the primary message waiting type 1 is use weekday messages and the alternate is used for weekend messages. This is usef for paging or message delivery if a different telephone number has to be reache a weekend.

Without this feature bit, the primary message waiting type is tried until exhaus and then the alternate is tried. The server always assumes that weekends are Saturday and Sunday; independent of the day/night configuration.

- This feature bit requires that message waiting type 1 be properly configured for the mailbox.

183 Use pri/alt as week/weekend for mwi2

This feature bit changes the operation of the primary and alternate message wa type 2 (MWI 2). By adding this bit, the primary message waiting type 2 is use weekday messages and the alternate is used for weekend messages. This is usef for paging or message delivery if a different telephone number has to reached c weekend.

Without this feature bit, the primary message waiting type is tried until exhausted, then the alternate is tried. The server always assumes that weekends are Saturday and Sunday; independent of the day/night configuration.

- This feature bit requires that message waiting type 2 be properly configured for the mailbox.

184 Append mailbox number to VG transfer

This feature bit is used when transferring to another server, such as E-mail, from the Series 6 server. It allows the VoiceMemo application to append the mailbox number to the end of the E-mail transfer string. This can inform the other server what the mailbox number is after the call transfer has been made. The transfer number must be configured in the online option for an E-mail string.

Note: If you have the OneCall optional feature, this feature is ignored. This is because the call is never transferred away from the server.

185 Receive wakeup call notification receipt

You can use this feature bit in the hotel/motel or service provider environment. It gives users a receipt in their mailboxes for any wakeup call that could not be delivered because of a Busy or Ring No Answer condition.

This feature bit also requires:

- Feature bit 070 (User Options Menu)
- Feature bit 0 15 (Change wakeup options)
- Auto Wakeup optional feature

186 Default to last child of tree mailbox

When a time out occurs, this feature bit causes the server to default to the last mailbox in distribution list 01. If feature bit 120 (Default to first child of tree mailbox) is also included, bit 186 takes precedence.

- This feature bit also requires bit 121 (Define tree mailbox).

187 Receptionist call-transfer tree mailbox

This feature bit is used with the Receptionist II optional feature.

It allows a call to be transferred to the first child mailbox on a Ring No-Answer condition, and to the second child mailbox on a Busy condition. Greetings must be recorded for the tree mailbox and its child mailboxes.

This functionality can be used in applications where it is necessary to track statistics related to the status of extensions in high traffic conditions.

Note: Feature bit 121 (Define tree mailbox) *cannot* be in the same FCOS for this bit to work.

188 Append # to end of cut-thru page number

This feature bit is used with Cut-through Paging. It allows a caller to enter the pound sign (#) after entering a number. Pressing # tells the server that the number is now complete. If this feature is not present, the server waits for a time out (set in the Limits Class of Service) before sending the page.

This feature bit also requires:

- Feature bit 070 (User Options Menu)
- Feature bit 171 (Cut-through Paging) *or* 172 (Cut-though Paging and messaging)
- Cut-through Paging optional feature
- The mailbox must be set up with message waiting type 5

189 Rotate on full mailbox

When a mailbox is full and receives a new message, this feature bit routes the message to the first available mailbox in the full mailbox's distribution list 01. This allows a caller to leave a message even if the original mailbox is full. The mailbox owner would hear the message "Your overflow mailbox has messages" when logging into the primary mailbox. However, the mailbox owner must then log into the child mailbox(es) to retrieve overflow messages.

Without this feature bit, when a mailbox had reached the maximum number of messages allowed by its LCOS, the user or caller would hear the message "I'm sorry, mailbox for [mailbox owner] is full" and the user or caller could not leave a message for the full mailbox.

You can override the server limit for maximum messages per mailbox by using this feature bit. For example, if you want a mailbox owner to have a maximum of 100 messages, the limit for the parent mailbox should be set to 73 messages (the maximum), while the (first and only) child mailbox's limit should be set to 27.

190 Receive fax messages

This feature bit allows a mailbox to receive fax messages with voice comments. Callers are prompted to leave a voice message, then prompted to press L to leave a

fax with the voice message. A caller can ignore the voice message prompt and press L to only leave a fax.

- This feature bit also requires one of the Receive Messages bits (040 or 041)

This feature bit requires the FaxMemo optional feature. For more information, see *the VoiceMemo FaxMemo Manual.*

191 Make fax messages

This feature bit allows a mailbox owner to make a fax message by pressing L. The fax message can be associated with a voice message and both are delivered to the recipient(s).

- This feature bit also requires bit 020 (Make messages).

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

192 Give fax messages

This feature bit allows a mailbox owner who can receive faxes to forward them, along with voice comments, either to other users or outside lines. A mailbox owner cannot include another fax as a comment.

This feature bit also requires bits:

- 024 (Give messages)
- 190 (Receive fax messages)

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

193 Deliver fax to default number

This feature bit allows a user to deliver a fax to a personal (default) fax telephone number after hearing the voice annotation. The server administrator can set this to a department or company fax machine during configuration.

The user can set the default fax number by entering U (User Options), F (Fax), D (Default Fax Number). If you wish to give this capability to the user, you should also include feature bit 070 (User Options Menu).

- This feature bit also requires bit 190 (Receive fax messages).

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

194 Deliver fax online

This feature bit allows users to retrieve a stored fax message, if calling from a fax telephone. The user must first listen to any attached voice comments.

- This feature bit also requires bit 190 (Receive fax messages).

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

195 Specify fax delivery number

This feature bit allows a user or caller to specify a fax number. The prompt "Press I to input a number for this fax" is included in the fax transmittal options menu. The user can then press I and give a telephone number for the fax machine.

This feature bit also requires bits:

- 070 (User Options Menu)
- 190 (Receive fax messages)

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

196 Change default fax number

This feature bit allows a user to change the default fax phone number. This is useful for people who travel between several offices; they can set a new default number when arriving at one office, and use it until they move on.

This feature bit also requires bits:

- 070 (User Options Menu)
- 190 (Receive fax messages)
- 193 (Deliver fax to default number)

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

197 Fax-on-demand for greeting only mailbox

This feature bit is used for fax publishing. Set up a Greeting-only mailbox, and include this bit so callers can retrieve any faxes you deposit in the mailbox. This is a useful way to provide information to outside callers automatically.

This feature bit also requires bits:

- 004 (Outside caller functions)
- 005 (Play Outside Caller Menu prompts)
- *190* (Receive fax messages)

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

198 Receive fax messages only

This feature bit is used for both fax mail and guaranteed fax. No greeting or prompts are played to callers, and only faxes, not voice messages, are recorded. A fax session starts as soon as the server answers the call.

- This feature bit also requires bit *190* (Receive fax messages).

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

199 Auto-receipt for fax send

This feature bit creates a time-stamped receipt whenever a user schedules a fax delivery. The receipt is placed in the sending user's mailbox.

This feature bit also requires bits:

- *020* (Make messages)
- 070 (User Options Menu)
- 095 (Mark message for future delivery)
- 190 (Receive fax messages)

This feature bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

200 Personal fax cover page

This feature bit allows users to enter a personal fax cover page that is attached to any faxes they retrieve. The cover page identifies the user as the fax recipient. If assigned to the server administrator's mailbox, the cover page becomes the company fax cover page, and is delivered with any faxes for users who do not have a personal cover page.

If there is no personal or company cover page, a default cover page is generated. It contains the mailbox owner's name, number of fax pages, and the time and date.

- This feature bit also requires bit 190 (Receive fax messages).

This feature requires rhe FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

201 Deny trivial **passcode**

This feature bit performs a check of passcodes that prohibits the assignment of sequential numbers such as 1234, and also prohibits the assignment of a passcode consisting of multiple sequential occurrences of the same digit, such as **1111. (You** can, however, enter 2 1111.)

This feature bit also requires bits:

- 070 (User Options Menu)
- 073 (Enter and change passcode)

202 Do not play mailbox name or ext number

You can use this feature bit for mailboxes in the hotel/motel environment to suppress the name or extension number of a guest who leaves a message in another guest's mailbox. This keeps hotel guests' names and room numbers confidential.

- This feature bit also requires bit 020 (Make messages).

203 **Walkaway** fax for callers

This feature bit allows callers to dial into a mailbox owner's mailbox and send a fax without a voice annotation. If the server detects an incoming fax tone, it simply processes the incoming fax. If there is no fax tone, the caller hears the normal mailbox greeting and prompts.

This feature bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

204 Message skip, forward and backward

This feature bit allows users to skip forward to the next message or backward to the previous message. Users are required to press two keys to perform each of these actions.

T#	Skip forward
T*	Skip backward
TI	Replay the message time stamp
T O	User Options (UO)

Pressing T without pressing another key within 2 seconds causes a skip forward.

If this functionality is being used with FaxMemo, the following combinations apply:

T	Fax Transmittal options
T#	Skip forward
TT	Skip forward
T*	Skip backward
TI	Replay the message time stamp
T O	User Options (UO)

Note: Feature bit 204 (Skip for-ward to next message) overrides bits 048 (No auto-time stamp of unplayed msgs), 049 (No auto-time stamp of played msgs), or 144 (Skip forward to next message) if they are included.

205 Do not use text count for message waiting

Without this feature bit, a text count greater than zero signals the message waiting indicator.

With this feature bit, the message waiting indicator does not turn on when the text count exceeds zero. Instead, it ignores text count when considering the message waiting indicator.

204 Discard fax message after delivery

This feature bit automatically deletes a fax after it has been sent. It is used in guaranteed fax to prevent resending of the same message to the fax machine.

> Note: Feature bit 237 (Automatically deliver fax to default number) overrides this bit. 237 is for user mailboxes, not guaranteed fax mailboxes. Do not use both bits in the same FCOS.

This feature bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

207 Fax verify (sending system not self)

This feature bit is used with guaranteed fax mailboxes that can call an server port. It prevents an outgoing call to its own mailbox number.

This feature bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

208 Play reorder tone after CTP or greet only

This feature bit plays a reorder tone (fast busy signal) after a caller enters a number for Cut-through Paging, or hears the greeting on a Greeting-Only mailbox. The tone is a good way to encourage callers to hang up.

- This feature bit requires either Cut-through Paging bits (171 or 172) or a Greeting-Only mailbox.

209 Tone only pager mailbox interface

This feature bit is used for a special mailbox that uses tones rather than greetings. It is not intended for user mailboxes. The functionality simulates a paging terminal and is meant for DID lines only.

Adding this feature bit generates a page according to its schedule, as soon as the caller is connected. You cannot leave a message for this mailbox. This bit overrides all Receive Message bits.

This feature bit also requires:

- Message waiting type 1 or 2 defined as 5 (pager) in a mailbox owner's mailbox
- A pager port defined in the server configuration

210 Numeric display pager mailbox interface

This feature bit is used for a special mailbox that uses tones rather than greetings. It is not intended for user mailboxes. It is meant for DID lines only, and the functionality simulates a paging terminal.

Adding this feature bit generates a page according to its schedule, as soon as the caller enters a number. It does not send a page unless a number is entered. You cannot leave a message for this mailbox. This bit overrides all Receive Message bits.

This feature bit also requires:

- Message waiting type 1 or 2 defined as 5 (pager) in a mailbox owner's mailbox
- A pager port defined in the server configuration

211 Voice pager mailbox interface

This feature bit is used for a special mailbox that uses tones rather than greetings. It is not intended for user mailboxes. The functionality simulates a paging terminal and is meant for DID lines only.

Adding this feature bit generates a page according to its scheduler as soon as the caller leaves a voice message. This is different from a normal mailbox because it does not have any greetings or prompts for callers.

This feature bit also requires:

- Message waiting type 1 or 2 defined as 5 (pager) in a mailbox owner's mailbox
- A pager port defined in the VoiceMemo configuration

212 Send page upon answer, greet-only mbx

When this feature bit is used with a Greeting-Only mailbox and the BBL Terminal Emulation optional feature, the mailbox can send out a page in accordance with its pager schedule as soon as a call is received, regardless of when the outside caller hangs up.

This feature bit also requires:

- Message waiting type 1 or 2 defined as 5 (pager) in a mailbox owner's mailbox

- A pager port defined in the VoiceMemo configuration
- The BBL Terminal Emulation optional feature must be installed and enabled

213 Edit CTP num with * key if no caller menu

When this feature bit is assigned to a Cut-through Paging mailbox, outside callers have the option to edit their cut-through page number, if there is no caller menu activated. The caller can press the star key (*) to delete the cut-through page and re-enter a new one. After a cut-through page has been entered, and there is no caller menu activated, the server prompts:

> "The number you have entered is nnnnnn. Press star to delete this number and enter another. You can press X or hang up to send your page."

where nnnnnn represents the number entered by the outside caller.

- This feature bit also requires bit 171 (Cut-through Paging) *or* 172 (Cut-through Paging and messaging).
- Do *not* include bit 005 (Play Outside Caller Menu prompts).

214 Not used

215 Don't auto-play first msg (w/auto-play)

Without this feature bit, a mailbox using bit 052 (Auto-play unplayed messages) or bit 089 (Auto-play all msgs, new and saved) automatically starts playing the first message after the user logs into the mailbox.

With this feature bit, when used with either bits 052 or 089, a mailbox does not automatically play the first message and the user can perform other functions in the mailbox. If the user presses I? to play the first unplayed or saved message, all subsequent messages after the first message are then played using auto-play function defined by feature bit 052 or 089.

This feature bit also requires bits:

- 050 (Play messages)
- 052 (Auto-play unplayed messages) *or*
  089 (Auto play all msgs, new and saved)

216 Play receipts after urgent messages

Without this feature bit, receipts for messages are played after unplayed messages.

With this bit, a mailbox user presses P to play any unplayed messages. Receipts are played after Urgent messages, and before any (non-urgent) unplayed messages in the mailbox. This functionality is provided for users who want to play any urgent messages they have, then play any receipts or non-urgent unplayed messages later.

This feature bit also requires bits:

- 050 (Play messages)
- 088 (Receive urgent messages)

Without bit 088, the server plays receipts before all unplayed messages.

217 Announce text msgs without eount

This feature bit is similar to bit 154 (Announce text-E-mail--message count) because it alerts a mailbox owner when the text counter is greater than zero. Unlike bit 154, this feature does not give a count. Instead, it serves as a binary indicator; either the mailbox owner has text messages (in which case a prompt plays), or does not have any.

This feature is useful for integrations that cannot give a text message count to the server, but can indicate the presence of one or more messages.

Note: This feature bit overrides bit 154 if both are present.

218 **Passcode** not needed on direct calls

This feature bit allows users to log into their mailboxes without entering a passcode, provided that they are using their own telephones. You must have an integration that detects the mailbox owner's telephone number to take advantage of this functionality.

219 **Login** with 0 using cut-thru paging

When a caller reaches a Cut-through Paging mailbox, any input entered is sent to the pager display. This feature bit allows a caller to enter 0 (zero) to log in; otherwise the zero would be sent as pager data.

- This feature bit also requires bit 171 (Cut-through Paging) *or* 172 (Cut-through Paging and messaging).

220 No dial ext, E-mail or VG if unplayed msgs

This feature bit forbids user transfer to Did an Extension, E-mail, or Voice Gateway if there are unplayed messages in the queue. When the messages have been all played, then transfer is allowed.

- This feature bit requires at least one of the optional features Receptionist II, Voice Gateway, or the E-mail interface. The latter two require feature bit 170 (Transfer to Voice Gateway system).

221 Deny caller transfer to E-mail /VG

This feature bit forbids outside caller transfer to E-mail or Voice Gateway. Either the Voice Gateway optional feature, or the E-mail interface must be installed. Feature bit 170 (Transfer to Voice Gateway system) is required, to allow *users* to transfer.

Note: Do not install feature bit 176 (Say "Press # for more options" to callers) with this bit, unless your server has Dial-an-Extension for outside callers.

222 Deny nesting of distribution lists

This feature bit prevents mailbox owners from nesting distribution lists. Unless this bit is included in the FCOS, a mailbox owner can specify a distribution list number as a member of a distribution list.

This feature bit also requires bits:

- 070 (User Options Menu)
- 074 (Create or modify user distribution list)

In addition, the mailbox must be configured for change rights to allow the owner to alter existing distribution lists.

223 Delay requested receipt for 24 hours

This feature bit causes the server to wait for 24 hours before delivering any requested receipt notices. This can be helpful to a mailbox owner who uses receipts as "ticklers" to follow up on incomplete calls. The receipt arrives 24 hours after the message is sent, then the user is told whether the message was played by the recipient.

This feature bit also requires bits:

- 020 (Make messages)
- 021 (Make and request receipt)
- 050 (Play messages)

Note: Automatic (forced) receipts are not delayed.

224 Auto-transfer to task before greeting

This feature bit transfers all outside callers to OneCall, E-mail, or another phone number, when they reach the mailbox. It is used with the OneCall application, Voice Gateway, or the E-mail interface. Include feature bit 170 (Transfer to Voice Gateway System) with the E-mail or Voice Gateway interface.

225 Auto-transfer to task upon login

This feature bit transfers a mailbox user to OneCall, E-mail, or another phone number, when logging into the mailbox. It is used with the OneCall application, Voice Gateway, or the E-mail interface. Include feature bit 170 (Transfer to Voice Gateway System) with the E-mail or Voice Gateway interface.

226 Auto Transfer to task after unplayed msgs

This feature bit transfers a mailbox user to OneCall, E-mail, or another phone number, after the user is finished with all unplayed messages. Since unplayed messages are before receipts and played messages, the user is transferred to another task before prompted for these.

This feature bit is used with the OneCall application, Voice Gateway, or the E-mail interface. Include feature bit 170 (Transfer to Voice Gateway System) with the E-mail or Voice Gateway interface.

227 Undelete last message with * key'

This feature bit allows a mailbox owner to undelete a message after deleting it, if this was done mistakenly. After deleting a message with D, the user can press the star (*) key to retrieve the message. This capability only works if * is the next key pressed after D.

This feature bit does not conflict with other bits that use the star key, such as 144 (Skip forward to next message) or 158 (Continue sending message, * key), where the star key is used in a different context. You cannot, however, use this feature with bits 056 (Auto-discard messages) or 089 (Auto-play all msgs, new and saved).

This feature bit also requires bits:

- 050 (Play messages)
- 055 (Discard messages)

228 Set msg wait #3 for urgent msgs only

This feature bit activates the message waiting type 3 for urgent messages only and not for other unplayed messages.

Message waiting type 3 must be defined for the mailbox.

This feature bit also requires bits:

- 040 (Receive messages from other users) *and/or*
  041 (Receive messages from outside callers)
- 088 (Receive urgent messages)

229 Play names of list 1 children

This feature bit is used with a shared extension mailbox. It plays the name of each child mailbox defined in distribution list 01. Up to 190 child mailboxes can be specified.

For a full explanation of shared extension mailboxes, see the Shared Extension Suggested Additional FCOS and also FCOS 15 (Tree).

230 Deny change of fax cover page options

This feature bit prevents a user from having fax cover page options in the User Options Menu. A user can still have a default or a company cover page, or a personal cover page that was entered through the server console.

This feature bit also requires bits:

- 070 (User Options Menu)
- 190 (Receive fax messages).

This bit is used with the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

231 Passcode broadcast mailbox

When this feature bit is included in a mailbox FCOS, the mailbox can broadcast passcodes to a list of mailboxes, similarly to how a broadcast mailbox can send on a

message to other mailboxes. Use distribution list 09 for the broadcast passcode mailbox list.

Mailboxes receiving the broadcasted passcode must have feature bit 232 (Allow receipt of passcode broadcasts) in their FCOSs.

A broadcast passcode mailbox can also be a tree mailbox or a broadcast message mailbox. The distribution list 01 is used for the tree or broadcast feature. List 09 controls the passcode broadcast to recipients.

This feature bit can also be used with bit 174 (Define broadcast greeting mailbox) or 178 (Define broadcast name mailbox). Both would use the same distribution list 09.

Broadcast passcode mailboxes are typically used in networked environments such as MESA-Net.

Allow receipt of passcode broadcasts

When this feature bit is included in a mailbox FCOS, the mailbox can receive a new passcode from a passcode broadcast mailbox. See feature bit 231 (Passcode broadcast mailbox) for more information.

Not used

Check message wait status of children

This feature bit is used with a shared extension mailbox. It checks the message waiting status of all child mailboxes defined in distribution list 01. Up to 190 child mailboxes can be specified.

The child mailbox broadcasts its message waiting status to the shared extension mailbox; this feature causes the parent mailbox to check all other child mailboxes for messages before turning message waiting indicators off. Without this feature bit, two child mailboxes could receive new messages, and one mailbox user would retrieve the message, which would turn off message waiting indicators, even though another child mailbox still had a message waiting.

For a full explanation of shared extension mailboxes, see the Suggested Additional FCOS Shared Extension, and also FCOS 15 (Tree).

This feature bit also requires bits:

- 070 (User Options Menu)
- 072 (Record or change mailbox greeting)
- 121 (Define tree mailbox)

A properly configured message waiting indicator is also required for this capability to work.

This bit is recommended:

- 229 (Play names of list 1 children)

Child mailboxes should have:

- Feature bit 134 (Broadcast message waiting status)
- Distribution list 01 with parent mailbox as only member

235 Display FROM field on fax cover page

This feature bit adds the "From" field to the default fax cover page. The field shows the mailbox owner who the fax is from.

- This feature bit also requires bit 190 (Receive fax messages).

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

236 Display promotional message on fax cover page

This feature bit adds a promotional message field to the default fax cover page.

- This feature bit also requires bit 190 (Receive fax messages).

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo* Manual.

237 Automatically delivers fax message to default number

This feature bit allows the mailbox owner to have faxes downloaded automatically to a preconfigured default fax number when they arrive in the mailbox. The fax or voice/fax message is automatically moved to the saved queue and the message waiting indicator is not triggered. This feature is intended to make it easier for mailbox owners, who regularly use the same fax machine to retrieve their faxes. The mailbox owner can also enable or disable this feature from the user options menu.

This feature bit also requires bits:

- 070 (User Options Menu)
- 190 (Receive fax messages)

Note: This feature bit overrides bit *206* (Discard fax message after delivery). 206 is for guaranteed fax mailboxes only. Do not include both bits in the same FCOS.

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo* Manual.

238 End-of-session multiple fax delivery number

This feature bit is invisible to users but allows the server administrator to save on outbound fax calls. Instead of making one outbound call for each fax, this bit enables the server to make only one outbound call for all faxes sent to the same number during a mailbox session.

- This feature bit also requires bit 191 (Make fax messages).

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

239 Retrieve all unplayed faxes through user option

This feature bit makes it easier for mailbox owners to get their faxes. If they do not have automatic fax delivery enabled, they have the option to have all faxes concatenated and sent at once. This means that they only have to use the fax transmittal options menu once to retrieve all their faxes, instead of doing it for each fax.

This feature bit also requires bits:

- 070 (User Options Menu)
- *190* (Receive fax messages)

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

240 Receive fax on voice recording timeout

This feature bit makes it easier for callers to send fax-only messages and voice/fax messages. In the case of fax-only messages, a caller can dial into a mailbox, press start, and walk away. In the case of the voice/fax message, the caller is no longer required to press L to send the fax. This feature works only with manual operation fax machines.

This feature bit also requires bits:

- 070 (User Options Menu)
- 190 (Receive fax messages)

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

241 Suppress broadcast forced receipt number

If a name, greeting, or passcode cannot be broadcast from a Broadcast mailbox to a recipient's mailbox, this feature bit logs a message in the server logfile and prevents the server from creating forced receipts in a recipient's mailbox.

242 Say variable passcode prompts for business guest mailboxes number

When guest mailboxes are used, this feature bit causes the server to prompt the mailbox owner (usually an administrator) to enter a passcode from a specified minimum number of digits to a specified maximum number of digits. Do not use this feature in hotel installations.

Note: Even if feature bit 073 (Allow to change passcode) is not present, guest mailboxes can have their passcodes changed. However, if other passcode feature bits, such as 130 (Passcode cannot be same as mailbox), 201 (Passcode not simple series) or 125 (Allow user to clear passcode) are present, they do affect which passcode can be entered for the mailbox.

243 (VMUIF) Transfer to API on Main Menu key 4

244 (VMUIF) Transfer to API on Main Menu key 5

245 (VMUIF) Transfer to API on Personal Options Menu key 6

246 (VMUIF) Transfer to API on Personal Options Menu key 7

These feature bits are only used with the VMUIF user interface of VoiceMemo.

247 Don't play any prompt to fax call placement recipient number

This feature bit suppresses prompts to a call placement recipient when the call is a fax message. This functionality is often used when a fax message is broadcast to multiple telephone numbers.

This feature bit also requires bits:

- 020 (Make messages)
- 110 (Make/give to telephone number)
- 19 1 (Send fax messages)

This bit requires the FaxMemo optional feature. For more information, see the *VoiceMemo FaxMemo Manual.*

248 (VMUIF) Deny Transfer to API for guest mailboxes

These feature bits are only used with the VMUIF user interface of VoiceMemo.

249 Allow transfer to Help Desk during tutorial

This feature bit allows a user to exit the tutorial session. It is only available with the SS7 integration to VoiceMemo.

250 Allow **OneView login**

This feature bit allows a user to log into OneView.

This bit requires the OneView optional feature. For more information, see the *OneView Administrator? Guide.*

251 Allow **OneView** telephone playback/record

This feature bit allows a user to play and record OneView messages using a telephone.

This feature bit also requires:

- 250 Allow OneView Login

This bit requires the OneView optional feature. For more information, see the *OneView Administrator 's Guide.*

252 Allow **OneView** client to change mailbox ID

This feature bit allows users to change the ASCII name of their mailboxes during a OneView session. This affects the mailbox name in OneView, Dial-by-Name, and Mailbox Maintenance.

This feature bit also requires:

- 250 Allow OneView Login

This bit requires the OneView optional feature. For more information, see the *OneView Administrator's Guide.*

254 Not used

255 Delete Mailbox without Unplayed Messages

This feature bit is used with the Mailbox on Demand optional feature. Mailbox on Demand allows users to have temporary mailboxes on the server; they are created only when a message is created for them. This feature ensures that the temporary mailbox is deleted after the message is played, or, if not played, when the unplayed message retention limit (set in the LCOS) is exceeded. Deletion occurs at midnight, when Automatic Purge is run,

This feature also requires:

- 041 Receive messages from outside callers
- *050* Play messages

This feature is recommended:

- 2 18 Passcode not needed on direct calls

FCOS Task list

VoiceMemo Release 6.0A and later

Task	*Procedure*

FCOSs

FCOS Usage	**CI?** 3342
Create a New FCOS	CP **5004**
Modify or Renumber a Default FCOS	CP 5008
Restore a Default FCOS	CP **5009**
View FCOS Information..	CI? 5006

FCOS Usage

VoiceMemo Release 6.0A and later

This procedure summarizes the steps for using an FCOS in mailbox configuration.

Step	*Reference*
1. Choose one of the default FCOSs that comes with your server, or customize an FCOS that is more appropriate for your purpose.	
To customize an FCOS:	
a. Complete an FCOS Worksheet. Blank worksheets are near the back of this manual.	
b. Use the information from your completed worksheet to do one of the following:	
• Create a completely new FCOS	CP 5004
• Modify a copy of an FCOS	CP 5007, Ch. 1
• Modify or Renumber a default FCOS	CP 5008
If necessary, you can use the Use Template FCOS option in the Feature Class of Service Menu to restore any default FCOS that has been customized.	cl? 5009
2. Assign the default or customized FCOS to mailboxes.	CP 5003, Ch. 1

Create a New FCOS

VoiceMemo Release 6.0A and later

This procedure describes how to customize an FCOS by creating a completely new one.

Step	Reference
1. Complete an FCOS Worksheet. Blank worksheets are near the back of this manual.	
2. Reach the System Configuration Menu, then go to the Feature Class of Service Menu. Enter the requested information, as described in the following steps, from your completed FCOS Worksheet.	Menu Map 11

Note: You can quit at any point in the following steps before you exit the Feature Class of Service Menu. Quitting discards all entries you have made and leaves the FCOS settings the way they were before you reached the Feature Class of Service Menu.

To quit:

Make sure the Feature Class of Service Menu is displayed (short form or long form).

Select: (Q) Quit – Forget Changes
Prompt: **Quit and forget changes? (y/n) =**
Response: Y for yes.

3. Give the new FCOS number.

Select: (C) Current FCOS
Prompt: **FCOS to modify =**
Response: The number (18-20, 25-640) of the new FCOS you are creating.

4. Name the FCOS.

Select: (N) Name FCOS
Prompt: **Enter FCOS name (0 - 15 chars) =**
Response: Enter a descriptive name to accompany the FCOS number.

5. Put the desired FCOS bits in this new FCOS.

Select: (A) Add Features
Prompt: **Features to add (? for help) =**
Response: Enter the one- to three-digit numbers of the feature bits that comprise this FCOS.

- Bits can be entered in any of the formats shown below:

A single bit, for example 208
A range of bits, for example 202-208
A series of bits, for example 39,40,207,208

- You can mix types of entries, so you can specify all the bits necessary in one attempt. For example, this entry is valid:

208,1-7,50,53,55,6

Step	*Reference*
• Do not enter spaces after commas, and do not end the entry with a comma. 6. Verify that the information you have entered so far matches your worksheet. Select: (S) Show FCOS *Prompt:* **FCOS to show (? for help) =** ***Response:*** The **number** of the FCOS you have been working with. 7. If the information matches your worksheet, customization is completed and you can save it. If the information does not match your worksheet, make the necessary corrections. 8. After verifying that your entries are correct, save the modified FCOS by exiting from the Feature Class of Service Menu.	

Modify or Renumber a Default FCOS

VoiceMemo Release 6.0A and later

This procedure describes how to customize an FCOS by modifying one of the default FCOSs supplied by Centigram or by renumbering one of these default FCOSs.

Step	*Reference*

Modifying the Default Itself

1. Choose the default FCOS you wish to modify.
2. Complete an FCOS Worksheet. Blank worksheets are near the back of this manual.
3. Reach the System Configuration Menu, then go to the Feature Class of Service Menu. Enter the requested information, as described in the following steps, from your completed FCOS Worksheet. — Menu Map 11

   Note: You can quit at any point in the following steps before you exit the Feature Class of Service Menu. Quitting discards all entries you have made and leaves the FCOS settings the way they were before you reached the Feature Class of Service Menu.

   To quit:

   Make sure the Feature Class of Service Menu is displayed (short form or long form).

   Select: (Q) Quit - Forget Changes
   Prompt: Quit and forget changes? (y/n) =
   Response: Y for yes.

4. Specify the default FCOS to modify.

   select: (C) Current FCOS
   Prompt: FCOS to modify =
   Response: The **number** (l-17,21-24) of the default FCOS.

5. Change the name if desired.

   Select: (N) Name FCOS
   Prompt: Enter FCOS name (0 - 15 chars) =
   Response: Enter a descriptive name to accompany the modified default FCOS.

6. Add feature bits to the default FCOS, as desired.

   Select: (A) Add Features
   Prompt: Features to add (? for help) =
   Response: The 1 to 3-digit **numbers** of the feature bits to be added.

   - Bits can be entered in any of the formats shown below:

     A single bit, for example 208
     A range of bits, for example 202-208
     A series of bits, for example, 39,40,207,208

Step *Reference*

- You can mix types of entries, so you can specify all the bits necessary in one attempt For example, this entry is valid:

  208,1-7,50,53,55,6

- Do not enter spaces after commas, and do not end the entry with a comma.

7. Delete feature bits from the default FCOS, as desired.

   Select: (D) Delete Features
   Prompt: **Features to delete (? for help) =**
   Response: The **1** to 3-digit **numbers** of the feature bits to be deleted. The same rules apply to deleting bits as explained for adding bits.

8. Verify that the information you have entered so far matches your worksheet.

   Select: (S) Show FCOS
   Prompt: **FCOS to show (? for help) =**
   Response: The **number** of the default FCOS you have been working with.

9. If the information matches your worksheet, customization is completed and you can save it. If the information does not match your worksheet, make the necessary corrections.

10. After verifying that your entries are correct, save the modified default FCOS by exiting from the Feature Class of Service Menu.

Renumbering a Default FCOS

1. Choose the default FCOS you wish to renumber. (Renumbering a default FCOS does not destroy the original default FCOS; the original default FCOS can be restored through the Use Template FCOS option in the Feature Class of Service Menu.)

2. Complete an FCOS Worksheet. Blank worksheets are near the back of this manual.

Step | *Reference*

3. Reach the System Configuration Menu, then go to the Feature Class of Service Menu. Enter the requested information, as described in the following steps, from your completed FCOS Worksheet. — Menu Map 11

   Note: You can quit at any point in the following steps before you exit the Feature Class of Service Menu. Quitting discards all entries you have made and leaves the FCOS settings the way they were before you reached the Feature Class of Service Menu.

   To quit:

   Make sure the Feature Class of Service Menu is displayed (short form or long form).

   Select: (Q) Quit – Forget Changes
   Prompt: `Quit and forget changes? (y/n) =`
   Response: Y for yes.

4. Specify the new number for the FCOS.

   Select: (C) Current FCOS
   Prompt: `FCOS to modify =`
   Response: The new FCOS number `(18-20 or` *25-640).*

5. Assign the chosen default FCOS to this number.

   Select: (U) Use Template FCOS
   Prompt: `Overwrite current FCOS with a template (y/n) =`
   Response: Y for yes.

   The server displays a list of the default (template) FCOSs.

   Prompt: `Choose a number (l-17, 21-24) from the menu:`
   Response: The number of the default (template) FCOS `(l-17` or 21-24) that you want to be assigned to the current FCOS number.

   The server displays a confirmation that the default (template) FCOS just specified has been renumbered. The default FCOS is now customized.

6. Save the customized FCOS by exiting to the System Configuration Menu.

Modify or Renumber a Default FCOS

VoiceMemo Release 6.0A and later

This procedure describes how to restore a default FCOS that has been modified to its original settings.

Step	*Reference*
1. Reach the System Configuration Menu, then go to the Feature Class of Service Menu.	Menu Map 11

Note: You can quit at any point in the following steps before you exit the Feature Class of Service Menu. Quitting discards all entries you have made and leaves the FCOS settings the way they were before you reached the Feature Class of Service Menu.

To quit:

Make sure the Feature Class of Service Menu is displayed (short form or long form).

Select: (Q) Quit – Forget Changes
Prompt: `Quit and forget changes? (y/n) =`
Response: Y for yes.

2. Specify the modified default FCOS to be restored.

Select: (C) Current FCOS
Prompt: `FCOS to modify =`
Response: The **number** of the modified default FCOS **(1-17** or 2 **(l-24).**

3. Restore the specified FCOS.

Select: (U) Use Template FCOS
Prompt: `Overwrite current FCOS with a template? (y/n) =`
Response: Y for yes.

The server lists the numbers and original names of the default (template) FCOSs.

Prompt: `Choose a number (l-17, 21-24) from the menu:`
Response: The **number** of the modified default FCOS (l-17 and 2 l-24) that you want to restore.

The server restores the FCOS to its original settings, then displays the number and original name of the default (template) FCOS as confirmation.

4. Save the restoration by exiting to the System Configuration Menu.

View FCOS Information

VoiceMemo Release 6.0A and later

This procedure describes how to display summary and detailed lists of FCOSs, FCOS bits, and bit descriptions.

Step	*Reference*

To View a Summary of FCOSs

You can view FCOS summary information through the System Configuration Menu or the Reports Menu.

- Reach the System Configuration Menu, then go to the Feature Class of Service Menu. — Menu Map 11

Select: (S) Show FCOS
Prompt: **FCOS** to show (? for help) =

Response: Enter your choice of summary in one of the formats shown below. A summary consists of the FCOS name, its number, and the numbers of the feature bits in the FCOS. FCOSs are numbered from 1 to 640.

A single FCOS **number,** for example 10

A range of FCOS **numbers,** for example 1-6

A series of FCOS **numbers,** for example, 1,4,5,12

A for a summary of all FCOSs

E for a summary of even-numbered FCOSs

0 for a summary of odd-numbered FCOSs

L for a summary of the lower half of FCOSs

U for a summary of the upper half of FCOSs

- Reach the Reports Menu then select the FCOS option. — Menu Map 9

Select: (F) FCOS
Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND   (C/P/l/F/A/X):
```

Step	*Reference*

Response: C to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

To View a Description of FCOSs

Reach the System Configuration Menu, then go to the Feature Class of Service Menu. — Menu Map 11

Select: (R) Report FCOS
Prompt: FCOS to report (? for help) =
Response: Enter your choice of reports in one of the formats shown below. A report consists of the FCOS name, its number, and a description of each feature bit in the **FCOS.** FCOSs are numbered from 1 to 640.

A single FCOS **number,** for example 10

A range of FCOS **numbers,** for example l-6

A series of FCOS **numbers,** for example, 1,4,5,12

A for a description of all FCOSs

E for a description of even-numbered FCOSs

0 for a description of odd-numbered FCOSs

L for a description of the lower half of FCOSs

U for a description of the upper half of FCOSs

To View a Description of All Feature Bits

Reach the System Configuration Menu, then go to the Feature Class of Service Menu. — Menu Map 11

Select: (H) Help FCOS
Response: The server immediately lists all feature bits in numerical order, with a one-line description of each feature bit.

8 Other Classes of Service

This chapter describes:

- Group Class of Service (GCOS)
- Limits Class of Service (LCOS)
- Restriction Class of Service (RCOS)

Overview

A Class of Service (COS) is a way of differentiating what privileges and abilities different mailbox owners have. The previous chapter discussed Features Class of Service (FCOS) which controlled the feature set available to each mailbox owner. This chapter covers three more Classes of Service: Group Class of Service, Limits Class of Service, and Restriction Class of Service.

GCOS is a means of managing who any particular set of server users can send messages to.

LCOS controls server parameters for mailbox owners, such as number of messages they can store. LCOS also controls the prompts language for the mailbox.

RCOS controls Call Placement, message delivery, pages, faxes, or any outdial application that takes input from the user on the keypad. It limits server-generated telephone calls by either area code or prefix.

Group Class of Service

This section describes:

- How GCOS is used
- Empty GCOSs
- Bitmapped GCOSs
- Affinity group GCOSs
- GCOS in one way communication to mailboxes
- Interaction between GCOS and FCOS
- GCOS configuration requirements

Overview

A Group Class of Service (GCOS) is a means of managing which mailboxes a particular set of server users can communicate with. It gives a server administrator the means to manage a large server with many mailbox owners. This ability is often useful in multiple-mailbox-owner situations, where some mailbox owners need to exchange messages with each other but have no need to communicate with the majority of other mailbox owners. It is also useful at sites where some employees do classified work that should not be discussed with other employees.

You can assign up to 32,000 GCOSs.

The GCOS is essential to the operation of a server. You must include a GCOS in every mailbox's configuration for the mailbox owner to send and receive any messages.

How a GCOS Works

There are two types of GCOSs, bitmapped and affinity group GCOSs. GCOSs 1 through 64 are bitmapped GCOSs and GCOSs 65 through 32,000 are affinity group GCOSs. The two types work very differently, though you can mix both types in one server. One major difference is that you must define a bitmapped GCOS before assigning it to a mailbox configuration, whereas you can assign an affinity group GCOS to a mailbox configuration without defining it. Another major difference is that a bitmapped GCOS can have multiple groups for exchanging messages, while an affinity group can have only one.

Bitmapped GCOSs

Picture a bitmapped GCOS as a collection of groups. In each bitmapped GCOS, you can include up to 128 groups. A group is nothing more than a number from 1 through 128, sometimes called a "group bit." Two users can exchange messages if their bitmapped GCOSs have any of the same groups. Figure 8-l shows three possible ways to set up the same bitmapped GCOS. As the illustration shows, a bitmapped GCOS can have many, a few, or no groups defined.

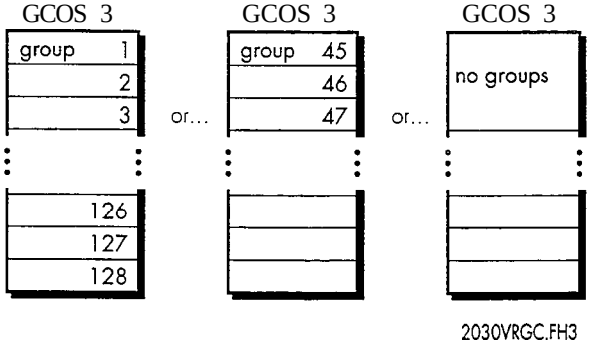


Figure **8-1** Versatility of a Bitmapped GCOS Configuration

You can enable message exchange ranging from simple to complex, depending on which groups you include or exclude in bitmapped GCOSs and which bitmapped GCOSs you assign to mailboxes.

As an example, suppose that a scientist is directing an experiment using target subjects and control subjects. Target subjects and control subjects should not communicate with each other, but must communicate with the directing scientist. The directing scientist, of course, needs to be able to communicate with every subject. Using bitmapped GCOSs, you can put the target subjects in a GCOS with one group bit, the control subjects in a another GCOS with a different group bit, and the scientist in a third GCOS, with both group bits.

You have given the mailbox owners in this server the GCOSs shown below.

Tenant	GCOS	Groups in GCOS
Directing scientist	3	1, 2
Target subjects	4	1
Control subjects	5	2

Figure 8-2 diagrams this message exchange scheme.

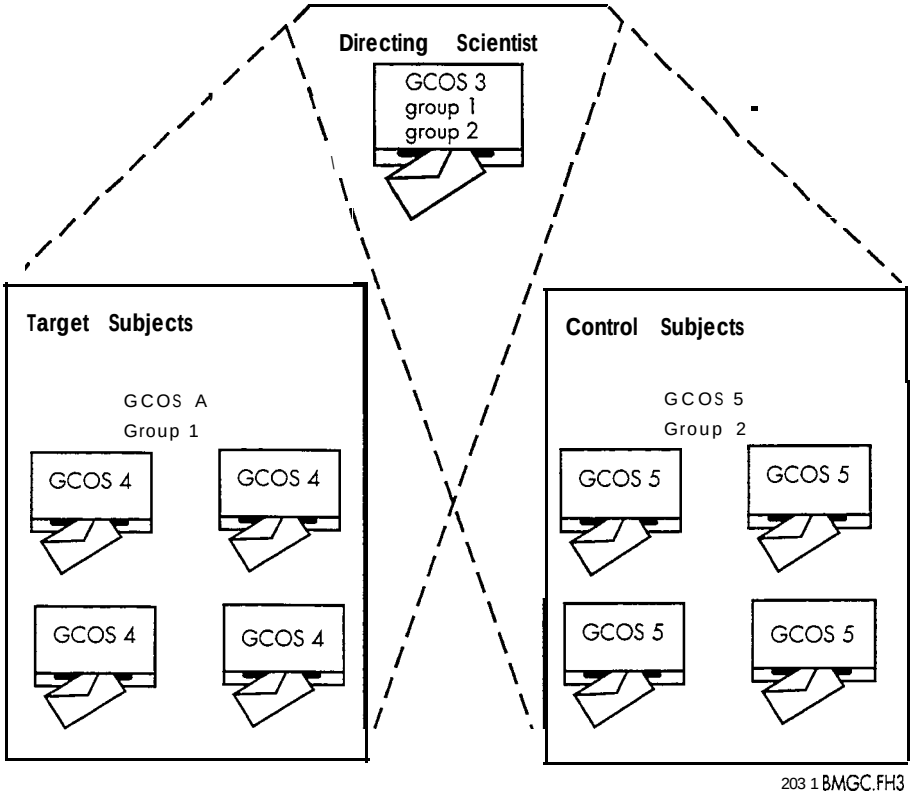


Figure 8-2 Grouping Scheme Using Bitmapped GCOSs

Bitmapped GCOSs work well when the mailboxes in your server have different communication needs. Some mailboxes require universal communication, while others should be tightly restricted. This is the more flexible, more complex of the two methods. If you want to use a bitmapped GCOS other than default GCOS 1, you must define it before assigning it to mailboxes.

Affinity Group GCOSs

Affinity group GCOSs work well when mailboxes require communication within particular groups, but not across groups. This is the simpler of the two methods; all mailboxes that have the same affinity group GCOS can communicate with each other but cannot communicate with anyone else. Affinity group GCOSs are not ever defined; you simply assign one, numbered from 65 through 32,000, to mailboxes. The example in Figure 8-3 shows how affinity groups can create several communication groups within a single server installation.

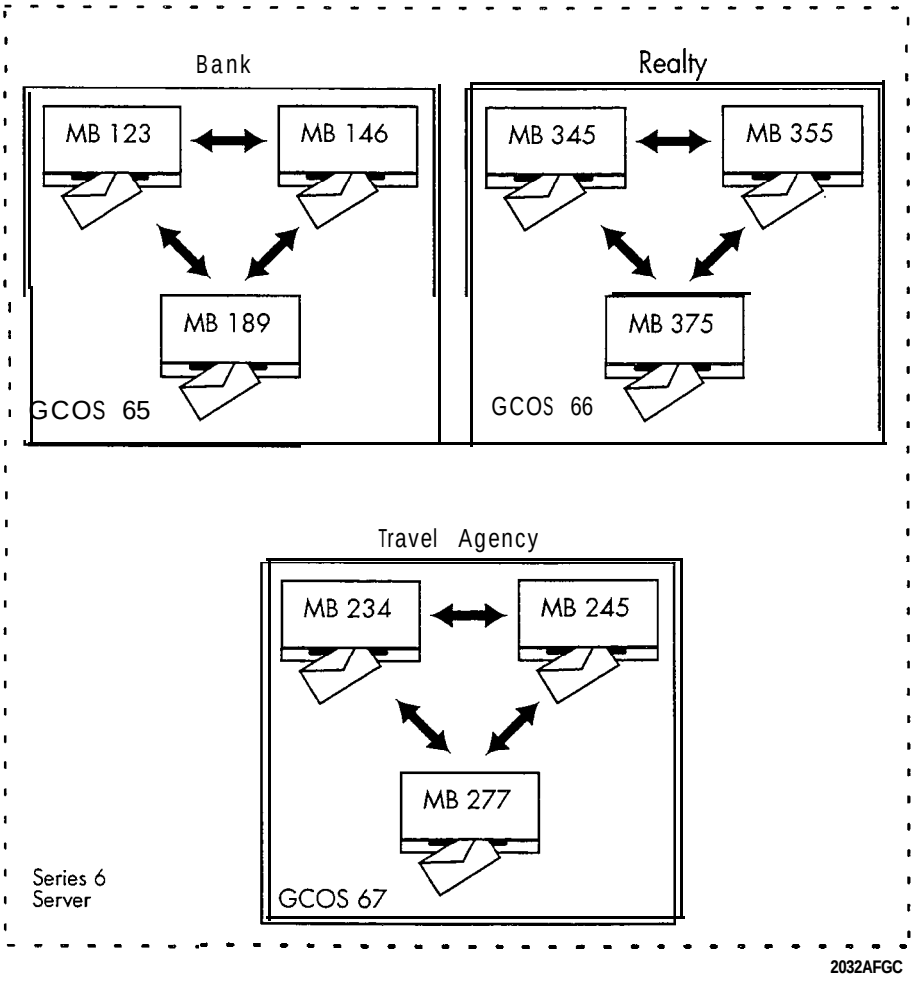


Figure 8-3 Grouping Scheme Using Affinity Group GCOSs

Guidelines for Use

When deciding which type of GCOS to use, consider the following factors:

- If you want all mailboxes to be able to exchange messages, just assign the Default GCOS 1, which contains all 128 groups, to them.
- Mailboxes with bitmapped GCOSs and those with affinity group GCOSs cannot interact; if you assigned GCOS 1 to one mailbox and GCOS 65 to another, those mailboxes cannot exchange messages. If you mix the two GCOS types, no one mailbox could communicate with every other mailbox.
- Every mailbox that shares the same group in a bitmapped GCOS or the same affinity group GCOS can exchange messages, even if the shared group is in different GCOSs.
- Bitmapped GCOSs are useful when you need to develop complex relationships. The communication links required for the arrangement shown in Figure 8-2, for example, are possible only with a bitmapped GCOSs.

Dial-by-Name Considerations

Even though mailbox owners may all be in the same Dial-by-Name database, they can only reach others in the database who share the same GCOS group (in a bitmapped GCOS) or affinity group. For example, Jane Doe, Lee Bau, and John Smith are all in the Dial-by-Name database, but Jane's mailbox and Lee's mailbox are configured with GCOS 1 and John's mailbox is configured with GCOS 65. Jane and Lee can reach each other but not John. This grouping is sometimes called "Partitioned Dial-by-Name." It is illustrated in Figure 8-4.

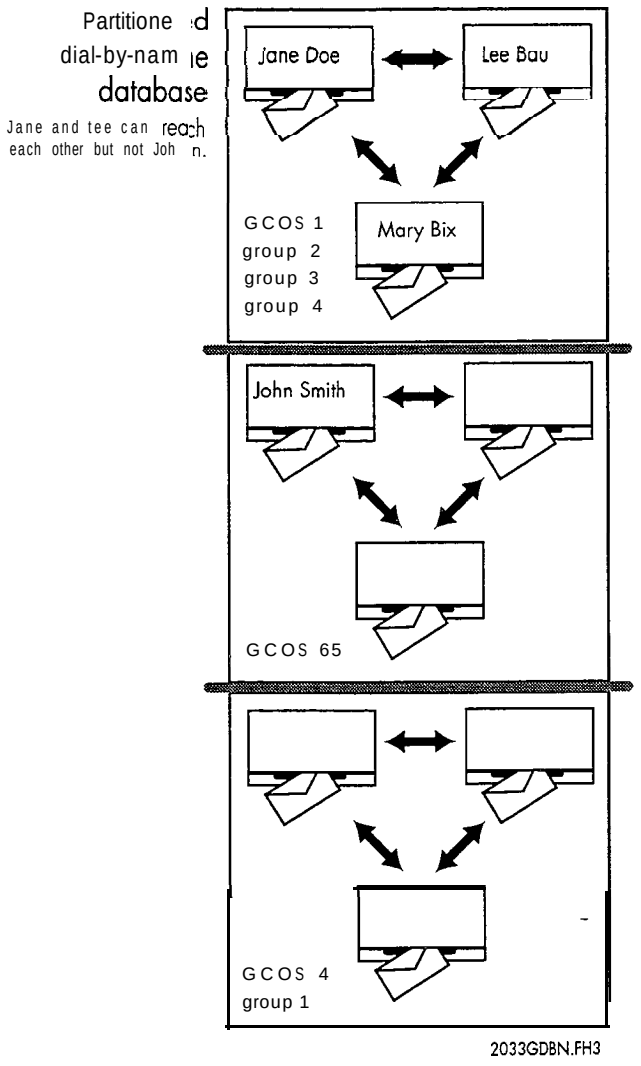


Figure 8-4 Grouping Within the Dial-by-Name Database

Recommendations for Degrees of Flexibility

By default, GCOS 1 has all 128 groups defined, giving a mailbox with this GCOS the maximum flexibility in exchanging messages. Centigram recommends that you do not alter this GCOS.

Centigram also recommends that you create GCOS 2, but define no groups for it. This "empty" GCOS is useful in restricting the capabilities of a mailbox. It is also used to enable one-way communication, as described below.

Enabling One-Way Communication

You can assign an empty GCOS (such as GCOS 2) to mailboxes. Owners of such mailboxes cannot exchange messages with any other users in the server.

Useful for Service Bureaus

The empty GCOS is particularly useful in service bureaus, where a business wants customers to receive messages from outside callers (trunk calls), but wants to prevent contact between users.

GCOS and FCOS Requirement

Though you can prevent contact between users, you can allow them to receive certain kinds of messages. For example, you probably want to notify users before a server shutdown.

To enable this one-way communication, an originating mailbox must have an FCOS that allows the originating mailbox to make messages and allows the mailbox owner to make or give (messages) to a mailbox with an empty GCOS. (An empty GCOS, remember, is a GCOS you defined without including any groups in it.) The feature bits to accomplish this are:

- 020 (Make messages)
- 126 (Make/give to mailbox with empty GCOS)

The receiving mailbox must have an FCOS that allows it to receive messages from other users (FCOS bit 040). Not only do these features enable a user to make a message for a mailbox with the empty GCOS, but lets that user give messages from other users to the mailbox with the empty GCOS.

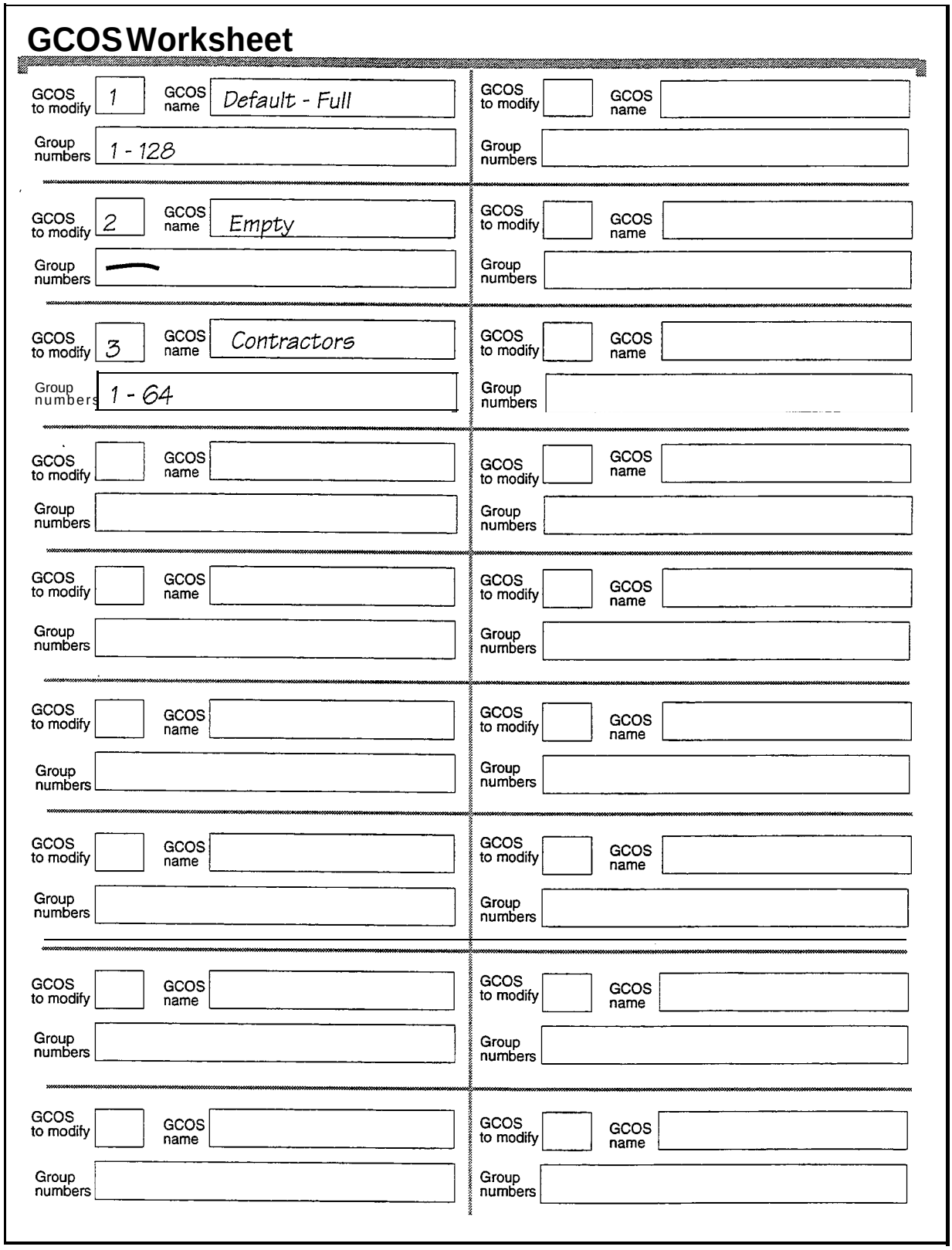
For example, suppose the local phone company notifies an answering service that maintenance on buried phone cables will disrupt service for two hours next week. If all customers have mailboxes with the FCOS and empty GCOS just described, and if the server administrator's mailbox has the same FCOS, the server administrator can notify users in advance that the server will be temporarily shut down.

Interaction Between a GCOS and FCOS

Interaction between mailboxes is limited by the GCOS and FCOS that are assigned to them. If, for example, an FCOS allows a user to make confidential messages (feature bit 023), other users within the same GCOS must be able to receive messages from other users (feature bit 040), and to play messages (050). Otherwise, the make confidential message feature is useless.

Configuration Requirements

You must assign a GCOS to every mailbox in the server. A GCOS Worksheet (Figure 8-5) helps you organize the information you need for assigning GCOSs to mailboxes. Fill in the fields on this worksheet as described in the following paragraphs.



GCOS Worksheet

GCOS to modify	GCOS name	Group numbers	GCOS to modify	GCOS name	Group numbers
1	Default - Full	1 - 128			
2	Empty	—			
3	Contractors	1 - 64			

Figure 8-5 Sample GCOS Worksheet

Numbering a GCOS

Put the number of the default GCOS, the number of an existing GCOS that you are modifying, or the number of a new GCOS that you are defining in the "GCOS to modify" field. If the GCOS is bitmapped, enter 1 through 64; if the GCOS is an affinity group, enter 65 through 32,000.

Naming a GCOS

Assign a name of your choice to identify the GCOS, up to 15 alphanumeric characters, in the "GCOS name" field. You only name bitmapped GCOSs (1 through 64).

Assigning Groups

Put the numbers of all groups that comprise a bitmapped GCOS in the "Group numbers" field. An affinity group GCOS does not contain groups.

limits Class of Service

This section covers:

- How LCOS is used
- Default LCOS
- Interaction between LCOS and FCOS
- LCOSs and Automatic Purging
- Use of LCOS for administrator's and attendant's mailboxes
- Configuration requirements
- Prompts language selection
- Summary of limits parameters

Overview

A Limits Class of Service (LCOS) consists of numerous limits parameters set to a value of your choice. The LCOS is assigned to a mailbox's configuration to control time and storage parameters associated with that mailbox.

For example, the LCOS assigned to a mailbox can control how long messages can be, and how many messages can be stored in the mailbox. Beginning with Release 6.0, the LCOS also determines the language for prompts in a mailbox.

An LCOS is the best resource available to the server administrator for controlling disk storage use.

How an LCOS Works

An LCOS must be part of every mailbox's configuration. The LCOS you assign to a mailbox governs time and storage parameters, such as message length. For example, suppose you set the Caller Message Length limits parameter to two minutes and the Message Count limits parameter to 30 messages. You include these limits parameters in LCOS 2. If you assign LCOS 2 to mailboxes 5000 through 5899, then all these mailboxes have the same limits placed on them. A caller's message is limited to two minutes and the maximum messages allowed is 30.

You can configure up to 640 LCOSs in a server.

Default LCOS

One LCOS is preconfigured by Centigram; this is default LCOS 1. Though LCOS 1 is modifiable, Centigram recommends that you leave it as is. Table 8-1 shows the limits parameters that comprise LCOS 1.

Table 8-1 Default LCOS limits Parameters

General Limits
Auto wakeup - phone length = 7 digits
Caller message length = 5 minutes
Future delivery - message count = 73
Greeting length = 2 minutes
Maximum days - auto wakeup = No future delivery
Maximum members per distribution list = 65,535
Maximum number of distribution lists = 99 per mailbox
Maximum recipients count = 65,535 per message
Maximum login time = No limit
Maximum pages per billing = No limit
Maximum wakeups per billing = 54 calls
Message count = 73
Message delivery - phone length = 7 digits
Message waiting indicator - message length = No minimum
Messages per billing = No limit
Min. number of recipients for receipt summary = No summary
Minimum message length = No minimum
Network queue message count = 73
Paging - phone length = 7 digits
User message length = 5 minutes
User name length = 2 seconds (name recording length)

Table **8-1** Default LCOS limits Parameters (continued)

Call Placement Limits
Busy retry interval = 10 minutes
Busy retry limit = 10 retries
Maximum message length = 5 minutes
Message count = 73
Message phone length = 7 digits
RNA retry interval = 6 seconds
RNA retry limit = 10 retries
FaxMemo Limits
FaxMemo message count = No limit
Max. number of digits for telephone number = 25
CNG Tone Detection Length = 0
Fax Delivery Retry Frequency = 0
Fax Delivery Retry Interval = 0
Message Age Limits
Cut-through Paging receipt retention = Forever
Played message retention = 672 hours
Receipt retention = Forever
Unplayed message retention = 336 hours
Urgent message retention = 336 hours
Played fax message retention = 672 hours
Unplayed fax message retention = 336 hours
Urgent fax message retention = 336 hours
Fax receipt message retention = 672 hours
Absolute message retention = Ignored
Prompts Language
Default Prompts Language = Default (for line group)

Interaction Between an LCOS and FCOS

When you assign an LCOS and FCOS to a mailbox, be aware that certain options within each of these Classes of Service and between them interact; some options require the presence of other options, and some combinations are not compatible.

In particular, the LCOS that you assign can affect the function of an FCOS feature. For example, if you assign an FCOS that gives a mailbox the ability to receive user

messages, but you assign an LCOS that has a user message length limit of 0 seconds, the mailbox cannot store a message.

LCOSs and Automatic Purging

The server runs a process called Automatic Purging every 24 hours at midnight. The server first checks the LCOS and messages of each mailbox. It then purges any messages that are at or over their message retention limits. If, for example, the played message retention of an LCOS is 8 hours, and a message was made at noon, it stays in the server for 12 hours after it was played. If the message was left at 10 p.m., it stays in the server for 26 hours after it was played, because it would not have reached its message retention limit by the first purge. (These cases assume that a manual message purge is not performed between automatic purges.)

A message's age is calculated from the time it is left in a mailbox, not from the time a mailbox owner listens to it. If mailbox owners have very short message retention limits, advise them to listen to messages at least once a day.

When creating or modifying LCOS, you can specify the following parameters as shown in Table 8-2:

Table 8-2 LCOS Parameters Used with Purging

LCOS Parameter	Explanation	Range	Default Value
Played Message Retention	Maximum time a message can remain in a mailbox before being purged	0-8760 hours (0=no limit)	672 hours (4 weeks)
Unplayed Fax Message Retention	Maximum time an unplayed fax message is kept in a mailbox before being purged	O-8760 hours (O=no limit)	336 hours (2 weeks)
Unplayed Message Retention	Maximum time an unplayed message is kept in a mailbox before being purged	0-8760 hours (O=no limit)	336 hours (2 weeks)

LCOS for the Administrator's and Attendant's Mailboxes

Centigram recommends that you assign the default LCOS (LCOS 1) to both the administrator's mailbox and the attendant's mailbox. LCOS 1, along with the appropriate FCOS and GCOS, allows these mailboxes to perform their special functions.

Configuration Requirements

You must assign either the default LCOS (LCOS 1) or an LCOS that you configure to every mailbox.

An LCOS Worksheet (Figure 8-6) helps you organize the information you need for assigning LCOSs to mailboxes. Fill in the fields on this worksheet as described in the following paragraphs.

Numbering an LCOS

Put the number of the default LCOS, the number of an existing LCOS that you are modifying, or the number of a new LCOS that you are configuring in "Limits COS to modify." The valid range is 1 through 640.

Naming an LCOS

Assign a name of your choice to identify the LCOS, up to 15 alphanumeric characters.

Setting limits

Show the desired value for the limits you want to set and include in the current LCOS. For example, enter 30 in the "Maximum number of messages" box to set the Message Count limit. If the limit parameter's default is acceptable, write "OK" on the worksheet to indicate that you need make no change to that parameter when entering the data.

Numbering, naming, and including limits in an LCOS are done through the Limits Class of Service Menu. When you exit from this menu to the Main Menu, the LCOS is configured.

The Absolute message retention parameter overrides both the Played and Unplayed message retention settings. If set to 0 (which is the default), it is ignored.

LCOS Worksheet

Limits Class of Service Menu	Limits COS 4 (E / I)	Name selected LCOS: Contractor5 only	
Limits Parameter Menu	Greeting length: 1	User message length: ok	Maximum attachments permessage: 10
	User name length: ok	Caller message length: ok	Maximum attachments per network message: 10
	Message count: 50	Maximum login time: 50	
	Messages per billing: 200	Network queue message count: ok	
More Limits Parameters Menu	Auto wakeup - phone length: ok	Maximum days -future delivery (E / I):	Maximum pages per billing cycle: 100
	Paging -phone length (E / I):	Maximum family member or guest: ok	Maximum wakeups per billing:
	Message delivery - phone length (E / I):	Message waiting indicator - msg. length: 0	
	Future delivery - message count: 50	Minimum message length: 0	
Even More Limits Parameter Menu	Maximum days -auto wakeup (E): 365 (I)	Maximum destinations per reminder call: ok	Maximum number of distribution lists: ok
	Maximum days - reminder call: 365	Maximum members per distribution list: ok	Minimum number of recipients for receipt summary: ok
	Maximum reminder calls per billing: 100	Maximum recipients count: ok	Minimum billed number length: 9
Call Placement Menu	RNA retry limit (E / I):	Busy retry interval: ok	Maximum message length: ok
	RNA retry interval: ok	Message phone length: ok	
	Busy retry limit: ok	Message count: 50	
FaxMemo Limits Menu	Maximum number of digits for telephone number (E / I):	CNG tone detection length: NA	Fax delivery retry interval: NA
	FaxMemo message count: NA	Fax delivery retry frequency: NA	
Message Retention Limit Menu	Cut-through paging receipt retention: 0	Urgent message retention: 178	Fax receipt retention: NA
	Played message retention: 672	Played fax message retention: NA	Absolute message retention: 0
	Receipt relention: 0	Unplayed fax message retention: NA	
	Unplayed message retention: 336	Urgent fax message retention: NA	
Set Language Menu	Prompts Language: English		

Figure 8-6 Sample LCOS Worksheet

Prompts Language Selection

The VoiceMemo application software allows you to choose a default language for the prompts that are issued by each line group. The default language for all line groups is English. Check your System Configuration Report if you think this has been changed.

Alternate languages are optional features that must be installed in the server before you can select them. Alternate language prompts allow you to select a language for mailbox prompts that is *different from the specified Line* group language. This means that if your server is issuing English prompts on all line groups, you do not have to specify English language prompts in any LCOS. The default prompt language for each LCOS is to use the line group language.

You can specify only one language for a particular LCOS. There are many languages available, including the TDDMemo optional feature. The American English hotel set is a combined mnemonic and numeric style; for example, "Press L, the 5 key, to leave a message." Any other hotel set is numeric only.

American English full set prompts are available in mnemonic style or numeric style. The mnemonic style uses wording such as "Press L to leave a fax." The numeric style of this same prompt would be "Press 5 to leave a fax." Mnemonic style is the default. If you want numeric style American English prompts instead, order them separately.

You may have different versions of English or Spanish on the same server. For example, you can set American English as the line group default, and all mailboxes with a specific LCOS can hear British English prompts.

If your server is running more than one language at the line group level (one per line group), and users cannot control which line group is reached by their callers, you should specify a prompts language for each LCOS to ensure that callers hear mailbox prompts in the correct language.

At the line group level, you can have up to 12 languages on your server, depending on the prompt set size, hard disk size, and number of server disks. When you set a language for an LCOS, only the prompts that have been loaded are listed for you to choose among. This means you must load the prompts diskettes before specifying an alternate language for either a line group or an LCOS.

Summary of limits Parameters

Use Tables 8-3 through 8-6 as a quick reference to all the limits parameters, including their default settings, that you can put in an LCOS.

Table 8-3 General limits Parameters

Limits Parameters Menu
Caller message length = 5 minutes
Greeting length = 2 minutes
Maximum attachments per message = 0
Maximum attachments per network message = (AMIS Analog Networking optional feature)
Maximum login time = No limit
Message count = 73
Messages per billing = No limit
Network queue message count = (MESA-Net optional feature)
User message length = 5 minutes
User name length = 2 seconds (name recording length)
More Limits Parameters Menu
Auto wakeup - phone length = (Auto Wakeup optional feature)
Future delivery - message count = 73
Max days - future delivery = 60 days
Max family member or guest = Reserved
Maximum pages per billing = No limit
Maximum wakeups per billing = 54 calls
Message delivery - phone length = 7 digits
Message waiting indicator - message length = No minimum
Minimum message length = No minimum
Paging - phone length = 7 digits
Even More Limits Parameters Menu
Max days - auto wakeup = (Auto Wakeup optional feature)
Max days - reminder call = Reserved
Max destinations per reminder call = Reserved
Max members per distribution list = 65,535
Max number of distribution lists = 99 per mailbox
Max recipients count = 65,535 per message
Max reminder calls per billing = Reserved
Min number of recipients for receipt summary = No summary
Minimum billed number length = 8 digits

Note: Be sure to set the *Max* recipients *count* to be equal to or greater than the *Max members per distribution List.* If you do not, then users may

not be able to send a message to all distribution list members, even if the list has a valid number of members.

The *Max* ***members*** parameter is enforced when the server tries to send the message. You can create a distribution list at the console with more members than the LCOS permits, but the server only sends the message to the first *n* members, where *n* is the Max members per distribution list parameter.

Table 8-4 Call Placement Limits Parameters

Call Placement Menu
Busy retry interval = 10 minutes
Busy retry limit = 10 retries
Maximum message length = 5 minutes
Message count = 73
Message phone length = 7 digits
RNA retry interval = 6 seconds
RNA retry limit = 10 retries

Table 8-5 **FaxMemo** limits Parameters

FaxMemo Limits Menu
FaxMemo message count = (FaxMemo optional feature)
Maximum number of digits for telephone number = 25
CNG Tone detection length = 0 seconds
Fax delivery retry frequency = 0
Fax deliver retry interval = *0*

Table 8-6 Message Age limits Parameters

Message Retention Limit Menu
Cut-through Paging receipt retention = (Cut-through Paging optiona feature)
Played message retention = 672 hours
Receipt retention = Forever
Unplayed message retention = 336 hours
Urgent message retention = 336 hours
Played fax message retention = 672 hours
Unplayed fax message retention = 336 hours
Urgent fax message retention = 336 hours
Fax receipt retention = Forever
Absolute message retention = Forever

Restriction Class of Service

This section covers:

- RCOS description
- NPA/NXX screening process
- Default RCOS
- Server and specific parameters
- Configuration requirements
- RCOSs and Distribution Lists
- Examples

Overview

Restriction Class of Service (RCOS) is a server software feature that restricts mailbox outdials to certain area codes, or to certain prefixes within an area code. It can, for example, restrict outdials to area code 415 only or restrict area code 900 but allow outdials to anywhere else.

RCOSs use NPA/NXX screening to determine which area codes or exchanges to restrict. The abbreviations NPA and NXX are industry terms for the three-digit area code and the three-digit prefix (exchange) within an area code, respectively. NPA/NXX screening is easy for the server administrator to configure and is transparent to mailbox owners.

When a mailbox owner enters a telephone number for any type of outdial, the server checks the number against the call screening set in the mailbox's RCOS. If the telephone number is not restricted, normal processing resumes. If the telephone number is restricted, the server responds "I'm sorry, that telephone number is not within your calling area," then cycles back to entering a telephone number.

RCOS and NPA/NXX screening have these features:

- Outdial limits for automatic wakeup, paging notification, message delivery, call placement, and fax delivery
- Multiple screening levels, including
  - Server screening of specific numbers
  - NPA screening
  - NXX (exchange) screening of up to 64 NPAs (area codes)

Sequence of NPA/NXX Screening

Without NPA/NXX call screening, the server restricts outdials only by the number of digits to be dialed. With NPA/NXX call screening, the server restricts a mailbox's outdial capabilities by allowing calls to be made only to certain area codes or to certain prefixes within an area code.

The screening sequence can involve multiple processes:

- Absorption of digits
- Comparison with an exact match table
- Comparison with an NPA table
- Comparison with an NXX table, if one has been created

The server prioritizes the screening process in the following manner:

1. Removes the absorption digits.
2. Compares the number to the exact match table. Table 8-7 shows the screening method.
3. Counts the remaining number of digits. If the dial string does not contain an NPA, it adds the home NPA.
4. If the server does not receive an exact match for the dial string, it then continues with the NPA/NXX screening.

5. Passes the NPA to the NPA Table. Table 8-8 shows the screening method.

6. If the NPA contains an NXX table, the server disregards the selection of the allow or disallow status for the NPA. The determination of whether to allow the call is based only on the allow/disallow status for the NXX table.

7. Screens the number with the NXX table. Table 8-9 shows the screening method.

8. Allows the number or notifies the mailbox owner that the number is not within the mailbox owner's calling area.

Table 8-7 Exact Match Number Table

Is the number in the table?	If the table is to allow the call, the server.. .	If the table is to disallow the call, the server...
Yes	Allows the call	Blocks the call
No	Blocks the call	Allows the call

Table 8-8 NPA Table

Is the NPA in the table?	If the table is to allow the call, the server...	If the table is to disallow the call, the server...
Yes	Checks for NXX table. If no NXX table exists, places the call.	Blocks the call
No	Blocks the call	Checks NXX table. If no NXX table exists, places the call.

Table 8-9 NXX Table

Is the NXX in the table?	If the table is to allow the call, the server.. .	If the table is to disallow the call, the server...
Yes	Allows the Call	Blocks the Call
No	Blocks the Call	Allows the Call

The flowchart in Figure 8-7 diagrams the screening process.

Default RCOS

You implement screening by creating a Restriction Class of Service (RCOS) and assigning it to the mailboxes. The server capacity is 64 RCOSs. A default RCOS (RCOS 1) is included by Centigram; it is unnamed and set to allow unrestricted outdial capabilities. The RCOS 1 contents are summarized in Table 8-10. You must modify RCOS 1 or configure another RCOS to implement NPA/NXX call screening. Configuration of an RCOS involves setting both system-wide parameters and RCOS-specific parameters.

Table 8-10 Contents of Default RCOS 1

Parameter	Value
Starting digit position of NPA	0
Ending digit position of NPA	0
Starting digit position of NXX	0
Ending digit position of NXX	0
Home NPA	None
Check / do not check numbers without absorb digits	Do not check
Absorption digit patterns	None
Exact match numbers	Disallow
Exact match number patterns	None
NPA screening	Disallow
NXX screening	Disallow

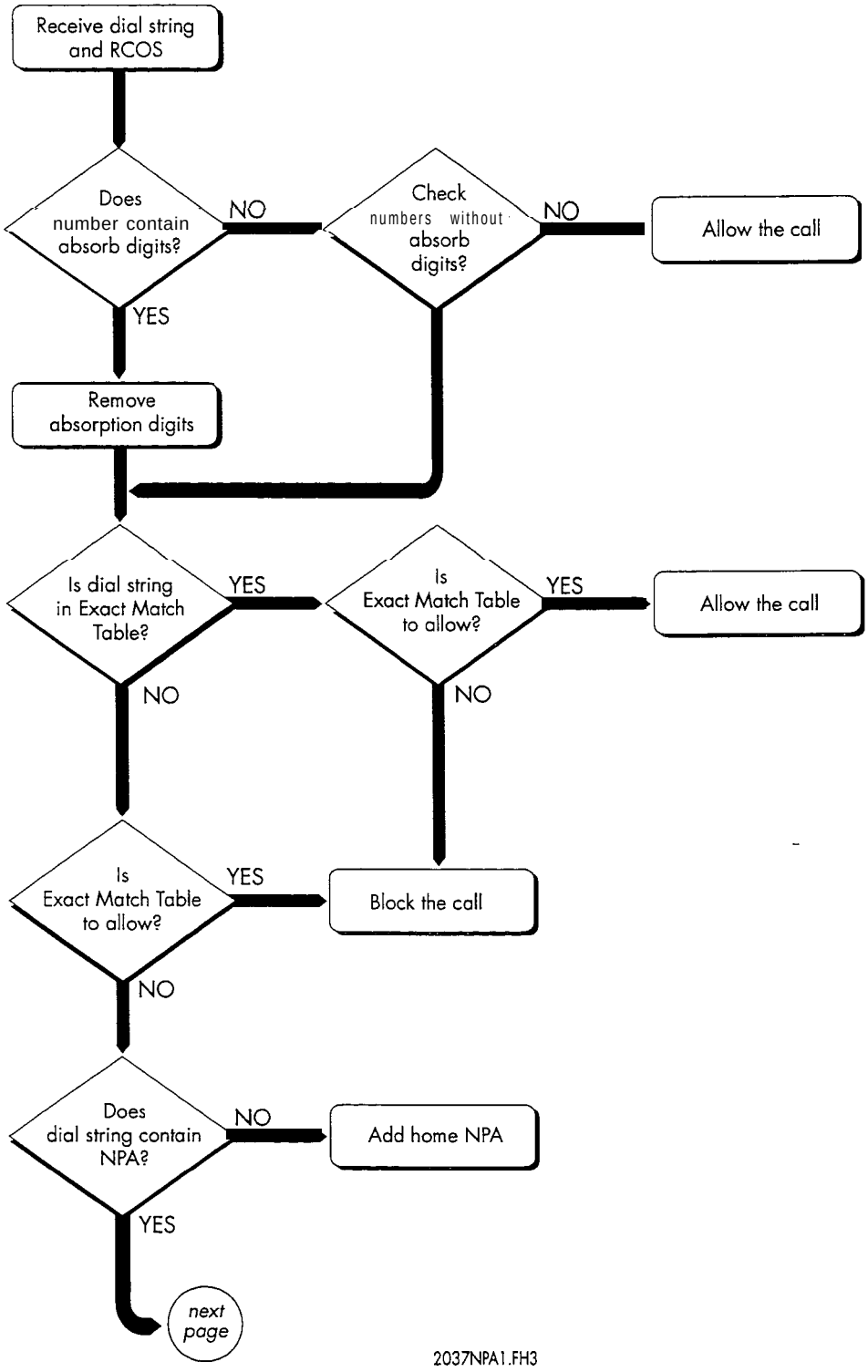


Figure 8-7 **NPA/NXX** Screen Sequence

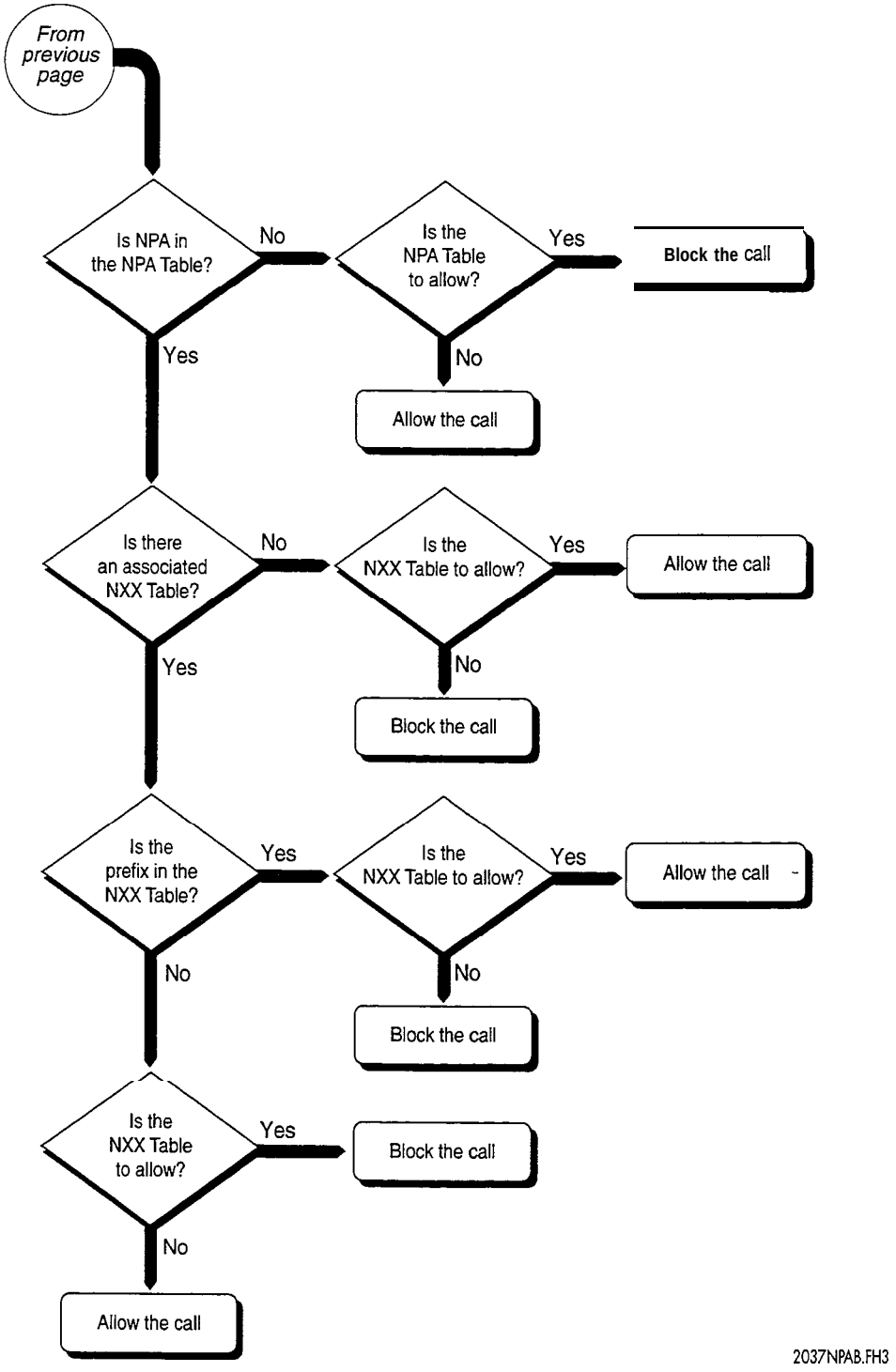


Figure 8-7 **NPA/NXX** Screen Sequence (continued)

Organize the data you need to configure an RCOS on an RCOS Worksheet (shown in Figure 8-V). Blank worksheets are located near the back of this manual. The following paragraphs describe entries you can make on the worksheet.

RCOS Identification

Identify the RCOS by a number from 1 through 64 and enter this number in the "RCOS to modify" box of the worksheet. You have the option of also naming the RCOS to easily identify it; you can enter any name of up to 15 characters in the "RCOS name" box on the worksheet.

System-Wide Parameters

The starting and ending digit positions of the NPA and NXX are RCOS parameters that apply to all RCOSs in the server. You can change starting and ending digit positions, of course, but any changes apply to all RCOSs that might be configured.

You must define the starting and ending digit positions for the NPA and NXX. The counting of the digit position starts from the right. When specifying digit positions, be aware that the server counts the positions from right to left. This right-to-left counting operates in the screening as shown in Figure 8-8.

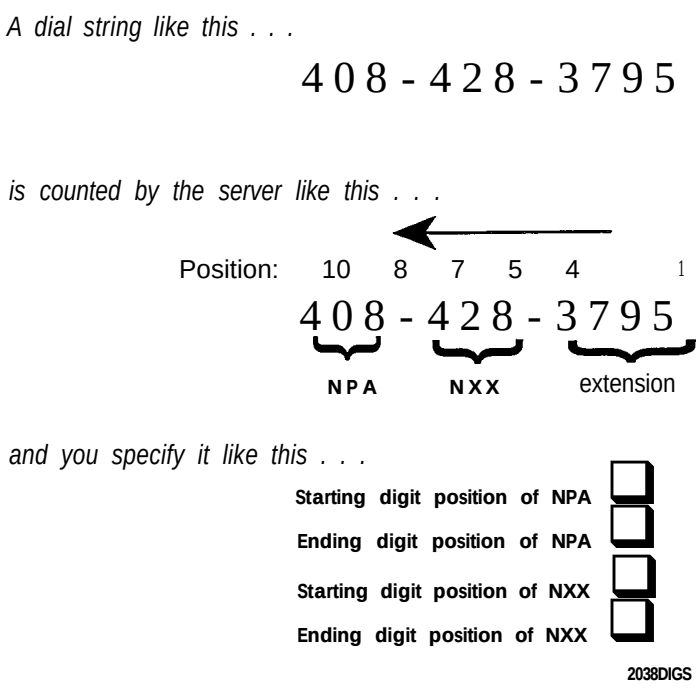


Figure 8-8 Counting Digit Positions

RCOS Worksheet

Select RCOS: Modify Selected RCOS

RCOS to modify: 2 (E I)

RCOS Name: Westregion

RCOS System Wide Parameters Menu

Starting digit position of NPA	10	Ending digit position of NPA	8
Starting digit position of NXX	7	Ending position of NXX	5

RCOS Specific Parameters

Home NPA: 408

Check numbers which do not have absorb digits? ☑ yes ☐ no

Digits to be absorbed (16 patterns, 10 digits each):
- 9
- 1
- 91

Exact Match Numbers: ☐ Allow ☑ Disallow

Exact Match Numbers (100 patterns, 25 digits each):
- 5551212, 411, 0

NPA: ☑ Allow ☐ Disallow

NPA	NXX
408	☐ Allow ☑ Disallow 662, 684, 728
415	☐ Allow ☑ Disallow 493
510	☐ Allow ☑ Disallow 424
	☐ Allow ☐ Disallow
	☐ Allow ☐ Disallow

Figure 8-9 Sample RCOS Worksheet

Enter the system wide parameters in the "System Wide Parameters" portion of the RCOS worksheet.

RCOS-Specific Parameters

In addition to the RCOS number and name, you can set and modify RCOS-specific parameters for each of the 64 RCOSs, making calling capabilities variable for different mailboxes. These parameters are discussed in the following paragraphs. Enter these parameters in the "RCOS-Specific Parameters" portion of the worksheet.

Home NPA

Because a server can connect to foreign exchange trunks, you must specify the "local" NPA for each RCOS. If a dial string does not contain an NPA, this number is added for the screening process. The server can accept a number of up to three digits for the NPA.

Digits to Be Absorbed

Many calls contain numbers at the beginning of the dial string that allow access to outside lines, international calling, or pager systems. You must remove these numbers before the actual screening process can begin. Numbers entered in the absorption table are removed from the dial string before the screening process. If the dial string does not contain any digits to be absorbed, there is an option to skip the balance of the call screening process. This facilitates outdial placement to other mailboxes on the server. The server absorbs the longest matching string in the absorption table from the dial string starting from the first digit. The table capacity is 16 patterns, with a maximum of 10 digits per pattern.

Exact Match Database

You can enter numbers in the exact match database and specify if they are to be allowed or disallowed. The table capacity is 100 patterns, with a maximum of 25 digits per pattern.

Entries to this database should include common numbers that you do not want used for message addressing. Such numbers include 911,411, 5551212, and 0.

NPA Database

The NPA database contains area codes that are screened. You can configure the database to either allow or disallow access to specific area codes. For example, you can restrict the mailbox to only the local NPA or restrict access to NPAs such as 900 numbers.

It is possible to restrict outdial access to only one NPA by setting the NPA allow/disallow status to allow and creating an NPA table with only one NPA entry. Remember that if you want to set any outdial restrictions for the home NPA, you must enter that NPA in the table.

NXX Database

After you specify an NPA, the server asks if you want NXX screening for the specific NPA. You must also set the allow/disallow status for the NXX field. The NXX allow or disallow setting takes priority over the NPA setting. This is useful for restricting the use of an NPA to only specific NXXs. The setting for the NPA in this situation is not used in determining if the call is placed. Call placement is determined only by the NXX allow/disallow setting. The server treats the combined NPA/NXX (408/415 for example) in light of the NXX allow/disallow setting, regardless of the NPA setting.

Mailbox Configuration

During creation or modification of a mailbox, you must specify the RCOS for the outdial restricting capabilities to be operational. If no RCOS is specified in a mailbox's configuration, outdials are not screened or restricted.

Distribution lists

If an RCOS is changed, it is possible for a distribution list created before the RCOS change to contain some restricted telephone numbers. A restriction check is performed before each outdialing sequence to avoid calls being placed to restricted telephone numbers. If a telephone number fails the check, a receipt is generated stating "The following telephone numbers are restricted: [number 1], [number 2], etc." This receipt is always generated, regardless of a mailbox owner request for cancellation of a receipt.

Screening Examples

Several configuration examples are offered here to show how the RCOS works. If you were to configure an RCOS as in Table 8-11, the server would process dial strings as shown in the following examples.

Table 8-11 Example Configuration

Parameter	Value
Home NPA	408
Starting digit position of NPA	10
Ending digit position of NPA	8
Starting digit position of NXX	7
Ending NXX digit position of NXX	5
Digits to be absorbed	9,1,91
Exact match table is set to disallow	5551212,411
NPA table is set to allow	408,415,510
NXX table for the NPA 408 is set to disallow	662,684,728
NXX table for the NPA 4 15 is set to disallow	424,493
No screening for NPA 5 10	

If a dial string is 914084283558, the server:

1. Removes the 91 in accordance with the absorption table.
2. Compares to the exact match table and finds no match.
3. Compares the NPA 408. Because the NPA 408 has an associated NXX table, it is used.
4. Places the call because the NXX table is a disallow table and does not contain the prefix 428.

If a dial string is 2551234, the server:

1. Compares to the exact match table.
2. Adds the home NPA.
3. Compares the NPA 408. Because the NPA 408 has an associated NXX table, it is used.
4. Places the call because the NXX table is a disallow table and does not contain the prefix 255.

If a dial string is 14154244567, the server:

1. Removes the 1 in accordance with the absorption table.
2. Compares to the exact match table.
3. Compares the NPA 415. Because the NPA 415 has an associated NXX table, it is used.
4. Blocks the call because the NXX table is a disallow table and contains the prefix 424.

If a did string is 95551212, the server:

1. Removes the 9 in accordance with the absorption table.
2. Compares to the exact match table and blocks the call because the number matches and the table is a disallow table.

If a dial string is 15102265678, the server :

1. Removes the 1 in accordance with the absorption table.
2. Compares to the exact match table.
3. Compares the NPA 5 10. Places the call because the NPA 5 10 does not have an associated NXX table and the NPA table is set to allow.

As the preceding examples show, NPA/NXX call screening works well for domestic outdials. For restricting international outdials, the best method is to limit the number of digits that can be dialed to less than the length of an international telephone number. Do this with an LCOS that includes any of these limits parameters, as appropriate:

- Auto Wakeup – Phone Length
- Maximum Number of Digits for Telephone Number
- Message Delivery – Phone Length
- Message Phone Length
- Paging – Phone Length

Then assign this LCOS to the desired mailboxes (see the Limits Class of Service section for information on LCOS configuration).

Other Classes of Service Task list

VoiceMemo Release 6.0A and later

Task	*Procedure*
GCOSs	
GCOS Usage	**CP** 3345
Add or Delete a Bitmapped GCOS Group..	CP 5030
Assign a GCOS to a Mailbox	CP 4346
Define a Bitmapped GCOS	CP 4347
Use an Empty GCOS For One-Way Communication	CP 3348
View GCOS Information..	Cl? 6049
LCOSs	
LCOS Usage	**cl? 3350**
Assign an LCOS to a Mailbox..	CP 435 1
Create a New LCOS from a Copy..	Cl? 5054
Create a New LCOS or Modify Existing LCOS Limits	Cl? 50 17
View LCOS Information..	CP 6048
RCOSs	
RCOS and NPA/NXX Usage	**CP 3293**
Assign an RCOS to a Mailbox..	CP 4335
Configure an RCOS..	CP 3295
Delete an RCOS	CP 5406
Modify NPA/NXX Tables..	CP 4334
Modify the Absorption Table..	CP 4332
Modify the Exact Match Table..	CP 4333
Set RCOS System-Wide Parameters..	CP 5401
View RCOS Information	CP 5404

GCOS Usage

VoiceMemo Release 6.0A and later

This procedure summarizes the steps for using a GCOS in mailbox configuration.

Step	*Reference*
1. Complete a GCOS Worksheet. Instructions for filling out a worksheet are in the Group Class of Service chapter; blank worksheets are at the back of this manual.	
2. To modify an existing bitmapped GCOS, select it then add or delete groups as desired.	CP *4347*
3. To define a new bitmapped GCOS, number it, name it, and add the desired groups.	CP *4347*
4. If desired, enable one-way communication using an empty GCOS.	*cl? 3348*
5. Assign the default GCOS, bitmapped GCOS, or affinity group GCOS to mailboxes.	*Cl? 4346*

Create a New LCOS from a Copy

VoiceMemo Release 6.0A and later

This procedure describes how to create a new LCOS based on an existing LCOS.

Step	*Reference*
1. Reach the System Configuration Menu, then go to the Limits Class of Service Menu.	Menu Map **11**

2. Identify the LCOS you want to create.

   Select: (C) Choose Limits COS to Modify
   Prompt: **Enter** limits **COS to modify =**
   Response: **Number** of the new LCOS you want to create (1-640), or just press **Enter** if the displayed LCOS is the one you want.

   Select: (N) Name Selected LCOS
   Prompt: **Enter name for selected limits COS =**
   Response: A descriptive name for the LCOS, from 1 through 15 characters; or just press **Enter** if the displayed LCOS name is the one you want.

3. copy LCOS limits from an existing LCOS to your new one.

   Select: (K) Copy LCOS
   Prompt: **LCOS to copy** (? **for help) = ?**
   Response: Number of the existing LCOS you want to copy from (I-640).

4. Now make changes in your copy. Go to the desired limits parameters menu (Table **1** at the end of this procedure) and set the desired limits parameters.

   Prompt: **LIMITS PARAMETERS MENU:**
   or
   MORE LIMITS PARAMETERS MENU:
   or
   EVEN MORE LIMITS PARAMETER MENU:
   or
   CALL PLACEMENT MENU:
   or
   FAXMEMO **LIMITS MENU:**
   or
   MESSAGE RETENTION LIMIT MENU
   or
   SET LANGUAGE FOR SELECTED LCOS
   Response: The **letter** shown in parentheses in the menu to select the desired limits parameter, then enter the desired value.

Step | *Reference*

5. Return to the Limits Class of Service Menu, then confirm your modifications.

   Select (S) Show LCOS States
   or
   (T) Show More LCOS States
   or
   (V) Show Even More LCOS States
   or
   (U) Show Call Placement LCOS States
   or
   (W) Show FaxMemo LCOS States
   or
   (Y) Show Message Age Limits for Selected LCOS
   or
   (Z) Show Language for Selected LCOS

   Prompt: `LCOS to show (? for help)=`

   Response: The number of the LCOS you just modified. If necessary, repeat the appropriate preceding step(s) to make corrections.

6. After confirming that modifications are correct, Save the modified limits by exiting the LCOS menu.

Table 1 Menus for limits Parameters

For this parameter . . .	Select . . .
Greeting length User name length Message count Messages per billing User message length Caller message length Maximum login time Network queue message count Maximum attachments per message Maximum attachments per network message	L, Set Limits for Selected LCOS

Step *Reference*

Table 1 Menus for Limits Parameters (continued)

For this parameter . . .	Select . . .
Auto wakeup - phone length Paging - phone length Message delivery - phone length Future delivery - message count Maximum days - future delivery Maximum family member or guest Message waiting indicator - message length Minimum message length Maximum pages per billing Maximum wakeups per billing	M, Set More Limits for Selected LCOS
Max days – auto wakeup Max days – reminder call Max reminder calls per billing Max destinations per reminder call Max members per distribution list Max recipients count Max number of distribution lists Min number of recipients for receipt summary Min billed number length	E, Set Even More Limits for Selected LCOS
RNA retry limit RNA retry interval Busy retry limit Busy retry interval Message phone length Message count Maximum message length	0, Call Placement Limits for LCOS
Maximum number of digits for telephone number FaxMemo message count CNG tone detection length Fax delivery retry frequency Fax delivery retry interval	P, Set FaxMemo Limits for Selected LCOS

Step *Reference*

Table 1 Menus for Limits Parameters (continued)

For this parameter . . .	Select . . .
Played message retention Unplayed message retention Urgent message retention Cut through paging receipt retention Receipt retention Played fax message retention Unplayed fax message retention Urgent fax message retention Fax receipt retention Absolute message retention	D, Set Message Age Limits for Selected LCOS
Prompts Language Selection	G, Set Language for Selected LCOS

Assign a GCOS to a Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to assign a bitmapped or affinity group GCOS to a mailbox configuration. Before a bitmapped GCOS can take effect, you must also define it.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed Mailbox Worksheet.	Menu Map 3

Using the Scrolling Interface

2. Identify the mailbox to which you

will assign the GCOS.

are assigning the GCOS.

Sek-ct: (C) Create New Mailboxes
Prompt: `Mailbox to create:`
Response: **Number** of the new mailbox.

or

Select: (M) Modify Mailboxes
Prompt: `Mailbox to modify:`
Response: **Number** of the existing mailbox.

3. Press **Enter** until the Group Class of Service or New GCOS prompt appears.

Prompt: `Group class of service:`
or
`New GCOS:`
Response: The **number** of the bitmapped GCOS (l-64) or affinity group GCOS (6532,000) that governs this mailbox.

If you are modifying a mailbox, the GCOS you just entered replaces the existing GCOS.

4. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number.

At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

Step	Reference

Using the Full-Screen Interface

2. Identify the mailbox to which you are assigning the GCOS.

   Select: (C) Create / Modify / Delete Mailboxes
   Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F10** to edit the mailbox information.

3. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen, stopping at the GCOS parameter.

   Prompt: `Group :`
   Response: The **number** of the bitmapped GCOS (l-64) or affinity group GCOS (65-32,00) that governs this mailbox.

   If you are modifying a mailbox, the GCOS you just entered replaces the existing GCOS.

4. Press **F10** to save your changes, or, if you made a mistake, press F9 to cancel your changes.

5. Press F9 to exit the Mailbox Maintenance entry screen.

Define a Bitmapped GCOS

VoiceMemo Release 6.0A and later

This procedure describes how to define a bitmapped GCOS. You can use this procedure to define a completely new GCOS or to modify an existing GCOS.

Step	*Reference*
1. Complete a GCOS Worksheet. Instructions for filling out a worksheet are in the Group Class of Service chapter; blank worksheets are at the back of this manual.	
2. Reach the System Configuration Menu, then go to the Group Class of Service Menu. Enter the requested information, as described in the following steps, from your completed GCOS Worksheet.	Menu Map 1 I

Note: You can quit at any point in the following steps before you exit the Group Class of Service Menu. Quitting discards all entries you have made and leaves the GCOS settings the way they were before you reached the Group Class of Service Menu.

To quit:

Make sure the Group Class of Service Menu is displayed (short form or long form).

Select: (Q) Quit – Forget Changes
Prompt: **`Quit and forget changes? (y/n) =`**
Response: Y to quit and skip changes.

3. Specify the GCOS number.

Select: (C) Current GCOS
Prompt: **`GCOS to modify =`**
Response: The **number** (l-64) of the bitmapped GCOS you are defining.

4. Name the GCOS.

Select: (N) Name GCOS
Prompt: **`Enter GCOS name (0 - 15 chars) =`**
Response: Enter a descriptive **name** to accompany the GCOS number.

Step	Reference

5. Put the desired groups in this GCOS.

   Select: (A) Add Group
   Prompt: `Group to add (? for help) =`
   Response: Enter the one- to three-digit numbers of the groups that comprise this GCOS.

   You can enter group numbers in any of these formats:

   - A single group, for example, 3
   - A range of groups, for example, `l-128`
   - A series of groups, for example, 3,4,6,7
   - L to specify the lower half **(1-64)**
   - U to specify the upper half (65-128)
   - A to specify all group numbers
   - E to specify even group numbers
   - 0 to specify odd group numbers

   You can mix types of entries, so you can specify all the bits necessary in one attempt. For example, this entry is valid:

   1,3,4-19,U

   Do not enter spaces after commas, and do not end the entry with a comma.

6. If necessary, delete any groups from the GCOS.

   Select: (D) Delete Group
   Prompt: `Group to delete (? for help) =`
   Response: Enter the group number(s) to delete. Use the same format as for adding groups to this GCOS.

7. Verify that the information you have entered so far matches your worksheet.

   Select: (S) Show GCOS
   Prompt: `GCOS to show (? for help) =`
   Response: The number of the GCOS you have been working with.

8. If the information displayed at the server maintenance console matches your worksheet, defining is completed and you can save it. If the information does not match your worksheet, make the necessary corrections.

9. After verifying that your entries are correct, save the defined GCOS by exiting from the Group Class of Service Menu.

10. Copy the number of this defined GCOS from your GCOS worksheet to the appropriate mailbox worksheet.

Use an Empty GCOS For One-Way Communication

cl? 3348

VoiceMemo Release 6.0A and later

This procedure describes how to use an empty GCOS and feature bits to enable one-way communication from one set of mailboxes to another.

Step	*Reference*
1. Include the following feature bits in the FCOS assigned to the originating mailbox (the mailbox that sends messages to one-way mailboxes): 020 (Make messages) 126 (Make/give to mailbox with empty GCOS)	
• Either add the bit to an existing FCOS, *or* • Copy an FCOS and edit it as necessary.	CP 5011, Ch. 1 or CP 5007, Ch. 1
2. Include feature bit 40 (Receive messages from other users) in the FCOS assigned to the receiving mailbox.	
• Either add the bit to an existing FCOS, or • Copy an FCOS and edit it as necessary.	CP 5011, Ch. or CP 5007, Ch. 1
3. Assign an empty GCOS to the receiving mailbox.	CP4346

View GCOS Information

VoiceMemo Release 6.0A and later

This procedure describes how to display lists of defined bitmapped GCOSs.

Step	*Reference*
You can view GCOS information through the System Configuration Menu or the Reports Menu.	
• Reach the System Configuration Menu, then go to the Group Class of Service Menu.	Menu Map 11
Select: (S) Show GCOS *Prompt:* **GCOS to show (? for help) =** ***Response:*** The number(s) of the GCOS(s) you want to view. Use any of these formats: A single GCOS number, for example 3 A range of GCOS numbers, for example 3-6 A series of GCOS numbers, for example, 3,4,5,12 E for a summary of even-numbered GCOSs 0 for a summary of odd-numbered GCOSs L for a summary of the lower half of GCOSs (l-32) U for a summary of the upper half of GCOSs (33-64) A for a summary of all GCOSs	
• Reach the Reports Menu, then select the GCOS option.	Menu Map 9
Select: ***(G) GCOS*** ***Prompt:*** **REPORT OUTPUT ROUTING** **(C) Console (screen)** **(P) Console with pause** **(1) Printer A** **(F) File...** **(A) Append to file...** **(X) Exit (no report)** **If you need help later, type ?.** **COMMAND (C/P/l/F/A/X):** ***Response:*** C to send the report to the console without pausing P to send the report to the console, pausing as the screen fills, 1 to send the report to Printer A*, F to send the report to a file on the Series 6 server, A to append the report to an existing file on the Series 6 server, or X to exit report output options (no report). * This option list varies depending on server configuration.	

LCOS Usage

VoiceMemo Release 6.0A and later

This procedure summarizes the steps for using an LCOS in mailbox configuration.

Step	*Reference*
1: Complete an LCOS Worksheet. Instructions for filling out a worksheet are in the Limits Class of Service chapter; blank worksheets are at the back of this manual.	
2. To modify an existing LCOS, select it, then change the limits as desired.	CP *5017, Ch.* 1
3. To define a new LCOS, number it, name it, and set the desired limits parameters.	CP *5017, Ch.* 1
4. To create a new LCOS based on an existing one, copy the existing LCOS to the new one and modify desired limits parameters.	CP *5054*
5. Assign the LCOS to mailboxes.	CP *4351*

Assign an LCOS to a Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to assign an **LCOS** to a mailbox configuration. Before an LCOS can take effect, you must also-define it.

Step | *Reference*

1. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed Mailbox Worksheet. — Menu Map 3

Using the Scrolling Interface

2. Identify the mailbox to which you are assigning the LCOS.

   Select: (C) Create New Mailboxes
   Prompt: **Mailbox to create:**
   Response: **Number** of the new mailbox.

   or

   Select: (M) Modify Mailboxes
   Prompt: **Mailbox to modify:**
   Response: **Number** of the existing mailbox.

3. Press **Enter** until the Limits Class of Service or New LCOS prompt appears.

   Prompt: **Limits class of service:**
   or
   New LCOS:
   Response: The **number** of the LCOS (l-640) that governs this mailbox.

   If you are modifying a mailbox, the LCOS you just entered replaces the existing LCOS.

4. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number.

   At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

Step | *Reference*

Using the Full-Screen Interface

2. Identify the mailbox to which you are assigning the LCOS.

   Select: (C) Create/Modify/Delete Mailboxes
   Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

   Prompt: `Mailbox: 00000000nnn`
   Response: Press **F10** to edit the mailbox information.

3. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen, stopping at the LCOS parameter.

   Prompt: `Limits:`
   Response: The **number** of the LCOS (1 through 640) configured for the outcall capabilities for this mailbox.

   If you are modifying a mailbox, the LCOS you just entered replaces the existing LCOS.

4. Press **F10** to save your changes, or, if you made a mistake, press F9 to cancel your changes.

5. Press F9 to exit the Mailbox Maintenance entry screen.

Create a New LCOS or Modify Existing LCOS Limits

VoiceMemo Release 6.0A and later

This procedure describes how to create a new LCOS or modify the existing limits parameters in an LCOS.

Step	*Reference*
1. Reach the System Configuration Menu, then go to the Limits Class of Service Menu.	Menu Map 11

2. Identify the LCOS you want to create or modify.

   Select: (C) Choose Limits COS to Modify
   Prompt: **Enter limits COS to modify =**
   Response: **Number** of the LCOS you want to modify limits in (1-640), or just press **Enter** if the displayed LCOS is the one you want.

   Select: (N) Name Selected LCOS
   Prompt: **Enter name for selected limits COS =**
   Response: A descriptive name for the LCOS, from **1** through 15 characters; or just press **Enter** if the displayed LCOS name is the one you want.

3. Go to the desired limits parameters menu (Table **1** at the end of this procedure).

4. Set the desired limits parameters.

   Prompt: **LIMITS PARAMETERS MENU:**
   or
   MORE LIMITS PARAMETERS MENU:
   or
   EVEN MORE LIMITS PARAMETER MENU:
   or
   CALL PLACEMENT MENU:
   or
   FAXMEMO **LIMITS MENU:**
   or
   MESSAGE RETENTION LIMIT MENU:
   or
   PROMPT LANGUAGE SELECTION:
   Response: The **letter** shown in parentheses in the menu to select the desired limits parameter, then enter the desired value.

Step | ***Reference***

5. Return to the Limits Class of Service Menu, then confirm your modifications.

   Select: (S) Show LCOS States
   or
   (T) Show More LCOS States
   OT
   (V) Show Even More LCOS States
   or
   (U) Show Call Placement LCOS States
   or
   (W) Show FaxMemo LCOS States
   or
   (Y) Show Message Age Limits for Selected LCOS
   or
   (Z) Show Language for Selected LCOS

   Prompt: **LCOS to show (? for help)=**

   Response: The **number** of the LCOS you just modified. If necessary, repeat the appropriate preceding step(s) to make corrections.

6. After confirming that modifications are correct, Save the modified limits by exiting the LCOS menu.

Table 1 Menus for limits Parameters

For this parameter . . .	Select . . .
Greeting length User name length Message count Messages per billing User message length Caller message length Maximum login time Network queue message count Maximum attachments per message Maximum attachments per network message	L, Set Limits for Selected LCOS

Step ***Reference***

Table 1 Menus for limits Parameters (continued)

For this parameter . . .	Select . . .
Auto wakeup - phone length Paging - phone length Message delivery - phone length Future delivery - message count Maximum days - future delivery Maximum family member or guest Message waiting indicator - message length Minimum message length Maximum pages per billing Maximum wakeups per billing	M, Set More Limits for Selected LCOS
Max days – auto wakeup Max days – reminder call Max reminder calls per billing Max destinations per reminder call Max members per distribution list Max recipients count Max number of distribution lists Min number of recipients for receipt summary Min billed number length	E, Set Even More Limits for Selected LCOS
RNA retry limit RNA retry interval Busy retry limit Busy retry interval Message phone length Message count Maximum message length	0, Call Placement Limits for LCOS
Maximum number of digits for telephone number FaxMemo message count CNG tone detection length Fax delivery retry frequency Fax delivery retry interval	I', Set FaxMemo Limits for Selected LCOS

Step ***Reference***

Table 1 Menus for Limits Parameters (continued)

For this parameter . . .	Select . . .
Played message retention Unplayed message retention Urgent message retention Cut through paging receipt retention Receipt retention Played fax message retention Unplayed fax message retention Urgent fax message retention Fax receipt retention Absolute message retention	D, Set Message Age Limits for Selected LCOS
Prompts Language Selection	G, Set Language for Selected LCOS

View LCOS Information

VoiceMemo Release 6.0A and later

This procedure describes how to display all defined LCOSs and the limits parameters that comprise them.

Step | *Reference*

You can view LCOS information through the System Configuration Menu or the Reports Menu.

Through the System Configuration Menu

1. Reach the System Configuration Menu, then go to the Limits Class of Service Menu. — Menu Map 1 I

2. To view general limits parameters in defined LCOSs, select any or all of these options:

   Select: (S) Show LCOS States
   or
   (T) Show More LCOS States
   or
   (V) Show Even More LCOS States

   Prompt: **LCOS** to show (? for **help**) =

   Response: The **number(s)** of the LCOS(s) you want to view (l-640). Use any of these formats:

   A single LCOS **number,** for example 3
   A range of LCOS **numbers,** for example 3-6
   A series of LCOS **numbers,** for example, 3,4,5,12
   E for a summary of even-numbered LCOSs
   0 for a summary of odd-numbered LCOSs
   L for a summary of the lower half of LCOSs (l-32)
   U for a summary of the upper half of LCOSs (33-64)
   A for a summary of all LCOSs

3. The server displays a list of all defined LCOSs that shows the values set for genera limits parameters contained in them.

Step	*Reference*

4. To view any of the other limits parameters, such as FaxMemo limits, select these options:

   Select: (U) Show Call Placement LCOS States
   or
   (W) Show FaxMemo LCOS States
   or
   (Y) Show Message Age Limits for Selected LCOS
   or
   (Z) Show Language for Selected LCOS

   Prompt: **LCOS to show (? for help) =**

   Response: The **number(s)** of the LCOS(s) you want to view (l-640). Use any of the formats described earlier.

5. The server displays a list of all defined LCOSs that shows the values set for the prompts language, call placement, FaxMemo, or message age limits parameters contained in them.

Through the Reports Menu

Reach the Reports Menu, then select the LCOS option. Menu Map 9

Select: (E) LCOS

Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND   (C/P/l/F/A/X):
```

Response: C to send the report to the console without pausing,
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the server,
A to append the report to an existing file on the server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

RCOS and NPA/NXX Call Screening Usage

VoiceMemo Release 6.0A and later

This procedure summarizes the steps for using NPA/NXX call screening in a Series 6 server.

Step	*Reference*
1. Configure server-wide RCOS parameters, through the Restriction Class of Service Menu. This consists of specifying starting and ending NPA digit positions, and specifying starting and ending NXX digit positions.	CP *5401*
2. Configure one or more RCOSs, through the Restriction Class of Service Menu. To do this, you: • Number the RCOSs • Name the RCOSs • Enter the home NPA • Specify whether numbers without absorption digits are to be checked or not • If desired, specify digits to be absorbed • Allow or disallow exact match numbers • If desired, specify exact match numbers • Allow or disallow NPA screening	CP *3295*
3. Modify the configuration of each mailbox that is to use NPA/NXX call screening to use the appropriate RCOS.	CP *5047,* Ch. 6

Assign an RCOS to a Mailbox

VoiceMemo Release 6.0A and later

This procedure describes how to assign an RCOS to a mailbox configuration.

Step	*Reference*
1. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed Mailbox Worksheet.	Menu Map 1

Using the Scrolling Interface

2. Identify the mailbox to which you are assigning the RCOS.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: **Number** of the new mailbox you want to create.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: **Number** of the existing mailbox.

   Note: Prompts are almost the same for creating a new mailbox and modifying an existing one, except that "New" precedes a prompt when you select Modify Mailboxes.

3. Press **Enter** until the Restriction Class of Service or New RCOS prompt appears.

   Prompt: `Restriction Class of Service:`
   or
   `New RCOS:`
   Response: The **number** of the RCOS (1 through 64) configured for the outcall capabilities for this mailbox.

   If you are modifying a mailbox, the RCOS you just entered replaces the existing RCOS.

4. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number.

   At this point, the parameter settings are saved and you can continue with mailbox configuration or exit.

Step	*Reference*

Using the Full-Screen Interface

2. Identify the mailbox to which you are assigning the RCOS.

   Select: (C) Create / Modify / Delete Mailboxes

   Response: You are placed in the Mailbox Maintenance entry screen. Enter the **number** of the new or existing mailbox.

   Prompt: `Mailbox: 00000000nnn`

   Response: Press **F10** to edit the mailbox information.

3. Use the arrow keys, **Tab** key, or **Enter** key to move around the screen, stopping at the RCOS parameter.

   Prompt: `Restriction:`

   Response: The **number** of the RCOS (1 through 64) configured for the outcall capabilities for this mailbox.

   If you are modifying a mailbox, the RCOS you just entered replaces the existing RCOS .

4. Press **F10** to save your changes, or, if you made a mistake, press **F9** to cancel your changes.

5. Press F9 to exit the Mailbox Maintenance entry screen.

Configure an RCOS

VoiceMemo Release 6.0A and later

This procedure describes how to configure a Restriction Class of Service (RCOS). A prerequisite to this task is to set the RCOS server-wide parameters (see CP 5401).

Step	*Reference*
1. Complete an RCOS worksheet. Blank worksheets are at the back of this manual.	
2. Reach the Restriction Class of Service Menu.	Menu Map 1
3. Select the RCOS. Select: (A) Select RCOS *Prompt:* `Enter RCOS number to Modify =` *Response:* **Number** (1 through 64) of the RCOS group to be modified.	
4. Return to the Restriction Class of Service Menu, then go to the RCOS Selected Menu. Select: (M) Modify Selected RCOS *Prompt:* `MODIFY RCOS MENU:`	Menu Map 11
5. Name the RCOS. *Select:* (N) Name of Selected RCOS *Prompt:* `Enter the name of selected RCOS =` *Response:* A descriptive **name** (up to 15 characters).	
6. Enter the home NPA (area code). Select: (H) Home NPA *Prompt:* `Enter your NPA =` *Response:* **Number** of the NPA (1- to 3-digit number).	
7. Set the option to check numbers that do not contain digits to be absorbed. *Select:* (C) Check Numbers Which Do Not Have Absorb Digits *Prompt:* `Enter Y for check, N for unconditional allow =` *Response:* Y to continue screening the numbers, or N to skip screening and allow call placement	
8. Add or delete numbers in the digit absorption table using the Digit Absorption Menu.	CP *4332*
9. Set screening to allow or disallow for exact match numbers. *Select:* (A) Set Exact Match Numbers to Allow / Disallow *Prompt:* `Enter A for Allow, D for Disallow =` *Response:* **A** to allow, *or* **D** to disallow	
10. Add or delete numbers in the exact match table using the Exact Match Menu.	CP 4333

Step	*Reference*
11. Set screening to allow or disallow for the NPA. *Select:* (S) Set NPA Screening to Allow / Disallow *Prompt:* `Enter A for Allow, D for Disallow =` *Response:* A to allow, or D to disallow	
12. Add or delete numbers in the NPA and NXX tables using the NPA/NXX Menu.	cl? 4334
13. Exit to the Restriction Class of Service Menu.	
14. Verify all changes to the RCOS using the Report Selected RCOS option.	cl? 5404
15. Exit the Restriction Class of Service Menu to make the changes take effect.	
16. Copy the number of this RCOS from your RCOS Worksheet to the appropriate mailbox worksheet.	

Delete an RCOS

VoiceMemo Release 6.0A and later

This procedure describes how to delete an RCOS.

Step	*Reference*
1. Reach the Restriction Class of Service Menu.	Menu Map 11
2. Identify the RCOS to be deleted. Select: (A) Select RCOS *Prompt:* **Enter RCOS number to Modify =** ***Response:*** **Number** (1 through 64) of the RCOS to be deleted.	
3. Delete the RCOS. Select: (B) Delete Selected RCOS *Prompt:* **Are you sure you want to delete this RCOS?** ***Response:*** Y to delete the RCOS, *or* N to keep the RCOS.	
4. Exit the Restriction Class of Service Menu to make the changes take effect.	

Modify NPA/NXX Tables

VoiceMemo Release 6.0A and later

This procedure describes how to make changes to the NPA (area code) and NXX (3-digit prefix) tables.

Step	*Reference*
1. Reach the Modify Restriction Class of Service Menu, then go to the Modify NPA/NXX Table Menu.	Menu Map **11**

2. Select the NPA.

   Select: (P) Select NPA
   Prompt: **Enter NPA to select =**
   Response: The **number** of the NPA table to be created, deleted, or modified.

3. If you are creating the NPA, select the add the NPA option.

   Select: (A) Add NPA
   Prompt: **xxx NPA added**

   where xxx is the specified NPA.

4. If you are deleting the NPA, select the Remove NPA option.

   Select: (R) Remove NPA
   Prompt: **xxx NPA removed**

5. Create or modify an associated NXX table, if desired.

6. Add any new prefixes you want screened.

   Select: (N) Add NXX
   Prompt: **Enter NXX number/s to add =**
   Response: **Number(s)** of prefix(s) to be added. NXX numbers can be entered in the following formats:

   A single pattern, for example 252,

   or

   A series of patterns, for example 252,428,354

   Do not enter spaces after commas and do not end the entry with a comma.

7. Remove any prefixes that you no longer need screened.

   Select: (D) Remove NXX
   Prompt: **Enter NXX number/s to remove =**
   Response: **Number(s)** of prefix(s) to be removed. The same rules apply to entering numbers to be removed, as explained for adding numbers in step 6.

Step | *Reference*

8. Set the NXX table to allow or disallow the call.

   Select: (B) Set NXX Screening to Allow / Disallow (A / D) =
   Prompt: `Enter A for Allow, D for Disallow = [D]`
   Response: **A** for Allow,

   or

   D for disallow.

9. Verify that the changes have been entered correctly. (The numbers shown below are an example only.)

   Select: (S) Show Table
   Prompt:
   ```
   NPA: NXX
   408: Disallowed
        252 428
   ```

   where 408 is the NPA being screened and the prefixes are *252* and 428. If you select NXX screening, the allowed / disallowed screening status is shown for the NXX option. If you do not select NXX screening, only the NPA is shown.

10. To add another NPA, repeat this process starting from step 2.

Modify the Absorption Table

VoiceMemo Release 6.0A and later

This procedure describes how to add dial strings to or remove dial strings from the absorption table.

Step	Reference
1. Reach the Modify Selected RCOS Menu, then go to the Modify Digit Absorption Table Menu.	Menu Map 11

2. Add any new digits to be absorbed from the dial string.

   Select: (A) Add a number
   Prompt: `Enter numbers to add =`
   Response: The number to be absorbed. Dial string patterns can be entered in the formats shown below:

   A single pattern, for example, 91 or

   A series of patterns, for example 9 `1,1, 102880` (do not enter spaces after commas, and do not end the entry with a comma)

3. Remove any digits from the table you no longer need.

   Select: (R) Remove a number
   Prompt: `Enter numbers to remove =`
   Response: The number to be deleted from the table. The same rules apply to entering numbers to be deleted as explained for adding numbers in step 2.

4. Verify that the changes have been entered correctly.

   Select: (S) Show Table
   Prompt:
   ```
   RCOS n: Digit Absorption Table
   ------------------------------
   1: xxx
   2: xxx
   ```

   where n equals the RCOS being modified, and xxx are the numbers remaining in the table.

5. Exit the RCOS Menu to save your changes.

Modify the Exact Match Table

VoiceMemo Release 6.0A and later

This procedure describes how to add dial strings to or remove dial strings from the exact match table.

Step	*Reference*
1. Reach the Modify Selected RCOS Menu, then go to the Modify Exact Match Table Menu.	Menu Map 11

2. Add any new numbers to be matched in the dial string.

   Select: (A) Add a number
   Prompt: Enter numbers to add =
   Response: The **number** to be matched against. Number patterns can be entered in the following formats:

   A single pattern, for example, 555 12 12,

   or

   A series of patterns, for example, 911,411

   Do not enter spaces after commas and do not end the entry with a comma.

3. Remove any numbers from the table you no longer need.

   Select: (R) Remove a number
   Prompt: **Enter numbers to remove =**
   Response: The **number** to be removed from the table. The same rules apply to entering numbers to be removed, as explained for adding numbers in step 2.

4. Verify that the changes have been entered correctly.

   Select: (S) Show Table
   Prompt: RCOS n: **Exact Match Table**

   ```
   -------------------------
   1: xxx
   2: xxx
   ```

   where n equals the RCOS being modified, and xxx are the numbers in the table.

5. Exit the RCOS Menu to save your changes.

View RCOS Information

VoiceMemo Release 6.0A and later

This procedure describes how to display a report for an RCOS.

Step	*Reference*

You have a choice of information levels about RCOSs to view:

- System-wide parameters, which includes a list of configured RCOSs and their names
- Home NPA and screening settings for a specific **RCOS**
- Configuration of a specific RCOS
- Configuration of all RCOSs

Viewing System-Wide Parameters

Reach the Restriction Class of Service Menu. — Menu Map 11

Select: (I?) Show System Wide Parameters
Response: The server displays a list of the defined RCOSs with their names at the server maintenance console, followed by the system-wide parameters.

Viewing Home NPA and Screening Settings for a Selected RCOS

1. Reach the Restriction Class of Service Menu. — Menu Map 1
2. Select the RCOS to view.

   Select: (A) Select RCOS
   Prompt: **Enter RCOS number to modify =**
   Response: **Number (1** through 64) of the RCOS to view,

   or

   Press **Enter** if the current RCOS is the desired one,

3. Display the information about this RCOS.

   Select: (S) Show Selected RCOS
   Response: The server displays the home NPA, whether numbers without digits to be absorbed are checked, whether exact match numbers are allowed, and whether NPA screening is allowed, for the selected RCOS.

Viewing the Configuration of a Specific RCOS

1. Reach the Restriction Class of Service Menu. — Menu Map 1

Step	*Reference*

2. Select the RCOS to view.

   Select: (A) Select RCOS = [n]
   Prompt: **Enter RCOS number to modify = [n**
   Response: **Number** (1 through 64) of the RCOS to view,

   or

   Press **Enter** if the current RCOS is the desired one.

3. Display the configuration of this RCOS.

   Select: (R) Report Selected RCOS
   Response: The server displays the following information about the current RCOS:

   - Home NPA
   - Whether numbers without absorb digits are checked
   - Whether exact match numbers are allowed or disallowed
   - Whether NPA screening is allowed or disallowed
   - Digit absorption table
   - Exact match table
   - NPA/NXX table

Viewing the Configuration of **All** RCOSs

Reach the Restriction Class of Service Menu. Menu Map **11**

Select: (T) Report All RCOSs
Response: The server displays a report of all the defined RCOSs with all of their parameter settings.

If you are displaying it at the console, use the following commands to control scrolling:

To stop scrolling: Press **Ctrl-S**
To restart scrolling: Press **Ctrl-Q**

Add or Delete a Bitmapped GCOS Group

VoiceMemo Release 6.0A and later

This procedure describes how to add a group to a bitmapped GCOS and delete a group from-a bitmapped GCOS.

Step	***Reference***
1. Reach the System Configuration Menu, then go to the Group Class of Service Menu	Menu Map 11

2. Identify the GCOS you want to add a group to or delete a group from.

   Select: (C) Current GCOS
   Prompt: `GCOS to modify =`
   Response: **Number** of the bitmapped GCOS (l-64) you want to add a group to or delete a group from, or just press **Enter** if the displayed GCOS is the one you want.

   Prompt: `Enter GCOS name (0 - 15 chars) =`
   Response: A descriptive name for the GCOS, from 1 through 15 characters, or just press **Enter** if the displayed GCOS name is the one you want.

3. Add the desired groups.

   Select: (A) Add Group
   Prompt: `Group to add (?for help) =`
   Response: Group **number(s)** you wish to add (l-128) to this GCOS.

   - Group numbers can be entered in any of the formats shown below:

     A single group, for example 7
     A continuous range of groups, for example 2-7
     A series of groups, for example 1,2,6,7

   - You can mix types of entries, so you can specify all the groups necessary in one attempt. For example, this entry is valid:

     1-4,8,9,12

   - Do not enter spaces after commas, and do not end the entry with a comma.

4. Delete the desired group(s).

   Select: (D) Delete Group
   Prompt: `Group to delete (? for help) =`
   Response: ***G***roup **number(s)** you wish to delete from this GCOS. Valid entries are the same as for adding groups.

Set RCOS System-Wide Parameters

VoiceMemo Release 6.0A and later

This procedure describes how to enter the starting and ending NPA (area code) and NXX (three-digit prefix) digit positions.

Step	*Reference*
1. Complete an RCOS worksheet.	
2. Reach the Restriction Class of Service Menu, then go to the Define System Wide Parameters Menu.	Menu Map 11
3. Count an example dial string your server can use to locate the starting and ending digit positions for the NPA (area code) and the NXX (three-digit prefix). • Count the digits from right to left. • Settings for a North American ten-digit phone number are: The starting NPA digit position is 10. The ending NPA digit position is 8. The starting NXX digit position is 7. The ending NXX digit position is 5.	
4. Enter the starting digit position of the NPA. *Select:* (A) Starting Digit Position of NPA *Prompt:* `Enter Starting Digit Position of NPA =` *Response:* **Number** of the digit position at the start of the NPA.	
5. Enter the ending digit position of the NPA. *Select:* (B) Ending Digit Position of NPA *Prompt:* `Enter Ending Digit Position of NPA =` *Response:* **Number** of the digit position at the end of the NPA.	
6. Enter the starting digit position of the NXX. Select: (C) Starting Digit Position of NXX *Prompt:* `Enter Starting Digit Position of NXX =` *Response:* **Number** of the digit position at the start of the NXX.	
7. Enter the ending digit position of the NXX. *Select:* (D) Ending Digit Position of NXX *Prompt:* `Enter Ending Digit Position of NXX =` *Response:* **Number** of the digit position at the end of the NXX.	

9 Administration by Phone

This chapter covers:

- Timing considerations for Administration by Phone
- Security for the administrator's mailbox
- Adding, deleting, and modifying mailboxes by phone
- Changing mailbox passcodes and enabling or disabling a tutorial by phone
- Changing the server clock by phone
- Performing a server backup by phone
- Server and mailbox usage statistics

Overview

The Series 6 server allows the server administrator to perform some administrative functions from a telephone. This feature is very convenient if the console is located at some distance from the server administrator's work station.

Administration by Phone cannot completely replace console administration; telephone administration software supports only a limited number of the features that are available from the console. However, it is very convenient for certain functions. For example, you cannot add a mailbox with Receptionist II treatment types over the telephone, but if the user changes offices and you must change the mailbox number, you can do it from the nearest pushbutton telephone.

> **Note:** If your server has more than one line group and more than one administrator's mailbox, you must be sure to call the line group associated with the administrator's mailbox you are using to perform Administration by Phone.

The Administration by Phone feature is not available to any mailboxes associated with the line group in which TDDMemo is configured.

Telephone Administration Timing

Certain timing parameters are programmed into Administration by Phone to detect inactivity and to safeguard the server against unauthorized use. These time out factors make it essential for the server administrator to be well prepared before beginning a telephone administration session:

- The server allows three to five seconds of response time for each prompt before it announces "no change" and returns to the Administration Menu.
- During administration, any activity causes a one-minute timer to start. If one minute elapses without input, the server automatically disconnects you, and you must repeat the entire access procedure.
- If you feel that you are running out of time, press 1 in response to any prompt to restart the timer. The server issues an error message, and repeats the prompt.

Passcode Protecting the Administrator's Mailbox

You can set or change the administrator's mailbox passcode by phone (see "Administration by Phone" on the Task List for the procedure) or from the console. For more information on passcode protecting the Administrator's mailbox, see the Server Security chapter.

Note: When your server was configured, the technician entered a passcode length, which controls the number of digits that can be entered from the telephone. From the server console, you can ensure greater server security by giving the administrator's mailbox a telephone passcode that has more digits than the other mailboxes on the server . To do this, use the Set Passcode/Tutorial option from the Mailbox Maintenance Menu. See the "Mailboxes" chapter for more information.

Note: You cannot log into the Administrator's mailbox unless a non-trivial passcode is set.

Recording a Name for the Administrator's Mailbox

You can record your name with the Name command, which is also available from the User Options Menu, if you want the server to greet you by name when you log in. For security reasons, do not name the mailbox, "Administrator's Mailbox." Unauthorized users should not know that they have accessed a special purpose mailbox.

Adding a New Mailbox

There are important differences between creating a mailbox on the console and adding a new mailbox by phone.

- No programming for Receptionist II can be added over the phone. The server does not prompt for treatment types, mailbox extension numbers, or attendant extension numbers.

- When Administration by Phone prompts for a three-digit class of service, enter the Feature class of Service (FCOS). The server accepts any FCOS number from 1 through 640, even if no feature bits are programmed for that FCOS. No error message is issued. Be sure to enter the correct Feature Class of Service!

- When Administration by Phone prompts for a three-digit limits class of service, enter the Limits Class of Service (LCOS) . The server accepts any LCOS number from 1 through 640. Be sure that you enter the correct LCOS.

- You can assign any valid message waiting indication to the mailbox, but you cannot add other information by phone, such as paging. This message waiting indication does not work without extra programming. You can create mailboxes that require extra programming at the server maintenance console.

The single exception to this rule is the AC message lamp. The following section gives instructions for programming an AC message lamp address by telephone.

AC Message Lamp Address Codes

An AC message lamp address consists of a House Code, which can be any letter from A through P, followed by a **Unit** Code, which can be any number from 1 through 16. Examples are Al, D5, P16. Address P1 is reserved for troubleshooting and diagnostics and cannot be assigned to a mailbox. Due to the limitations of the telephone key pad, you must enter the address differently.

1. House Code: Numbers 2 through 9 on your telephone key pad represent three different letters each. In order to specify which letter is desired, the server requires that you enter two numbers to represent a house code letter: the key number, then the letter position (from the left). For example, you enter K as 52, because K is on the number 5 key and at the second position from the left (JKL). Table 9-1 lists the AC message lamps house codes.

Table 9-1 AC Message Waiting lamp House Codes

Letter	Enter	Letter	Enter
A	21	I	43
B	22	J	51
C	23	K	52
D	31	L	53
E	32	M	61
F	33	N	62
G	41	0	63
H	42	I?	71

2. **Unit** Code: Since the server prompts for a four-digit AC message lamp address, you must enter Unit Codes as a two-digit number. For example, numbers from 1 through 9 are entered as 01 through 09.

Note: If you want to verify that the AC message lamp address was entered correctly, press M to modify the mailbox you have just added, and press the star (*) key in response to each prompt to leave all values unchanged. The server gives the current AC message waiting lamp address as "K1" (not 5201).

Deleting a Mailbox

You can delete a single mailbox, but not a range of mailboxes by phone.

Modifying a Mailbox

When you select Modify from the Administration Menu, the server gives the current mailbox number, class of service, mailbox type, and AC message lamp address, if applicable; then prompts you for any changes. To leave any value unchanged, press

the star (*) key in response to the prompt. See "Adding a New Mailbox" for coding information.

Setting Mailbox **Passcode** and Tutorial

You can set or clear the passcode and enable the tutorial for a mailbox by phone. This feature can be useful for getting new mailbox owners started on the server or for clearing the passcode for a mailbox owner who is unable to access his mailbox because he has forgotten his passcode.

Setting the Server Clock

You can review or alter the server date and time by phone. This feature can be useful for making a one-hour correction for daylight savings time.

Performing Backup to Diskette

You can keep backup files on diskettes for record purposes and as a precaution against inadvertent loss or destruction of the configuration and history files of the server. Centigram recommends that you regularly back up your hard disk to diskettes. The server continues to process calls during the backup process.

The server makes backup files on specially formatted diskettes. One formatted diskette has been included with the server. If necessary, the server can format additional diskettes as part of the backup procedure. When purchasing diskettes, use 3.5" double sided, high density (1.44 MB). Be sure to label and date all backup diskettes.

To perform a floppy backup by phone, the administrator's telephone must be close enough to the server to permit insertion of the diskettes in the floppy disk drive while the server administrator is on the phone.

Reporting Usage Statistics

The server administrator can get server and mailbox summary usage statistics for 30 mailboxes at a time over the phone. This procedure can be used in place of running a statistics report during your weekly maintenance, to determine if you need to do a purge. There are three ways to control the report:

- Respond to the prompt asking for the first mailbox number. The server reports the server statistics and starts the mailbox report at the selected mailbox. To cancel the report at this point, simply do not respond to the prompt.

- Abort the report by pressing any key while the server is reading the statistics.

- Extend the report by pressing C when prompted by the server, after the statistics for the first 30 mailboxes are listed. The server responds by reporting statistics for the next 30 mailboxes.

Inquiring About Mailboxes

Neither the Inquire nor the Search function is available by phone, however you can get some information by using the following techniques:

- Usage statistics are available by pressing U from the Administration Menu, entering the desired mailbox number in response to the prompt, "Enter mailbox to begin summary at," and then pressing any key to stop the report after the desired statistics have been given.

- Class of service, limits class of service, message waiting type, and AC message lamp address (if applicable) are given when you select Modify from the Administration Menu. Press the star (*) key in response to each prompt to leave the current values unchanged.

Administration by Phone Task list

VoiceMemo Release 6.0A and later

Task *Procedure*

Administration by Phone

Administration by Phone ..... CP 3401
Add a Mailbox by Phone ..... CP 4403
Delete a Mailbox by Phone ..... cl? 4404
Modify a Mailbox by Phone ..... cl? 4405
Report System Usage Statistics by Phone.. ..... Cl? 4409
Set a Mailbox Passcode and Tutorial by Phone ..... CP 4406
Set or Change Administrator's Mailbox Passcode by Phone.. ..... CP 4402
Set System Date and Time by Phone.. ..... CP 4407
Start a Mailbox Backup to Diskette by Phone ..... CP 4408

Administration by Phone

VoiceMemo Release 6.0A and later

This procedure describes how to perform Administration by Phone. You can only perform this procedure from the administrator's mailbox.

Step	*Reference*
1. Enter the server main extension number.	
2. Press (*) and enter the administrator's mailbox number.	
3. Enter the administrator's mailbox telephone passcode. You are now logged in and you hear the standard prompt.	
4. Press (TUV 8) to reach the User Options Menu. You hear the standard User Options Menu.	
Note: As a security precaution, the server does not prompt for telephone administration.	
5. If desired, set or change the administrator's mailbox passcode.	*CP 4402*
6. Press (*) and the server plays the telephone Administration Menu:	
"Press A (ABC 2) to Add a new mailbox;	CP *4403*
D (DEF 3) to Delete a mailbox;	*cl? 4404*
M (MNO 6) to Modify a mailbox;	CP 4405
P (PRS 7) to change a mailbox Passcode;	CP 4406
K (JKL 5) to change the clocK;	CP 4407
I (GHI 4) to Initiate mailbox backup to floppy;	CP 4408
U (TUV 8) for Usage statistics;	CP 4409
X (WXY 9) to eXit administration."	
7. When you are finished with Administration by Phone, press (WXY 9) to exit from the Administration Menu.	

Add a Mailbox by Phone

VoiceMemo Release 6.0A and later

This procedure describes how to add a mailbox by phone. You can only perform this procedure from the administrator's mailbox.

Step	Reference

1. Enter the server extension number.
2. Press * plus the administrator's mailbox number and you hear the server greeting: "Hello [administrator's name]. Please enter your passcode."
3. Enter the administrator's mailbox passcode.
4. When you hear the standard prompt, press 8 TUV to reach the User Options Menu.
5. Press * then press 2 ABC to add a mailbox.
6. When prompted, enter the mailbox number to add.
7. When prompted, enter a three-digit class of service (FCOS).
8. When prompted, enter a three-digit limits class of service (LCOS) .
9. When prompted, enter a two-digit message waiting type.
10. When prompted, enter a four-digit AC message waiting light address. The server responds with "Mailbox [number] added," and returns you to the Administration Menu.

    Note: If you want to verify that all the values you entered are correct, press 6 MNO to modify the mailbox you have just added, and press * in response to each prompt to leave all values unchanged. The server gives the current AC message waiting light address as a house code plus a unit code: for example, K1 (not 5201).

11. Press 9 WXY to exit from the Administration Menu.

Delete a Mailbox by Phone

VoiceMemo Release 6.0A and later

This procedure describes how to delete a mailbox by phone. You can delete a single mailbox, but not a range of mailboxes. You can only perform this procedure from the administrator's mailbox.

Step	*Reference*
1. Enter the server extension number.	
2. Press * plus the administrator's mailbox number and you hear the server greeting: "Hello [administrator's name]. Please enter your passcode."	
3. Enter the administrator's mailbox passcode.	
4. When you hear the standard prompt, press 8 TUV to reach the User Options Menu.	
5. Press * then press 3 DEF to delete a mailbox.	
6. When prompted, enter the mailbox number to delete. You hear the message "Mailbox [number] has [number] messages total. If you really intend to delete mailbox [number], enter the mailbox number again."	
7. Enter the mailbox number again. The server responds with "Mailbox deleted," and returns you to the Administration Menu.	
8. Press 9 WXYZ to exit from the Administration Menu.	

Modify a Mailbox by Phone

VoiceMemo Release 6.0A and later

This procedure describes how to modify a mailbox by phone. You can only perform this procedure from the administrator's mailbox.

Step	Reference
1. Enter the server main extension number.	
2. Press (*) and enter the administrator's mailbox number and you hear the server greeting: "Hello [administrator's name]. Please enter your passcode."	
3. Enter the administrator's mailbox passcode. You are now logged in and you hear the standard prompt.	
4. When the server plays the VoiceMemo Main Menu, press (TUV 8) to reach the User Options Menu.	
5. Press (*) then press (MNO 6) to enter the Administration Menu.	
6. Enter the mailbox number to modify. The server gives you the current mailbox number, class of service, mailbox type, and AC message waiting light address, if applicable; then prompts you for any changes.	
Note: To leave any value unchanged, press the star (*) key in response to the prompt.	
7. When prompted, enter a new mailbox number, if desired.	
8. When prompted, enter a new class of service.	
9. When prompted, enter a single-digit mailbox type.	
10. When prompted, enter a four-digit AC message waiting light address. The server responds with "Mailbox modified," and returns you to the Administration Menu.	
11. Press (WXY 9) to exit the Administration Menu.	

Report System Usage Statistics by Phone

This procedure describes how to get server and mailbox summary usage statistics, for 30 mailboxes at time, by phone. You can only perform this procedure from the administrator's mailbox.

Note: You can use this procedure instead of running a statistics report during your weekly maintenance, to determine if you need to do a manual message purge.

Step	Reference

1. Enter the server extension number.
2. Press (*) plus the administrator's mailbox number and you hear the server greeting: "Hello [administrator's name]. Please enter your passcode."
3. Enter the administrator's mailbox passcode.
4. When you hear the standard prompt, press (TUV 8) to reach the User Options Menu.
5. Press (*) then press (TUV 8) to get usage statistics.
6. When prompted, enter a mailbox number at which you want to begin summary.

   Note: You can press any key at any time during the summary to stop.

   The server reports: "VoiceMemo storage is [number] percent full, [number] minutes out of [number] total."

   Next, the server lists the statistics for the first mailbox: "Mailbox [number], [name], has [number] messages total, [number] urgent, [number] unplayed, using [number] seconds."

   Then, the server lists the statistics for the next 29 mailboxes.
7. When prompted, press (ABC 2) to continue listing. The server lists statistics for the next 30 mailboxes.

   When the listing is finished, the server plays the message, "End of summary."
8. Press (WXY 9) to exit from the Administration Menu.

Set a Mailbox Passcode and Tutorial by Phone

VoiceMemo Release 6.0A and later

This procedure describes how to change a mailbox owner's passcode and enable the tutorial for the mailbox by phone. You can only perform this procedure from the administrator's mailbox.

Step	*Reference*
1. Enter the server main extension number.	
2. Press * plus the administrator's mailbox number and you hear the server greeting: "Hello [administrator's name]. Please enter your passcode."	
3. Enter the administrator's mailbox passcode. You are now logged in and you hear the standard prompt.	
4. When you hear the VoiceMemo Main Menu, press 8 TUV to reach the User Options Menu. (Do not enter the Administration Menu.)	
5. Press *, then press 7 PRS from the User Options Menu.	
6. When prompted, enter the mailbox number for which you want to change the passcode.	
7. When prompted, enter the new passcode or enter zeros to clear it. (The server automatically prompts for the correct passcode length.) The server responds with "Passcode for mailbox [number] cleared."	
8. When prompted, press 9 WXY if you want a tutorial on this mailbox; 6 MNO if you don't.	
9. Press 9 WXY to exit the User Options Menu.	

Set or Change Administrator's Mailbox Passcode by Phone

VoiceMemo Release 6.0A and later

This procedure describes how to set or change the passcode for the administrator's mailbox by phone. You can only perform this procedure from the administrator's mailbox.

Step	*Reference*
1. Enter the server main extension number.	
2. Press (*) and enter the administrator's mailbox number.	
3. Enter the administrator's mailbox telephone passcode. You are now logged in and you hear the standard prompt.	
4. When the server plays the VoiceMemo Main Menu, press (TUV 8) to reach the User Options Menu. (Do not enter the Administration Menu.)	
5. Press (PRS 7) from the User Options Menu to change the passcode.	
6. Enter a new passcode, in response to the prompt.	
7. Press (WXY 9) to exit the User Options Menu. Now, you can press (*) to begin telephone administration.	

Set System Date and Time by Phone

VoiceMemo Release 6.0A and later

This procedure describes how to review or change the VoiceMemo date and time by phone. You can only perform this procedure from the administrator's mailbox.

Step	Reference

1. Enter the server extension number.
2. Press * plus the administrator's mailbox number and you hear the server greeting: "Hello [administrator's name]. Please enter your passcode."
3. Enter the administrator's mailbox passcode.
4. When you hear the standard prompt, press 8 TUV to reach the User Options Menu.
5. Press * then press 5 JKL to set the date and time. The server plays the current date and time: "The date is currently set to [day], [date], [time] . .."
6. When prompted, enter the two-digit month or press # to leave unchanged.
7. When prompted, enter the two-digit day or press # to leave unchanged.
8. When prompted, enter the two-digit year or press # to leave unchanged.
9. When prompted, enter the two-digit hour or press # to leave unchanged.
10. When prompted, enter two digits for the minutes or press # to leave unchanged.
11. When prompted, press 2 ABC for a.m., 7 PRS for p.m., or press # to leave unchanged. The server responds with: "The date changed to [day], [date], [time] ."
12. Press 9 WXY to exit from the Administration Menu.

Back Up Mailboxes to Diskette by Phone

VoiceMemo Release 6.0A and later

This procedure describes how to back up all mailboxes on your server to a single diskette by phone. You can only perform this procedure from the administrator's mailbox.

To copy the data files to a backup diskette, the administrator's telephone must be close enough to the server to permit insertion of the diskette in the floppy disk drive while the server administrator is on the phone.

Note: You can use this procedure only when all data files will fit on a single diskette. Use 3.5" double sided, high density (1.44 MB). Be sure to label and date all backup diskettes.

WARNING!

If you run this process without a diskette in the floppy drive, the server gives no indication over the phone that the backup is not being completed. The server only records this type of error on the console.

Step	*Reference*
1. Enter the server extension number.	
2. Press * plus the administrator's mailbox number and you hear the server greeting: "Hello [administrator's name]. Please enter your passcode."	
3. Enter the administrator's mailbox passcode.	
4. When you hear the standard prompt, press 8 TUV to reach the User Options Menu.	
5. Press *, then press 4 GHI to initiate mailbox backup.	
6. When prompted, insert the backup diskette in the floppy drive and press 7 PRS. The server responds with "Backup started [day], [date], [time]."	
Note: If the server cannot verify the diskette, remove it from the floppy drive, reinsert it, and retry the above procedure.	
When the backup is finished, the server plays the message "Backup completed."	
7. Press 9 WXY to exit from the Administration Menu.	

10 Server Security

This chapter covers:

- Protecting your server from outside abuse
- Protecting your server from abuse by mailbox owners and users
- Protecting the server maintenance and administration functions
- Security reports and audit trails
- FPSA

Overview

Server security refers to protecting your Series 6 server from abuse, both from outside callers and from mailbox owners. Outside callers can attempt to "take over" mailboxes that can be reached through the public switched telephone network and use them for their own applications. Mailbox owners can make inappropriate use of server resources by placing long distance calls through the server , overusing available storage, or sending messages to mailboxes that should be "off limits."

The server has many features that are designed to provide security at the server level and the mailbox level. These features address server administration, mailbox usage, and access to facilities, applications, and information.

Protection From Outside Abuse

Mailboxes that can be reached through the telephone network are seen as the primary entry point for "hostile invasion" of a communications server such as the Series 6 server. Service providers and corporate telecommunications managers alike are concerned about hackers taking over mailboxes for their own applications, or using mailboxes for toll fraud by calling through long-distance facilities accessible from the server .

You can configure your server to require access codes or passcodes before callers can reach various functions, and you can configure mailboxes to automatically perform certain functions, such as hanging up after playing a greeting.

Existing Mailboxes

The first level of security is protection of the mailboxes by passcodes. By default, the server requires passcodes on all mailboxes. You can turn this feature off using feature

bit 218 for direct calls, but you should do so with caution. Mailbox owner passcodes can be up to 10 digits in length, and users can change their passcodes at any time (feature bit 073).

The server administrator typically sets a temporary passcode for new mailboxes, but the user is forced to enter a permanent passcode during the interactive tutorial. Using FCOS settings, you can prevent users from setting a passcode that is the same as the mailbox number (feature bit 130), or from using trivial passcodes, such as 1234 or 8888 (feature bit 201).

If a caller enters the wrong passcode when trying to get into a mailbox, the server requires the caller to enter the correct passcode twice, or the server hangs up. Callers are not told whether the mailbox number or the passcode was incorrect; hackers do not know if they have even half of a valid combination. (You can use feature bit 081 to set the server to only require a single correct passcode after an incorrect attempt, but this reduces the effectiveness of the security feature.)

The server tracks bad passcode attempts for each mailbox and compares the number to the parameters set for the line group. If the bad passcode attempts for a mailbox exceeds the number allowed in the passcode trip period, the server plays a bad passcode warning at the next login so that the mailbox owner knows that someone may have tried to gain unauthorized entry.

Feature bit 132 allows you to enable a bad passcode lockout, in which a mailbox is locked when the threshold of bad passcode attempts is reached. Only the server administrator can unlock the mailbox, set a new temporary pass&de, reset the tutorial, and require reinitialization from the integrated telephone number (feature bit 142).

New Mailboxes

When you create a new mailbox, you can designate a temporary passcode for that mailbox, either by making up a passcode, or by using the server's random passcode generation program. If you have created mailboxes but have not yet assigned them to users, you can use an FCOS to deny login (feature bit 001).

To ensure that a new mailbox, once assigned, is not used until the owner accesses it, you can require initialization from the integrated telephone number (feature bit 142). You can also set the FCOS to prevent messages from being received until the mailbox has been initialized (feature bit 127).

Note: Feature bit 142 (Must run tutorial from own phone) is not supported for all integrations.

line Groups

By dividing the total number of ports in your server into line groups, you can increase the security for specific applications. You can configure each application to be on a different line group, and enable an appropriate level of security for each application.

Separating the applications by line group can help prevent certain types of abuse, such as connecting from one application to another. Incoming and outgoing calls occur on separate line groups in a server. This keeps hackers from reaching the server and then dialing out through the Receptionist II or another application.

You can restrict access to certain line groups, like a toll-free dial-in line group, by setting the FCOS to require callers to enter an access code before hearing the regular line group greeting (feature bit 160). If a caller exits one mailbox, the server requires reentry of the access code before allowing further progress through the server. You can also use FCOSs to completely deny login on specific line groups (feature bits 10 l-l 09), or ensure that mailboxes cannot receive messages when the call is received on a specific line group (feature bits 11 l-l 19).

Telephone Answering

Outside callers can abuse a server during a telephone answering call by trying to break into the dialed mailbox or access other features. By correctly setting the line groups and FCOS s in your server, you can control the feature set available during an answering session.

You can force the termination of telephone answering sessions after callers leave a single message by setting the line group to not allow multiple messages for outside callers. For Greeting-Only mailboxes, you can have the server hang up immediately after playing the greeting (feature bit 062), call the mailbox attendant after the greeting (bit 063), or call the mailbox user after the greeting (bit 064).

By customizing an FCOS to contain feature bit 004 but not contain bit 005 (Outside caller functions and Play outside caller menu prompts, respectively), you can allow knowledgeable users to access server functions, while not letting other callers know that the functions are available.

Feature bit 137 (Caller must enter access code) can restrict outside callers from leaving messages in high security mailboxes. You set the access codes when configuring each individual mailbox.

You can further ensure the privacy of mailbox users by not putting them in the Dial-by-Name database (feature bit 092), or by not allowing the mailbox name or extension number to be played (bit 202). This latter feature can be especially important in hotel or dormitory situations.

Audiotext (Tree Mailboxes)

You can protect audiotext applications by requiring callers to enter an access code (feature bit 137) before hearing the information. Because you can design audiotext applications as a series of mailboxes, each with individual information, you can set a unique access code for each piece of information to ensure corporate security.

You can configure audiotext applications to hang up after playing the greeting (feature bit 062), or transfer to the mailbox attendant (bit 063) or mailbox extension (bit 064). You can also deny login from within the tree (bit 152).

Protection From Mailbox Owner Abuse

The revenue of a service bureau is dependent on being able to bill mailbox owners for use of the server. Likewise, the corporate telecommunications manager must control use and potential abuse of corporate resources to provide the best service while controlling costs and maintaining security. The server allows you to place controls and limits in the server to ensure that mailbox owners use the server appropriately.

line Groups

Service bureaus can provide mailbox owners with certain line groups for receiving messages, while having them pick up their messages on other line groups, either to control costs or to control call flow. To enforce this type of usage, you can use feature bits 101-l 09 to deny login on specific line groups; callers can leave messages, but are not able to log into a mailbox. In this way, you can also restrict access to certain information to internal ports only, or to "800" number ports where the server owner must pay for connect time.

Mailbox Usage

Depending on the number of phone lines or the storage hours available on your server, or on the levels of service that mailbox owners pay for, you can set LCOS parameters to control certain aspects of mailbox usage, such as connect time, number of messages stored, or storage duration.

If the number of phone lines to your server is limited, you can limit call duration by setting the Maximum login time parameter in each LCOS to a few minutes. On the other hand, if disk storage is a limiting factor, you can lower both the Caller message length and User message length, and set the Message count limit to a number that is equitable to all users assigned to each LCOS.

The amount of storage used on your server is the result of the number of messages stored and the length of storage time. You can control the storage times for played

and unplayed messages by setting the two LCOS parameters: Played message retention and Unplayed message retention.

Besides setting limits on server usage, you must ensure that your mailbox listings are current-remove mailboxes that are no longer being used. Once you have removed a mailbox, the server automatically removes it from the Dial-by-Name database and from all distribution lists.

Messaging

Messaging between mailbox owners is the primary purpose of many voice mail systems, but you must use GCOS and FCOS settings to enforce restrictions on which mailboxes can exchange messages.

The primary tool for controlling messaging between mailboxes is the Group Class of Service (GCOS). Correct GCOS settings can effectively partition a server so that separate user groups are not aware of one another, or so that certain mailboxes can only receive or send messages to other specific mailboxes, such as in dispatcher situations.

GCOS structures also create partitioned Dial-by-Name. A mailbox owner cannot use Dial-by-Name to address a message to a mailbox that is not accessible due to GCOS restrictions; the server does not match or play inaccessible mailbox names.

You can also use FCOS settings to control the sources and destinations for messages. Feature bits 040-045 control a mailbox's ability to receive messages from various sources, such as other users, outside callers, distribution lists, etc., while feature bits 020-35 control the ability to make or give messages to users and distribution lists.

Outdials

Depending on the optional features purchased with your server, mailbox owners can send a variety of outdial calls, including call placement, message delivery, auto wakeup, fax, and paging. To prevent abuse and to provide better call traffic, you can restrict different outgoing call types to specific line groups, and set appropriate restrictions and limits on each line group. This prevents users from accessing other services on dedicated line groups, and allows you to monitor resource usage.

Mailbox owners can use the message delivery feature for message waiting, in which the server calls a specified number when the mailbox owner receives a new message. The person who answers the phone must enter the correct passcode to access the mailbox, thus ensuring that only the mailbox owner can listen to the message.

Mailbox owners can use call placement to record a message and send it to a telephone number (as opposed to a mailbox). The message sender can record the

name of the intended recipient, and can optionally require a passcode before the message is played.

The FCOS and LCOS settings provide a tool for the administrator to control access to outdial services. Various feature bits enable use of the different features, and LCOS limits control the number of digits that a mailbox owner can enter for a target telephone number. You can set the message delivery, paging, and message phone lengths to 7 digits to limit calls to the local service area, or 10 (or 11) digits to allow for long distance calls.

FPSA and Server Administration

In the hands of a trained and responsible administrator or technician, server administration functions can be used to provide convenient and full-featured service to mailbox owners and callers, and to keep the server functioning smoothly. In the wrong hands, the same functions can be used to take over mailboxes, disrupt service, and even shut down the server. Security for the administration function is extremely important. With Functionally Partitioned System Administration (FPSA) activated and configured, however, server security is assured because access can be restricted to authorized persons only. (See "Functionally Partitioned System Administration" later in this chapter for more details about FPSA.)

Console

The server maintenance console is the primary point of entry for configuration and administration, and therefore one of the most critical factors in security console access is protected by a login sequence. The server requires a user ID and a password that verifies a user before allowing access to any menu.

User ID

A user ID is a unique representation of a person's identity within the server. Each user ID is associated with one real name, though one real name can be assigned multiple user IDs. During the login sequence, you are identified by your user ID, the terminal device, and the module where you logged in. Each subsequent activity you perform during a session at a server maintenance console can be recorded in the audit trail (see Security Reports and Audit Trails, later in this chapter, for more information on the audit trail).

The server superuser can display all current user IDs, along with the name, password, permission categories, and other statistics associated with them, at a server maintenance console (see "List of Authorized Users" in the Reports chapter). A user ID can be up to **17** characters.

The server superuser's ID, root, cannot be changed.

Password

A user ID can be verified by entering an optional password. The same password can be used with different user IDs. The server superuser and console users each have their own password. A password must meet the following requirements:

- Its length is 6 to 30 alphanumeric characters, but only the first 8 are used.
- It cannot contain a substring of the user ID that is four or more characters. For example, a user ID of mark61 cannot have the password **mark**ey4! or n=**ark60** because each contains substrings that are part of the user ID (indicated in bold).
- When you change your password, the new one cannot be the same as the old.

When FPSA is implemented, password requirements are strengthened. See "Functionally Partitioned System Administration," later in this chapter.

To set a password (without FPSA), use the Change Password option. The server stores passwords in one-way encoded form. When you enter your password, the server encodes it then compares it to the stored password. If you forget your password, only the server superuser can reset it. There is no mechanism for decoding a password to tell it to a person who forgot it.

Each time you log in thereafter, the server displays the date and-time of your last login. The server also displays the number of your unsuccessful attempts, if any, since the last login. You should review this information every time you log in.

Modem

A modem on a serial port of the server can be used by you, or by anyone else, to gain access to all of the server maintenance and configuration capabilities. You should take care to protect this access point from abuse. If you do not intend to perform any remote maintenance or administration, you do not need to connect a modem to a serial port. The same login sequence described above applies to any remote access using the modem.

All servers are shipped with a default security banner. You can customize the banner, if you wish.

Administrator's Mailbox

The administrator's mailbox can be used to perform several administration functions, including creating and deleting mailboxes. You can protect this mailbox by changing the mailbox number to be any number up to 11 digits (you do not have to leave the administrator's mailbox number at the default setting), and by requiring

a passcode for successful login. If you change the Administrator's mailbox to a long number, be sure the Dial Plan allows it, or change the Dialing Plan.

> Note: The administrator's mailbox must have a passcode. The passcode cannot be the same as the mailbox number, and it cannot be a trivial passcode (for example, 1234, 8888).

You can also set the FCOS for the administrator's mailbox to require an access code before callers can leave a message. If the administrator's mailbox number is not an integrated extension number, you have to access the mailbox by calling the server, pressing the star key (*) at the first greeting, entering the administrator's mailbox number, then another * and the passcode. If the FCOS requires an access code, you would have to enter it before you could press the second *, thus adding a second level of passcode-type protection.

You can also use FCOS settings to further restrict access to the mailbox to only certain ports, or to deny login to the mailbox (feature bit 001). If you deny login to the mailbox, you must use the server console to allow login prior to doing any administration by phone.

Security Reports and Audit Trails

Several of the reports available at the server console can give a clear picture of breaches in server security or potential security or abuse concerns. For more details on any of these reports, see the Reports chapter.

Mailbox Reports

Mailboxes with no activity are listed in the Idle Mailboxes Report (found under Mailbox Statistics in the Reports Menu). The list in this report contains any unassigned or uninitialized mailboxes in the server. If a mailbox that you think should appear is not listed, it can be a sign that someone is illegitimately using the mailbox. You should run a Mailbox Dump Report for the specific mailbox to obtain more information about activity in that mailbox.

The Mailbox Dump Report allows you to obtain a comprehensive report on a specific mailbox, including login status and usage statistics. Use this report to see detailed information on any mailbox that you suspect of questionable activity.

The Mailbox Totals Report gives the same type of information as the Idle Mailboxes Report, except that it is for all mailboxes in the server. The "Mailboxes With Activity" entry in this report shows the number of mailboxes that have either been logged into or have received a message.

The Mailbox Data Inquiry Report (Inquire About Mailboxes in the Mailbox Maintenance Menu) provides summary statistics for a single mailbox or a range of

mailboxes. You can scan the columns in this report to look for either no message storage (appropriate for uninitialized mailboxes) or excessive message storage (possibly signaling abuse).

The Mailbox Data Report (in the Reports Menu) contains information on the number of recent bad login attempts and the date of the last mailbox owner login, indicating "Never" for a new mailbox. Because this report covers all mailboxes and contains a lot of information, you should first use other reports to examine potential abuse problems.

With the mailbox search option, you can find mailboxes that meet certain criteria, such as those having a specific FCOS or GCOS, or those with no passcode or with the tutorial enabled. If you suspect server abuse, you can identify the mailboxes involved by performing a search with the right criteria.

You can track high levels of incoming and outgoing mailbox traffic with the Call Detail Recorder (CDR) optional feature.

Audit Trail

If you are the Server Superuser (root), you can obtain an audit trail report of all persons who have logged in during any given period.

The server records activities you perform at a maintenance console in a log that becomes an audit trail. The information recorded includes the user ID, time and date of activity, the menus reached, actions taken, and some other details that you can specify. This information can be used after the fact to investigate unauthorized use or "hackers."

Only the server superuser can configure and manage an audit trail. The audit trail options are:

- Starting and stopping the audit trail
- Reviewing the audit trail and printing it as a report
- Formatting an audit trail report. Each activity recorded by the audit trail appears as a numbered entry on a line by itself.
- Specifying the maximum entries (up to 999999) in an audit trail
- Specifying the types of information that comprise an entry (entry details). The Menu Parameters chapter lists the information types under "Details."
- Specifying a range of entries to be reported

The audit trail resembles the server logfile, but it does not need to be cleared. When a specified maximum number of entries is reached, the server continues to record new information, overwriting the oldest information and beginning again at entry 1. When the number of entries reaches 85%, 90%, and 95% of the maximum, the server writes a warning to that effect in the error log. This gives you an opportunity to stop the audit trail, print it, or allow it to continue if overwriting of entries is unimportant.

Note: You can use the audit trail whether or not FPSA is activated.

Functionally Partitioned System Administration

Functionally Partitioned System Administration (FPSA) is a standard software feature that requires you to enter your user identifier (user ID) and password for verification before you can reach any of the server menus. Access to the menus is based on the authorization level of your user ID and password.

FPSA allows access to menus only to persons who are authorized through permission categories. In addition, FPSA requires passwords of all users logging in.

Using FPSA

You must activate FPSA at your site from the Security menu, then configure it as desired, before it is operational. While there is no charge for FPSA, you must specifically order it.

Once FPSA is activated, you can reach menus at the server maintenance console only if you have the proper permission category (or categories). Every server menu is associated with one or more permission categories.

Password

There are additional restrictions on passwords when FPSA is installed.

- When FPSA is installed, passwords must contain at least one letter, one digit, and one punctuation mark. For example, 13nuts)c or o;ster1 .

- Users must change their passwords periodically (default is 30 days). The new password must be different from the old one. The server issues a reminder notice at login warning that the password must be changed; the default reminder period is seven days. If the password is not changed before the expiration date, the server forces the user to change passwords after logging in. The server superuser can set the period between password changes and the period for displaying warnings.

- If you enter your password incorrectly, the server allows you another attempt to enter it correctly. The number of attempts allowed before the server locks the user ID is set by the server superuser. The default is five attempts. If a user ID should become locked, only the server superuser can unlock it. No indication is given to a user on lockout.

Note: The number of bad login attempts is counted from midnight to midnight of the following day, and is cleared and restarted each midnight.

- The first time you log in, the server requires you to change the temporary password assigned by the server superuser at the time you were added to the server.

- If you lose or forget the password for the server superuser account, there is a procedure to bypass the login sequence with TAC assistance. Refer to the procedures section for more information.

Permission Categories

You can use any of 6 permission categories to establish privileges for each user ID. These categories and users are defined in Table 10-1.

Table 10-1 FPSA Permission Categories

Category	Description
1	Unlimited access to all console menus and all server resources (synonymous with server superuser access)
2	Unlimited access to all console menus and QNX shell, except security features limited to the server superuser (See Server Superuser, below)
3	Access only to system configuration menus except network configuration (see Category 6)
4	Access only to mailbox maintenance menus
5	Access only to inquiry menus (read-only menus such as Reports, Statistics, and Dump)
6	Access only to network and network-related menus

When FPSA is activated, you can perform menu-based procedures described in this manual only if you have the appropriate permission category or categories.

FPSA limits access to menus based on a permission category or categories assigned to each user ID. If you attempt to reach an unauthorized menu, the server responds "Permission denied." Each server menu also has one or more permission categories associated with it.

When you assign permission categories to each user, make sure that the combination is sensible. For example, category 1 gives access to the entire server, so there is no need to assign any other permission categories in addition. Categories 3 and 6 together give permission for all system configuration menus.

Login Incorrect or Permission Denied

If your user ID is invalid or you enter it incorrectly, or if you enter your password incorrectly, the server displays "login incorrect" and the login sequence halts. If you have exceeded the allowed number of login attempts, or if you try to reach a menu outside your permission category or categories, the server does not let you continue.

When the number of login attempts is exceeded, the server locks the user ID of the person attempting to log in. The server superuser must unlock the user ID through the FPSA Menu before a locked-out user can log in. (If access to a menu is allowed, the server superuser can modify permission categories of the person denied access, also through the FPSA Menu.)

If the server superuser encounters the "login incorrect" message, he or she should follow the password bypass procedure described in the Task List.

Users can receive "permission denied" messages when choosing a menu option they are not permitted to access. Permission categories must be changed for users to access menu items that generate this message.

Server Superuser

The server superuser is the only person with unlimited access to all server resources and all menus. This individual is the only one who can perform all the activities described in this manual, including these FPSA activities:

- Add a user to the server
- Delete a user from the server
- Reset a user's password
- Change permission categories
- Configure password parameters
- Configure and manage the Audit Trail (see below)

The user ID *root* is the only server superuser.

CAUTION!

If the server superuser should forget his or her password, he or she cannot access the server, let alone perform any of the FPSA activities just mentioned. The only way a server superuser can be reinstated is to perform the password bypass procedure in the Task List.

VoiceMemo Superuser

VoiceMemo superusers can perform all activities described in this manual except FPSA activities. They do have access to the Change Password option in the FPSA Menu, however, for changing their own password. This form of user is one with Category 2 permission.

Console User

Console users can configure the server, or just maintain mailboxes, or just obtain reports, or just administer the network- or perform any combination of these activities — depending on their permission categories. Console users can also change their own passwords.

Activating FPSA

You can activate and deactivate FPSA only with the FPSA diskette at the server maintenance console. This is a controlled diskette that Centigram releases to a designated individual at your site after a server is installed.

When activation is completed, the "Passwords/Security" option in the System Maintenance Menu changes to "FPSA."

When activating FPSA, be prepared to take notes. All current user IDs must be given permission categories, and each user ID must be given a password. If a user ID has a password, it is marked for 24-hour expiration so the user should be notified to change it. User IDs without passwords are given temporary passwords by the server, also marked to expire in 24 hours. The server superuser should give the users these passwords.

This effectively forces users to change their passwords when they log in.

Configuring FPSA

Once you have activated FPSA, you can configure it. This involves the following steps:

- Establishing a user ID
- Identifying the users by their real names

- Establishing a password
- Assigning permission categories
- Setting up an audit trail if desired
- Configuring password parameters.

Configuring is performed through the FPSA Menu option of the Additional Options Menu.

Deactivating FPSA

You can deactivate FPSA only with the FPSA diskette at the server maintenance console. For directions, see the applicable procedure in the Task List.

Server Security Task list

VoiceMemo Release 6.0A and later

Task	*Procedure*

Server Security

Server Security Configuration	**cl? 3410**
Activate or Deactivate FPSA	cl? 4345
Add, Delete, or Unlock a User ID	Cl? 4342
Bypass Passcode Requirement for Server Superuser	CP 4348
Change or Reset a Password	cr. 4344
Configure FPSA Password Parameters..	CP 4339
Configure Mailbox Passcode Parameters by FCOS..	CP 3411
Configure Mailbox Passcode Parameters by Line Group	CP 5021
Format an Audit Trail Report	CP 4338
Log In or Log Out of the Server Console	CP 3299
Modify Permission Categories for Current User IDs	CP 4343
Respond to "Login Incorrect" or "Permission Denied".	CP 3290
Restrict Line Group Access	CP 3412
Run an Audit Trail Report	CP 3346
Set the Site Name, Site Banner, and Site Code..	CP 5415
Start or Stop an Audit Trail..	CP 4340
View a List of Current Users	CP 4341

Server Security Configuration

VoiceMemo Release 6.0A and later

This procedure describes steps that you can take to help protect your Series 6 server from abuse. Some of the steps might not be appropriate for your particular server.

Step	*Reference*
1. Control local and remote access.	
• Whether or not FPSA is activated in your installation, you can establish password-driven access to the entire server, including all menus at the server maintenance console.	CP 4339
2. Restrict access to certain line groups.	CP 3412
3. Configure line group passcode parameters, such as the minimum and maximum passcode length	CP 5021
4. Configure mailbox passcode parameters, such as disallowing the use of trivial passcodes.	CP 3411
5. Set mailbox passcodes.	CP 5048, Ch. 6

Activate or Deactivate FPSA

VoiceMemo Release 6.0A and later

This procedure describes how to activate or deactivate FPSA. You need the Functionally Partitioned System Administration diskette to activate *or* deactivate FPSA.

Step | *Reference*

Activating FPSA

1. Reach the System Maintenance Menu, then go to the Passwords/Security Menu. — Menu Map 2

   Select: (F) Activate FPSA
   Prompt: **Insert the FPSA diskette, then press <Enter> to continue.**

2. Insert the Functionally Partitioned System Administration diskette in the server floppy disk drive, then press **Enter.** Proceed as described in the applicable steps below.

3. After **you** press **Enter,** confirm activation.

   Prompt: `Enter "Y" to activate FPSA, Enter "N" to abort:`
   Response: Enter Y to continue the activation process.

4. You are taken through all current user IDs. Be ready to take notes on this information. Supply permission categories for each user ID.

   Prompt: **User ID mark27**
   Enter the permission categories (separated by commas):
   Response: Enter up to **five categories,** numbers 2 to 6, each separated by a comma. You **must** enter all the categories desired, not just the category that you are adding or deleting. For example, to add category 6 to categories 4 and 5, enter 4,5,6. Refer to Table **1** for a description of permission categories.

5. Note the user IDs that are assigned temporary passwords.

   Prompt: **User ID celeste**
   Temporary password issued: `t6yy.ox`
   Response: Write down the passwords and give them to the users.

   Note: Both temporary and existing passwords created during FPSA activation expire within 24 hours.

6. After the server processes the information you just entered, it displays the following message at the server maintenance console:

   ```
   FPSA activated.  It will take effect the next time users log in.
   Press any key to continue....
   ```

7. When you exit to the System Maintenance Menu, the Passcode option is changed to "FPSA Menu." You can now configure FPSA through this option.

8. Remove the Functionally Partitioned System Administration diskette from the Server floppy disk drive.

Step	*Reference*

9. Return the Functionally Partitioned System Administration diskette to its case, then secure it as agreed for your installation.

Deactivating FPSA

CAUTION!

Once FPSA is deactivated, anybody who can log in can reach any menu.

1. Reach the System Maintenance Menu, then go to the Passwords/Security Menu. — Menu Map 12

   Select: (F) Deactivate FPSA
   Prompt: **Insert the FPSA diskette, then press <Enter> to continue.**

2. Insert the Functionally Partitioned System Administration diskette in the server floppy disk drive, then press **Enter.**

3. After you press **Enter,** confirm deactivation..

   Prompt: **Enter "Y" to de-activate FPSA, Enter 'N" to abort:**
   Response: Y to deactivate FPSA.

4. The server displays the following message at the maintenance console:

   FPSA deactivated.
   Press any key to continue....

5. Remove the Functionally Partitioned System Administration diskette from the Server floppy disk drive.

6. Return the Functionally Partitioned System Administration diskette to its case, then secure it as agreed for your installation.

Add, Delete, or Unlock a User ID

VoiceMemo Release 6.0A and later

This procedure describes how to add or delete a user ID, and how to unlock the ID of a user who has exceeded the number of unsuccessful login attempts. Adding a user ID involves specifying a user ID, the actual (real) name, a password, and permission categories. Only the server superuser can perform this procedure.

Step | *Reference*

Adding a User ID

1. Reach the System Maintenance Menu, then go to the Passwords/Security Menu. — Menu Map 2

2. Specify the new user.

   Select: (A) Add User
   Prompt: **Enter user ID:**
   Response: Enter a unique **identifier** of up to 17 letters

   Prompt: **Enter user's real name:**
   Response: Enter the real name, up to 25 letters, of the person to be associated with this user ID.

3. Assign the desired permission category or categories. This is only prompted when FPSA is running.

   Prompt: **Enter the permission categories (separated by commas):**
   Response: Enter **a digit** from 2 through 6, or any combination of these digits, separated by commas. For example: 4,5,6. Refer to Table **1** for a description of permission categories.

   These settings take effect when see the confirmation "<user ID> added." Write down the temporary password assigned by the server. It is only valid for 24 hours.

Unlocking a User ID

1. Reach the System Maintenance Menu, then go to the Passwords/Security Menu. — Menu Map **12**

2. Specify the user ID to be unlocked.

   Select: (U) Unlock User
   Prompt: **Enter user ID:**
   Response: Enter the locked **user ID.**

3. The unlocking takes effect when you see the confirmation "<user ID> unlocked."

Step *Reference*

Table 1 FPSA Permission Categories

Category	Description
1	Unlimited access to all console menus and all server resources (synonymous with server superuser access). This category cannot be set through the console.
2	Unlimited access to all console menus and QNX shell, except security features limited to the server superuser
3	Access only to system configuration menus except network configuration (see Category 6)
4	Access only to mailbox maintenance menus
5	Access only to inquiry menus (read-only menus such as Reports, Statistics, and Dump)
6	Access only to network and network-related menus

Deleting a User ID

1. Reach the System Maintenance Menu, then go to the Passwords/Security Menu. Menu Map 2
2. Specify the user ID to be deleted.

   Select: (D) Delete User
   Prompt: **Enter user ID:**
   Response: Enter the user **ID** to be deleted.

   The server displays the user ID just entered, along with the actual (real) name associated with it.

3. Check the user ID and real name displayed by the server to ensure that this is the user ID you want to delete.
4. Proceed with the deletion.

   Prompt: Enter "Y" to delete, "N" **to** abort:
   Response: *Y* to delete the user, or
   N to keep the user..

5. The deletion takes effect when you see the confirmation "<user ID> deleted."

Bypass Passcode Requirement for Server Superuser

This procedure describes how to bypass the password requirement for the server superuser. This procedure should only be used when the server superuser's password is lost.

Note: Only the authorized server superuser can perform this procedure.

Step	*Reference*

1. Log into the Server, using the following responses:

   Prompt: `Login :`
   Response: **bypass** to begin bypass procedure.

   Prompt: **Password:**
   Response: **bypass** to continue bypass procedure.

2. Insert the disk you are prompted for. If FPSA is not running, you are prompted for the service diskette. If FPSA is running, you are prompted for the FPSA diskette.

   Prompt: **Insert the SERVICE diskette, then press <Enter> to continue.**
   Response: Insert the disk requested and press **Enter.**

3. Enter a new password twice as prompted.

   Prompt: **Enter new password:**
   Response: Enter a new **password,** 6 to 30 characters. Only the first 8 are used.-

   Prompt: **Re-enter new password:**
   Response: Enter the new password, again. You must type the same password in order to change it.

   Prompt: **Password changed.**

4. Restart the server.

Change or Reset a Password

VoiceMemo Release 6.0A and later

This procedure describes how users with any permission category can change their passwords. It also describes how the server superuser can reset a password for users.

Note: Only the server superuser can reset a password.

Step	*Reference*

Changing a Password

1. Reach the System Maintenance Menu, then go to the Passwords/Security Menu. — Menu Map 2
2. Enter your current (old) password.

   select: (C) Change Password
   Prompt: **Enter old** password:
   Response: Your current **password** that is to be changed,

3. Enter your new password.

   Prompt: **Enter new password:**
   Response: A **password** from 6 through **30** alphanumeric characters. Under FPSA the password must:

   - Be different from the old password
   - Contain at least one letter
   - Contain at least one digit
   - Contain at least one punctuation mark; for example 3!CALDA@
   - Not contain a four or more character substring of the user ID

4. Confirm the new password that you just entered.

   Prompt: **Reenter password:**
   Response: Your new **password** again.

5. Your new password takes effect when you see the message "Password changed. Password expiration date reset."

Resetting a Password

1. Reach the System Maintenance Menu, then go to the Passwords/Security Menu. — Menu Map 2
2. Identify the user whose password you want to reset.

   Select: (R) Reset user password
   Prompt: **Enter user ID:**
   Response: The user **ID** to be modified.

3. Note the new temporary password assigned by the server.

Step	*Reference*
4. The password change takes effect when you see "Password reset for user ID <user ID>. Password expiration date and number of bad attempts reset."	

Configure FPSA Password Parameters

VoiceMemo Release 6.0A and later

This procedure describes how to configure password parameters when FPSA is activated. When FPSA is not activated, user IDs are still required, but permission categories and expiration are not. Passwords are optional.

Note: This option is available only to the server superuser.

Step	*Reference*
1. Reach the System Maintenance Menu, then go to the Passwords/Security Menu. Select: (I') Configure Password Parameters	Menu Map 2
2. Specify the period between password expirations *Prompt:* `Password expiration time (l-365) :` *Response:* Enter the number of days, from `1 to 365`, before a password expires. The default is 30 days.	
3. Specify a warning period for password expiration. *Prompt:* `Warning period for password expiration (l-365):` *Response:* Enter the number of days, from 1 to 365, preceding the expiration of a password that the server issues a warning to change the password. The default is seven days.	
4. Specify the number of unsuccessful login attempts allowed. *Prompt:* `Number of bad login attempts (l-50):` Response: Enter the number of login attempts, from 1 to `50`, the server allows before locking a user ID. The default is five attempts.	
5. These settings take effect immediately.	

Configure Mailbox Passcode Parameters by FCOS

VoiceMemo Release 6.0A and later

This procedure describes how to modify FCOS settings to control how mailbox owners can set their passcodes, including:

- Allow mailbox owners to change their passcodes
- Prevent the use of trivial passcodes
- Lock the owner out of the mailbox when there are too many invalid passcode entries.

Step	*Reference*
1. Customize an FCOS to include feature bit 70 (User Options Menu) and the following bits as applicable: 73 (enter and change mailbox passcode) 8 **1** (only require one correct passcode for login) 93 (deny change of passcode in first tutorial) 130 (passcode cannot be same as mailbox) 132 (bad passcode lockout if over limit) 20 1 (deny trivial passcode) 2 18 (passcode not needed on direct calls)	CI? 5011, Ch. 1
• Either add the bit to an existing FCOS, *or* • Copy an FCOS and edit it as necessary.	CP *5011,* Ch. or *CI? 5007,* Ch. 1
2. Assign the FCOS containing these bits to each mailbox that requires these passcode settings.	*CP 5003,* Ch. 1

Configure Mailbox Passcode Parameters by Line Group

CP **5021**

VoiceMemo Release 6.0A and later

This procedure describes how to:

- Set a minimum and maximum passcode length
- Set the number of incorrect passcode attempts that will trigger a warning
- Set the period for counting incorrect passcode attempts

Step	Reference
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise. Select: (E) Modify Active Configuration or (F) Modify Inactive Configuration	
3. When the VoiceMemo Configuration Online Menu appears, specify the line group to which these passcode parameters apply. *Select:* (G) Group Selected *Prompt:* `Enter a group number =` *Response:* The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
4. Reach the VoiceMemo Application Menu, then go to the Passcode Menu.	Menu Map 2
5. Set the minimum passcode length. Select: (M) Minimum Passcode Length *Prompt:* `Minimum passcode length =` *Response:* Enter a **number** (4-10). This is the minimum number of digits that constitute **a** valid passcode for all users in the current line group.	
6. Set the maximum passcode length. Select: (N) Maximum Passcode Length *Prompt:* `Maximum passcode length =` *Response:* Enter a **number** (4-10). This is the maximum number of digits that constitute a valid passcode for all users in the current line group.	

Step	*Reference*

7. Set the number of incorrect passcode attempts that will trigger a warning.

   Select: (C) Passcode Trip Count
   Prompt: `Passcode trip count =`
   Response: The number of times (I-255) someone can attempt to use an incorrect passcode during a passcode trip period before a warning is issued,

   or

   0 (zero) to disable the passcode trip count function.

8. Set the trip period for counting incorrect passcode attempts.

   Select: (P) Passcode Trip Period
   Prompt: `Passcode check period =`
   Response: The number of **hours** (1-240) for the time limit for a passcode trip count,

   or

   0 (zero) to disable the passcode trip period function.

9. Save the parameter settings by exiting to the VoiceMemo Configuration Main Menu.

Format an Audit Trail Report

VoiceMemo Release 6.0A and later

This procedure describes how to format a report of the audit trail at Series 6 server maintenance console.

Note: Only the server superuser (root) can perform this procedure.

Step	*Reference*
1. Reach the Passwords/Security Menu, then go to the Audit Trail Menu. ***Select:*** (T) Audit Trail Menu	Menu Map 2
2. Go to the Audit Trail Report Menu. ***Select:*** (D) Audit Trail Report Menu	
3. Specify the types of information (details) to be recorded. Select: (A) Details *Prompt:* Details: ***Response:*** Enter any of the following: • A for all details • A single field **number** for a single detail, for example, 5 • A range of field **numbers** for a continuous range of details, for example, 5-10 • A comma-separated list of field **numbers,** for example, 4,5,8. This list can also include a range, for example 4-8,9. Enter a question mark (?) to see a list of the details available. Table 1 describes all the available details.	
4. Specify the field delimiter that separates details in the report. Select: (B) Field Delimiter Prompt: Field Delimiter: ***Response:*** 0 to make the field delimiter a space, **1** to make the field delimiter a tab, or any printable character.	
5. Specify the first entry to be reported. Select: (C) Starting Trail Entry Number Prompt: Starting trail entry number: ***Response:*** Enter a **number** from 1 to 999999.	

Step | Reference

6. Specify the last entry to be reported.

   Select: (D) Ending Trail Entry Number
   Prompt: `Ending trail entry number:`
   Response: Enter a **number** from `1 to` *999999.*

7. Specify the length of a report line to be displayed.

   Select: (E) Report's Width
   Prompt: `Report's width:`
   Response: The **number** of characters, from 40 to 160, in a displayed line of the report.

Table 1 Audit Trail Report Details

Field Number	Abbrev.	Description
1	TEN	Trail entry number
2	DATE	Date of the entry
3	TIME	Time of the entry
4	PORT	TTY Port number
5	SVID	Server identifier
6	USER	ID of user logged in
7	PROG	Application or menu invoked
8	ACT	Action taken (start, stop, delete, configure, etc.
9	SMBX	Starting mailbox number
10	EMBX	Ending mailbox `number`

Log In or Log Out of the Server Console

VoiceMemo Release 6.0A and later

This procedure describes how to log into or log out of a Series 6 server in which Functionally Partitioned System Administration (FPSA) is activated. The login steps described below become the first steps in every procedure that requires access to a menu, even though they are not described in every procedure.

Step	*Reference*

logging In

1. Press any key to activate the console.
2. Enter your ID.

   Prompt: `Login :`
   Response: Enter your **user ID.**

3. Enter your password.

   Prompt: **`Password:`**
   Response: Enter your **password** or your **temporary password.** It does not display.

4. If you are logging in for the first time, you must change your temporary passcode to a password if FPSA is running.

   Prompt: **`Since the account is new, change the password now:`**
   Response: A **password** from 6 to 30 alphanumeric characters. The password must:

   - Contain at least one letter
   - Contain at least one digit
   - Contain at least one punctuation mark; for example 3CALDA@
   - Not contain a four-character substring of the associated user ID

5. When you have successfully logged in, the server displays a message such as the following:

   `****Last successful` `login: 3/8/94 9:41 a.m.`

"Login Incorrect"

If "login incorrect" displays, any of the following occurred:

- You typed your user ID incorrectly.
- You typed your password incorrectly.
- Your user ID has been locked.
- You made too many unsuccessful login attempts.

Step	*Reference*
Try again, being careful to enter the user ID and password correctly. If you are still unsuccessful, contact your server superuser to have your user ID unlocked or your password reset. If you are the server superuser, use the password bypass procedure.	*CP 4348*

Warning About Password Expiration

If a warning about password expiration displays, you can continue logging in but you should change your password without delay, through the Password/Security Menu. If your password expires, you are forced to change it as soon as you log in.	*CP 4344*

logging Out

You can perform a routine logout from the Main Menu, or you can take a shortcut from any related menu.

- To log out routinely, return to the Main Menu, then press X to exit.
- To take the shortcut, press Ctrl-C.

In either method, when logout is completed, the server displays the login prompt on the main console only.

Modify Permission Categories for Current User IDs

VoiceMemo Release 6.0A and later

This procedure describes how to add or delete permission categories for a current user ID. Assigning permission categories to a new user is covered in Cl? 4342. FPSA must be running.

Note: Only the server superuser can perform this procedure.

Step | Reference

1. Reach the System Maintenance Menu, then go to the Passwords/Security Menu. — Menu Map 2

2. Identify the user whose permission categories you want to change.

   Select: (M) Modify User Data
   Prompt: `Enter user ID:`
   Response: The **user ID** to be modified.

3. The server displays a list of all the categories currently assigned to this user ID.

4. Add or delete permission categories.

   Prompt: `Enter the permission categories:`
   Response: Enter up to **five categories,** numbers 2 to 6, each separated by a comma. You must enter all the categories desired, not just the category that you are adding or deleting. For example, to add category 6 to categories 4 and 5, enter 4,5,6. Refer to Table 1 for a description of permission categories.

5. The category modification takes effect when you see the message "Permission categories changed."

Table 1 FPSA Permission Categories

Category	Description
1	Unlimited access to all console menus and all server resources (synonymous with server superuser access). This category cannot be set through the console.
2	Unlimited access to all console menus and QNX shell, except security features limited to the server superuser
3	Access only to system configuration menus except network configuration (see Category 6)
4	Access only to mailbox maintenance menus
5	Access only to inquiry menus (read-only menus such as Reports, Statistics, and Dump)
6	Access only to network and network-related menus

Respond to "Login Incorrect" or "Permission Denied"

This procedure describes what actions to take when the Series 6 server displays "login incorrect" or "Permission denied."

Step	*Reference*
When "Login Incorrect" Displays	
Try again, being careful to enter the user ID and password correctly. If you are still unsuccessful, contact your server superuser to have your user ID unlocked or your password reinstated. If you are the server superuser, use the password bypass procedure.	*cl? 4348*
If you are the server superuser assisting a VoiceMemo superuser or console user, unlock the user ID or reset the password, as applicable.	
• Unlock the User ID.	*CP 4342*
• Reset the User ID.	*CP 4344*
When "Permission Denied" Displays	
If a user does not have the correct permission categories to access a menu option. the server prompts "Permission Denied." To change your permission categories, contact your server superuser to modify your permission categories.	

Restrict Line Group Access

VoiceMemo Release 6.0A and later

This procedure describes how to restrict line group access in a variety of ways. Select those methods that are appropriate for your server and users.

Step	*Reference*
Require Callers to Enter a line Group Access Code	
1. Customize each FCOS to include feature bit 160 (Caller must enter line group access code).	
• Either add the bit to an existing FCOS,	CP 5011, Ch. 1
or	or
• Copy an FCOS and edit it as necessary.	CP *5007,* Ch. 1
2. Set the Access Code in the Administrator's Mailbox for each line group that requires an access code. The Department Code is the line group access code. Callers do not have to enter an access code on line groups with no department code in the Administrator's Mailbox.	CP *3310,* Ch. 6
Deny Login on Specific Line Groups	
1. Customize each FCOS to include feature bit 101-109 (Deny login on line groups 1-9, respectively).	
• Either add the bit to an existing FCOS,	CP 5011, Ch. 1
or	or
• Copy an FCOS and edit it as necessary.	CP *5007,* Ch. 1
Prevent Multiple Message In an Answering Session	
1. Reach the VoiceMemo Configuration Main Menu.	Menu Map 2
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise.	
Select: (E) Modify Active Configuration *or* (F) Modify Inactive Configuration(N) Online Menu	

Step	*Reference*
3. When the VoiceMemo Configuration Online Menu appears, specify the line group to which this function applies. Select: (G) Group Selected Prompt: **Enter a group number =** ***Response:*** The **number** of the line group (1-24), *or* Press **Enter** if the current number is correct.	
4. Go to the VoiceMemo Application Menu. Select: (M) Allow Multiple Messages for Outside Caller *Prompt:* **Multiple message for outside caller (y/n) =** ***Response:*** N to prevent outside callers from leaving more than one message with a single call-in.	Menu Map 2
5. Save the entry by exiting to the Main Menu.	

Force the Termination or Transfer of Calls to Greeting-only Mailboxes

1. Modify an FCOS to include one of the following feature bits: 62 (Hang up immediately after greeting) 63 (Call mailbox attendant after greeting) 64 (Call mailbox user extension after greeting)	
• Either add the bit to an existing FCOS, *or*	CP ***5011,*** Ch. 1 or
• Copy an FCOS and edit it as necessary.	CP ***5007,*** Ch. 1
2. Assign the FCOS containing these bits to each greeting-only mailbox that requires these passcode settings.	CP 5003, Ch. 1

Run an Audit Trail Report

VoiceMemo Release 6.0A and later

This procedure describes how to run a report of the audit trail at a Series 6 server maintenance console.

Note: Only the server superuser (root) can perform this procedure.

Step	*Reference*
1. Reach the Passwords/Security Menu, then go to the Audit Trail Menu. Select: (H) Audit Trail Menu	Menu Map 2
2. Go to the Audit Trail Report Menu. Select: (D) Audit Trail Report Menu	
3. If you have already formatted the report, display it as follows; otherwise, format it first. Select: (F) Generate Report *Response:* The server displays the report, formatted as specified, at the server maintenance console. When the end of the report is displayed, you can continue in the Audit Trail Menu or exit.	CP *4338*

Set the Site Name, Site Banner, and the Site Code

VoiceMemo Release 6.0A and later

This procedure details how to set the site name, site banner, and the site code.

Step	*Reference*
1. Reach the System Maintenance Menu.	Menu Map 8
2. Reach the Site Name, Code, and Banner Menu.	

Select: (N) Site Name, Code, Banner

Changing Site Name and Code

3. The server displays the current site name, code and banner. Change any of these items as needed.

Prompt:
```
Site Name:   <not defined>
Site Code:   <not defined>
Site Banner:  Access to this computer system and
associated network, computer resources, or data is
restricted to those who are officially authorized.
Use by unauthorized individuals or for unauthorized
purposes is a violation of federal and/or state law.
```

4. Change the site name, if desired.

Select: (N) Change Site Name

Prompt: **No site name is defined.**
Enter 'Y' to change the site name,
'N' to keep the current site name: [N

Response: Y to change the site name, *or*
N to keep the current site name.

If you answered yes, you are prompted for a new name.

Prompt: **Enter new site name (return for none):**

Response: Enter a descriptive name, up to 60 characters.

5. Change the site code, if desired.

Select: (C) Change Site Code

Prompt: **No site code is defined.**
Enter 'Y' to change the site code,
'N' to keep the current site code: [Nl

Response: Y to change the site code, or
N to keep the current site code.

If you answered yes, you are prompted for a new code.

Prompt: **Enter new site code (return for none):**

Response: Enter a code, up to 10 characters.

6. Exit the site menu.

Step *Reference*

Changing the Site Banner

3. Change the site banner, if desired.

Select: (B) Change Site Banner
Prompt:
```
The current site banner is:

Access to this computer system and associated
network, computer resources, or data is restricted to
those who are officially authorized.
Use by unauthorized individuals or for unauthorized
purposes is a violation of federal and/or state law.

Enter 'Y' to change the site banner,
      'N' to keep the current site banner: [N]
```
Response: Y to change the site banner, then enter the new site banner, *or*
N to keep the current site banner.

If you answered yes, then enter the new site code.

Prompt:
```
Enter the text for the new site banner.
Do not type more than 65 characters before pressing
<Enter>.
To indicate the end of the text, type a '.' by itself
on a new line and press <Enter>.
```
Response: Enter a **banner,** up to 240 characters, 65 characters or fewer per line.
Terminate text by entering a **period** (.) on a new line and press **Enter.**

4. Exit the site menu.

Reverting to the Previous or Default Site Banner

3. Change the site banner back to the previous setting, if desired.

Select: (P) Revert to Previous Site Banner
Prompt:
```
The current site banner is:

This is a test banner.

The previous site banner is:

This is a poor excuse for a banner.

Enter 'Y' to revert to previous banner,
      'N' to keep the current site banner: [N]
```
Response: Y to reset the site banner to the previous text, or
N to keep the current site banner.

Step	Reference

4. Change the site banner back to the default setting, if desired.

   Select: (D) Revert to Previous Site Banner

   Prompt:
   ```
   The current site banner is:

   This is a test banner.

   The default site banner is:

   Access to this computer system and associated
   network, computer resources, or data is restricted to
   those who are officially authorized.
   Use by unauthorized individuals or for unauthorized
   purposes is a violation of federal and/or state law.

   Enter 'Y' to revert to default banner,
         'N' to keep the current site banner: [N]
   ```

   Response: Y to reset the site banner to the default text, *or*
   N to keep the current site banner.

5. Exit the site menu.

Start or Stop an Audit Trail

VoiceMemo Release 6.0A and later

This procedure describes how to start or stop the audit trail that creates a record of users logged in at a Series 6 server maintenance console.

Note: Only the server superuser (root) can perform this procedure.

Step	*Reference*
Starting the Audit Trail	
1. Reach the System Maintenance Menu, then go to the Passwords/Security Menu. Select: (T) Audit Trail Menu	Menu Map 2
2. Specify the length of the audit trail, if you have not already done so. Note: If you leave the current number of trail entries set to 0, the audit trail remains empty even though you start it. Select: (A) Max. Number of Audit Trail Entries *Prompt:* `Max. number of trail entries [current value]` `Max. number of trail entries:` Response: Enter a **number** from **1** to 999999 for the maximum number of entries to record in the audit trail.	
3. Choose the Start Audit Trail option. *Select:* (B) Start Audit Trail *Response:* The audit trail starts running.	
Stopping the Audit Trail	
1. Reach the Additional Options Menu, then go to the Passwords/Security Menu. *Select:* (T) Audit Trail Menu	Menu Map 2
2. Choose the Stop Audit Trail option. *Select:* (C) Stop Audit Trail *Prompt:* **Audit Trail Stopped.**	

View a List of Current Users

VoiceMemo Release 6.0A and later

This procedure describes how to display a list of current user IDs at a Series 6 server maintenance console.

Note: Only the server superuser (root) can perform this procedure.

Step	*Reference*
1. Reach the System Maintenance Menu, then go to the Passwords/Security Menu. Select: (L) List All Users	Menu Map 2
2. No further action is necessary. The server displays all current user IDs. For each user ID listed, the server shows the name, password, permission categories, date and time of the last login, whether a password is set, and the number of bad login attempts. If FPSA is running, additional fields are displayed in the report. These are: password expiration date, permission categories, whether or not the user ID is locked, and whether the administrator locked out the user (Adm under login attempts).	

1 1 Billing

This chapter describes the billing function and gives the requirements for configuring the billing function. Billing reports are summarized in this chapter, but the Reports chapter has more complete information about them. Information covered in this chapter includes:

- Setting rates
- Gathering billing data
- Billing reports
- Configuration requirements

Overview

The billing function collects statistics about Series 6 server usage and calculates charges for that usage. You can set a low-usage rate, and a high-usage rate for each statistic. This rate-setting arrangement gives you the option to charge fixed rates, give volume discounts, or charge for heavy use. During day-to-day server operation, over 120 different statistics can be kept for each mailbox, grouped into these six categories:

- Mailbox access
- Base rates
- Connect time
- Disk usage
- Messages received
- Network rates
- Pager calls

You can instruct the server to perform a gather of these statistics, then obtain billing reports generated by the server from the resulting information.

Billing an outdial to a specified account and specifying a long distance carrier for outdials are covered in the Mailboxes chapter.

```
>>>Acme Management Systems<<<
PHONEBOOK
Tue Apr 31, 1995 12:57 pm

NAME                        MAILBOX   GCOS
--------------------------- --------- -----
ATTEND. MB                     3850      2
Allen, Debbi                   3852      9
Allen, Richard                  511     14
Bau, Lee                        255     14
Barry, Randall                  601     14
Borregas, Rita                 3809      9
```

Figure 12-40 Sample Phonebook Report

Setting Rates

Each statistic can be calculated according to a low usage rate, low/high boundary, and high usage rate. The valid range for either rate is $0.00 through $64.99. The valid range for the low/high boundary is 0 through 65535.

The low **usage rate** applies to statistics that match or fall below the low/high boundary. All statistics that match or fall below this boundary are charged the same low usage rate. The **low/high boundary** is the point at which the rate changes from the low usage rate to the high usage rate. The **high usage rate** applies to statistics that fall above the low/high boundary. All statistics that fall above this boundary are charged the same high usage rate.

A **base rate** can also be set. The base rate is a flat fee that is charged at every billing period, keyed to one or more FCOSs.

To give volume discounts, specify a lower amount for the high usage rate than for the low usage rate. To penalize heavy usage, specify a higher value for the high rate. To charge a standard rate, enter a zero as the boundary.

Full-Screen Interface

If you are using the full-screen interface, you enter all billing rates in the same application. There is an 1 l-page entry screen that lists every billing rate you can set. The Billing Worksheet, described later in this chapter, has its parameters arranged in the order of the Adjust Billing Bates entry screens.

You use function keys for different options when adjusting Billing Rates. Pages 1 and 7 of the Adjust Billing Bates entry screens are shown in Figure 1 l-l. The function keys you can use in the mailbox maintenance screen are:

Function Key	Explanation
F1	Display next page
F2	Display previous page
F3	Display first page
	Display last page
F9 or **Esc**	Exit the Mailbox Screen
F10	Edit current mailbox's information
Home	Provide context-sensitive help

```
Interleave factor:                    1
Track skew factor:                    8
Cylinder skew factor:                 17
Flags:                                0x40

        Changeable page 3 data:
tpz=0, aspz=0, atpz=0
atpl=0, sec_per_trk=0, data_bytes=0
interleave=0, trk_skew=0, cyl_skew=0, flags=0x0

        Page 4 - Drive Geometry Parameters
Number of cylinders:                  2857
Number of heads:                      15
Write precomp cylinder:               0
Redunced write current cylinder:      0
Step rate:                            0
Landing zone:                         3069
RPL:                                  0
Rotational offset:                    0
Rotational offset:                    5400
Disk capacity:                        3933039
```

Figure 12-39 Sample Report of Hard Disk Operational Parameters (continued)

Phonebook Report

The server allows you to produce a phonebook listing mailbox owners.

If the Dial-by-Name function is enabled and the FCOS assigned to a mailbox includes feature bit 092 (User will be in Dial-by-Name database), the mailbox owner's name is included in the Dial-by-Name database. The server uses the Dial-by-Name database to create a telephone book, when you choose the Phonebook Report option in the Reports Menu. The Phonebook Report is an alphabetic listing of mailbox names that shows the corresponding mailbox number and GCOS assigned to the mailbox (Figure 12-40). As with other reports, you can print the Phonebook Report on a serial printer or other output device connected to your server through serial port 1 or serial port 2, or display it at the server maintenance console.

```
                    A D J U S T   B I L L I N G   R A T E S
                                                                    Paae 1
Rate                                          Low Usage   Boundary High Usage
Messages Received From Users:                     0.000         0        0.000
Messages Received From Callers:                   0.000         0        0.000
Messages Future Deliveries:                       0.000         0        0.000
Call Placement per minute Rate:                   0.000         0        0.000
Call Placement per call Rate:                     0.000         0        0.000
Urgent messages received from callers:            0.000         0        0.000
Automatic Wakeups or TAS messages:                0.000         0        0.000
Receipt requests:                                 0.000         0        0.000
Disk Usage:                                       0.000         0        0.000
Network Messages Sent:                            0.000         0        0.000
Network Urgent Messages Sent:                     0.000         0        0.000
Network Messages Received:                        0.000         0        0.000
Network Urgent Messages Received:                 0.000         0        0.000
Number of Network Nodes Sent to:                  0.000         0        0.000
Number of Network Nodes Sent Urgent:              0.000         0        0.000
Number of Remote Network Recipients:              0.000         0        0.000
Number of Remote Network Recips Urg:              0.000         0        0.000

 F1 Nit Pg  F2 Prev Pg  F3 First  F4 Last  F9 Cancel  F10  Save  Home  Help
Enter low usage rate,(0-64.999), with a max of 3 places after decimal.
```

```
                    A D J U S T   B I L L I N G   R A T E S
                                                                    Page 7
Rate                                          Low Usage   Boundary High Usage
Paaer Number 4 Rate                               0.000         0        0.000
Pager Number 5 Rate                               0.000         0        0.000
Pager Number 6 Rate                               0.000         0        0.000
Pager Number 7 Rate                               0.000         0        0'. 000
Pager Number 8 Rate                               0.000         0        0.000
Pager Number 9 Rate                               0.000         0        0.000
Pager Number 10 Rate                              0.000         0        0.000
Pager Number 11 Rate                              0.000         0        0.000
Pager Number 12 Rate                              0.000         0        0.000
Pager Number 13 Rate                              0.000         0        0.000
Pager Number 14 Rate                              0.000         0        0.000
Pager Number 15 Rate                              0.000         0        0.000
Pager Number 16 Rate                              0.000         0        0.000
Base Rate 1:  UNLIMITED                            0.00
Base Rate 2:  FULL GUEST                           0.00
Base Rate 3:  RESTRICTED                           0.00
Base Rate 4:  CHECK IN                             0.00

 Fi Nxt Pg F2  Prev Pg F3 First  F4 Last  F9 Cancel  F10  Save  Home  Help
Enter low usage rate,(0-64.999), with a max of 3 places after decimal.
```

Figure 1 l-i Full-Screen Interface for Billing Rates

Scrolling Menu Interface

If you are using Scrolling Menus, then Billing Rates are set through several different menus, depending on the type of rate. The Billing Worksheet, described later in this chapter, is divided into sections that correspond with the separate menu choices. Some of the rates belong in other menus, because the full-screen Adjust Billing Rate entry screens are arranged differently. These items are indicated by having the correct section name following the rate name in parentheses.

Operational Parameters for a Hard Disk

To get information about the size and model of the hard disk installed in a module, you can display or print a report of operational parameters for the hard disk. This report also shows error recovery parameters, disconnect and reconnect parameters, format parameters, and other drive parameters such as the number of cylinders. Figure 12-39 shows a sample report of operational parameters for hard disk 0.

```
          Operational Parameters for Hard Disk 0:0

                  Vendor: IBM
                  Model:   0664M1H        !P
                  Rev:     6 61

          Page 1 - Error Recovery Parameters
AWRE:  TRUE           ARRE: TRUE
TB   : FALSE          RC   : FALSE
EER  : FALSE          PER  : TRUE
DTE  : FALSE          DCR  : FALSE
Read retry count:           4
Correction span:            48
Head offset count:          0
Data strobe offset count:   0
Write retry count:          1
Recovery time limit:        0

          Changeable page 1 data:
flags=0xf7, rd_retry=255, c_span=0, hd=0, ds=0, wt_retry=0, rcv=0

          Page 2 - Disconnect/Reconnect Parameters
Buffer full ratio:                  0
Buffer empty ratio:                 0
Bus inactivity limit:               0
Disconnect time limit:              0
Connect time limit:                 0
Maximum burst size :                0
Data transfer disconnect control: 0 .

          Changeable page 2 data:
bf_ratio=255, be_ratio=255, inact=0, disc=0, con=0, burst=0, dtdc=0

          Page 3 - Format Parameters
Tracks per zone:                    15
Alternate sectors per zone:         34
Alternate tracks per zone:          0
Alternate tracks per logical unit: 0
Sectors per track:                  94
Data bytes per sector:              512
```

Figure 12-39 Sample Report of Hard Disk Operational Parameters

Gathering Data

Before the server can produce billing reports, it must gather data from all the statistics that have been specified. **Gather** is a three-step process:

1. The current billing data file, which was created during the last gather, becomes the new previous billing data file. The server issues a warning because this step overwrites (and thereby destroys) the previous billing data file, which was also created during the last gather.

2. The server scans the statistics in all the mailboxes. The data that is collected becomes the new current billing data file.

3. The data gathered in step 1 is subtracted from the mailbox statistics. This update zeros the statistics in all the mailboxes (unless there was mailbox activity between steps 2 and 3 to prepare them for the next billing cycle.

When you run a billing report, the value that is obtained during the gather for each statistic in a mailbox is multiplied by the billing rate that you assigned to that statistic. The server then adds the charges for all statistics with billing rates greater than zero, plus any base rate that you may have specified, to give a total charge for each mailbox.

All billing data older than the previous billing data file is available using the regular backup procedures recommended in the Series 6 *Installation and Service Manual.*

Automatic Gather

You can initiate a gather as needed (single gather), or you can configure the server to run a gather automatically (automatic gather). Automatic gathers can be run weekly, monthly, or twice-monthly.

In a busy server a gather can slow down call processing, so it is best to schedule an automatic gather or request a gather in the early morning hours, when server resources are not in use processing calls.

Unsuccessful Gathers

It is possible for a gather to be unsuccessful. The most likely cause would be a power loss during the process, since gather can take from several minutes to several hours to complete, depending on the size of the server and volume of calls. If a gather fails, you should:

1. Perform a server backup to diskette to save the previous billing data file that was created during the unsuccessful gather (see the *Series 6 Installation and Service Manual* for directions).

```
            >>> Acme Products System <<<
             PRE-EXTENSION DIAL STRINGS
              Fri Apr 27, 1995 9:52 am

INDEX   PRE-DIAL STRINGS            DESCRIPTION
1       T9T+                        Outside line
2       T9T+23759                   Non-Dial Account
```

Figure 12-36 Sample Pre-Extension Dial Strings Report

list of Authorized Users

You can view a list of users who have access to the server. The list is displayable at a server maintenance console, through the List All Users option in the Security or the FPSA Menu. Figure 12-37 shows a sample list when FPSA is not running, Figure 12-38 shows the output when FPSA is running.

```
User ID------------UID---Last Login---PW-Bad--
----Real    Name-----------------------------
root                  0 Nov 14 17:26 Y

bob                 101      <none>
    Robert A. Robertson
Spencer             100   Oct 20 14:59   Y   1
    Spencer F. Hire
```

Figure 12-37 Sample list of Authorized Users (Without FPSA)

```
User ID------------UID---Last Login---PW Exp---Perm---Bad--Lock--Lock Time---
----Real Name-------------------------------------------------------------
root                  0 Nov 14 17:26 Nov 15 ******

bob                 101      <none>     Nov 15 . ...56
    Robert A. Robertson
mary                102      <none>     Nov 15  .234..
    Mary Contrary
Spencer             100 Oct 20 14:59 Nov 15  .2345.    1
    Spencer F. Hire
```

Figure 12-38 Sample list of Authorized Users (with FPSA)

History File

The History File is a record of modifications made to the server. Entries are made to this record by the server administrator, a distributor, or Centigram technical personnel. You must review this record before updating software on the server to verify that no custom changes have been made that are over-written with the new software.

YOU can view the current History File, and add entries to it (update it), at a server maintenance console

2. Perform another gather. The information needed for the current billing is now divided between the current and previous billing data files that are on the hard disk.
3. Run a Previous Billing Report from the hard disk. This shows what was billed during the last billing cycle, which gives you a starting point for determining current charges.
4. Run both a Billing Report and a Previous Billing Report from the hard disk, then combine them to determine the correct bill for each mailbox.

Billing Reports

After the server performs a gather, the statistics and charges that are calculated go into four types of billing reports that the server can generate. Each report gives a breakdown of charges for individual mailboxes by statistics, then calculates the total amount that is due. Each report has a different purpose. Table 11-1 summarizes the report types and their purposes.

Samples of these reports and explanations of their contents are contained in the Reports chapter.

Table 11-1 Types of Billing Reports

Type of Report	Purpose
Billing Report	Shows current charges for each mailbox individually by statistics; shows total current charges.
Mailbox Blocked Report (Blocked Billing Report)	Same information as in the Billing Report but with no titles or summaries; input to other databases.
Previous Billing Report	Same information as in the Billing Report but uses data from previous billing period; determines proper billing if a gather fails.
Termination Report	Final billing when a mailbox is checked out and deleted, or when paging service is discontinued.

Configuration Requirements for Billing

Configuring for billing involves obtaining a report of current rates, using a Billing Worksheet, and adjusting rates, if necessary.

Table 12-4 Fields in Day/Night Treatment Report (continued)

Field	Description
Auth Code	An authorization code, usually numerical, that the caller must enter before Receptionist II rings the extension. Special character codes are M (enter any valid mailbox number) and P (enter a valid passcode). A blank field means that no authorization code is required.
Redial Dflt	The redial menu that is played when "Redial" is selected for any extension failure condition
RNA	The action taken when the extension rings, but there is no answer. R = play the default Redial menu (see "Redial Default" above), A = transfer to an assistance number, M = prompt the caller to leave a message in the mailbox.
BUSY	The action taken when the extension is busy. R = play the default Redial menu, A = transfer to an assistance number, M = prompt the caller to leave a message in the mailbox.
REJ	The action taken when call screening is in effect, and the recipient rejects the call. R = play the default Redial menu, A = transfer to an assistance number, M = prompt the caller to leave a message in the mailbox.
SCREEN	Indicates whether the user wants Receptionist II to screen all outside calls. Y = yes, N = no.
TRUNK TYPES	The following treatment types are Trunk treatment types: Index, Name, Auth Time, Auth Code
Connect	The connect criteria, that is, the conditions under which the server should consider the trunk call to be successful. C = Cut through, R = Ring, T = Tone (dial or modem).
Failure	The action taken when the connect criteria for trunk calls are not met. R = play the default Redial menu, A = transfer to an assistance number, M = prompt the caller to leave a message in the mailbox.

Pre-Extension Dial Strings Report

Another report available to you when Receptionist II is installed is the Pre-Extension Dial Strings Report. This report (Figure **12-36)** shows pre-extension dial strings associated with each index configured for mailboxes served by Receptionist II.

Current Billing Rates

You can see what the current rates are for various statistics, such as base rates and pager calls, through the Report Rates option in the Billing Menu. The reports chapter shows a sample report of current base rates. Use any of the reports available through this option to see what the low usage and high usage rates are and what the low / high boundary is for each statistic in the categories mentioned earlier. When configuring for billing, you should obtain these reports to help you determine which rates to set or adjust. If you are setting rates for many of the server usage activities, you should also use the report of current rates as an extension of the Billing Worksheet, marking it up to show the rates for all the various server usage activities desired.

Billing **Worksheet**

Complete one Billing Worksheet for each line group. For all rates except Base Rates, specify the Low rate, the High rate, and the Boundary (the point at which the High rate applies).

A sample Billing Worksheet is shown in Figure 1 I-2. A blank worksheet is available for you to make copies from in the Worksheets section.

Note: The Billing Worksheet has two pages. Be sure you complete both pages when working on Billing Rates.

Mail box Accesses

There are two types of mailbox access that you can bill for, logins and greets (number of times greeting was played), and you can set a low usage rate, high usage rate, and a low / high boundary for each type. The two types are shown on the worksheet and in Table 11-2 at the end of this section.

The rates you set for mailbox access apply to all calls through the specified port (line) group.

Base Rates

As mentioned earlier in this chapter, a base rate is a flat fee that is charged at every billing period. You must set a rate for each FCOS that you want to bill. You can only differentiate among the first 64 FCOSs; any FCOS higher than 64 is billed at the rates for FCOS 64.

1 1 Billing

This chapter describes the billing function and gives the requirements for configuring the billing function. Billing reports are summarized in this chapter, but the Reports chapter has more complete information about them. Information covered in this chapter includes:

- Setting rates
- Gathering billing data
- Billing reports
- Configuration requirements

Overview

The billing function collects statistics about Series 6 server usage and calculates charges for that usage. You can set a low-usage rate, and a high-usage rate for each statistic. This rate-setting arrangement gives you the option to charge fixed rates, give volume discounts, or charge for heavy use. During day-to-day server operation, over 120 different statistics can be kept for each mailbox, grouped into these six categories:

- Mailbox access
- Base rates
- Connect time
- Disk usage
- Messages received
- Network rates
- Pager calls

You can instruct the server to perform a gather of these statistics, then obtain billing reports generated by the server from the resulting information.

Billing an outdial to a specified account and specifying a long distance carrier for outdials are covered in the Mailboxes chapter.

Setting Rates

Each statistic can be calculated according to a low usage rate, low/high boundary, and high usage rate. The valid range for either rate is $0.00 through $64.99. The valid range for the low/high boundary is **0** through 65535.

The **low usage rate** applies to statistics that match or fall below the low/high boundary. All statistics that match or fall below this boundary are charged the same low usage rate. The **low/high boundary** is the point at which the rate changes from the low usage rate to the high usage rate. The **high usage rate** applies to statistics that fall above the low/high boundary. All statistics that fall above this boundary are charged the same high usage rate.

A **base rate** can also be set. The base rate is a flat fee that is charged at every billing period, keyed to one or more FCOSs.

To give volume discounts, specify a lower amount for the high usage rate than for the low usage rate. To penalize heavy usage, specify a higher value for the high rate. To charge a standard rate, enter a zero as the boundary.

Full-Screen Interface

If you are using the full-screen interface, you enter all billing rates in the same application. There is an **1** I-page entry screen that lists every billing rate you can set. The Billing Worksheet, described later in this chapter, has its parameters arranged in the order of the Adjust Billing Rates entry screens.

You use function keys for different options when adjusting Billing Rates. Pages **1** and 7 of the Adjust Billing Rates entry screens are shown in Figure **11-1.** The function keys you can use in the mailbox maintenance screen are:

Function Key	Explanation
F1	Display next page
F2	Display previous page
F3	Display first page
	Display last page
F9 or **Esc**	Exit the Mailbox Screen
F10	Edit current mailbox's information
Home	Provide context-sensitive help

```
                    A D J U S T   B I L L I N G   R A T E S
                                                              P a g e   1
Rate                                          Low Usage'   Boundary  "High Usage
Messages Received From Users:                     0.000          0         0.000
Messages Received From Callers:                   0.000          0         0.000
Messages Future Deliveries:                       0.000          0         0.000
Call Placement per minute Rate:                   0.000          0         0.000
Call Placement per call Rate:                     0.000          0         0.000
Urgent messages received from callers:            0.000          0         0.000
Automatic Wakeups or TAS messages:                0.000          0         0.000
Receipt requests:                                 0.000          0         0.000
Disk Usage:                                       0.000          0         0.000
Network Messages Sent:                            0.000          0         0.000
Network Urgent Messages 'Sent:                    0.000          0         0.000
Network Messages Received:                        0.000          0         0.000
Network Urgent Messages Received:                 0.000          0         0.000
Number of Network Nodes Sent to:                  0.000          0         0.000
Number of Network Nodes Sent Urgent:              0.000          0         0.000
Number of Remote Network Recipients:              0.000          0         0.000
Number of Remote Network Recips Urg:              0.000          0         0.000

 F1 Nxt Pg F2 Prev Pg F3 First F4 Last F9 Cancel F10 Save Home Help
Enter low usage rate,(0-64.999), with a max of 3 places after decimal.
```

```
                    A D J U S T   B I L L I N G   R A T E S
                                                              Page 7
Rate                                          Low Usage    Boundary High Usage
Paaer Number 4 Rate                               0.000          0         0.000
Pager Number 5 Rate                               0.000          0         0.000
Pager Number 6 Rate                               0.000          0         0.000
Pager Number 7 Rate                               0.000          0         0'. 000
Pager Number 8 Rate                               0.000          0         0.000
Pager Number 9 Rate                               0.000          0         0.000
Pager Number 10 Rate                              0.000          0         0.000
Pager Number 11 Rate                              0.000          0         0.000
Pager Number 12 Rate                              0.000          0         0.000
Pager Number 13 Rate                              0.000          0         0.000
Pager Number 14 Rate                              0.000          0         0.000
Pager Number 15 Rate                              0.000          0         0.000
Pager Number 16 Rate                              0.000          0         0.000
Base Rate  1: UNLIMITED                            0.00
Base Rate  2: FULL GUEST                           0.00
Base Rate  3: RESTRICTED                           0.00
Base Rate  4: CHECK IN                             0.00

 F1 Nxt Pg F2 Prev Pg F3 First F4 Last F9 Cancel F10 Save Home. Help
Enter low usage rate,(0-64.999), with a max of 3 places after decimal.
```

Figure 11-1 Full-Screen Interface for Billing Rates

Scrolling Menu Interface

If you are using Scrolling Menus, then Billing Rates are set through several different menus, depending on the type of rate. The Billing Worksheet, described later in this chapter, is divided into sections that correspond with the separate menu choices. Some of the rates belong in other menus, because the full-screen Adjust Billing Rate entry screens are arranged differently. These items are indicated by having the correct section name following the rate name in parentheses.

Gathering Data

Before the server can produce billing reports, it must gather data from all the statistics that have been specified. Gather is a three-step process:

1. The current billing data file, which was created during the last gather, becomes the new previous billing data file. The server issues a warning because this step overwrites (and thereby destroys) the previous billing data file, which was also created during the last gather.

2. The server scans the statistics in all the mailboxes. The data that is collected becomes the new current billing data file.

3. The data gathered in step **1** is subtracted from the mailbox statistics. This update zeros the statistics in all the mailboxes (unless there was mailbox activity between steps 2 and 3 to prepare them for the next billing cycle.

When you run a billing report, the value that is obtained during the gather for each statistic in a mailbox is multiplied by the billing rate that you assigned to that statistic. The server then adds the charges for all statistics with billing rates greater than zero, plus any base rate that you may have specified, to give a total charge for each mailbox.

All billing data older than the previous billing data file is available using the regular backup procedures recommended in the Series 6 *Installation and Service Manual.*

Automatic Gather

You can initiate a gather as needed (single gather), or you can configure the server to run a gather automatically (automatic gather). Automatic gathers can be run weekly, monthly, or twice-monthly.

In a busy server a gather can slow down call processing, so it is best to schedule an automatic gather or request a gather in the early morning hours, when server resources are not in use processing calls.

Unsuccessful Gathers

It is possible for a gather to be unsuccessful. The most likely cause would be a power loss during the process, since gather can take from several minutes to several hours to complete, depending on the size of the server and volume of calls. If a gather fails, you should:

1. Perform a server backup to diskette to save the previous billing data file that was created during the unsuccessful gather (see the Series 6 *Installation and Service Manual* for directions).

2. Perform another gather. The information needed for the current billing is now divided between the current and previous billing data files that are on the hard disk.
3. Run a Previous Billing Report from the hard disk. This shows what was billed during the last billing cycle, which gives you a starting point for determining current charges.
4. Run both a Billing Report and a Previous Billing Report from the hard disk, then combine them to determine the correct bill for each mailbox.

Billing Reports

After the server performs a gather, the statistics and charges that are calculated go into four types of billing reports that the server can generate. Each report gives a breakdown of charges for individual mailboxes by statistics, then calculates the total amount that is due. Each report has a different purpose. Table 1 **l-l** summarizes the report types and their purposes.

Samples of these reports and explanations of their contents are contained in the Reports chapter.

Table 1 l-1 Types of Billing Reports

'Type of Report	Purpose
Billing Report	Shows current charges for each mailbox individually by statistics; shows total current charges.
Mailbox Blocked Report (Blocked Billing Report)	Same information as in the Billing Report but with no titles or summaries; input to other databases.
Previous Billing Report	Same information as in the Billing Report but uses data from previous billing period; determines proper billing if a gather fails.
Termination Report	Final billing when a mailbox is checked out and deleted, or when paging service is discontinued.

Configuration Requirements for **Billing**

Configuring for billing involves obtaining a report of current rates, using a Billing Worksheet, and adjusting rates, if necessary.

Current Billing Rates

You can see what the current rates are for various statistics, such as base rates and pager calls, through the Report Rates option in the Billing Menu. The reports chapter shows a sample report of current base rates. Use any of the reports available through this option to see what the low usage and high usage rates are and what the low / high boundary is for each statistic in the categories mentioned earlier. When configuring for billing, you should obtain these reports to help you determine which rates to set or adjust. If you are setting rates for many of the server usage activities, you should also use the report of current rates as an extension of the Billing Worksheet, marking it up to show the rates for all the various server usage activities desired.

Billing Worksheet

Complete one Billing Worksheet for each line group. For all rates except Base Rates, specify the Low rate, the High rate, and the Boundary (the point at which the High rate applies).

A sample Billing Worksheet is shown in Figure 1 l-2. A blank worksheet is available for you to make copies from in the Worksheets section.

Note: The Billing Worksheet has two pages. Be sure you complete both pages when working on Billing Rates.

Mailbox Accesses

There are two types of mailbox access that you can bill for, logins and greets (number of times greeting was played), and you can set a low usage rate, high usage rate, and a low / high boundary for each type. The two types are shown on the worksheet and in Table 11-2 at the end of this section.

The rates you set for mailbox access apply to all calls through the specified port (line) group.

Base Rates

As mentioned earlier in this chapter, a base rate is a flat fee that is charged at every billing period. You must set a rate for each FCOS that you want to bill. You can only differentiate among the first 64 FCOSs; any FCOS higher than 64 is billed at the rates for FCOS 64.

Billing Worksheet, Page I of 2

	RATE		
Messages Received	**Low Usage**	**Boundary**	**High Usage**
Messages received from users	~~0.500~~	~~20~~	~~1~~
Messages received from callers	0.700	10	1.500
Messages future deliveries			
Call placement per minute rate (Connect Time)			
Call placement per call rate			
Urgent messages received from callers			
Auto wakeups or TAS messages			
Receipt requests			
Disk "sage. (Disk Usage)			
Nehvork Billing			
Network messages sent	0.000	0	0.000
Network "gent messages sent	1.000	5	2.500
Network messages received			
Network urgent messages received			
Number of network nodes sent to			
Number of network nodes sent "gent			
Number of remote network recipients			
Number of remote network recipients urgent			
Message length network sent			
Message length urgent network sent			
Message length network received			
Message length urgent network received			
Message length, number of nodes sent			
Msg. length. number of nodes sent urgent			
Message length, number of remote recipients			
Message length, number of remote recipients urgent			
Messages Received (fax)			
Number of fax messages received	0.050	30	0.100
Number of fax messages sent			
Number of fax retrieval			
Faxes retrieved to billing number			
Number of undelivered tax			
Number of fax pages received			
Number of fax pages sent			
Number of fax pages retrieval			
Fax pages retrieved to billing number			
Fax disk usage (Disk Usage)			

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5331BIL1

Figure 11-2 Sample Billing Worksheet

Billing Worksheet, Page 2 of 2

	Mailbox Accesses						Connect Time					
	Greeting Rate			Login Rate			User Connect lime			caller Connect Time		
Line Group	Low	Bound	High	LOW	Bound	High	Low	Bound	High	LOW	Bound	High
1	0.002	10	0.000	0.000	0	0.000	0.001	50	0.002	0.001	50	0.002
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												

Pager Billing

Pager No.	Low	Bound	High	Pager No.	Low	Bound	High
0	0.050	10	0.120	8			
1	0.030	15	0.200	9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			

Base Rates

FCOS	Rate	FCOS	Rate	FCOS	Rate	FCOS	Rate	FCOS	Rate
1	0.200	17	0.050	33	0.100	49	0.250		
2	0.200	18		34		50			
3	0.400	19		35		51			
4		20		36		52			
5		21		37		53			
6		22		38		54			
7		23		39		55			
8		24		40		56			
9		25		41		57			
10		26		42		58			
11		27		43		59			
12		28		44		60			
13		29		45		61			
14		30		46		62			
15		31		47		63			
16		32		48		64t	1.200		

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5333BIL2

Figure 1 1-2 Sample Billing Worksheet (continued)

Connect Time

There are three connect time statistics that you can bill for: user connect time, caller connect time, and call placement connect time. All these statistics are accumulated in the same way, but you can have a different set of rates for each port (line) group in the server. These statistics measure off-hook to on-hook phone line usage.

- **User connect** time is the time used by the mailbox owner to pick up messages and/or to make messages for other mailbox owners. The rates you set for user connect time apply to all calls through the specified port (line) group.

- **Caller connect time** is the time charged when outside callers leave messages in a mailbox or listen to the greeting of a Greeting-Only mailbox. The rates you set for caller connect time apply to all calls through the specified port (line) group.

- **Call placement connect** time is the amount of time required to place an off-server call, including any greeting a caller hears. The low-usage rate and high-usage rate applies to all line groups. The rates you set for call placement connect time apply to the entire server.

Measurement Method

Connect time other than call placement connect time is measured in tenths of minutes (6 seconds), rounded up if not exact. Call placement connect time is measured in one-minute units. This statistic can increment to about 109 hours before the accumulator restarts at zero. This is equivalent to about 3.5 hours per day for a month.

Calculation of Charges

When charges are calculated, they are based on minutes of connect time, rather than tenths of a minute. This is to allow rates, which are precise to $0.001, to be adjusted by small amounts.

Disk Usage

This section explains billing for disk usage.

Measurement Method

The disk usage statistic is calculated as follows: the message size multiplied by the time on disk. Message size is measured in tenths of a minute (6 seconds), rounded up if not exact. Time on disk is measured in hours, rounded up to the next hour, and is calculated when the message is deleted from the server.

The disk usage statistic resets to zero after 16,777,215 units of usage (one unit equals one-tenth of a minute multiplied by **1** hour of storage). This is equivalent to keeping three hours of speech for **1** year.

Calculation of Charges

Users typically accumulate several thousand units of disk usage per month, unless they delete messages immediately after they are received. If the rate were applied to the usage as accumulated, a rate of $.001 would be a significant charge, and the only way the rate could be changed would be to double it. Therefore, when charges are calculated, disk usage values are divided by one hundred, and the rate is specified to the nearest mil per minute of speech that has been kept for ten hours.

Other factors in the calculation of charges are:

- A user is not billed for messages that have not been deleted at the time that billing data are gathered. These messages are eventually deleted, however, and the charges are greater, since the time on disk has increased.
- No disk usage is accumulated for names or greetings. Charges for these can be included in the base rates.
- If a message is made with a distribution list, each mailbox that receives the message is charged for it.
- If a user gives a message, with comments, to another user, the sender is charged for the original message for as long as it remains on the server. The recipient is charged disk usage for both the original message, and for the comments, until each is deleted from the mailbox.

Messages Received

Every time a message is left in a mailbox, one of I4 statistics is incremented for that mailbox. Each message statistic can accumulate up to 4095 messages before it resets to zero. This is equivalent to 132 messages per day, for a month.

User messages are incremented in two ways:

- When a caller phones his/her own mailbox and "makes a message" for another mailbox, the recipient's mailbox counter increases.
- When a user "gives" a message, with comments, to another mailbox, the counter of the recipient mailbox increases by one. (The message, plus the comments, are counted as one message.)

Caller messages are incremented in several ways:

- When a caller phones into the server directly and leaves a message.
- When a greeting is delivered for a Greeting-Only mailbox. This includes times when the mailbox owner logs into his mailbox by pressing the star (*) key while the greeting is playing.
- When a caller phones into the server directly and leaves an urgent message.
- When a caller phones into the server directly, leaves a message, and requests a receipt response.

Network Rates

Network rates that can be set are grouped as message counts and message lengths.

Network message counts include messages sent, messages sent urgent, messages received, and messages received urgent. Network message lengths include messages sent, messages sent urgent, messages received, and messages received urgent. See Table 11-2 for a complete list of network rate statistics.

Pager Calls

Pager call rates are set by pager system, not by individual pager. Pagers that have the same access code index are on the same pager system. In the Billing Report, charges for pager calls are listed by line group.

Each time a successful page is issued, a counter is incremented in the mailbox. This does not necessarily correspond to the number of messages received. If two messages are received at the same time, only one page is made. If a message is not picked up within a selected period (the pager interval, which was configured when the mailbox was created), the server repages, if the mailbox pager frequency (which also was configured when the mailbox was created) is greater than 1. Each repage is counted as a separate page.

Unsuccessful repages are not counted in the mailbox statistics.

Adjusting Pager Call Rates in Mid-Cycle

The rate at which a page is billed depends on the access code index (the Pager System number) that is in the mailbox setup at the time the gather is done, not the one that is present at the time the page is made. If the access code index or the billing rate is changed in the middle of the billing period, all pages that were accumulated during the billing period are billed at the new rate.

Termination of Paging

When paging service is discontinued in the middle of the billing period, there is no access code index in the mailbox at the time of billing and, therefore, no pages are

billed, even if some have accumulated. To avoid this situation, generate a Termination Report (described earlier) before modifying the mailbox. This calculates the amount due without changing the statistics in the mailbox; the other charges are correct at the regular billing.

Low Usage Rates, low/High Boundary, High Usage Rate

The rates and boundary specified apply to all pagers in the specified pager system.

Message Delivery Billing Considerations

The server is capable of billing both paging and message delivery on a per-page basis. However, keep in mind that the server installation site, as the calling party, is responsible for any charges that accrue when paging or message delivery calls are made to the outside telephone network. While pager calls are usually very short, message delivery calls can be quite long. Since the cost of each call depends on the time of day that it was made, the duration of the call, the distance to the user, and the rates of the local telephone company, the server makes no provisions for this aspect of the billing.

The Centigram billing rates structure does allow you to specify an individual rate for each pager system. This rate is multiplied by the number of pages that are issued for the mailbox. If you put message delivery accounts and radio pager accounts on separate pager systems, you can increase the charges on the pager systems that service message delivery subscribers to compensate for any toll charges that the telephone company levies.

Adjusting Rates

You can set, adjust, or leave as is a low usage rate, low / high boundary rate, and high usage rate for each of the statistics in the billing categories on the worksheet (Table 1 l-2).

Table 1 l-2 Billing Categories

Category	Statistics Calculated and Reported
Mailbox accesses	Logins Greets
Base rates	FCOS usage by FCOS number (l-64 only)
Connect time (by line group)	User connect time Caller connect time Call placement connect time
Disk usage	Disk usage units other Fax disk usage (length of messages x time on disk) Fax disk usage units (applicable if the FaxMemo optional feature is installed)
Messages received	User messages Caller messages Call placement messages Future delivery messages Urgent messages Wakeup messages Receipt responses messages Fax received messages Fax sent messages Fax retrieval messages Fax undelivered messages Fax pages received messages Fax pages sent messages Fax pages retrieval messages (Applicable if the FaxMemo optional feature is installed.)
Network rates (applicable if the MESA-Net optional feature is installed)	Network messages sent Network urgent messages sent Number of network nodes sent to Number of network nodes sent urgent to Number of remote network recipients sent to Number of remote network recipients sent urgent to Network messages received Network urgent messages received Message length for network messages sent Message length for network messages sent urgent Message length for network messages received Message length for urgent network received Message length for number of network nodes sent Message length for number of network nodes sent urgent Message length for number of remote recipients sent Message length for number of remote recipients sent urgent
Pager calls	Successful pages issued

Billing Task List

VoiceMemo Release 6.0A and later

Billing

Task	Procedure
Billing Function Usage	Cl' 3365
Adjust Billing Rates for Full-Screen Interface	cl? 4355
Bill Outdials to an Account or Long Distance Carrier	CP 3289
Check Current Billing Rates	CP 4354
Configure an Automatic Gather	CP 4356
Request a Gather	cl? 4357
Set Base Rates	CP 4363
Set Billing Rates for Connect Time	Cl? 4364
Set Billing Rates for Disk Usage	cl? 4358
Set Billing Rates for Mailbox Accesses	CP 4359
Set Billing Rates for Message Delivery	CP 5016
Set Billing Rates for Messages Received	CP 4360
Set Billing Rates for Network Usage	CP 4361
Set Billing Rates for Pager Calls	CP 4362

Billing Function Usage

VoiceMemo Release 6.0A and later

This procedure summarizes the steps involved in using the billing function in a Series 6 server.

Step	*Reference*
1. Complete a Billing Worksheet. Blank Billing Worksheets are at the back of this manual.	
2. Check current billing rates to determine which rates, if any, you need to set (or adjust). If you are using the Full-Screen Interface, you can check the rates using the Adjust Billing Rates option.	CP *4355*
If you are using the Scrolling Interface, use the Report Rates option in the Billing Rates Menu to view current rates.	CP *4354*
3. Complete a billing worksheet and set billing rates as desired. If you are using the Full-Screen Interface, you can set all billing rates using one procedure.	*cl? 4355*
If you are using the Scrolling Interface, you can set billing rates for various usage and activity statistics that are grouped in these categories:	
• Mailbox accesses	CP *4359*
• Base rates	CP 4363
• Connect time	CP 4364
• Disk usage	CP 4358
• Message Delivery	CP 5016
• Messages received	CP 4360
• Network rates	CP 4361
• Bill Outdials to Account	CP 3289
• Pager calls	CP 4362
4. Configure an automatic gather, if desired. You can configure the server to perform an automatic gather weekly, monthly, or twice-monthly.	CP 4356
If you configured your server for automatic gather, activate the inactive configuration.	CP 7002, Ch. 1
5. Request a single (manual) gather when you want to obtain a current billing report between automatic gathers.	CP 4357
6. Obtain various billing reports as needed (see “Reports” Task List).	

Adjust Billing Rates for Full-Screen Interface

VoiceMemo Release 6.0A and later

This procedure describes how to examine or adjust billing rates when using the Full-Screen Interface. Refer to CP 3365 for a list of which procedures to use to adjust billing rates with the Scrolling Interface.

step	*Reference*
1. Reach the Billing Rates Menu, then go to the Adjust Billing Rates screens. Select: (A) Adjust Billing Rates ***Response:*** You are placed in the Adjust Billing Rates entry screen. Proceed as indicated in the following steps.	Menu Map 9
2. To examine billing rates, use the appropriate function keys to move through the eleven pages: • **F1** Next page • F2 Previous Page • F3 First Page • **F4** Last Page	
3. Note any billing rates you are interested in. You may want to do this in order to complete a Billing worksheet. Note: The billing worksheet has two pages. Be sure to complete both of them.	
4. Adjust the rates from your completed Billing Worksheet. You **can** use **the Tab** key, the **Enter** key, or the arrow keys to move around each page, and the function keys mentioned above to move between pages. When the cursor is located at a rate you wish to change, enter the new rate or boundary and press **Enter.**	
5. Continue adjusting rates and boundaries until you are satisfied with your changes.	
6. Save your changes by pressing **F10**. If you do not wish to save your changes, press F9 instead to cancel.	
7. Save your settings by exiting to the VoiceMemo Configuration Main Menu.	

Bill Outdials to an Account or Long Distance Carrier

VoiceMemo Release 6.0A and later

This procedure describes the steps for having an outdial billed to an account or a long distance carrier specified for the originating mailbox.

Step	*Reference*

Configure an Access Code

1. Reach the VoiceMemo Configuration Main Menu. — Menu Map 1
2. Go to the VoiceMemo Configuration Online Menu in the active or inactive configuration. Select Inactive Configuration if you just made a change through the Offline Menu without activating it, or Active Configuration otherwise.

   Select: (E) Modify Active Configuration
   or
   (F) Modify Inactive Configuration
3. Specify the line group through which outdials are sent.

   Select: (G) Group Selected
   Prompt: **Enter a group number =**
   Response: The **number** of the line group (1-24),

   or

   Press **Enter** if the current number is the desired line group.
4. Go to the Pagers Menu. — Menu Map 5

   Prompt: **ONLINE MENU (G,M,C,Q,X):**
   Response: **M**
5. Go to the Define Pagers Menu.

   Prompt: **PAGERS:**
   Response: **D**
6. Specify an outdial index for the access **code.**

   Select: (P) Current Pager System
   Prompt: **Enter a pager** system number **(0 thru** 15) **=**
   Response: The **index number** representing the access code for the outdials.

Step *Reference*

7. Specify the access code.

   Select: (D) Access Code
   Prompt: `Enter pager system access code (0 - 24 chars) =`
   Response: The **code (1-24** characters) that is common to mailbox owners using this outdial index. This code indicates what the server should dial before the destination telephone number. It comprises the first part of the dial string. Use the characters in Table 1, at the end of this procedure, **to** create the code.

   or

   Press **Enter** if the current access code is correct.

8. Save the parameter settings by exiting to the VoiceMemo Configuration Main Menu.

Establish a Minimum Billed Number Length

1. Reach the System Configuration Menu, then go to the Limits Class of Service Menu. — Menu Map **11**

2. Identify the LCOS assigned to the mailbox.

   Select: (C) Choose Limits COS to Modify
   Prompt: **`Enter limits COS to modify =`**
   Response: **Number** of the LCOS you want to modify (1-640), or just press **Enter** if the displayed LCOS is the one you want.

3. Set the minimum billed number length parameter.

   Select: (E) Set Even More Limits for Selected LCOS
   Prompt: **`EVEN MORE LIMITS MENU:`**
   Response: **I,** to select the Minimum Billed Number Length limits parameter.

   Prompt: **`Enter the minimum billed number length =`**
   Response: The minimum number of characters in the outdial string required to activate call charges to an account or activate the specified carrier.

4. Save the limit you **just** set.

   Select: (X) Exit - to Main Menu
   Prompt: `LCOS MENU (C,N,L,M,E,O,P,D,S,T,V,U,W,Y,Q,X):`
   Response: X, which saves the setting and returns you to the System Configuration Menu.

Step | *Reference*

Configure the Mailbox

1. Reach the Mailbox Maintenance Menu. Enter the requested information, as described in the following steps, from your completed Mailbox Worksheet. — Menu Map 3

2. Identify the mailbox to be created or modified.

   Note: This functionality changes with 6.0 full-screen mailbox configuration. These instructions only apply for the line (as opposed to screen) interface.

   Select: (C) Create New Mailboxes
   Prompt: `Mailbox to create:`
   Response: Number of the new mailbox you want to configure for outdial billing or for a specific carrier.

   or

   Select: (M) Modify Mailboxes
   Prompt: `Mailbox to modify:`
   Response: Number of the existing mailbox you want to reconfigure for outdial billing or for a specific carrier.

   Note: The prompts are almost the same for creating a new mailbox and modifying an existing one, except that "New" precedes each prompt when you select Modify Mailboxes.

3. Press Enter `until` the Limits Class of Service prompt appears.

4. Assign the LCOS containing the minimum billed number length parameter to this mailbox.

   Prompt: `Limits class of service:`
   Response: Number (l-640) of the LCOS.

5. Press Enter `until` the Enter Internal Outdial Index prompt appears.

6. Specify the index number for internal calls.

   Prompt: `Enter internal outdial index:`
   Response: The index number (O-l 5) representing the access code for internal calls.

7. Specify the billed outdial index.

   Prompt: `Enter billed outdial index:`
   Response: The index number `(0-15)` representing the access code for outdials to be charged to a billing account.

Step	*Reference*

8. Specify the index for unbilled outdials.

   Prompt: **Enter unbilled outdial index:**
   Response: The **index number** (O-15) representing the access code for outdials not charged to a billing account.

9. Specify the account to which outdials are to be billed.

   Prompt: **Enter billing number:**
   Response: The number of the account, up to 24 digits, that outdials are billed to.

10. Specify the order in which the server processes the billing number and destination telephone number in the outdial dial string.

    Prompt: **Enter billing dialing order:**
    Response: **BN** to require the billing number to be processed before the destination telephone number

    or

    NB to require the destination telephone number to be processed before the billing number.

11. Specify pagers as the message waiting type for message waiting type #1 or #2.

    Prompt: **Message waiting type #1: or Message waiting type #2**
    Response: 5

12. Specify the pager access type as "billed."

    Prompt: **Pager access type:**
    Response: **B** for Billed Outdial Index.

13. Set the other paging parameters as desired. — CP **5019,** Ch. **4**

14. Press **Enter** until the Call Placement Pager Access Type parameter displays.

15. Specify the call placement pager access type as "billed."

    Prompt: **Call placement pager access type:**
    Response: **B** for Billed Outdial Index.

16. Press **Enter** to skip through each of the remaining mailbox configuration prompts. After the last prompt, the server displays the mailbox configuration, then prompts for the next mailbox number.

    At this point, the parameter settings are saved and you can exit.

Step *Reference*

Table 1 Dial String Characters

character	Explanation
0-9, *, #	Keys on a standard pushbutton telephone
(	The following digits should be dial pulsed (10 PPS)
)	Stop pulsing; resume sending DTMF tones
+	Pause for one second
A-D	Fourth column DTMF keys
E	Go off-hook, wait for dial tone or other steady tone (pager go-ahead or confirmation tone, for example), then do next item in string
F	Switch hook flash and wait for dial tone
G	Greet - Wait for a voice or computer tone answer
H	Hang up (go on-hook)
L	Wait for an answer supervision signal that indicates the receiving phone has gone off-hook, then dial remaining characters after receiving the signal. Valid only with four-wire connections, not with loop start or ground start phone lines.
N	Start a new activity; do not go off-hook
0	Ring once
P	Go off-hook, do not wait for dial tone
S	Switch hook flash, no wait required
T .	Go off-hook, wait for dial tone. Centigram-recommends T as the first character in the access code.
V	Play three seconds of the message for voice pager.

Check Current Billing Rates

VoiceMemo Release 6.0A and later

This procedure describes how to check the current rates for various statistics **that the** Series 6 server uses to generate billing reports. These are:

- Base Rates
- Mailbox Access Rates
- User and Caller Message Rates
- FaxMemo Processing Rates
- Disk Usage Rates
- Connect Time Rates
- Network Rates
- Call Placement, Future Delivery, Urgent, Wakeup Rates
- Receipt Processing Rates
- Pager Call Rates

This procedure is to be used with the Scrolling Interface only. Use CP 4355 **for the** Full-Screen Interface.

Step	*Reference*
1. Reach the Billing Rates Menu then go to the Report Billing Rates Menu.	Menu Map 9
2. Select the desired option(s) for the statistics you want to check, as described in the following sections.	

Checking Base Rates (Keyed to **FCOSs)**

Select: (B) Base Rates
Response: No response is necessary. The server displays a list of all FCOSs in numerical order and the current rate for each.

Note: FCOSs from 65 to 640 are billed and reported at the rates for FCOS 64.

Checking Connect Time Rates

- To view rates for caller connect time:

  Select: (C) Caller Connect Rates
  Response: No response is necessary. The server displays the current low usage rate, low/high boundary, and high usage rate, by line (port) group.

- To view rates for user connect time:

  Select: (C) User Connect Rates
  Response: No response is necessary. The server displays the current low usage rate, low/high boundary, and high usage rate, by line (port) group.

Step	*Reference*

- To view rates for call placement connect time:

  Select: (0) Other Rates

  Response: No response is necessary. The server displays the current low usage rate, low/high boundary, and high usage rate under "Connect Time."

Checking Mailbox Access Rates

- To view rates for greetings:

  Select: (G) Greeting Rates

  Response: No response is necessary. The server displays the current low usage rate, low/high boundary, and high usage rate, by line (port) group.

- To view rates for logins:

  Select: (G) Logins Rates

  Response: No response is necessary. The server displays the current low usage rate, low/high boundary, and high usage rate, by line (port) group.

Checking Network Rates

Select: (N) Network Rates

Response: No response is necessary. The server displays the current low usage rate, low/high boundary, and high usage rate, by line (port) group, for Network message counts and Network message lengths.

Checking Rates for User and Caller Messages

Select: (0) Other Rates

Response: No response is necessary. The server displays the current low usage rate, low/high boundary, and high usage rate for users and callers under "Message Counts."

Checking Rates for Call Placement, Future Delivery, Urgent, or Wakeup Messages

Select: (0) Other Rates

Response: No response is necessary. The server displays the current low usage rate, low/high boundary, and high usage rate for these statistics under "Message Counts."

Step | *Reference*

Checking Rates for **FaxMemo** Processing

Select: (0) Other Rates

Response: No response is necessary. The server displays the current low usage rate, low/high boundary, and high usage rate for FaxMemo statistics under "Message Counts."

Checking Rates for Receipt Processing

Select: (0) Other Rates

Response: No response is necessary. The server displays the current low usage rate, low/high boundary, and high usage rate for receipt responses under "Message Counts."

Checking Rates for Disk Usage

Select: (0) Other Rates

Response: No response is necessary. The server displays the current low usage rate, low/high boundary, and high usage rate for FaxMemo disk usage and all disk usage under "Disk Usage."

Checking Rates for Pager Calls

Select: (I?) Pager Calls

Response: No response is necessary. The server displays the current low usage rate, low/high boundary, and high usage rate for supported pager systems by access code.

Configure an Automatic Gather

VoiceMemo Release 6.0A and later

This procedure describes how to configure the server to perform a gather of billing data weekly, monthly, or twice-monthly.

WARNING!

This procedure makes changes to the inactive configuration. You must activate the inactive configuration for the changes to take effect. See CP 7002, in Chapter 1, for instructions.

Step	*Reference*
1. Reach the VoiceMemo Configuration Main Menu, then go to the VoiceMemo Configuration Offline Menu.	Menu Map *2*

CAUTION!

A

You should make all offline configuration entries on a duplicate of the active configuration so that you can easily check them, and easily correct them if necessary, before activating the configuration.

2. If desired, duplicate the configuration.

   Select: (B) Duplicate Active Configuration

   Response: The server copies the current (active) configuration. When copying is completed, the short form of the Offline Menu appears.

   All subsequent steps in this procedure – along with any other configuration entries – affect just the copy, and take effect only after you activate the configuration.

3. Choose the Auto Gather-System Billing option.

4. When the Auto Gather Menu displays, enable the Auto Gather function.

   Select: (E) Auto Gather Enabled (w/m/n)

   Prompt: `Auto gather enabled (W/M/N) = [N]`

   Response: W to enable a weekly gather,

   M to enable a monthly or twice-monthly gather, *or*

   N to disable auto gather.

   Note: On a new server, perform the next step before this one, as a day must be assigned before enabling Auto gather for weekly.

5. Configure an automatic weekly gather, automatic monthly gather, or twice-monthly gather as described in the applicable section below.

Step	*Reference*

Automatic Weekly Gather

1. Go to the Weekly Gather Menu. — Menu Map 2
2. Specify the day of the week you want the gather to be performed.

   Select: (D) Day to Gather (M/T/W/TH/F/S/SU)
   Prompt: **Day to gather** (M/T/W/TH/F/S/SU) **=**
   Response: Enter the **letter(s)** indicating the day of the week.

3. Specify the time of day you want the gather to be performed.

   Select: (H) Hour to Gather (0 - *23)*
   Prompt: **Hour to gather (0 - 23) =**
   Response: Enter the **number** (O-23) representing the hour; 0 = midnight, 12 = noon, and 23 = **11** p.m.

4. Save your settings by exiting to the VoiceMemo Configuration Main Menu.

Automatic Monthly Gather

1. Go to the Monthly Gather Menu. — Menu Map 2
2. Specify the day of the month you want the gather to be performed.

   Select: (D) Day of Month to Do First Gather (l-28)
   Prompt: **Day of month to do gather (l-28) =**
   Response: Enter the **day** (l-28) of the month to perform the gather.

3. Specify the time of day you want the gather to be performed.

   Select: (H) Hour to Gather (0 - 23)
   Prompt: **Hour** to **gather (0 - 23) =**
   Response: Enter the **number** (O-23) representing the hour; 0 = midnight, 12 = noon, and 23 = 11 p.m.

4. Save your settings by exiting to the VoiceMemo Configuration Main Menu.

Automatic Twice-Monthly Gather

1. Go to the Monthly Gather Menu. — Menu Map 2
2. Specify the first day of the month you want the gather to be performed.

   Select: (D) Day of Month to Do First Gather (l-28)
   Prompt: **Day of month to do gather (l-28) =**
   Response: Enter the first **day** (l-28) of the month to perform the gather.

Step *Reference*

3. Specify the second day of the month you want the gather to be performed.

   Select: (D) Day of Month to Do Second Gather **(l-28)**
   Prompt: **Day of month to do gather (l-28) =**
   Response: Enter the second **day** (l-28) of the month on which you want the gather to be performed.

4. Specify the time of day you want both gathers to be performed.

   Select: (H) Hour to Gather (0 - 23)
   Prompt: **Hour to gather (0 - 23) =**
   Response: Enter the **number** (O-23) representing the **hour;** *0* = midnight, **12 =** noon, and 23 = 11 p.m. The gather is performed on both days at this time.

5. Enable the twice-monthly schedule.

   Select: (S) Second Auto Gather Enabled (y/n)
   Prompt: **Second day auto gather enabled (y/n) =**
   Response: **Y** for Yes.

6. Save your settings by exiting to the VoiceMemo Configuration Main Menu.

Request a Gather

VoiceMemo Release 6.0A and later

This procedure describes how to request a gather. Requesting the Series 6 server to perform a gather is typically a prerequisite for obtaining billing reports.

Step	*Reference*

CAUTION!

When the server performs a gather, all previous billing data is destroyed.

1. Reach the Reports Menu, then go to the Billing Menu. — Menu Map 9

   Select: (G) Gather Data
   Prompt: `WARNING!! This will destroy previous billing data Type 'gather" if you really want to do this`
   Response: gather to continue with the process,

   or

   Press Enter to cancel the gather.

   The server displays status messages while the gather is performed.

2. When the server displays the number of mailboxes updated:
   - The gather is complete.
   - The counts of all statistics are set to zero.
   - Any billing report you obtain is current as of this gather.

Set Base Rates

VoiceMemo Release 6.0A and later

This procedure describes how to set base rates for billing purposes. This procedure is to be used with the Scrolling Interface only. Use CP 4355 for the Full-Screen Interface.

Step	***Reference***
1. Reach the Billing Menu, then go to the Adjust Rates Menu.	Menu Map 9

2. Start the Base Rates report and specify the FCOS base rate you want to set.

   Select: (B) Base Rates
   Prompt: **Which FCOS base rates to change ?**
   Response: Enter one or more FCOS numbers. Valid entries are:

   - A = all (1-64)
   - E = even
   - 0 = odd
   - L = lower half (1-32)
   - U = upper half (33-64)
   - A range of first-last, for example, 1-5
   - Individual numbers separated by commas, for example, 1,3,4,6
   - A single FCOS number, for example, 1

   Note: FCOSs from 65 to 640 are billed at the rates for FCOS 64.

3. Set the rate. For this step, assume you specified FCOS 1 (Unlimited) in the preceding step.

   Prompt: **Enter base rate or hit return to keep displayed value**
   1: UNLIMITED base rate ($n.nn) ? $
   Response: Enter an amount from $0.01 through $654.99, *or*

   Enter 0.00 to clear the current rate (you must enter two digits after the decimal point when entering an amount or clearing the current rate), *or*

   Press **Enter** to keep the current setting.

4. Exit to the Main Menu to make your settings take effect.

Set Billing Rates for Connect Time

VoiceMemo Release 6.0A and later

This procedure describes how to set low usage rates, high usage rates, and a high/low boundary for user connect time, caller connect time, and call placement connect time. The Series 6 server uses these rates to calculate charges when generating billing reports. This procedure is to be used with the Scrolling Interface only. Use CP 4355 for the Full-Screen Interface.

Step	*Reference*
1. Reach the Billing Menu, then go to the Adjust Rates Menu.	Menu Map 9

2. Specify the port (line) group to which user and caller connect time rates will apply. Rates for call placement connect time apply to *all* line groups.

   Select: (C) Connect Time
   Prompt: `Enter the port group number for connect rates (1-16) ?`
   Response: Enter the line group **number** (1-16).

3. Set the low usage rate for user connect time.

   Prompt:
   ```
   Enter new rate (hit return to keep displayed value).
   user connect time
   low usage rate ($ n.nnn) ? $
   ```
   Response: Enter an **amount** from $0.01 through $64.99, *or*

   Enter **0.00** to clear the current rate (you must enter two digits after the decimal point when entering an amount or clearing the current rate), *or*

   Press **Enter** to keep the current setting.

4. Set the low/high boundary for user connect time.

   Prompt: `low/high boundary (  n) ?`
   Response: Enter a **number** from 1 through 65535 that represents the number of units at which the low rate changes to a high rate, *or*

   Enter **0** to clear the boundary and establish a uniform rate regardless of amount of usage, *or*

   Press **Enter** to keep the current setting.

5. Set the high usage rate for user connect time.

   Prompt: `high usage rate ($ n.nnn) ? $`
   Response: Enter an **amount** from $0.01 through $64.99, *or*

   Enter **0.00** to clear the current rate, *or*

   Press **Enter** to keep the current setting.

Step	*Reference*

6. Set the low usage rate for caller connect time.

   Prompt: `caller connect time`
   `low usage rate ($ n.nnn) ? $`
   Response: Enter an **amount** from $0.01 through $64.99, *or*

   Enter **0.00** to clear the current rate (you must enter two digits after the decimal point when entering an amount or clearing the current rate), *or*

   Press **Enter** to keep the current setting.

7. Set the low/high boundary for caller connect time.

   Prompt: `low/high boundary (  n) ?`
   Response: Enter a **number** from 1 through 65535 that represents the number of units at which the low rate changes to a high rate, *or*

   Enter **0** to clear the boundary and establish a uniform rate regardless of amount of usage, *or*

   Press **Enter** to keep the current setting.

8. Set the high usage rate for caller connect time.

   Prompt: `high usage rate ($ n.nnn) ? $`
   Response: Enter an **amount** from $0.01 through $64.99, *or*

   Enter **0.00** to clear the current rate, *or*

   Press **Enter** to keep the current setting.

9. Set the low usage rate for call placement connect time.

   Prompt: `call placement connect time (for all groups)`
   `low usage rate ($ n.nnn) ? $`
   Response: Enter an **amount** from $0.01 through $64.99, *or*

   Enter **0.00** to clear the current rate (you must enter two digits after the decimal point when entering an amount or clearing the current rate), *or*

   Press **Enter** to keep the current setting.

Step	*Reference*

10. Set the low/high boundary for call placement connect time.

    Prompt: `low/high boundary (  n) ?`
    Response: Enter a **number** from 1 through 65535 that represents the number of units at which the low rate changes to a high rate, *or*

    Enter **0** to clear the boundary and establish a uniform rate regardless of amount of usage, *or*

    Press **Enter** to keep the current setting.

11. Set the high usage rate for call placement connect time.

    Prompt: `high usage rate ($ n.nnn) ? $`
    Response: Enter an **amount** from $0.01 through $64.99, *or*

    Enter **0.00** to clear the current rate, *or*

    Press **Enter** to keep the current setting.

12. Exit to the Main Menu to make your settings take effect.

Set Billing Rates for Disk Usage

VoiceMemo Release 6.0A and later

This procedure describes how to set low usage rates, high usage rates, and a high/low boundary for Fax disk usage and other disk usage. The Series 6 server uses these rates to calculate charges when generating billing reports. This procedure is to be used with the Scrolling Interface only. Use CP 4355 for the Full-Screen Interface.

Step	*Reference*
1. Reach the Billing Menu, then go to the Adjust Rates Menu.	Menu Map 9

2. Set the low usage rate for disk usage other than Fax disk usage.

   Select: (D) Disk Usage
   Prompt: `Enter new rate (hit return to keep displayed value).`
   `Disk use rates`
   `low usage rate ($ n.nnn) ? $`
   Response: Enter an **amount** from $0.01 through $64.99, *or*

   Enter **0.00** to clear the current rate (you must enter two digits after the decimal point when entering an amount or clearing the current rate), *or*

   Press **Enter** to keep the current setting.

3. Set the low/high boundary for disk usage.

   Prompt: `low/high boundary (    n) ?`
   Response: Enter a **number** from 1 through 65535 that represents the number of disk usage units at which the low rate changes to a high rate, *or*

   Enter **0** to clear the boundary and establish a uniform rate regardless of amount of usage, *or*

   Press **Enter** to keep the current setting.

4. Set the high usage rate for disk usage.

   Prompt: `high usage rate ($ n.nnn) ? $`
   Response: Enter an **amount** from $0.01 through $64.99, *or*

   Enter **0.00** to clear the current rate, *or*

   Press **Enter** to keep the current setting.

5. If you want to set Fax disk usage rates, proceed in the same manner as just described for other disk usage; otherwise, press **Enter** until the short form of the Billing Rates Menu appears.

6. Exit to the Main Menu to make your settings take effect.

Set Billing Rates for Mailbox Accesses

VoiceMemo Release 6.0A and later

This procedure describes how to set low usage rates, high usage rates, and a high/low boundary for the two types of mailbox access statistics: logins and greets. The Series 6 server uses these rates to calculate charges when generating billing reports. This procedure is to be used with the Scrolling Interface only. Use CP 4355 for the Full-Screen Interface.

Step	*Reference*
1. Reach the Billing Menu, then go to the Adjust Rates Menu.	Menu Map 9

2. Specify the port (line) group to which these mailbox access rates will apply.

   Select: (A) Mailbox Accesses
   Prompt: `Enter the port group number for mailbox access (1-16) ?`
   Response: Enter the line group **number** (1-16).

3. Set the low usage rate for logins.

   Prompt: `Enter new rate (hit return to keep displayed value).`
   `low usage rate ($ n.nnn) ? $`
   Response: Enter an **amount** from $0.01 through $64.99, *or*

   Enter **0.00** to clear the current rate (you must enter two digits after the decimal point when entering an amount or clearing the current rate), *or*

   Press **Enter** to keep the current setting.

4. Set the low/high boundary for logins.

   Prompt: `low/high boundary ( n) ?`
   Response: Enter a **number** from 1 through 65535 that represents the number of units at which the low rate changes to a high rate, *or*

   Enter **0** to clear the boundary and establish a uniform rate regardless of amount of usage, *or*

   Press **Enter** to keep the current setting.

5. Set the high usage rate for logins.

   Prompt: `high usage rate ($ n.nnn) ? $`
   Response: Enter an **amount** from $0.01 through $64.99, *or*

   Enter **0.00** to clear the current rate, *or*

   Press **Enter** to keep the current setting.

6. Set the low usage rate, low/high boundary, and high usage rate for greets as just described for logins.

7. Exit to the Main Menu to make your settings take effect.

Set Billing Rates for Message Delivery

VoiceMemo Release 6.0A and later

This procedure describes how to set rates which the Series 6 server can use to produce a report for billing message delivery usage. This procedure is to be used with the Scrolling Interface only. Use CP 4355 for the Full-Screen Interface.

Step	*Reference*

Rates for Connect Time

1. Reach the Billing Menu then go to the Adjust Rates Menu. Enter the requested information, as described in the following steps, from your completed Billing Worksheet. — Menu Map 9

2. Specify the line group in which message delivery is enabled.

   Select: (C) Connect Time
   Prompt: `Enter the port group number for connect rates (1-16)`
   Response: The **number** (1-16) of the line group.

3. Set rates for user (mailbox owner) connect time.

   Prompt: `Enter new rate (hit return to keep displayed value).`
   `User connect time`
   `Low usage rate ($ 0.000) ? $`
   Response: The **rate** ($0.00-$64.99) to charge per minute of connect time for low usage.

   Prompt: `Low/high boundary (  0)?`
   Response: The boundary, in **tenths of a minute** (0-65535), at which the rate will change from the low rate to the high rate. For example, 600 equals 1 hour. Enter **0** to charge the same rate regardless of usage.

   Prompt: `High usage rate ($ 0.000) ?`
   Response: The **rate** ($0.00-$64.99) to charge per minute of connect time for high usage.

Step	*Reference*

4. Set rates for caller connect time.

   Prompt: `Caller connect time`
   `Low usage rate ($ 0.000) ? $`
   Response: The **rate** ($0.00-$64.99) to charge per minute of connect time for low usage.

   Prompt: `Low/high boundary (  0)?`
   Response: The boundary, in **tenths of a minute** (0-65535), at which the rate will change from the low rate to the high rate. Enter **0** to charge the same rate regardless of usage.

   Prompt: `High usage rate ($ 0.000) ?`
   Response: The **rate** ($0.00-$64.99) to charge per minute of connect time for high usage.

5. Set rates for call placement connect time.

   Prompt: `Call placement connect time (for all groups)`
   `Low usage rate ($ 0.000) ? $`
   Response: The **rate** ($0.00-$64.99) to charge per minute of connect time for low usage.

   Prompt: `Low/high boundary (  0)?`
   Response: The boundary, in **tenths of a minute** (0-65535), at which the rate will change from the low rate to the high rate. Enter **0** to charge the same rate regardless of usage.

   Prompt: `High usage rate ($ 0.000) ?`
   Response: The **rate** ($0.00-$64.99) to charge per minute of connect time for high usage.

Rates for Message Delivery Calls

1. Reach the Billing Menu then go to the Billing Rates Menu. Enter the requested information, as described in the following steps, from your completed Billing Worksheet. — Menu Map 9

Step | *Reference*

2. Specify the first pager system that includes message delivery you want to set rates for.

   Select: (P) Pager Calls
   Prompt: `Enter new rate (hit return to keep displayed value).`
   `Pager system to change (hit return to exit)`
   Response: The index **number** (0-15) of the pager system that includes message delivery.

3. Set the rate for low usage.

   Prompt: `Pager system n`
   `Low usage rate ($ 0.00) ? $`
   Response: The **amount** ($0.00-$64.99) to charge per call for low usage. Two or three digits must be entered after the decimal point.

4. Set the boundary for a rate change.

   Prompt: `Low/high boundary (    0)?`
   Response: The **number** (0-65535) of message delivery calls that represents the boundary at which the rate changes from the low usage rate to the high usage rate. Enter **0** to charge the same rate regardless of usage.

5. Set the rate for high usage.

   Prompt: `High usage rate ($ 0.000) ? $`
   Response: The **amount** ($0.00-$64.99), to charge per call for high usage. Two or three digits must be entered after the decimal point.

6. Continue to the next pager system that includes message delivery you want to set rates for, or exit the Pager Calls option.

   Prompt: `Pager system to change (hit return to exit)`
   Response: The index **number** (0-15) of the next pager system that includes message delivery, *or*

   Press **Enter** to exit and save the settings.

Set Billing Rates for Messages Received

VoiceMemo Release 6.0A and later

This procedure describes how to set low usage rates, high usage rates, and a high/low boundary for types of messages received. The Series 6 server uses these rates to calculate charges when generating billing reports. Types of messages received are:

- User messages
- Caller messages
- Call placement messages
- Future delivery messages
- Urgent messages
- Wakeup messages
- Receipt response messages
- Fax received, sent, retrieval, and undelivered messages
- Fax pages received, sent, and retrieved messages

This procedure is to be used with the Scrolling Interface only. Use CP 4355 for the Full-Screen Interface.

Step	*Reference*
1. Reach the Billing Menu, then go to the Adjust Rates Menu.	Menu Map 9

2. Select the Messages Received option.

Select: (M) Messages Received

Prompt:
```
Enter new rate (hit return to keep displayed value).
user messages
low usage rate ($ n.nnn) ? $
```

Response: Skip to the desired messages received type, or set the rates and the boundary for user messages.

- To skip to the desired messages received type, just press **Enter** in response to the Low Usage Rate, Low/high Boundary, and High Usage Rate prompts until the desired messages received type appears.
- To set rates and the boundary for user messages or any other messages received type:

Prompt:
```
<messages received type>
low usage rate ($ n.nnn) ? $
```

Response: Enter an **amount** from $0.01 through $64.99, *or*

Enter **0.00** to clear the current rate (you must enter two digits after the decimal point when entering an amount or clearing the current rate), *or*

Press **Enter** to keep the current setting.

Step	*Reference*

Prompt: `low/high boundary (  n) ?`
Response: Enter a **number** from 1 through 65535 that represents the number of units at which the low rate changes to a high rate, *or*

Enter **0** to clear the boundary and establish a uniform rate regardless of amount of usage, *or*

Press **Enter** to keep the current setting.

Prompt: `high usage rate ($ n.nnn) ? $`
Response: Enter an **amount** from $0.01 through $64.99, *or*

Enter **0.00** to clear the current rate, *or*

Press **Enter** to keep the current setting.

3. Exit to the Main Menu to make your settings take effect.

Set Billing Rates for Network Usage

VoiceMemo Release 6.0A and later

This procedure describes how to set low usage rates, high usage rates, and a high/low boundary for types of network usage. The Series 6 server uses these rates to calculate charges when generating billing reports. Types of network usage are:

- Network messages sent
- Network urgent messages sent
- Number of network nodes sent to and sent urgent to
- Number of remote network recipients sent to and sent urgent to
- Network messages received and network urgent messages received
- Message length for network messages sent, sent urgent, received, and received urgent
- Message length for number of network nodes sent and sent urgent
- Message length for number of remote recipients sent and sent urgent

This procedure is to be used with the Scrolling Interface only. Use CP 4355 for the Full-Screen Interface.

Step	*Reference*
1. Reach the Billing Menu, then go to the Adjust Rates Menu.	Menu Map 9

2. Select the Network Rates option.

Select: (N) Network Rates
Prompt: `Network messages sent low usage rate ($ n.nnn) ? $`
Response: Skip to the desired network usage type, or set the rates and the boundary for network messages sent.

- To skip to the desired network usage type, just press **Enter** in response to the Low Usage Rate, Low/high Boundary, and High Usage Rate prompts until the desired network usage type appears.
- To set rates and the boundary for network messages sent or any other network usage type:

Prompt: `<network usage type> low usage rate ($ n.nnn) ? $`
Response: Enter an **amount** from $0.01 through $64.99, *or*

Enter **0.00** to clear the current rate (you must enter two digits after the decimal point when entering an amount or clearing the current rate), *or*

Press **Enter** to keep the current setting.

Prompt: `low/high boundary (  n) ?`

Step	*Reference*

Response: Enter a **number** from 1 through 65535 that represents the number of units at which the low rate changes to a high rate, *or*

Enter **0** to clear the boundary and establish a uniform rate regardless of amount of usage, *or*

Press **Enter** to keep the current setting.

Prompt: `high usage rate ($ n.nnn) ? $`
Response: Enter an **amount** from $0.01 through $64.99, *or*

Enter **0.00** to clear the current rate, *or*

Press **Enter** to keep the current setting.

3. Exit to the Main Menu to make your settings take effect.

Set Billing Rates for Pager Calls

VoiceMemo Release 6.0A and later

This procedure describes how to set low usage rates, high usage rates, and a high/low boundary for supported pager systems. The Series 6 server uses these rates to calculate charges when generating billing reports. This procedure is to be used with the Scrolling Interface only. Use CP 4355 for the Full-Screen Interface.

Step	*Reference*
1. Reach the Billing Menu, then go to the Adjust Rates Menu.	Menu Map 9
2. Specify the index of the pager system to set the rate for. *Select:* (P) Pager Calls *Prompt:* `Enter new rate (hit return to keep displayed value).` `Pager system to change (hit return to exit) ?` *Response:* Enter the **index** (0-15) of the supported pager system you want to set a rate for.	
3. Set the low usage rate for pager calls. *Prompt:* `Pager system n` `low usage rate ($ n.nnn) ? $` *Response:* Enter an **amount** from $0.01 through $64.99, *or* Enter **0.00** to clear the current rate (you must enter two digits after the decimal point when entering an amount or clearing the current rate), *or* Press **Enter** to keep the current setting.	
4. Set the low/high boundary for pager calls. *Prompt:* `low/high boundary (  n) ?` *Response:* Enter a **number** from 1 through 65535 that represents the number of pager calls at which the low rate changes to a high rate, *or* Enter **0** to clear the boundary and establish a uniform rate regardless of amount of usage, *or* Press **Enter** to keep the current setting.	
5. Set the high usage rate for pager calls. *Prompt:* `high usage rate ($ n.nnn) ? $` *Response:* Enter an **amount** from $0.01 through $64.99, *or* Enter **0.00** to clear the current rate, *or* Press **Enter** to keep the current setting.	
6. Exit to the Main Menu to make your settings take effect.	

12 Reports

This chapter describes Series 6 server reports available to you. Types of reports covered are:

- System Error Logfile
- Statistics reports
- Verify reports
- Billing reports
- Configuration and usage reports
- Phonebook Report

Five of the reports in this chapter are also included in the *Series 6 Installation and Service Manual,* along with their related procedures. The duplicated reports and procedures are:

- Hard Disk Operational Parameters Report
- History File
- System Error Logfile
- System Information Report
- Virtual Drive Statistics Report

Overview

The server records information for many uses, such as determining the status of the server, troubleshooting a problem, maintaining a history of software installed on the server, checking mailbox activity, or administering mailboxes. Reports can be directed to the console, to a serial port, or a file. You can generate a hard copy of a report by connecting a printer to a serial port. The server supports a 9600-baud, 400 cps, 75K buffer serial printer.

Output Options

If the report is long, use the **P** option when displaying the report to the console. This displays the report 24 lines at a time, pausing until you hit the space bar. You must enter **Q** to Quit out of the pausing option. You can enter **Q** at any time if you do not want to see the entire report.

If the **P** option is not available for a particular report, use the following commands to control scrolling:

- To stop scrolling: **Ctrl-S**
- To resume scrolling: **Ctrl-Q**
- To discontinue the report: **Ctrl-C**

Logfiles

The logfile is a record of any detected module or server errors, and the date and time of any server resets. Each module maintains its own copy of the logfile, resulting in a delay in a request to display the logfile while the server produces the report. The larger the report becomes, the longer the delay in the viewing process becomes.

The default is that the logfile is stored on the hard disk in a file named "/usr/vm/log/logfile," and that it is sent to the console when the "Show logfile" option is selected. You can save the record into a file with another name or send the information to either the console or a serial device such as a printer.

Using the Logfile Menu, there are two ways to change where the logfile is viewed and what port it is sent to. The menu choice "Toggle Display, Choose Logfile Serial Redirection," changes where the information is sent as it occurs. This is a temporary setting and is removed when the server is reset. You can use this menu option when the hard disk has run out of room to save the log data, or if you want to see the log activity momentarily. The menu choice "Choose logfile serial redirection," changes the default settings and is used after a server reset. By changing the serial redirection to a serial port that has a printer attached, you can produce a hard copy of the information. You can still view the report on the console using the "Show logfile" menu option.

For server maintenance, review and clear all logfiles on a weekly basis. If entries have been made to the report since the last time it was displayed, the System Status screen above the Main Menu shows a Y in the ERRORS: field.

Note: If you are unsure of the meaning or importance of any logfile message, do not clear the logfile until you have consulted with the server technician or your distributor.

The logfile is in the format:

```
<sitecode><m> <tid>(<task_name>) <date> <time>: <error message>
    <code>
```

where:

`<sitecode>`	Site code assigned to the module (seen serial output only)
`<m>`	Module on which the failure occurred

<tid>	Task id of the program reporting the problem
<task_name>	Name of the server resource
<date>	Date of the occurrence
<time>	Time at which this happened
<error message>	Type of error that has occurred
<code>	Failure code

If your server is single module, the module number is listed as 0 instead of 1.

Failure codes are explained in the *Series 6 Installation and Service Manual.* A sample logfile report from a single module server is shown in Figure 12-1.

```
                              SYSTEM ERROR LOGFILE
                            Thu Apr 20 17:34:39 1995


1 00151(vmnet    ) 04/20 16:37:05: VMNET: NB1 skip 0 [90100000002640]
1 00151(vmnet    ) 04/20 16:37:05: VMNET: set_nq_rply(4) skip 0 [90100000002640]

1 00142(vmnet    ) 04/20 16:39:35: VMNET: NB1 skip 0 [90100000002640]
1 00142(vmnet    ) 04/20 16:39:35: VMNET: set_nq_rply(4) skip 0 [90100000002640]

1 00115(netq_age) 04/20 16:39:35: NETQLIB: can't send to NETQ
1 00296(allocato) 04/20 16:39:35: allocator: Allocated '/usr/vm/bin/netq' to no
                                  de 1 type 5
1 00105(sendvm   ) 04/20 16:39:36: aopen fail reslt=-7,rcrd=000000000000000
```

Figure 12-1 Sample Logfile

Statistics Reports

The server can produce many types of statistics reports, as shown in Table 12-1. You can request reports for any or all parts of the most recent seven days' activity. Standard reports for each statistic show the resource usage in 15-minute increments. The server administrator has the option of generating a summary report, where one set of data is generated for the entire time period.

Table 12-1 Types of Statistics Reports Available

Report	Description
All Trunks Busy Statistics (Group Usage)	Shows the number of times in a specified period that *every* port within a line group was busy, and the total number of seconds that this condition occurred within that time period. You can display data for a single line group or for a range of line groups.
Line Group Usage Statistics	Gives the number of seconds that an individual port was busy and the number of calls received by that port, within a chosen time period. You can display data for a single port or for a range of ports. This report is similar to Line Usage Statistics except it is at the line group level.
Line Usage Statistics	This report shows the number of seconds during which individual ports were busy, and how many calls each line received, over a specified reporting period.
Mailbox Statistics	See the Mailbox Usage section of this chapter, under Configuration and Usage Reports.
Message Count Statistics	Shows the total number of messages that were used, how many were free, and the percentage of server storage that was used, for a specific time period.
Speech Block Usage	Shows the amount of speech storage that was in use, and the amount available, over a specified period of time.
Fax Group Usage Statistics	Shows transactions, use, resources, and busy line information for FaxMemo groups.
Complete Summary Report	Also called Total Statistics Summary Report, a summary of all report statistics, containing the most meaningful report information for each day of the entire week.
Total System Statistics Report	Shows how much storage capacity on the hard disk has been consumed, and how much is still available.
Virtual Drive Statistics	Shows how much of the storage capacity on the each of the drive partitions has been consumed, and how much is still available.

Group Usage Report

This report, also called Line Groups--All Trunks Busy Report, shows how many times, and for how many seconds, every port in a line group is busy simultaneously. This condition is called "All Trunks Busy," or ATB. The server administrator must specify the line group(s), the start and stop times, and the start and stop days for the report. The report can be presented in one of two methods. The Standard Group Usage displays the All Trunks Busy data for each line group in 15-minute increments, for each hour of the chosen interval. The Group Usage Summary

Report shows a single value for each line group. Figure 12-2 is a sample of the Standard Group Usage Report; Figure 12-3 is a Group Usage Summary Report.

```
                        LINE GROUP ATB 15min REPORT
                         Thu Apr 20, 1995  5:58 pm

04/17/95  8hr-17hr       --- minutes interval ---
Port Group 1 [ESMDI]

DAY=01 HOUR=08          00-14     15-29     30-44     45-59    TOTAL  BUSY
ATB_SEC                   218        77        81       249      625    17 %
ATB_CNT                    10         1         8        13       32

DAY=01 HOUR=09          00-14     15-29     30-44     45-59    TOTAL  BUSY
ATB_SEC                    35       163         0         0      198     6 %
ATB_CNT                     6        10         0         0       16

DAY=01 HOUR=10          00-14     15-29     30-44     45-59    TOTAL  BUSY
ATB_SEC                    44        13         0         0       57     2 %
ATB_CNT                     4         2         0         0        6

DAY=01 HOUR=11          00-14     15-29     30-44     45-59    TOTAL  BUSY
ATB_SEC                     5         0        14         0       19     1 %
ATB_CNT                     1         0         3         0        4

HIGHEST ATB_SEC: 625 sec at 8 hr
LOWEST  ATB_SEC: 0 sec at 12,13,14,15,16 hr
```

Figure 12-2 Sample Standard Group Usage Report

Reading the Standard Group Usage Report

The report heading shows the date and time that the report was run.

The first line of the report shows the date of the first statistic in the report and time interval during which the data was gathered.

Port Group The data displayed immediately below this entry refers to line group 1.

DAY = 01 HOUR = 15 The data displayed immediately below refers to the hour between 3 and 4 p.m. on Monday. 00-14 indicates that data in that column were gathered during the first fifteen minutes of the hour; 15-29 refers to the second 15-minutes of the hour, etc.

TOTAL The data for the four 15-minute intervals. If a hyphen appears, in place of a numerical value, it means that the data have not yet been gathered. For example, if the report is run at 3:30 p.m., and the report interval is 12-15 (noon to 3 p.m.), the entries for hour 15 (3 to 4 p.m.) should be hyphens.

BUSY The percentage of the hour when all trunks were busy. For example, for Group 1, between 3 and 4 p.m., an ATB condition occurred for 150 seconds out of 3600, or 4% of the time.

ATB_SEC The total number of seconds in the time period that an ATB condition occurred.

ATB_CNT The number of times that an ATB condition occurred. The counter is incremented when an ATB condition first occurs. The ATB condition must clear, then reoccur, before the counter is incremented again. For example, if you had an ATB condition that lasted for 3 seconds, the ATB-SEC counter increases by 3, but the ATB_CNT counter is increased by 1.

HIGHEST ATB_SEC The greatest total amount of time during which ATB conditions occurred in a fifteen minute interval, for the period reported. (It does not mean the longest single interval during which an ATB occurred.) In other words, this interval is your server's busiest period during the interval reported.

LOWEST ATB_SEC The least total amount of time during which ATB conditions occurred in a fifteen minute interval, for the period reported. (It does not mean the shortest single interval during which an ATB occurred.) This is the period of slowest traffic for your server during the interval reported.

```
                    >>> Acme Products System <<<
                  TOTAL LINE GROUP ATB SUMMARY REPORT
                      Mon Apr 8, 1995  2:29 pm

                       11/08/95  8hr-17hr  day1-day5
GROUP  NAME          ATB_SEC    ATB_CNT    PERCENT
1      VMemo           200        100         5 %
2      Pager           100         50         3 %
3      Sales           300        150         8 %
4      Eng             400        200        11 %
5      Exec            100         50         3 %
6      Mktg            200        100         5 %
```

Figure 12-3 Sample Group Usage Summary Report

Reading the Group Usage Summary Report

The Group Usage Summary Report displays the line groups by number, then gives the total seconds, the total number of times and the total percentage of time, that an ATB condition occurred in that line group for the entire period reported. This report is much less specific than the standard report, but it allows the server administrator to see at a glance which line group received the most traffic for the specified time interval. In addition, by comparing the ATB count with the ATB seconds count, the server administrator can determine the average duration of the ATB condition during this period, for each line group.

Line Group Usage Report

This report shows the number of seconds during which individual ports in a line group were busy, and how many calls each port received, over a specified reporting period. The server administrator can choose to display the data for a single group, or for a range of group numbers. The reporting period can be any hour, or range of hours, from the current day or portions of the most recent seven days. The server administrator can choose to run either a full report, which gives the statistics in 15-minute increments for each hour of the reporting period, or a summary report, which shows the average line group usage for each hour. Figure 12-4 is a sample Standard Line Group Usage Report and Figure 12-5 is a sample Line Group Usage Summary Report.

```
                    LINE GROUP USAGE 15 min REPORT
                      Fri, Apr 6, 1995  4:42 pm


06/06/95  15hr-16hr       --- minutes interval ---     Group = 1

LINE 1:0:0              HOUR=14  00-14  15-29  30-44  45-59  TOTAL  USAGE
SECONDS                           10     40    200     50    300    8 %
CALLS                              1      1     10      2     14

LINE 1:0:1              HOUR=14  00-14  15-29  30-44  45-59  TOTAL  USAGE
SECONDS                           5     100     40     70    215    6 %
CALLS                             1      2      3      4     10

LINE 1:0:2              HOUR=14  00-14  15-29  30-44  45-59  TOTAL  USAGE
SECONDS                           0      0      0      0     0      0 %
CALLS                             0      0      0      0     0

LINE 1:0:3              HOUR=14  00-14  15-29  30-44  45-59  TOTAL  USAGE
SECONDS                           0      0      0      0     0      0 %
CALLS                             0      0      0      0     0
```

Figure 12-4 Sample Line Group Usage Report

Reading the Line Group Usage Report

The report heading shows the date and time that the report was run.

The first line of the report shows the date and time interval during which the data were gathered.

Group The lines belong to Line Group 1.

LINE 1:0:3 HOUR=14 The data displayed immediately below refer to the triplet 1:0:3, during the hour between 2 and 3 p.m. 00-14 indicates that data in that

column were gathered during the first fifteen minutes of the hour; 15-29 refers to the second 15-minutes of the hour, etc.

TOTAL The data for the four 15-minute intervals. If a hyphen appears, in place of a numerical value, it means that the data have not yet been gathered. For example, if the report is run at 3:30 p.m., and the report interval is for hours 12-15 (noon to 3 p.m.), the entries for hour 15 (3 to 4 p.m.) show hyphens.

USAGE The percentage of the hour the line was busy. Line 1:0:0, for example, was busy for 300 seconds out of 3600, or 8% of the time between 2 and 3 p.m.

SECONDS The total number of seconds in the time period during which the line was busy.

CALLS The number of calls that were received by that line for the time period.

```
                >>> Acme Products System <<<
          TOTAL USAGE PER GROUP SUMMARY REPORT
                Tue Aug 24, 1995  2:43 pm

                  Hours 8-17  Days 1-5
            GROUP    SECONDS      CALLS
              1        515         24
```

Figure 12-5 Sample Line Group Usage Summary Report

Reading the Line Group Usage Summary Report

The Line Group Usage Summary Report displays the line groups by number, then gives the total seconds, the total number of times, that a line in that line group was used for the entire period reported. This report is much less specific than the standard report, but it allows the server administrator to see at a glance which line group received the most traffic for the specified time interval.

Line Usage Report

This report shows the number of seconds during which individual lines were busy, and how many calls each line received, over a specified reporting period. You can display the data for a single line, or for a range of line numbers. The reporting period can be any hour, or range of hours, from the current day or portions of the most recent seven days. Figure 12-6 shows a Standard Line Usage Report and Figure 12-7 shows a Line Usage Summary Report.

```
                          LINE USAGE 15min REPORT
                         Fri Apr 21, 1995 10:28 am

04/21/95  8hr-12hr        --- minutes interval ---

DAY=01 LINE=1:3:0

HOUR=08                  00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                  0         0         0         0       0      0 %
    CALLS                    0         0         0         0       0

HOUR=09                  00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                  0         0         0         0       0      0 %
    CALLS                    0         0         0         0       0

HOUR=10                  00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                  0         0         0         0       0      0 %
    CALLS                    0         0         0         0       0

HOUR=11                  00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                  0         0         0         0       0      0 %
    CALLS                    0         0         0         0       0

HOUR=12                  00-14     15-29     30-44     45-59   TOTAL USAGE
SECONDS                  0         0         0         0       0      0 %
    CALLS                    0         0         0         0       0
HIGHEST USAGE: 0 sec at 8,9,10,11,12 hr
LOWEST  USAGE: 0 sec at 8,9,10,11,12 hr


DAY=01 LINE=1:3:

HOUR=08                  00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                  0         0         0         0       0      0 %
    CALLS                    0         0         0         0       0
```

Figure 12-6 Sample Standard Line Usage Report

Reading the Standard Line Usage Report

The report heading shows the date and time that the report was run.

The first line of the report shows the date and time interval during which the data were gathered.

DAY=01 LINE = 1:3:0 The data displayed immediately below refer to module 1, slot 3, port 0 (the triplet 1:3:0), on Monday. 00-14 indicates that data in that column were gathered during the first fifteen minutes of the hour; 15-29 refers to the second 15-minutes of the hour, etc.

TOTAL The data for the four 15-minute intervals. If a hyphen appears, in place of a numerical value, it means that the data have not yet been gathered. For example, if the report is run at 3:30 p.m., and the report interval is for hours 12-15 (noon to 3 p.m.), the entries for hour 15 (3 to 4 p.m.) show hyphens.

USAGE The percentage of the hour the line was busy.

SECONDS The total number of seconds in the time period during which the line was busy.

CALLS The number of calls that were received by that line for the time period.

HIGHEST USAGE The greatest total amount of time during which the line was busy, in a single fifteen minute interval of the reporting period.

LOWEST USAGE The least total amount of time during which the line was busy, in a single fifteen minute interval of the reporting period. This was the period of slowest traffic for that line during the reporting interval.

TOTAL USAGE PER LINE SUMMARY REPORT
Fri Apr 21, 1995 10:37 am

	Hours 8-12	Days 1-5
TRIPLET	SEC_BUSY	CALLS
1:3:0	22703	168
1:3:1	4069	31
1:3:2	695	4
1:3:3	108	1
1:5:0	44	1
1:5:1	57	1

Figure 12-7 Sample Line Usage Summary Report

Reading the Line Usage Summary Report

The Line Usage Summary Report displays the ports by triplet, then gives the total seconds during which each line was busy, and the total number of calls that each line received, during the entire report period. The summary report is much less specific than the standard report, but it allows the server administrator to see at a glance which line received the most traffic for the specified time interval. In addition, by comparing the number of seconds that a port was busy with the number of calls that the line received, the server administrator can determine the average duration of a call during this period, for each port.

Message Usage Report

The Message Usage Report shows the number of messages that were received, the number of messages that were still available, and the percent of message storage available, during a specified reporting period.

The reporting period can be any hour, or range of hours, from the current day or portions of the most recent seven days. The server administrator can choose to run either a full report, which gives the statistics in 15-minute increments for each hour of the reporting period, or a summary report, which shows the average message usage for each hour. Figure 12-8 shows a Standard Message Usage Report and Figure 12-9 shows a Message Usage Summary Report.

Reading the Standard Message Usage Report

The report heading shows the date and time that the report was run.

The first line of the report shows the date and time interval during which the data were gathered, and the total number of messages that were received during that time period. This line is repeated for each day of the report.

MESSAGE HOUR = 07 The data displayed immediately below was gathered during the hour between 7 and 8 a.m. 00-14 indicates that data in that column were gathered during the first fifteen minutes of the hour; 15-29 refers to the second 15-minutes of the hour, etc. Note how the report covers data from 7 to 8 a.m., 8 to 9 a.m., and so on.

AVERAGE The average value of the four 15-minute samples. If a hyphen appears, in place of a numerical value, it means that the data have not yet been gathered.

MESSAGE FREE The number of messages that were not in use at the time of sampling.

PERCENT USED The number of messages that were in use as percentage of the maximum number of messages that are allowed on the server.

```
                    MESSAGE USAGE 15min REPORT
                     Fri Apr 21, 1995 10:42 am

04/17/95  8hr-11hr  --- minutes interval ---       Max Messages=90000

MESSAGE  HOUR=07        00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE           86534     86533     86534     86533     86533
PERCENT  USED               4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=08        00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE           86518     86501     86484     86508     86502
PERCENT  USED               4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=08        00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE           86484     86508     86484     86508     86496
PERCENT  USED               4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=09        00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE           86512     86515     86558     86568     86538
PERCENT  USED               4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=09        00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE           86558     86568     86558     86568     86563
PERCENT  USED               4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=10        00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE           86611     86636     86641     86621     86627
PERCENT  USED               4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=10        00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE           86641     86621     86641     86621     86631
PERCENT  USED               4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=11        00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE           86593     86598     86592     86583     86591
PERCENT  USED               4 %       4 %       4 %       4 %       4 %
```

Figure 12-8 Sample Standard Message Usage Report

AVERAGE MESSAGE USAGE SUMMARY REPORT
Fri Apr 21, 1995 10:50 am

04/14/95 13hr-16hr Max Messages=90000

DAY	HOUR	FREE	USED	PERCENT
1	13	86512	3488	4%
1	14	86518	3482	4%
1	15	86489	3511	4%
1	16	86472	3528	4%

04/14/95 13hr-16hr Max Messages=90000

DAY	HOUR	FREE	USED	PERCENT
2	13	86210	3790	4%
2	14	86189	3811	4%
2	15	86271	3729	4%
2	16	86227	3773	4%

04/14/95 13hr-16hr Max Messages=90000

DAY	HOUR	FREE	USED	PERCENT
3	13	86138	3862	4%
3	14	86096	3904	4%
3	15	86062	3938	4%
3	16	86015	3985	4%

Figure 12-9 Sample Message Usage Summary Report

Reading the Message Usage Summary Report

The Message Usage Summary Report displays the by day and hour, the total number of messages used, the total number of messages available, and the percent of message storage used. The summary report is much less specific than the standard report, but it allows you to determine the hours at which message storage was at its peak, and which hours had relatively little message storage.

You can report the hours immediately before and after midnight to judge the effectiveness of the automatic purge. If message storage is near or above 80% on a regular basis, for example, most mailbox LCOSs on the server should be adjusted, to give these mailboxes a shorter message retention time. This makes the purge more effective, and frees message storage more quickly. As an alternative, the maximum number of messages and maximum message length can be decreased on as many of the server's LCOSs as is feasible.

Speech Usage Report

Each server has a maximum number of storage units available on the hard disk. The number of these speech storage units, called "speech blocks," depends on the storage hour capacity of the hard disk. In addition to messages, mailbox names and greetings, prompts, and distribution list names all consume speech storage blocks. The Speech Usage Report shows the maximum number of speech blocks for your

server, the number of blocks in use, and the percent of message storage still available, during a specified reporting period.

The reporting period can be any hour, or range of hours, from the current day or portions of the most recent seven days. The server administrator can choose to run either a full report, which gives the statistics in 15-minute increments for each hour of the reporting period, or a summary report, which shows the average speech block usage for each hour. Figure 12-10 shows the Standard Speech Blocks Usage Report. Figure 12-11 shows the Speech Usage Summary Report.

```
                        SPEECH USAGE 15min REPORT
                        Fri Apr 21, 1995 10:54 am

04/17/95  15hr-16hr  --- minutes interval ---    Max Speech Blks=0

SPEECH    HOUR=15        00-14     15-29     30-44     45-59   AVERAGE
BLOCKS    FREE               -    328304    327818    327603    327908
PERCENT   USED               -        15 %      15 %      15 %      15 %

SPEECH    HOUR=16        00-14     15-29     30-44     45-59   AVERAGE
BLOCKS    FREE          327708    327400    326773    326367    327062
PERCENT   USED              15 %      15 %      15 %      15 %      15 %
```

Figure 12-10 Sample Standard Speech Block Usage Report

Reading the Standard Speech Blocks Usage Report

The report heading shows the date and time that the report was run.

The first line of the report shows the date and time interval during which the data were gathered, and the maximum number of available speech storage blocks on the server (Max Speech Blks). This line is repeated for each day in the report.

SPEECH HOUR = 15 The data displayed immediately below were gathered during the hour between 3 and 4 p.m. An entry of 00-14 indicates that data in that column were gathered during the first fifteen minutes of the hour; an entry of 15-29 refers to the second 15-minutes of the hour, etc.

AVERAGE The average value of the four 15-minute samples. If a hyphen appears, in place of a numerical value, it means that the data have not yet been gathered.

BLOCKS FREE The number of speech blocks that were not in use at the time of sampling.

PERCENT USED The number of speech blocks that were in use, as percentage of the maximum number of speech blocks that are allowed on the server.

```
        AVERAGE SPEECH_BLOCK USAGE SUMMARY REPORT
                Fri Apr 21, 1995 10:58 am

                04/17/95  8hr-17hr MAX  BLOCKS=384000
                 HOUR       FREE       USED    PERCENT
                    8     327175      56825       15 %
                    9     327723      56277       15 %
                   10     329312      54688       14 %
                   11     328879      55121       14 %
                   12     328290      55710       15 %
                   13     328231      55769       15 %
                   14     328473      55527       14 %
                   15     327908      56092       15 %
                   16     327062      56938       15 %
                   17     325930      58070       15 %
```

Figure 12-11 Sample Speech Block Usage Summary Report

Reading the Speech Usage Summary Report

The Speech Usage Summary Report displays the number of speech blocks used and free, and the percent of speech storage used, by hour. The summary report is much less specific than the standard report, but it allows you to determine the hours when speech storage is at its peak, and which hours have relatively little speech storage.

The results of this report can be compared with the results of the Message Usage Report, to obtain an accurate picture of message and non-message related speech storage. If names and greetings consume too large a percentage of speech storage, leaving too little storage for transient messages, the server administrator can either decrease the maximum greeting length allowed in the LCOSs for that server, or limit the recording of names for certain FCOSs, or both.

Fax Group Usage Report

This report covers FaxMemo statistics, showing transactions, use, resources, and busy line information for FaxMemo groups. A FaxMemo group is a set of fax ports on a MVIP bus. Each MVIP bus is specific to one module. Line groups can be assigned to a FaxMemo group so the fax resources are shared. Figure 12-12 shows the Standard Fax Group Usage Report. Figure 12-13 shows the Fax Group Usage Summary Report.

Reading the Fax Group Usage Report

The report heading shows the date and time that the report was run.

The first line of the report shows the date and time interval during which the data were gathered. This line is repeated for each day in the report.

```
                        FAX GROUP USAGE 15min REPORT
                          Fri Apr 21, 1995  9:12 am

04/17/95  8hr-17hr       --- minutes interval ---
Fax Group 1 []

DAY=01 HOUR=08          00-14     15-29     30-44     45-59    TOTAL  BUSY
Transactions                0         0         0         0        0
Total Use                   0         0         0         0        0
No Resource Count           0         0         0         0        0
ATB Seconds                 0         0         0         0        0     0 %
ATB Count                   0         0         0         0        0

DAY=01 HOUR=09          00-14     15-29     30-44     45-59    TOTAL  BUSY
Transactions                2         1         0         0        3
Total Use                 102        51         0         0      153
No Resource Count           0         0         0         0        0
ATB Seconds                 0         0         0         0        0     0 %
ATB Count                   0         0         0         0        0

DAY=01 HOUR=10          00-14     15-29     30-44     45-59    TOTAL  BUSY
Transactions                0         0         0         2        2
Total Use                   0         0         0        85       85
No Resource Count           0         0         0         0        0
ATB Seconds                 0         0         0         0        0     0 %
ATB Count                   0         0         0         0        0

HIGHEST ATB_SEC: 0 sec at 8,9,10,11,12,13,14,15,16,17 hr
LOWEST  ATB_SEC: 0 sec at 8,9,10,11,12,13,14,15,16,17 hr
```

Figure 12-12 Sample Fax Group Usage Report

DAY=01 HOUR=08 The data displayed immediately below refer to 8 a.m. Monday, for example. 00-14 indicates that data in that column were gathered during the first fifteen minutes of the hour; 15-29 refers to the second 15-minutes of the hour, and so on.

TRANSACTIONS The number of fax connection requests during the time intervals that used a FaxMemo resource. A transaction starting during one interval and ending in another is counted in the starting interval only. However, the Total Use and ATB Seconds fields (following) accumulate for their respective intervals.

TOTAL USE The number of seconds that fax resources were used during that interval.

NO RESOURCE COUNT The number of times a transaction could not be completed because no fax resources were available.

ATB SECONDS The total number of seconds in the time period that an ATB (All Trunks Busy) condition occurred to the lines in the fax group.

ATB COUNT The number of times that an ATB condition occurred to the lines on the fax group. The counter is incremented when an ATB condition first occurs. The ATB condition must clear, then reoccur, before the counter is incremented again.

```
                    TOTAL FAX GROUP ATB SUMMARY REPORT
                         Fri Apr 21, 1995  9:10 am

                           04/17/95  8hr-17hr  day1-day5
GROUP                   TRANSACTIONS TOT SEC NO RES    ATB CNT ATB SEC BUSY
-----                   ------------ ------- ------    ------- ------- ----
  1                              83    4278      0          0       0   0 %
  2                              17     513      1          0       0   0 %
```

Figure 12-13 Sample Summary Fax Group Usage Report

Reading the Fax Group ATB Summary Report

The Fax Group Usage Summary Report displays the number of transactions for the interval specified, the total seconds of use, and the number of time no fax resource was available and an ATB condition occurred on lines in the fax group. The summary report is much less specific than the standard report, but it allows you to easily determine the hours at which fax usage is at its peak. You can use this report to reassign the fax groups based on any imbalances you might detect.

Complete Summary Report

Also known as the Total Statistics Summary Report, this report prints total statistics for a number of items, such as message count, speech blocks, fax transactions, and network usage. The report is for the previous week, in Sunday to Saturday order. In the example given in Figure 12-14 , the Friday data is for the day the report was run, and the Saturday data is for six days previous (April 15).

Reading the Complete Summary Report

The Total System Statistics Report entries have the following meanings:

Each day of the week has a banner with the day name, followed by the date, and the date the server was last reset. In the example above, the last reset for Sunday was on Saturday, the last reset for Monday was on Monday.

TOTAL MESSAGES This is the number of messages available on the server.

LOWEST MESSAGES FREE This is the smallest number of messages not in use that day (server checked every 15 minutes).

TOTAL SPEECH This is the number of speech blocks available on the server.

```
                          TOTAL STATISTICS SUMMARY REPORT
                             Fri Apr 21, 1995 12:26 pm

------------------------------< SUNDAY >--------------------------------
Date:    Sun Apr 16 23:15:07 1995
               Last Reset: Sat Apr 15 08:52:55 1995

Total Messages:       90000                    Lowest Messages Free:    86377
Total Speech:        384000                    Lowest Speech Free:     325480
Total Calls:              0                    Total Seconds:         0:00:00
Line ATB Count:           0                    Line ATB Seconds:      0:00:00
Fax Trans:                2                    Fax Total Secs:        0:00:02
Fax ATB Count:            0                    Fax ATB Seconds:       0:00:00
Fax No Res Cnt:           0
NETWORKING      <=========== PEAKS ==========><========== TOTALS =========>
MESSAGES:         IN QUEUE   MINUTES   LATENCY DELIVERED   UNDELIV  RECEIVED
BATCH:                   9         0   0:00:00         0         0        27
URGENT:                  0         0   0:00:00         0         -         1

------------------------------< MONDAY >--------------------------------
Date:    Mon Apr 17 23:15:06 1995
               Last Reset: Mon Apr 17 15:14:50 1995

Total Messages:       90000                    Lowest Messages Free:    86234
Total Speech:        384000                    Lowest Speech Free:     324377
Total Calls:              0                    Total Seconds:         0:00:00
Line ATB Count:           0                    Line ATB Seconds:      0:00:00
Fax Trans:               20                    Fax Total Secs:        0:00:20
Fax ATB Count:            0                    Fax ATB Seconds:       0:00:00
Fax No Res Cnt:           0
NETWORKING      <=========== PEAKS ==========><========== TOTALS =========>
MESSAGES:         IN QUEUE   MINUTES   LATENCY DELIVERED   UNDELIV  RECEIVED
BATCH:                  55         0   0:00:00         0         0       354
URGENT:                  0         0   0:00:00         0         -        34
```

Figure 12-14 Sample Complete Summary Report

LOWEST SPEECH FREE This is the smallest number of speech blocks not in use that day (server checked every 15 minutes).

TOTAL CALLS The number of calls processed by the server that day.

TOTAL SECONDS The number of seconds that ports were busy.

LINE ATB COUNT The number of times an ATB (All Trunks Busy) condition occurred on a line group.

LINE ATB SECONDS The total number of seconds the entire line group was busy that day.

FAX TRANS The number of fax transactions processed by the server that day.

FAX TOTAL SECONDS The number of seconds the fax transactions in the previous item took to process.

FAX ATB COUNT The number of times an ATB (All Trunks Busy) condition occurred on fax ports organized into fax groups.

FAX ATB SECONDS The total number of seconds the ATB conditions in the previous item was in effect.

FAX NO RES CNT The number of fax transactions that could not be processed because no fax resource was available.

NETWORKING MESSAGES These numbers give peak and total amounts for network delivery of messages (MESA-Net), both regular and urgent queues. It differentiates between peak times and total per day.

Total Statistics Report

This report shows how much of the storage capacity on the hard disk has been consumed, and how much is still available. Figure 12-15 shows a sample total system statistics report.

```
                              SYSTEM STATISTICS
                          Fri Apr 21 11:05:40 1995



                                Total            Free      Used
          Message Numbers       90000           85909       5 %
            Speech Blocks      384000          314271      18 %
          Account Sectors       57344           54218       5 %

                              -------- Sectors -------      ----- Speech Blocks ----
                Prompt Vid      Total    Free    Used      Total    Free    Used
              english   1        6000    4894    18 %      13365   11759    12 %

Calls answered since Thu Apr 20, 1995 12:12 pm: 1116
```

Figure 12-15 Sample System Statistics Report

Reading the Total System Statistics Report

The Total System Statistics Report entries have the following meanings:

MESSAGE NUMBERS The links between the messages, greetings, and names associated with mailboxes, and the mailboxes themselves. Each message, name, or greeting uses one message number.

SPEECH BLOCKS All speech recorded through the telephone in the form of messages, comments, greetings, list names, and names. Approximately 2.2 seconds of speech consume one speech block.

ACCOUNT SECTORS All mailbox and server information, including users' mailbox numbers, distribution lists, and passcodes; and any phoneline exceptions. One account sector is used for each mailbox, distribution list, and line with phoneline exceptions.

PROMPTS This new section lists each set of prompts loaded on your server, and how much space is used, in both hard drive sectors and in speech blocks. You can use this data to determine whether you have room for additional prompts.

Virtual Drive Statistics Report

This report shows how much of the storage capacity on each of the drive partitions has been consumed, and how much is still available. Hard disks in the server are partitioned into multiple logical, or virtual drives. The report fields are the same as in the Total Statistics Report. A sample Virtual Drive Statistics Report is shown in Figure 12-16.

```
                                SYSTEM STATISTICS
                            Fri Apr 21 12:18:03 1995

                                      Total            Free      Used
      Virtual Drive #5
             Message Numbers           3750            3560       0 %
               Speech Blocks          16000           13056      18 %
      Virtual Drive #6
             Message Numbers           3750            3570       0 %
               Speech Blocks          16000           13060      18 %
      Virtual Drive #7
             Message Numbers           3750            3552       0 %
               Speech Blocks          16000           13056      18 %
      Virtual Drive #8
             Message Numbers           3750            3573       0 %
               Speech Blocks          16000           13065      18 %
             .
             .
             .
Total for all Virtual Drives
             Message Numbers          90000           85821       5 %
               Speech Blocks         384000          313264      18 %
             Account Sectors          57344           54208       5 %

                                  -------- Sectors ------- ----- Speech Blocks ----
                  Prompt Vid         Total    Free    Used   Total    Free    Used
                english   1           6000    4894    18 %   13365   11759    12 %

      Calls answered since Fri Apr 21, 1995 12:07 pm: 16
```

Figure 12-16 Sample Virtual Drive Statistics Report

System Information

The System Information Report contains the serial numbers of all disks in the server, all optional features loaded, and the number of hours of speech storage (based on 18 kbps speech quality). The hour, port, and link locks indicate the maximum number of hours, ports, and links that the current server can support. The UI (Unified Integration) lock lists the number of ports allowed for a Smartcard or multiple serial port card, used with an integration. If you have the OneView optional feature installed, this report lists the number of session and client licenses.

A sample system information report is shown in Figure 12-17.

```
                          SYSTEM INFORMATION
                        Fri Dec  1 09:59:37 1995

Thu Oct 26 14:19:45 PDT 1995
VoiceMemo FaxMemo Release 6.00 Rev A23 Sat Oct 21 15:21:58 1995

Wed Nov 22 14:10:43 PST 1995
VoiceMemo MESA-Net Async Release 6.00 Rev A23.03 Wed Nov 22 10:09:45 1995

              * * *  D I S K  I N F O R M A T I O N  * * *

  DISK     SERIAL              CONFIG    SPEECH          ACCOUNTS
   ID      NUMBER    CAPACITY   TYPE   (Messages)     (Mailboxes etc.)
  ====   ========   ========  ======  ==========  ======================
   0:0    1234        2049 MB    1      240 Hours   57344 Account Records
   0:1    1234        2049 MB    1      240 Hours   57344 Account Records

  Redundant Drives Lock : 8
           System hours : 40
              Hour Lock : 0
              Port Lock : 0
              Link Lock : 0
                UI Lock : 0
  OneView session licenses: 100
  OneView client licenses: 300
  OneView remote licenses: 300
```

Figure 12-17 Sample System Information Report

Verify Reports

There are two verify reports that record the results of the verify program differently. You can review the results from the Offline Verify from the Reports Menu. You can review the results from the Online Verify from the System Verify Menu. There are two types of Online System Verify reports, Speech and Records. If you compare the results of an Offline System Verify with an Online System Verify, the number of messages will differ. The Online Verify reports the maximum number of messages the server can contain. The Offline Verify reports the actual number of messages contained in the server.

Figure 12-18 shows a sample of the Offline System Verify Report.

For complete information on both Online and Offline Verify, refer to the appropriate *Series 6 Installation and Service Manual* for your platform.

```
                          >>> Acme Products System <<<
                              SYSTEM VERIFY LOGFILE
                            Tue Feb 9, 1995 12:33 pm



                          >>> Acme Products System <<<
                           Verify Speech File Utility
                            Tue Feb 7, 1995  2:42 pm


Verify virtual speech drive 2:
Verifying master control sector...
Verifying prompt speech...
Verifying transient speech...


 --- Summary of Speech File System Status ---
                                          TOTAL      USED     FULL (%)

Number of Prompt Directory Sectors         0020               28 %
Number of Prompt Pointer Sectors           0fa0       0475    29 %
Number of Transient Pointer Sectors        55f0       0000     0 %
Number of Prompt Speech Blocks             0fa0       0679    41 %
Number of Transient Speech Blocks        00fa00     000000     0 %

 1141 prompt(s) verified.
    0 prompt(s) contained errors.

    0 transient message(s) verified.
    0 message(s) contained errors.
    0 message(s) fixed.



                          >>> Acme Products System <<<
                           Verify OAA Records Utility
                            Tue Feb 7, 1995  2:45 pm

New verify sequence number = -111

New verify create sequence number = -110



Verifying mailboxes...

Verifying distribution lists...
```

Figure 12-18 Sample Offline Verify Report

```
Verifying copy lists...

Verifying amis lists...

Verifying amis lists...

Verifying sibling lists...

Verifying phoneline exceptions...

Verifying statistics data...

Compiling reference count statistics...

--- VoiceMemo Record Summary ---

   35 mailboxes verified.
   No errors found.

    0 queue errors.
   No queue errors found.

    0 messages referenced.
 No errors found.

    0 distribution lists verified.
   No errors found.

    0 copy lists verified.
   No errors found.

    0 sibling lists verified.
   No errors found.

    1 phoneline exceptions verified.
   No errors found.
```

Figure 12-18 Sample Offline Verify Report (continued)

Figure 12-19 shows a sample of an Online Record Verify Report. Figure 12-20 shows a sample of an Online Speech Verify Report.

```
                        SYSTEM ACCOUNT VERIFY LOGFILE
                          Fri Jun 16 13:05:39 1995

                         Verify OAA Records Utility
                          Thu Apr 27 15:20:35 1995


New verify sequence number = 39

New verify create sequence number = 40



Verifying mailboxes...
Error in mailbox 3824: Total message count is inaccurate by -1
Error in mailbox 3846: Total message count is inaccurate by -4

Verifying distribution lists...

Member count Out of Range for list 09, Mailbox 3828.
Verifying copy lists...
Orphanded receipt 01 found for mailbox 3837

Verifying amis lists...

Verifying amis lists...

Verifying message records..

Verifying sibling lists...
Cannot find copy list for sibling 560100000003602, rslt = -20.

Verifying phoneline exceptions...

Verifying statistics data...

Compiling reference count statistics...
[rc_stat] **** ERROR - Refcnt discrepancy for msg 359844: is 0, should be 1
[rc_stat] Warning    - Refcnt discrepancy for msg 556336: is 2, should be 1
[rc_stat] Warning    - Refcnt discrepancy for msg 556371: is 14, should be 13
[rc_stat] Warning    - Refcnt discrepancy for msg 622013: is 2, should be 1
[rc_stat] Warning    - Refcnt discrepancy for msg 687398: is 7, should be 6
[rc_stat] Warning    - Refcnt discrepancy for msg 687405: is 2, should be 1
[rc_stat] Warning    - Refcnt discrepancy for msg 1539530: is 1, should be 0
[rc_stat] **** ERROR - Refcnt discrepancy for msg 1670481: is 18, should be 19

--- VoiceMemo Record Summary ---
  502 mailboxes verified.
    2 mailboxes contained errors.
    2 mailboxes fixed.

    2 queue errors.
    2 errors found:
          0 out of range queue head pointers.
          0 out of range queue tail pointers.
          0 bad or inconsistent queue links.
          0 double allocated queue links.
```

Figure 12-19 Sample Online Records Verify Report

```
 3942 messages referenced.
    8 errors found:
            0 out of range message numbers.
            0 inactive message references.
            0 truncated message references.
            0 mid-message references.
            8 reference count discrepancies.

  506 distribution lists verified.
    1 distribution lists links verified.
   No errors found.

   65 copy lists verified.
    1 incorrect or orphaned copy lists found.
    1 copy lists fixed,      0 copy list links fixed.

   25 sibling lists verified.
    1 orphaned sibling lists found and deleted.
    0 incorrect sibling lists found.
    1 sibling lists fixed.

   38 message records verified.
   No errors found.

    0 phoneline exceptions verified.
   No errors found.

Reference counts saved.
```

Figure 12-19 Sample Online Records Verify Report (continued)

```
                  Verify Speech/Prompt File System Utility
                          Fri Jun 16 13:17:54 1995



Verify virtual prompt drive 1:
Verifying master control sector...
Verifying prompt speech...
.........................

 --- Summary of Prompt File System Status ---
                                        TOTAL      USED     FULL (%)

Number of Prompt Directory Sectors       002f               22 %
Number of Prompt Pointer Sectors         1770       0538    22 %
Number of Prompt Speech Blocks           3435       0a4b    20 %

 1336 prompt(s) verified.
    0 prompt(s) contained errors.

Verify virtual speech drive 5:
Verifying master control sector...
Verifying transient speech...
Out of range block pointer count (0x00cd)
Verify of speech drive 5 failed, SAM reports error


 --- Summary of Speech File System Status ---
                                        TOTAL      USED     FULL (%)

Number of Transient Pointer Sectors      0ea6       0000      0 %
Number of Transient Speech Blocks      003e80     000000      0 %

    0 transient message(s) verified.
    0 message(s) contained errors.
    0 message(s) fixed.



Verify virtual speech drive 35:
Verifying master control sector...
Verifying transient speech...
[Note on     1: Previously truncated to length 0]


 --- Summary of Speech File System Status ---
                                        TOTAL      USED     FULL (%)

Number of Transient Pointer Sectors      0ea6       00ae      5 %
Number of Transient Speech Blocks      003e80     ffffffff0a6d   104465 %

  174 transient message(s) verified.
    1 message(s) contained errors.
    1 message(s) fixed.
    2 message(s) truncated to length 0.
    1 truncated message(s) found.
```

Figure 12-20 Sample Online Speech Verify Report

Billing Reports

You can run any of five billing reports:

- Current Billing Rates
- Billing Report
- Mailbox Blocked Report (Blocked Billing Report)
- Previous Billing Report
- Termination Report

Current Billing Rates

This report shows you the current rates are for various statistics, such as base rates and pager calls, through the Report Rates option in the Billing Menu. Figure 12-21 shows a sample report of current base rates. Remember that only you can only set rates for FCOSs 1 through 64.

Refer to the Billing Tasklist for a procedure to run this report.

```
          BASE RATES
 1: UNLIMITED          $000.00
 2: FULL GUEST         $000.00
 3: RESTRICTED         $000.00
 4: CHECK IN           $000.00
 5: CHECK OUT          $000.00
 6: GREETING ONLY      $000.00
 7: DEMO               $000.00
 8: CHAIN              $000.00
 9: TIME               $000.00
10: VIP                $000.00
11: Res Call Ans       $000.00
12: Res Call Ans +     $000.00
13: Bus Call Ans       $000.00
14: Bus Call Ans +     $000.00
15: TREE               $000.00
16: TEMPLATE           $000.00
17: ROTATIONAL         $000.00
                 .
                 .
                 .
62: <No name>          $000.00
63: <No name>          $000.00
64: <No name>          $000.00
```

Figure 12-21 Sample Report of Base Rates

Billing Report

The Billing Report is usually run monthly or weekly, but can be run as many times as you wish during a single billing cycle, as long as you do not request another gather. You can even run the report, change billing rates, then rerun the report if you wish.

The Billing Report first shows charges for each mailbox individually by GCOS, then reports the charge for the FCOS assigned to the mailbox, then lists the charges for each statistic that applies to the mailbox. Next, the Billing Report lists charges for each statistic that applies to a port (line) group, such as user connect time and caller connect time. When charges have been reported for all mailboxes, the server gives a Billing Report summary, then returns to the Billing Menu. See the sample in Figure 12-22. Statistics for which the dollar amount is zero are not reported.

Charges are based on the rates that are in effect at the time the report is generated. No mailbox data is changed by adjusting rates or generating the report, as long as a new gather is not performed. If you find any errors in rates after the report is run, adjust the rates; then run the report again (omitting the gather).

When charges have been reported for all mailboxes, the server concludes this report with a Billing Report Summary. Statistics for which the dollar amount is zero are not reported.

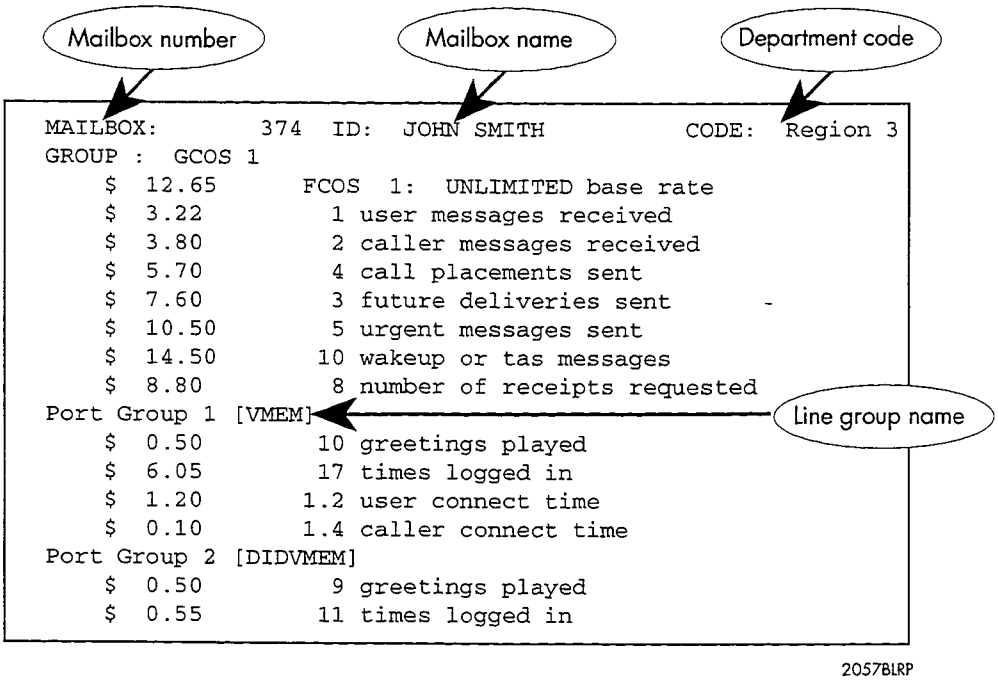

Figure 12-22 Sample Billing Report

Billing Report of a Greeting-Only Mailbox

Greeting-Only mailboxes (also called information-only mailboxes) are those with an FCOS that does not allow them to receive messages. Statistics that can be incremented for Greeting-Only mailboxes are the user connect time (that is, the amount of time that the user is logged in) and the caller connect time (the accumulated time that callers have used to listen to the greeting). A base rate can also be set. Figure 12-23 shows a sample Billing Report of a Greeting-Only mailbox.

```
MAILBOX:      303    ID:  MOVIE TIMES          CODE: Region 3
GROUP:  SELF
    $  20.00       FCOS 6:  GREETING ONLY   base rate
    $   6.48     648 greetings played
    $   2.00       1 times logged
    $    .75         .2 user connect time
    $   1.30     129.6 caller connect time
    $   2.40         .50 disk usage

Total Charges = $ 32.93
```

Figure 12-23 Sample Billing Report, Greeting-Only Mailbox

Mailbox Blocked Report

The Mailbox Blocked Report (Blocked Billing Report) is in a special format and is usually sent out through the serial port to other databases. It presents the same information as the Billing Report, but in blocked form; that is, with no titles or summaries. Figure 12-24 shows an excerpt from a sample Mailbox Blocked Report. Use this report if you want to organize the billing data into your own format, such as for an invoice or monthly statement.

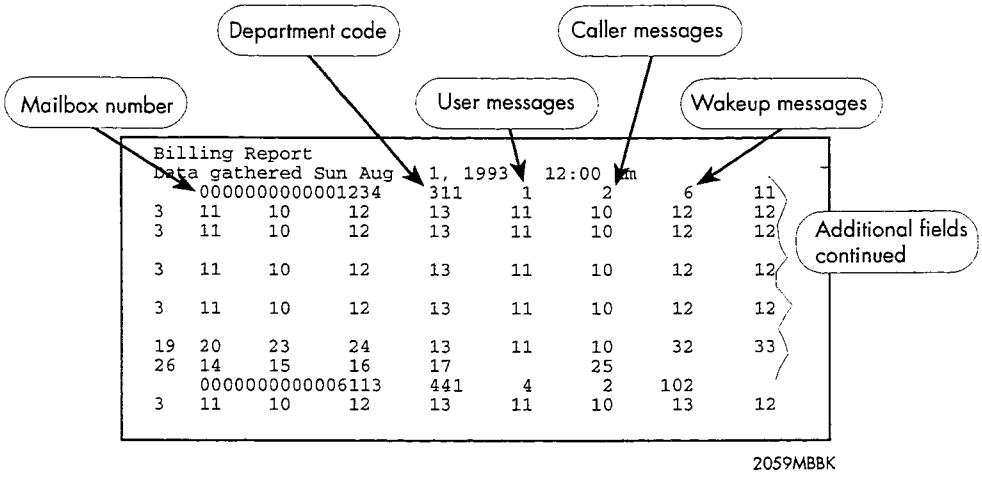

Figure 12-24 Sample Mailbox Blocked Report

Use Table 12-2 to identify the field names and field lengths of statistics provided in the Mailbox Blocked Report. All fields are right justified; all fields other than the mailbox number are blank filled.

Table 12-2 Field Descriptions for a Mailbox Blocked Report

Field Name	Number of Characters
Mailbox number	16
Department code	10
User messages	5
Caller messages	5
Wakeup messages	5
Logins (Repeated 16 times for line group billing)	5
Greets (Repeated 16 times for line group billing)	5
User connect time (Repeated 16 times for line group billing)	5
Caller connect time (Repeated 16 times for line group billing)	5
Disk usage	10
Calls to pagers	5
Calls for message delivery	5
FCOS number	3
LCOS number	3
GCOS number	5
Number of network messages	5
Number of urgent network messages	5
Number of network nodes sent to	5
Number of network nodes sent urgent to	5
Number of remote network recipients sent to	5
Number of remote network recipients sent urgent to	5
0.1-minute-increments of network messages sent	5
0.1-minute-increments of network messages sent urgent	5
0.1-minute-increments of network nodes sent to	5
0.1-minute-increments of network nodes sent urgent to	5
0.1-minute-increments of remote network recipients sent to	10
0.1 minutes of remote network recipients sent urgent to	10
Number of network receipt responses	5
Number of network messages received	5
Number of network urgent messages received	5
0.1-minute-increments of message length received over network	5
0.1-minute-increments of urgent message length received over network	5

Table 12-2 Field Descriptions for a Mailbox Blocked Report, continued

Number of fax messages received	5
Number of fax messages made	5
Number of fax messages retrieved	5
Number of failed fax retrievals	5
Fax disk usage	10
Number of fax pages received	5
Number of fax pages made	5
Number of fax pages retrieved	5
Number of fax retrievals billed	5
Number of fax pages retrieved, billed	5

Previous Billing Report

You can run a Previous Billing Report when a copy of the Billing Report from the previous billing period is desired, or to determine proper billing when a gather has failed. This report is identical to the Billing Report, except that it uses the data from the previous billing data file. The server gives you the option of running this report from either the hard disk or the backup diskette.

Termination Report

You can run a Termination Report when a mailbox is checked out and deleted, or when paging service is discontinued in the middle of a billing cycle. The Termination Report shows charges for each mailbox individually by statistic, then gives a total, in the same format as the Billing Report. An example is shown in Figure 12-25.

A typical use of the Termination Report is in the hotel or motel environment. The report can be run either before or after the mailbox is checked out, but the results can be different:

- If you run the Termination Report before the mailbox is checked out, and there are unplayed messages, the server does not charge for disk usage for these messages, since this resource is calculated when messages are deleted.
- If you run the Termination Report after the mailbox is checked out, the server charges for all messages, since all messages must be deleted in order to check out the mailbox.

To zero the billing counters, you must delete, then recreate, the mailbox.

```
MAILBOX:         3550 ID: Miller,Andrea                    CODE: g&a
GROUP : GCOS 1
        $      229.44       FCOS 61: VIP no urgent base rate
        $      465.41  1041.20  disk usage
        $       44.34        6  # of network nodes sent urgent to
        $        0.17    17.90  # of network nodes .1 mins sent to
        $        0.03     0.43  # of network nodes .1 mins sent urgent
        $        0.21    21.21  # of remote network recipients .1 mins sent
        $      247.96     0.43  # of remote network recipients .1 mins sent urgent
        $      529.46       12  fax messages made
        $        0.01       15  fax message retrievals non-billed
        $        0.04        3  fax message retrieval failures
        $        0.00     0.67  fax disk usage
        $     1375.64       34  fax pages made
Total Charges = $     2892.71
```

Figure 12-25 Sample Termination Report

The Termination Report can be done only for one mailbox at a time.

The Termination Report uses the same billing rates as the Billing Report, but the server allows you to enter a new base rate, in order to prorate charges over the length of time that the mailbox was in use. For example, if the base rate is $10.00 per month and the mailbox was in use for 15 days, you can change the base rate to $5.00.

The Termination Report gathers data from the mailbox, but it does not create a previous billing data file, nor does it update the billing counters. Thus, you can use this report to simply interrogate the status of a mailbox. To zero the billing counters, delete the mailbox, then create it again.

If there are any unplayed messages in the mailbox at the time the Termination Report is run, the server displays a warning that reports the number of unplayed messages in the mailbox and reminds you that generating a Termination Report at this point will not include these unplayed messages.

To charge only for messages that the mailbox holder has played, run the Termination Report before the unplayed messages are deleted.

To charge for all messages received, whether they were played or not, check the mailbox out first, then run the termination report.

Configuration and Usage Reports

The reports discussed in this section are designed for maintaining and debugging the software configuration and operation of a server. They give you information about:

- Application and optional feature (including integration) configuration
- Mailbox configuration
- Mailbox usage
- Phoneline exceptions
- Pager system parameters
- The Receptionist II optional feature (reports on the Receptionist II optional feature are available only if it is installed)
- Authorized users
- Names and extensions of mailbox owners (Phonebook Report)

In most cases, you have a choice of report destinations: as a display at the server maintenance console, or as output to a printer or other output device on serial port 1 or serial port 2. An exception is the Mailbox Dump Report, which can only be displayed.

Application and Optional Feature Configuration

The System Configuration Report allows you to see the parameters that have been set for each configured application and each configured optional feature, by line group. Figure 12-26 shows an excerpt from a sample System Configuration Report.

```
                              SYSTEM CONFIGURATION
                            Fri Apr 21 16:23:04 1995

VOICEMEMO SYSTEM CONFIGURATION

Group #2: "pager"
 Module 2: Lines 1:6 1:7
           Fax Conn: Fax Group 2 (4 channels shared w/ other line groups)
 Module 3: Lines 1:6 1:7
           Fax Conn: Fax Group 3 (4 channels shared w/ other line groups)
Module 4: Lines 2:6 2:7
           Fax Conn: Fax Group 5 (2 channels serving 2 lines) --DEDICATED
 Application = [PAGER DIALER]
  Dial plan = [4,4,4,4,4,4,4,4,N7]
  Administrator mbox # = [5852]
  General Greeting mbox # = []
  Attendant mbox # = [5851]
  Wait Prompt = [Y]
  Caller multiple messages enabled = [Y]
  KEY_0 for attendant transfer during greeting = [N]
  Disconnect string = []
```

Figure 12-26 Sample System Configuration Report

```
  Pre-company name string = []
  Pre-mailbox greeting string = []
  Passcode Length  Min = [4], Max = [10], Language = [E]
  Start of day = [08:00 AM], End of day = [05:00 PM], Days of Week = [DDDDDNN]
  Passcode trip count = [5],  Passcode trip period = [24]
  Dial-by-name: Last First = [Y], Match Threshold = [3], Exact = [Y]
                Suppress Number = [N], Single Digit Access = [N]
  Delay Before Answer = [30]
  E-mail Transfer String = []
  Allow Dial an Extension for callers = [N], users = [N]
  Analog Networking: Call Setup timeout = [6]
     International Access Code = [], Country code = []
Area/City code = [], 1plus dialing = []
     Area/City code is dialed with Local Telephone Number = [N]
     Telephone number = [], Loop-back Test Mailbox = []
  Attendant's extension = [0]
  Pre DN or attendant xfer string = [S+]
  Supports pager systems:
    [3] = "TEST DEMO"
    [4] = "OUTSIDE LINE"
    [7] = "SKYPAGER"
    [8] = "800 PAGER"
    [11] = "FaxInternal"
    [15] = "OneView Pager"
Group #24:      End of Group Info

Pager Systems:
 Pager System [3], Pager Name = "TEST DEMO"
  Access code = [t9t1], Hold time = [5]
 Pager System [4], Pager Name = "OUTSIDE LINE"
  Access code = [t9t], Hold time = [5]
 Pager System [7], Pager Name = "SKYPAGER"
  Access code = [t9t18007597243++++++++++], Hold time = [5]
 Pager System [8], Pager Name = "800 PAGER"
  Access code = [t9t18009464646++++g++], Hold time = [5]
 Pager System [11], Pager Name = "FaxInternal"
  Access code = [t], Hold time = [5]
 Pager System [15], Pager Name = "OneView Pager"
  Access code = [], Hold time = [2]

Wakeup configured.

Port $cti1 RS-232 Serial Port application = [Centrex]

SMARTCARD TABLE
 host  card   port_name cpu          owner                    intr addr
    1     1       $cti1 R3051       Centrex                   N/A 324
    1     1       $cti2 R3051       EMPTY                     N/A 324
    1     1       $cti3 R3051       MESA_NET                  N/A 324
    1     1       $cti4 R3051       MESA_NET                  N/A 324

 The following optional features are enabled:
  Receptionist
  Auto Wakeup
  Networking
  Cut Through Pager
  MesaForm
  FaxMemo
  Call Detail Recorder
  OneView
```

Figure 12-26 Sample System Configuration Report (continued)

Mailbox Configuration

Two reports are available to show mailbox configuration, one through the Reports Menu and one through the Mailbox Maintenance Menu. The report available through the Reports Menu is keyed to mailboxes themselves, while the report available through the Mailbox Maintenance Menu is keyed to search criteria you specify.

Mailbox Data Report

This report shows the configuration of every mailbox in the server. Figure 12-27 is an excerpt from a sample Mailbox Data Report.

```
MAILBOX DATA REPORT
                          Fri Apr 21 16:34:34 1995


 MAILBOX: 998        Created: 12/05/94  1:30 pm
    MSGS: 0         UNPLAYED: 0          URGENT: 0          RECEIPT: 0
        LCOS: Default           : 1                    FCOS: FAX+MSGUNDELETE: 1
        GCOS: Default GCOS 1    : 1                    NCOS: Default: 1
        TCOS: Default TCOS 1    : 1                    RCOS:: 1
BAD LOGS: 0         LAST LOG: NEVER                                    MINS: 0.0
  PASSWD: N           TUTOR: N              DAY: M           NIGHT: M
    NAME:                                  CODE:
   EXTEN: 998                              INDEX: 0
ATTEN DN:                                  INDEX: 0
  ACCESS: NONE                                        NOTIFICATION: Y
INTERNAL INDEX: 0         BILLED INDEX: 0         NON-BILLED INDEX: 0
CALL PLACEMENT INDEX:   NONE                  TIME ZONE OFFSET: 0
DISTRIBUTION LISTS WITH CHANGE RIGHTS:
        all
DISTRIBUTION LISTS WITH REVIEW RIGHTS:
        all


 MAILBOX: 999        Created: 12/05/94  1:30 pm
    MSGS: 0         UNPLAYED: 0          URGENT: 0          RECEIPT: 0
        LCOS: Default           : 1                    FCOS: FAX+MSGUNDELETE: 1
        GCOS: Default GCOS 1    : 1                    NCOS: Default: 1
        TCOS: Default TCOS 1    : 1                    RCOS:: 1
BAD LOGS: 0         LAST LOG: 12/19/94  1:42 pm                        MINS: 0.0
  PASSWD: N           TUTOR: N              DAY: M           NIGHT: M
    NAME:                                  CODE:
   EXTEN: 999                              INDEX: 0
ATTEN DN:                                  INDEX: 0
  ACCESS: NONE                                        NOTIFICATION: Y
INTERNAL INDEX: 0         BILLED INDEX: 0         NON-BILLED INDEX: 0
CALL PLACEMENT INDEX:   NONE                  TIME ZONE OFFSET: 0
DISTRIBUTION LISTS WITH CHANGE RIGHTS:
        all
DISTRIBUTION LISTS WITH REVIEW RIGHTS:
        all


TOTAL   Mailboxes: 35     Messages: 0    Unplayed: 0    Minutes: 0.0
```

Figure 12-27 Sample Mailbox Data Report

The fields of data in the Mailbox Data Report are described in Table 12-3:

Table 12-3 Mailbox Data Report Fields

Field	Description
MAILBOX	The number of the mailbox being reported
MSGS	The total number of played and unplayed messages in this mailbox
UNPLAYED	The number of unplayed messages
URGENT	The number of urgent messages
RECEIPT	The number of messages received
LCOS	The Limits Class of Service (LCOS) assigned to this mailbox; the LCOS name, if any, follows the colon and the LCOS number follows the name.
FCOS	The Feature Class of Service (FCOS) assigned to this mailbox; the FCOS name, if any, follows the colon and the FCOS number follows the name.
GCOS	The Group Class of Service (GCOS) assigned to this mailbox; the GCOS name, if any, follows the colon and the GCOS number follows the name.
NCOS	The Network Class of Service (NCOS) assigned to this mailbox; the NCOS name, if any, follows the colon and the NCOS number follows the name.
TCOS	The Tenant Class of Service (TCOS) assigned to this mailbox; the TCOS name, if any, follows the colon and the TCOS number follows the name.
RCOS	The Restriction Class of Service (RCOS) assigned to this mailbox; the RCOS name, if any, follows the colon and the RCOS number follows the name. If no RCOS is assigned to a mailbox, this field is blank.
BAD LOGS	The number of times in the present passcode trip period that an invalid passcode was entered
LAST LOG	The data of the last Mailbox owner login. "Never" means the mailbox owner has not yet logged into the new mailbox.
MINS	Disk usage in minutes of speech, to the nearest tenth of a minute
PASSWD	Indicates whether the mailbox is passcode protected (Y) or not passcode protected (N)
TUTOR	Indicates whether the default tutorial for a new mailbox owner is activated (Y) or not activated (N)
DAY	The Receptionist II day treatment type
NIGHT	The Receptionist II night treatment type

Table 12-3 Mailbox Data Report Fields (continued)

Field	Description
NAME	The name assigned to this mailbox
CODE	The department code assigned to this mailbox
EXTEN	For Receptionist II only, the extension number to call
INDEX	For Receptionist II only, the extension pre-dial index
ATTEND DN	The extension of a human attendant, such as a lobby receptionist
INDEX	The pre-dial index for the human attendant's extension
ACCESS	The code a caller must enter to hear a mailbox greeting
NOTIFICATION	Indicates whether the mailbox has pager/outdial notification (Y) or no notification (N)
INTERNAL INDEX	The index number representing the access code for internal calls.
BILLED INDEX	The index number representing the access code for outdials to be charged to a billing account.
NON-BILLED INDEX	The index number representing the access code for outdials not charged to a billing account.
CALL PLACEMENT INDEX	Shows whether call placement outdials are billed (B) or unbilled (U), or treated as internal outdials (I).
TIME ZONE OFFSET	The offset, in hours, between the time zone in which the mailbox owner is located and the time zone in which the server is located
DISTRIBUTION LISTS WITH CHANGE RIGHTS	The number(s) of distribution lists in this mailbox that the mailbox owner is allowed to change; "all" indicates all lists have change rights.
DISTRIBUTION LISTS WITH REVIEW RIGHTS	The number(s) of distribution lists in this mailbox that the mailbox owner is allowed to review; "all" indicates all lists have review rights.

Mailbox Search Utility Report

The Mailbox Search Utility Report shows the results of a search for mailboxes meeting configuration criteria that you can specify. You can select from the following configuration criteria:

- All mailboxes
- Attendant extension

- Attendant pre-dial index
- Billed outdial dialing order
- Billed outdial index
- Billing number
- Department code
- FCOS
- GCOS
- Internal outdial index
- LCOS
- Mailbox's extension
- Mailbox's extension pre-dial index
- Mailbox name
- Message waiting type
- NCOS
- No passcode
- Range of mailboxes
- TCOS
- Tutorial enabled
- Unbilled outdial index

Figure 12-28 shows the results of a search for mailboxes 1200 through 6000.

```
                                Mailbox Search Utility
                               Fri Apr 21 16:53:51 1995


 MAILBOX: 1000       Created: 12/20/94 12:49 pm
    MSGS: 0         UNPLAYED: 0          URGENT: 0          RECEIPT: 0
        LCOS: Default           : 1                   FCOS: FAX+MSGUNDELETE  : 1
        GCOS: Default GCOS 1    : 1                   NCOS: Default          : 1
        TCOS: Default TCOS 1    : 1                   RCOS:                  : 1
BAD LOGS: 0         LAST LOG: 12/20/94 12:53 pm                          MINS: 0.0
  PASSWD: N            TUTOR: N              DAY: M           NIGHT: M
    NAME:                                   CODE:
   EXTEN: 1000                             INDEX: 0
ATTEN DN:                                  INDEX: 0
  ACCESS: NONE                                        NOTIFICATION: Y
INTERNAL INDEX: NONE      BILLED INDEX: NONE      NON-BILLED INDEX: NONE
CALL PLACEMENT INDEX:   NONE                 TIME ZONE OFFSET: 0
DISTRIBUTION LISTS WITH CHANGE RIGHTS:
all
DISTRIBUTION LISTS WITH REVIEW RIGHTS:
        all


 MAILBOX: 1111       Created: 01/18/95  3:23 pm
    MSGS: 0         UNPLAYED: 0          URGENT: 0          RECEIPT: 0
        LCOS: NYNEX-Basic       : 2                   FCOS: FAX+MSGUNDELETE  : 1
        GCOS: Default GCOS 1    : 1                   NCOS: Default          : 1
        TCOS: Default TCOS 1    : 1                   RCOS:                  : 1
BAD LOGS: 0         LAST LOG: NEVER                                      MINS: 0.0
  PASSWD: N            TUTOR: N              DAY: M           NIGHT: M
    NAME:                                   CODE: ?
   EXTEN:                                  INDEX: 0
ATTEN DN:                                  INDEX: 0
  ACCESS: NONE                                        NOTIFICATION: Y
INTERNAL INDEX: 0         BILLED INDEX: 0         NON-BILLED INDEX: 0
  WAKEUP: Defined      SYSTEM: 0             FREQ: 0          INTERVAL: 0
  NUMBER:
CALL PLACEMENT INDEX:   NONE                   TIME ZONE OFFSET: 1
DISTRIBUTION LISTS WITH CHANGE RIGHTS:
        all
DISTRIBUTION LISTS WITH REVIEW RIGHTS:
        all



TOTAL Mailboxes:2    Messages:0  Unplayed:0  Urgent:0  Receipt:0
                     Minutes:0.0
```

Figure 12-28 Sample Mailbox Search Utility Report

Mailbox Usage

Several different reports are available to show mailbox usage statistics.

Mailbox Data Inquiry Report

This report shows message counts, class of service assignments, message waiting type, the passcode status, and login status. You can obtain this information for one mailbox or a range of mailboxes. The sample in Figure 12-29 shows a Mailbox Data Inquiry Report for a range of mailboxes.

```
                          Mailbox Data Inquiry
                        Fri Apr 21 16:57:50 1995


Box                Msgs Unp Urg Rec   Mins FCOS LCOS GCOS NCOS MWI   Passwd
3550         22    2    0   0    42.3 61   1    1    1    None          Y
3551          0    0    0   0     0.0 31   1    1    1    None          Y
3552          0    0    0   0     0.0 31   1    1    1    None          Y
3553          6    0    0   0    14.6 44   1    1    1    None          Y
3555         15    3    0   0    48.8 14   1    1    1    None          Y

TOTAL Mailboxes:5    Messages:43 Unplayed:5  Urgent:0  Receipt:0
                     Minutes:105.7
```

Figure 12-29 Sample Mailbox Data Inquiry Report

The columns of data in the Mailbox Data Inquiry Report are as follows:

`Box` The number of the mailbox inquired about

`Msgs` Total played, unplayed, and urgent messages in the mailbox

`Unp` Unplayed messages

`Urg` Urgent messages

`Rec` Receipts, requested and forced

`Mins` Length of all messages, in tenths of a minute

`FCOS`
`LCOS`
`GCOS`
`NCOS`
} Classes of service assigned to the mailbox

`MWI` Message waiting type assigned to this mailbox

`Passwd` Digits means there is a temporary passcode for this mailbox and the mailbox owner has not yet logged into it.

"T" means that the tutorial for a new mailbox owner has been activated.

"Y" or "N" means there is or is not a passcode for this mailbox and that the mailbox owner has logged into the mailbox.

Mailbox Block Inquiry Report

This is the same report as the Mailbox Blocked Report described earlier under "Billing Reports." It is available through the Mailbox Maintenance Menu, while the Mailbox Blocked Report is available through the Billing Menu.

```
MAILBOX: 3553

Login status:
        Version      = 600A03
        Bad logs     = 1          Last log     = 06/13/95 12:01 pm

Configuration:
        Name #       = 2129233    Greeting1    = 1867011    Greeting2    = 1604963
        Greeting3    = 622340     Greeting4    = 2260310    Alt greet1   = p
        Alt greet2   = p          Alt greet3   = p          Alt greet4   = p
        Fax Cov/Grt  = 0          Fax Index    = I
        Default Fax# = 3732
        Family Name1 = 0          Family Name2 = 0          Family Name3 = 0
        Passcode     = XXXXXXXXXX Tutorial     = N          Extension    = 3553
        Ext index    = 0          Attendant    =            Attend index = 0
        Code         = eng        ID           = Harper, Maryjane
        Day_treat    = 2          Night_treat  = 2          Fcos         = 44
        Lcos         = 1          Gcos         = 1          Ncos         = 1
        Rcos         = 1
        Rot index    = 0          Rot period   = 0          OffSys index = -1
        Rot start    = --
        intern index = 11         Billed index = 0          NoBill index = 0
        Bill number  =
        Dial order   = bn
        Attend Xfers = 2          Email Xfers  = 0
        Msg speech q = 0          Grt speech q = 0
        wkup defined = N          wkup freq    = 0          wkup_intvl   = 0
        wkup index   = 0          wkup number  =            wkup enabled = N
        T zone offset= 0          wkup message = 0          Vac Sequence=  75


Contents:
        Motd_seq     = 0          Motd_played  = N          User_msgs    = 15
        Caller_msgs  = 5          Sent_cpx_msgs= 0          Sent_fdx_msgs= 0
        Sent_urg_msgs= 0          Wakeups      = 0          Pages        = 0
        Receipt      = 0          Sent_to_node = 13         Urg_to_node  = 0
        Net_urg_mlen = 0          Net_msgs_rcv = 44         Net_urg_rcv  = 1
        Net_sent_node= 13         Net_send_nurg= 0          Net_send_rcp = 13
        Fax_msg_rcvd = 0          Fax_msg_sent = 0          Fax_page_sent= 0
        Fax_msg_dlvd = 0          Fax_page_dlvd= 0          Fax_undlvd   = 0
        Fax_page_rcvd = 0
        Greet_count  = 5          Successlogins= 26         Recpt_calls  = 0
        Mobile logins= 0          Msg Delivery=  0
        Recpt_complt = 0          Recpt_busy   = 0          Recpt_rna    = 0
        Recpt_msgs   = 0          Recpt_attend = 0          User_connect = 654
        Clr_connect  = 61         Callp_connect= 0          Disk_use     = 20441
        Fax_disk_use = 0
        Net_sent_mlen= 267        Net_rcvd_mlen= 0          Net_rcvd_urg = 0
        Net_node_mlen= 267        Net_recip_mlen=267        Net_node_urg = 0
        Text_msg_cnt = 0


Message Queues:
        TYPE            COUNT TOTAL HEAD TAIL  TYPE           COUNT TOTAL HEAD TAIL
        Free              63   ---   60   59   Unplayed         0   ---   -1   -1
        Played             2   8.9   52   61   Urgent           0   ---   -1   -1
        Receipts           0   ---   -1   -1   Undelivered      0   ---   -1   -1
        Future delivery    0   ---   -1   -1
```

Figure 12-30 Sample Mailbox Dump Report

```
Messages: 10
 #  msg #    DATE     TIME    LENGTH     SENDER       PORT  FLAGS     MSG      SIBL
                             (MINS)                                   NXT PRV NXT PRV

Played Queue
52 1867277 05/19/95  7:49 am  0.6      000000000003644---------- 61  -1  56  -1
   kept    05/19/95 12:05 pm
56 1801655 05/18/95  2:03 pm  1.1      000000000003553---------- -1  -1  62  52
62 2063758 05/18/95 12:05 pm  0.2      000000000003644---------- -1  -1  48  56
48 425226  05/18/95 10:29 am  0.8      000000000003553---------- -1  -1  29  62
29 425324  05/18/95  6:26 am  1.5      000000000003644---------- -1  -1  38  48
38 1932613 05/17/95 12:15 pm  2.5      000000000000000---------- -1  -1  -1  29

61 2457056 06/07/95 12:16 pm  0.2      000000000002622---------- -1  52  35  -1
   2457055                    0.1      from node 1
    kept   06/07/95  4:08 pm
35 2129425 06/07/95 12:06 pm  0.1      000000000003685---------- -1  -1  30  61
   1474042                    0.1      from node 1
30 1474043 06/06/95  6:47 pm  1.7      000000000003685---------- -1  -1  21  35
   2129426                    0.1      from node 1
21 2063930 06/06/95  6:27 pm  0.6      000000000003603---------- -1  -1  -1  30
   2063929                    0.1      from node 1
```

Figure 12-30 Sample Mailbox Dump Report (continued)

Mailbox Dump Report

The Mailbox Dump option in the Mailbox Maintenance Menu is an excellent troubleshooting aid. It allows you to obtain a comprehensive report on a specific mailbox. This report has four parts: login status; configuration; usage statistics (labeled "Contents" in the report); and message queues that show the number of messages free, played, unplayed, urgent, undelivered, the number of message receipts, and the number of future delivery messages. Figure 12-30 shows a Mailbox Dump Report for sample mailbox 1234.

Total Speech and Account Breakdown Report

This is one of three reports (statistics on idle mailboxes and mailbox statistic totals are the other two) that give you a "snapshot" of current mailbox usage and speech storage in summary form. (If you need detailed information about speech storage usage on your server, see System Statistics in the *Series 6 Installation and Service Manual.*) All three of these reports are available through the Statistics option of the Reports Menu.

The Total Speech and Account Breakdown Report (Figure 12-31) summarizes account (mailbox) statistics and speech statistics for all mailboxes in the server. Speech storage is used for messages, names, and greetings.

```
ACCOUNT STATISTICS
Mailboxes:                35
Dist Lists:                4
Copy Lists:                1
Config Records:          347
Statistics Records:      168
-------------------    -----     -----
Total:                   555

                            Total              Free      Used
 Message Numbers            132000             119610     9 %
   Speech Blocks            384000             107693    53 %

SPEECH STATISTICS

               Amount    Frames    Blocks    Blocks
               ------    ------    ------    ------
greet1:         794      135499     4618       1 %
greet2:         113       22665      766       0 %
greet3:          84       15227      516       0 %
greet4:          67       12475      420       0 %
names:          606       20142      866       0 %
dlnames:        577       22789      978       0 %
fax greet:      616       604438   19186       4 %
fax msg:        880      1300502   41070      10 %
messages:     10149      8580576   268143     69 %

blocks used by greets and names:      7186
blocks used by fax messages/greets:   60256
average time in seconds for messages: 59
```

Figure 12-31 Sample Total Speech and Account Breakdown Report

Idle Mailboxes Report

This report (Figure 12-32) shows the numbers of all mailboxes that have not been logged into by their owners; summarizes mailbox usage statistics; and lists FCOSs, LCOSs, and department codes assigned to idle mailboxes. The "Mailboxes With Activity" entry in this report shows the number of mailboxes that have either been logged into or received a message.

```
                          MAILBOX STATISTICS
                       Fri Jun 16 13:39:28 1995


The following mailboxes have NEVER logged in:

22          998         1111        2606        2630        2632        2636
2647        2648        2658        2663        2665        2675        2676
2677        2678        2680        3053        3087        3088        3089
                                        •
                                        •
                                        •
6635        6644        6829        6859        7000        8464        8468
8472        80000       6875734

MAILBOX STATISTICS  since System was created

       518     Mailboxes included in this report
```

Figure 12-32 Sample Idle Mailboxes Report

```
       195     Mailboxes with activity
       185     Mailboxes have never logged in
       333     Mailboxes have logged in
        12     Mailboxes with pagers
       248     Total calls to pagers
      20.0     Average calls to pagers per subsriber
         0     Wakeup messages received
     10727     Total messages deposited
      3868     Total greets played
      4462     Total logins
         0           logins by mobile phones
      4462           logins by landline phones
     11633.0   User connect time (minutes)
      2539.9   Caller connect time (minutes)
    810533.5   Disk usage (minute_size*hours_kept)
       2.6     Average user connect time
       0.6     Average caller connect time

MAILBOXES BY FCOS
FCOS Mailboxes
---- ---------
   1         8
   6         1
      •
      •
      •
  61         2
  62        10
  63         5
 100         1

MAILBOXES BY LCOS
LCOS Mailboxes
---- ---------
   1       517
   2         1

MAILBOXES BY DEPARTMENT CODE
Department Code   Mailboxes  New Since Last Gather
---------------   ---------  ---------------------
No code                 280    280
eng                     104    104
mfg                       8      8
marketing                16     16
sales                    18     18
             •
             •
             •
test                      6      6
                                ---------------------
TOTAL NEW SINCE LAST GATHER     518
```

Figure 12-32 Sample Idle Mailboxes Report (continued)

Mailbox Totals Report

This report gives the same type of information as the Idle Mailboxes Report but for all mailboxes in the server. The "Mailboxes With Activity" entry in this report shows the number of mailboxes that have either been logged into or received a message.

Phoneline Exceptions

The Reports Menu gives you an option to obtain a System Phone Line Exceptions Report that shows any phoneline exceptions set for lines in each module (host). You

can obtain a report for all 128 lines or any specific lines desired. Figure 12-33 shows a sample System Phoneline Exceptions Report on lines 1 through 4.

```
Keep entering triplets, then enter <CR> on a line by itself.
line triplets to report: *
line triplets to report:

Line 1:3:0 configuration:
...all parameters set to defaults

Line 1:3:1 configuration:
...all parameters set to defaults

Line 1:4:0 configuration:
4   Pause compression enable            no

Line 1:4:1 configuration:
4   Pause compression enable            no

Line 2:1:0 configuration:
13  Enable AGC                         yes
4   Pause compression enable            no

Line 2:1:1 configuration:
13  Enable AGC                         yes
4   Pause compression enable            no

Keep entering triplets, then enter <CR> on a line by itself.
line triplets to report:
```

Figure 12-33 Sample System Phoneline Exceptions Report

Pager System Parameters

To see the index number, name, access code, and hold time of each supported pager system, you can obtain a Pager Systems Access Codes Report (see Figure 12-34).

To see all parameters configured for supported pager systems, you should obtain a System Configuration Report (described earlier).

```
                    PAGER SYSTEMS ACCESS CODES
                     Fri Apr 21 17:20:58 1995

INDEX  PAGER NAME                    ACCESS CODE                HOLD TIME

 3     TEST DEMO                     t9t1                       5
 4     OUTSIDE LINE                  t9t                        5
 7     SKYPAGER                      t9t18005554244++++++++++   5
 8     800 PAGER                     t9t18005551616++++g++      5
 11    FaxInternal                   t                          5
 15    OneView Pager                                            2
```

Figure 12-34 Sample Pager Systems Access Codes Report

Receptionist II Optional Feature

When Receptionist II is installed on your server, two reports are available that show Receptionist II configuration: the Receptionist Day/Night Treatment Types Report and Pre-Extension Dial Strings Report.

Receptionist Day/Night Treatment Types Report

Each mailbox configuration contains day and night treatment types that tell the server exactly how mailbox owners wish to have their calls handled under different conditions. The Receptionist Day/Night Treatment Types Report displays the treatment types from which the server administrator can choose when creating mailboxes. Figure 12-35 shows a sample report.

```
                    RECEPTIONIST DAY/NIGHT TREATMENT TYPES
                           Fri Apr 21 17:24:10 1995


   EXTENSION TYPES              Auth                Redial
Index  Name                     Time  Auth Code      Dflt  RNA BUSY REJ SCREEN
 1     treatment 1                A                   D     R   R    R    Y
 2     treatment 2                A                   D     R   R    R    N
 3     treatment 3                A                   A     R   R    R    Y
 4     treatment 4                A                   M     R   R    R    Y
 5     treatment 5                A                   M     M   M    R    N
 6     treatment 6                A                   M     M   M    M    Y
 7     treatment 7                A                   R     M   R    M    Y
 8     treatment 8                A                   R     R   R    M    Y
 9     treatment 9                A                   R     R   R    R    N
10     treatment 10               A                   M     A   A    A    Y
   TRUNK TYPES                  Auth                Redial
Index  Name                     Time  Auth Code      Dflt  Connect Fail
```

Figure 12-35 Sample Receptionist Day/Night Treatment Types Report

The sample report shows 11 treatment types: nine Extension and two Trunk treatment types. Read the report line by line, from left to right, and refer to Table 12-4 for field explanations.

Table 12-4 Fields in Day/Night Treatment Report

Field	Description
EXTENSION TYPES	The treatment types that follow are extension treatment types.
Index	The Index number that represents each treatment type
Name	A descriptive name that identifies each treatment type
Auth Time	The authorized time period(s) during which this number may be accessed (A = all, D = day, N = night).

Table 12-4 Fields in Day/Night Treatment Report (continued)

Field	Description
Auth Code	An authorization code, usually numerical, that the caller must enter before Receptionist II rings the extension. Special character codes are M (enter any valid mailbox number) and P (enter a valid passcode). A blank field means that no authorization code is required.
Redial Dflt	The redial menu that is played when "Redial" is selected for any extension failure condition
RNA	The action taken when the extension rings, but there is no answer. R = play the default Redial menu (see "Redial Default" above), A = transfer to an assistance number, M = prompt the caller to leave a message in the mailbox.
BUSY	The action taken when the extension is busy. R = play the default Redial menu, A = transfer to an assistance number, M = prompt the caller to leave a message in the mailbox.
REJ	The action taken when call screening is in effect, and the recipient rejects the call. R = play the default Redial menu, A = transfer to an assistance number, M = prompt the caller to leave a message in the mailbox.
SCREEN	Indicates whether the user wants Receptionist II to screen all outside calls. Y = yes, N = no.
TRUNK TYPES	The following treatment types are Trunk treatment types: Index, Name, Auth Time, Auth Code
Connect	The connect criteria, that is, the conditions under which the server should consider the trunk call to be successful. C = Cut through, R = Ring, T = Tone (dial or modem).
Failure	The action taken when the connect criteria for trunk calls are not met. R = play the default Redial menu, A = transfer to an assistance number, M = prompt the caller to leave a message in the mailbox.

Pre-Extension Dial Strings Report

Another report available to you when Receptionist II is installed is the Pre-Extension Dial Strings Report. This report (Figure 12-36) shows pre-extension dial strings associated with each index configured for mailboxes served by Receptionist II.

```
            >>> Acme Products System <<<
             PRE-EXTENSION DIAL STRINGS
              Fri Apr 27, 1995  9:52 am

INDEX   PRE-DIAL STRINGS            DESCRIPTION
1       T9T+                        Outside line
2       T9T+23759                   Non-Dial Account
```

Figure 12-36 Sample Pre-Extension Dial Strings Report

List of Authorized Users

You can view a list of users who have access to the server. The list is displayable at a server maintenance console, through the List All Users option in the Security or the FPSA Menu. Figure 12-37 shows a sample list when FPSA is not running, Figure 12-38 shows the output when FPSA is running.

```
User ID-------------UID---Last Login---PW-Bad--
----Real Name-----------------------------------
root                  0  Nov 14 17:26  Y

bob                 101     <none>
    Robert A. Robertson
spencer             100  Oct 20 14:59  Y    1
    Spencer F. Hire
```

Figure 12-37 Sample List of Authorized Users (Without FPSA)

```
User ID-------------UID---Last Login---PW Exp---Perm---Bad--Lock--Lock Time---
----Real Name-----------------------------------------------------------------
root                  0  Nov 14 17:26  Nov 15  ******

bob                 101     <none>     Nov 15  ....56
    Robert A. Robertson
mary                102     <none>     Nov 15  .234..
    Mary Contrary
spencer             100  Oct 20 14:59  Nov 15  .2345.    1
    Spencer F. Hire
```

Figure 12-38 Sample List of Authorized Users (With FPSA)

History File

The History File is a record of modifications made to the server. Entries are made to this record by the server administrator, a distributor, or Centigram technical personnel. You must review this record before updating software on the server to verify that no custom changes have been made that are over-written with the new software.

You can view the current History File, and add entries to it (update it), at a server maintenance console

Operational Parameters for a Hard Disk

To get information about the size and model of the hard disk installed in a module, you can display or print a report of operational parameters for the hard disk. This report also shows error recovery parameters, disconnect and reconnect parameters, format parameters, and other drive parameters such as the number of cylinders. Figure 12-39 shows a sample report of operational parameters for hard disk 0.

```
          Operational Parameters for Hard Disk 0:0

                  Vendor: IBM
                  Model:  0664M1H       !P
                  Rev:    6 61

          Page 1 - Error Recovery Parameters
AWRE: TRUE          ARRE: TRUE
TB  : FALSE         RC  : FALSE
EER : FALSE         PER : TRUE
DTE : FALSE         DCR : FALSE
Read retry count:         4
Correction span:          48
Head offset count:        0
Data strobe offset count: 0
Write retry count:        1
Recovery time limit:      0

          Changeable page 1 data:
flags=0xf7, rd_retry=255, c_span=0, hd=0, ds=0, wt_retry=0, rcv=0

          Page 2 - Disconnect/Reconnect Parameters
Buffer full ratio:                0
Buffer empty ratio:               0
Bus inactivity limit:             0
Disconnect time limit:            0
Connect time limit:               0
Maximum burst size :              0
Data transfer disconnect control: 0

          Changeable page 2 data:
bf_ratio=255, be_ratio=255, inact=0, disc=0, con=0, burst=0, dtdc=0

          Page 3 - Format Parameters
Tracks per zone:                  15
Alternate sectors per zone:       34
Alternate tracks per zone:        0
Alternate tracks per logical unit: 0
Sectors per track:                94
Data bytes per sector:            512
```

Figure 12-39 Sample Report of Hard Disk Operational Parameters

```
Interleave factor:                  1
Track skew factor:                  8
Cylinder skew factor:               17
Flags:                              0x40

        Changeable page 3 data:
tpz=0, aspz=0, atpz=0
atpl=0, sec_per_trk=0, data_bytes=0
interleave=0, trk_skew=0, cyl_skew=0, flags=0x0

        Page 4 - Drive Geometry Parameters
Number of cylinders:              2857
Number of heads:                  15
Write precomp cylinder:           0
Redunced write current cylinder:  0
Step rate:                        0
Landing zone:                     3069
RPL:                              0
Rotational offset:                0
Rotational offset:                5400
Disk capacity:                    3933039
```

Figure 12-39 Sample Report of Hard Disk Operational Parameters (continued)

Phonebook Report

The server allows you to produce a phonebook listing mailbox owners.

If the Dial-by-Name function is enabled and the FCOS assigned to a mailbox includes feature bit 092 (User will be in Dial-by-Name database), the mailbox owner's name is included in the Dial-by-Name database. The server uses the Dial-by-Name database to create a telephone book, when you choose the Phonebook Report option in the Reports Menu. The Phonebook Report is an alphabetic listing of mailbox names that shows the corresponding mailbox number and GCOS assigned to the mailbox (Figure 12-40). As with other reports, you can print the Phonebook Report on a serial printer or other output device connected to your server through serial port 1 or serial port 2, or display it at the server maintenance console.

```
            >>>Acme Management Systems<<<
                      PHONEBOOK
                Tue Apr 31, 1995 12:57 pm

NAME                          MAILBOX   GCOS
---------------------------- -------- -----
ATTEND. MB                       3850      2
Allen, Debbi                     3852      9
Allen, Richard                    511     14
Bau, Lee                          255     14
Barry, Randall                    601     14
Borregas, Rita                   3809      9
                                  ...
```

Figure 12-40 Sample Phonebook Report

Reports Task List

Task *Procedure*

Reports

Report Generation ..... CP 3375
Run a Billing Report ..... CP 3366
Run a Complete Summary Report ..... CP 5305
Run a Fax Group Usage Report ..... CP 5316
Run a Group Usage - All Trunks Busy Report ..... CP 5306
Run a Line Group Usage Report ..... CP 5307
Run a Line Usage Report ..... CP 5309
Run a Logfile Report ..... CP 5302
Run a Mailbox Blocked Report ..... CP 4367
Run a Mailbox Data Report ..... CP 4372
Run a Message Usage Report ..... CP 5308
Run a Phonebook Report ..... CP 4374
Run a Previous Billing Report ..... CP 4368
Run a Speech Usage Report ..... CP 5310
Run a System Information Report ..... CP 1340
Run a System Phoneline Exceptions Report ..... CP 4369
Run a Termination Report ..... CP 3370
Run a Total Statistics Report ..... CP 5311
Run a Virtual Drive Statistics Report ..... CP 5312
Run Mailbox Statistics Reports ..... CP 4373
Run Receptionist II Reports ..... CP 4371
Show or Edit the History File ..... CP 5304
View the Hard Disk Operational Parameters ..... CP 5313

Report Generation

VoiceMemo Release 6.0A and later

This procedure summarizes the types of reports available in the following categories:

- Billing
- Application configuration
- Mailbox configuration
- Mailbox usage
- Phoneline exceptions
- Receptionist II
- Phonebook
- Fax Groups

Procedures for running a system information report, log file report, and statistics reports other than mailbox statistics reports are in the *Series 6 Installation and Service Manual.*

Step	*Reference*
Billing Reports	
1. Synchronize the report generation with any automatic gather that has been configured, to ensure that the report is current.	
2. Request a single (manual) gather, if you want to run a current billing report between automatic gathers.	CP 4357
3. Run any of these reports through the Billing option in the Reports Menu:	
• Billing Report	CP 3366
• Mailbox Blocked Report	CP 4367
• Previous Billing Report	CP 4368
• Termination Report	CP 3370
Application Configuration Reports	
• Run a report of all applications except paging and message delivery.	CP 4353, Ch. 1
• If you are currently modifying the Pager or Message Delivery application, view the configuration through the Pagers Menu.	CP 5015, Ch. 1
Mailbox Configuration Reports	
• Mailbox Data Report	CP 4372
• To run a Mailbox Search Utility Report:	CP 5005, Ch. 6

Step	*Reference*
Mailbox Usage Reports	
• Run any of these reports through the Mailbox Maintenance Menu: - Mailbox Data Inquiry Report - Mailbox Block Inquiry Report - Mailbox Dump Report	CP 4373
• Run any of these reports through the Statistics option of the Reports Menu: - Total speech and account breakdown - Idle mailboxes - Mailbox totals	CP 4373
Phoneline Exceptions Report	
• The Phoneline Exceptions option is run through the Reports Menu.	CP 4369
Receptionist II Reports	
• The Receptionist II Reports are run through the Reports Menu. - Pre-Extension Dial Strings Report - Receptionist Day/Night Treatment Types Report	CP 4371
Phonebook Report	
• The Phonebook Report is run though the Reports Menu.	CP 4374
Fax Group Reports	
• The Fax Group Reports are run though the Reports Menu.	CP 5316

Run a Billing Report

VoiceMemo Release 6.0A and later

This procedure describes how to run a Billing Report.

Step	*Reference*
1. Unless you want a report of previous charges, request a gather to ensure that the Billing Report reflects current charges. When you request a gather, the server displays status messages, then reports the number of mailboxes updated when it has completed the gather.	CP 4357, Ch. 11
2. Go to the Billing Menu.	Menu Map 9

3. Choose the Billing Report option and specify the destination of the report.
 	
Select: (B) Billing Report
Prompt: `REPORT OUTPUT ROUTING`
 	
`(C) Console (screen)`
`(P) Console with pause`
`(1) Printer A`
`(F) File...`
`(A) Append to file...`
`(X) Exit (no report)`
 	
`If you need help later, type ?.`
 	
`COMMAND (C/P/1/F/A/X):`
Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).
 	
* This option list varies depending on server configuration.
 	
The server displays the report to the output device you select.	

4. Choose the mailbox numbers you want to bill. *Prompt:* `Range of extensions to bill? (start-end)` *Response:* A mailbox **number** or **range**. Valid entries are: • A single mailbox number • A range of mailbox numbers, for example 2000-2999 • Press **Enter** to bill all mailbox numbers	

Step	*Reference*

5. Choose the FCOS you want to bill.

   Prompt: `FCOS service to bill? (1-640)`
   Response: An FCOS **number** or **range**, from 1 to 640. Valid entries are:

   - A = all FCOSs
   - E = even-numbered FCOSs
   - O = odd-numbered FCOSs
   - L = Lower half (FCOSs 1-32)
   - U = upper half (FCOSs 33-64)
   - A range of first-last, for example, 1-5
   - A series of numbers separated by commas, for example 1,3,5
   - Press **Enter** to choose mailboxes with any FCOS assigned.

   Note: FCOSs 65 to 640 are billed at the rate for FCOS 64.

6. Choose the LCOS you want to bill.

   Prompt: `LCOS service to bill? (1-640)`
   Response: An LCOS **number** or **range**, from 1 to 640. Valid entries are:

   - A = all LCOSs
   - E = even-numbered LCOSs
   - O = odd-numbered LCOSs
   - L = lower half (LCOSs 1-32)
   - U = upper half (LCOSs 33-64)
   - A range of first-last, for example, 1-5
   - A series of numbers separated by commas, for example 1,3,5
   - A single LCOS number
   - Press **Enter** to choose mailboxes with any LCOS assigned.

Step *Reference*

7. Choose the GCOS you want to bill.

   Prompt: `GCOS service to bill? (1-64)`
   Response: An GCOS **number** or **range**, from 1 to 64. Valid entries are:

   - A = all GCOSs
   - E = even-numbered GCOSs
   - O = odd-numbered GCOSs
   - L = lower half (GCOSs 1-32)
   - U = upper half (GCOSs 33-64)
   - A range of first-last, for example, 1-5
   - A series of numbers separated by commas, for example 1,3,5
   - A single GCOS number
   - Press **Enter** to choose mailboxes with any GCOS assigned (including affinity GCOSs 65-32,000).

8. Choose the NCOS you want to bill.

   Prompt: `NCOS service to bill? (1-64)`
   Response: An NCOS **number** or **range**, from 1 to 64. Valid entries are:

   - A = all NCOSs
   - E = even-numbered NCOSs
   - O = odd-numbered NCOSs
   - L = lower half (NCOSs 1-32)
   - U = upper half (NCOSs 33-64)
   - A range of first-last, for example, 1-5
   - A series of numbers separated by commas, for example 1,3,5
   - A single NCOS number
   - Press **Enter** to choose mailboxes regardless of any NCOS assigned.

9. Choose the department code you want to bill.

   Prompt: `Department code to bill?`
   Response: A single department **code** (1 to 10 characters), or press **Enter** to choose mailboxes regardless of department code.

Step	*Reference*
10. Choose the pager system number to bill. *Prompt:* `Pager system number to bill?` *Response:* A pager system **number** (0 to 15), or press **Enter** to choose mailboxes regardless of pager system assigned. The server generates the report according to choices you just entered and displays it at the server maintenance console or sends it as output through serial port 1 or 2.	

Run a Complete Summary Report

VoiceMemo Release 6.0A and later

This procedure describes how to run a Complete Summary Report.

Step	*Reference*
1. Reach the Reports Menu, then go to the Statistics Menu.	Menu Map 9
2. Run the Complete Summary Report.	

Select: (C) Complete Summary Report
Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(1) //1/dev/ser1
(F) File...
COMMAND (C/1/F):
```

Response: **C** to send the report to the console,
1 to send the report to serial port #1*, *or*
F to send the report to a file (you are prompted for a file name).

* This option list varies depending on server configuration.

The server displays the report to the output device you select. If you are sending it to the console, use the following commands to control scrolling:

To stop scrolling: Press **Ctrl-S**
To restart scrolling: Press **Ctrl-Q**

- Figure 1 on the following page shows a sample Complete Summary Report.

Step *Reference*

```
                        TOTAL STATISTICS SUMMARY REPORT
                           Fri Apr 21, 1995 12:26 pm

------------------------------< SUNDAY >--------------------------------
Date:    Sun Apr 16 23:15:07 1995
               Last Reset: Sat Apr 15 08:52:55 1995

Total Messages:       90000                    Lowest Messages Free:    86377
Total Speech:        384000                    Lowest Speech Free:     325480
Total Calls:              0                    Total Seconds:         0:00:00
Line ATB Count:           0                    Line ATB Seconds:      0:00:00
Fax Trans:                2                    Fax Total Secs:        0:00:02
Fax ATB Count:            0                    Fax ATB Seconds:       0:00:00
Fax No Res Cnt:           0
NETWORKING      <=========== PEAKS ==========><=========== TOTALS ==========>
MESSAGES:         IN QUEUE   MINUTES   LATENCY DELIVERED   UNDELIV  RECEIVED
BATCH:                   9         0   0:00:00         0         0        27
URGENT:                  0         0   0:00:00         0         -         1

------------------------------< MONDAY >--------------------------------
Date:    Mon Apr 17 23:15:06 1995
               Last Reset: Mon Apr 17 15:14:50 1995

Total Messages:       90000                    Lowest Messages Free:    86234
Total Speech:        384000                    Lowest Speech Free:     324377
Total Calls:              0                    Total Seconds:         0:00:00
Line ATB Count:           0                    Line ATB Seconds:      0:00:00
Fax Trans:               20                    Fax Total Secs:        0:00:20
Fax ATB Count:            0                    Fax ATB Seconds:       0:00:00
Fax No Res Cnt:           0
NETWORKING      <=========== PEAKS ==========><=========== TOTALS ==========>
MESSAGES:         IN QUEUE   MINUTES   LATENCY DELIVERED   UNDELIV  RECEIVED
BATCH:                  55         0   0:00:00         0         0       354
URGENT:                  0         0   0:00:00         0         -        34
```

Figure 1 Sample Complete Summary Report

Run a Fax Group Usage Report

VoiceMemo Release 6.0A and later

This procedure describes how to enter the parameters for a fax group usage report, and how to run the report in both standard and summary forms.

Step | *Reference*

1. Reach the Statistics Menu, then go to the Fax Group Usage Report Menu. — Menu Map 9

   Select: (F) Fax Group usage
   Prompt: `ENTER:`
   Response: Enter **menu parameters** as described in the next section.

Specify the Report Parameters

2. Choose the group or range of groups to report.

   Select: (A) Beginning Group
   Prompt: `Beginning group (1-42):`
   Response: Enter a **fax group number** between 1 and 42.

   Select: (B) Ending Group
   Prompt: `Ending group (1-42):`
   Response: Enter a **fax group number** between 1 and 42.
   To report on only one group, enter the same group number entered in the beginning group field.

3. Select the time interval for the report.

   Select: (C) Beginning Hour
   Prompt: `Beginning hour (0-23):`
   Response: Enter the **number**, in military time, of the first hour of the time period for the report. The default is 8:00 a.m. (8). The range is 0 to 23 hours. 0 (zero) is midnight, 12 is noon, and 23 is 11:00 p.m.

   Select: (D) Ending Hour
   Prompt: `Ending hour (0-23):`
   Response: Enter the **number**, in military time, of the last hour of the time period for the report. The default is 5:00 p.m. (17). The range is 0 to 23 hours.

Step *Reference*

4. Select the day or days for the report.

   Select: (E) Beginning Day
   Prompt: `Beginning day of week Sun-Sat (0-6):`
   Response: Enter **number** of the first day of the period for the report.

Sunday	=	0
Monday	=	1
Tuesday	=	2
Wednesday	=	3
Thursday	=	4
Friday	=	5
Saturday	=	6

   The default is Monday (1).

   Select: (F) Ending Day
   Prompt: `Ending day of week Sun-Sat (0-6):`
   Response: Enter **number** of the last day of the period for the report. See the beginning day for a listing of the day numbers. The default is Friday (5).

5. Specify whether you want the report in a summary form or in a detail form.

   Select: (G) Summary
   Prompt: `Summary:`
   Response: **Y** to run a summary report, *or*
   N to run a standard report with details in 15 minute intervals.

Run the Report

6. Run the report.

   Select: (R) Run Report
   Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(1) //1/dev/ser1
(F) File...
COMMAND (C/1/F):
```

   Response: **Enter** to send the report to the console,
   1 to send the report to serial port #1*, *or*
   F to send the report to a file (you are prompted for a file name).

   * This option list varies depending on server configuration.

Step *Reference*

The server displays the report to the output device you select. If you are sending it to the console without pausing, use the following commands to control scrolling:

To stop scrolling: Press **Ctrl-S**
To restart scrolling: Press **Ctrl-Q**

- Figure 1 shows a sample Fax Group Usage Report.

```
                    FAX GROUP USAGE 15min REPORT
                      Fri Apr 21, 1995  9:12 am

04/17/95  8hr-17hr       --- minutes interval ---
Fax Group 1 []

DAY=01 HOUR=08          00-14     15-29     30-44     45-59    TOTAL  BUSY
Transactions                0         0         0         0        0
Total Use                   0         0         0         0        0
No Resource Count           0         0         0         0        0
ATB Seconds                 0         0         0         0        0     0 %
ATB Count                   0         0         0         0        0

DAY=01 HOUR=09          00-14     15-29     30-44     45-59    TOTAL  BUSY
Transactions                2         1         0         0        3
Total Use                 102        51         0         0      153
No Resource Count           0         0         0         0        0
ATB Seconds                 0         0         0         0        0     0 %
ATB Count                   0         0         0         0        0

HIGHEST ATB_SEC: 0 sec at 8,9,10,11,12,13,14,15,16,17 hr
LOWEST  ATB_SEC: 0 sec at 8,9,10,11,12,13,14,15,16,17 hr
```

Figure 1 Sample Fax Group Report

- Figure 2 shows a sample Fax Group Usage Summary Report.

```
                TOTAL FAX GROUP ATB SUMMARY REPORT
                    Fri Apr 21, 1995  9:10 am

                    04/17/95  8hr-17hr  day1-day5
GROUP               TRANSACTIONS TOT SEC NO RES    ATB CNT ATB SEC BUSY
-----               ------------ ------- ------    ------- ------- ----
  1                           83    4278      0          0       0   0 %
  2                           17     513      1          0       0   0 %
```

Figure 2 Sample Summary Fax Group Report

Run a Group Usage - All Trunks Busy Report

This procedure describes how to enter the parameters for a Group Usage/All Trunks Busy report, and how to run the report in both standard and summary forms.

Step | *Reference*

1. Reach the Statistics Menu, then go to the Group Usage -ATB Report Menu. — Menu Map 9

   Select: (G) Line Group Usage - ATB
   Prompt: ENTER:
   Response: Enter **menu parameters** as described in the next section.

Specify the Report Parameters

2. Choose the group or range of groups to report.

   Select: (A) Beginning Group
   Prompt: Beginning group:
   Response: Enter a **line group number** between 1 and 24.

   Select: (B) Ending Group
   Prompt: Ending group:
   Response: Enter a **line group number** between 1 and 24.
   To report on only one group, enter the same group number entered in the beginning group field.

3. Select the time interval for the report.

   Select: (C) Beginning Hour
   Prompt: Beginning hour:
   Response: Enter the **number**, in military time, of the first hour of the time period for the report. The default is 8:00 a.m. (8). The range is 0 to 23 hours. 0 (zero) is midnight, 12 is noon, and 23 is 11:00 p.m.

   Select: (D) Ending Hour
   Prompt: Ending hour:
   Response: Enter the **number**, in military time, of the last hour of the time period for the report. The default is 5:00 p.m. (17). The range is 0 to 23 hours.

Step *Reference*

4. Select the day or days for the report.

   Select: (E) Beginning Day
   Prompt: `Beginning day of week Sun-Sat:`
   Response: Enter **number** of the first day of the period for the report.

Sunday	=	0
Monday	=	1
Tuesday	=	2
Wednesday	=	3
Thursday	=	4
Friday	=	5
Saturday	=	6

   The default is Monday (1).

   Select: (F) Ending Day
   Prompt: `Ending day of week Sun-Sat:`
   Response: Enter **number** of the last day of the period for the report. See the beginning day for a listing of the day numbers. The default is Friday (5).

5. Specify whether you want the report in a summary form or in a detail form.

   Select: (G) Summary
   Prompt: `Summary:`
   Response: **Y** to run a summary report, *or*
   N to run a standard report with details in 15 minute intervals.

Run the Report

6. Run the report.

   Select: (R) Run Report
   Prompt:

```
     REPORT OUTPUT ROUTING

(C) Console (screen)
(1) //1/dev/ser1
(F) File...
COMMAND (C/1/F):
```

   Response: **Enter** to send the report to the console,
   1 to send the report to serial port #1*, *or*
   F to send the report to a file (you are prompted for a file name).

   * This option list varies depending on server configuration.

Step *Reference*

The server displays the report to the output device you select. If you are sending it to the console, use the following commands to control scrolling:

To stop scrolling: Press **Ctrl-S**
To restart scrolling: Press **Ctrl-Q**

Response: **Enter** to send the report to the console,
S1 to send the report to serial port #1, or
S2 to send the report to serial port #2,
F to send the report to a file.

- Figure 1 shows a sample Standard Group Usage Report.

```
                          LINE GROUP ATB 15min REPORT
                           Thu Apr 20, 1995  5:58 pm

04/17/95  8hr-17hr       --- minutes interval ---
Port Group 1 [ESMDI]

DAY=01 HOUR=08          00-14     15-29     30-44     45-59    TOTAL  BUSY
ATB_SEC                   218        77        81       249      625    17 %
ATB_CNT                    10         1         8        13       32

DAY=01 HOUR=09          00-14     15-29     30-44     45-59    TOTAL  BUSY
ATB_SEC                    35       163         0         0      198     6 %
ATB_CNT                     6        10         0         0       16

DAY=01 HOUR=10          00-14     15-29     30-44     45-59    TOTAL  BUSY
ATB_SEC                    44        13         0         0       57     2 %
ATB_CNT                     4         2         0         0        6

HIGHEST ATB_SEC: 625 sec at 8 hr
LOWEST  ATB_SEC: 0 sec at 12,13,14,15,16 hr
```

Figure 1 Sample Line Group Usage Report

Step *Reference*

- Figure 2 shows a sample Group Usage Summary Report.

```
                    >>> Acme Products System <<<
                  TOTAL GROUP USAGE SUMMARY REPORT
                      Mon Apr 8, 1995  2:29 pm

                       11/08/95  8hr-17hr  day1-day5
GROUP NAME           ATB_SEC    ATB_CNT    PERCENT
     1                 200        100         5 %
     2                 100         50         3 %
     3                 300        150         8 %
     4                 400        200        11 %
     5                 100         50         3 %
     6                 200        100         5 %
```

Figure 2 Sample Summary Line Group Usage Report

Run a Line Group Usage Report

VoiceMemo Release 6.0A and later

This procedure describes how to enter the parameters for a line group usage report, and how to run the report.

Step	*Reference*
1. Reach the Statistics Menu, then go to the Line Group Usage - Line Report Menu. *Select:* (G) Line Group Usage - Line *Prompt:* ENTER: *Response:* Enter **menu parameters** as described in the next section.	Menu Map 9

Specify the Report Parameters

2. Select the time interval for the report.

   Select: (A) Beginning Hour
   Prompt: `Beginning hour:`
   Response: Enter the **number**, in military time, of the first hour of the time period for the report. The default is 8:00 a.m. (8). The range is 0 to 23 hours. 0 (zero) is midnight, 12 is noon, and 23 is 11:00 p.m.

   Select: (B) Ending Hour
   Prompt: `Ending hour:`
   Response: Enter the **number**, in military time, of the last hour of the time period for the report. The default is 5:00 p.m. (17). The range is 0 to 23 hours.

3. Choose the group or range of groups to report.

   Select: (C) Beginning Group
   Prompt: `Beginning group:`
   Response: Enter a **line group number** between 1 and 24.

   Select: (D) Ending Group
   Prompt: `Ending group:`
   Response: Enter a **line group number** between 1 and 24.
   To report on only one group, enter the same group number entered in the beginning group field.

Step *Reference*

4. Select the day or days for the report.

   Select: (E) Beginning Day
   Prompt: `Beginning day of week Sun-Sat:`
   Response: Enter **number** of the first day of the period for the report.

Sunday	=	0
Monday	=	1
Tuesday	=	2
Wednesday	=	3
Thursday	=	4
Friday	=	5
Saturday	=	6

   The default is Monday (1).

   Select: (F) Ending Day
   Prompt: `Ending day of week Sun-Sat:`
   Response: Enter **number** of the last day of the period for the report. See the beginning day for a listing of the day numbers. The default is Friday (5).

5. Specify whether you want the report in a summary form or in a detail form.

   Select: (G) Summary
   Prompt: `Summary:`
   Response: **Y** to run a summary report, *or*
   N to run a standard report with details in 15 minute intervals.

Run the Report

6. Run the report.

   Select: (R) Run Report
   Prompt:

```
     REPORT OUTPUT ROUTING

(C) Console (screen)
(1) //1/dev/ser1
(F) File...
COMMAND (C/1/F):
```

   Response: **Enter** to send the report to the console,
   1 to send the report to serial port #1*, *or*
   F to send the report to a file (you are prompted for a file name).

   * This option list varies depending on server configuration.

Step *Reference*

The server displays the report to the output device you select. If you are displaying it at the console, use the following commands to control scrolling:

To stop scrolling: Press **Ctrl-S**
To restart scrolling: Press **Ctrl-Q**

- Figure 1 shows a sample Standard Line Group Usage Report.

```
                    LINE GROUP USAGE 15 min REPORT
                      Fri, Apr 6, 1995  4:42 pm


06/06/95  15hr-16hr       --- minutes interval ---     Group = 1

LINE 1:0:0              HOUR=14  00-14  15-29  30-44  45-59  TOTAL  USAGE
SECONDS                           10     40    200     50    300     8 %
CALLS                              1      1     10      2     14

LINE 1:0:1              HOUR=14  00-14  15-29  30-44  45-59  TOTAL  USAGE
SECONDS                            5    100     40     70    215     6 %
CALLS                              1      2      3      4     10

LINE 1:0:2              HOUR=14  00-14  15-29  30-44  45-59  TOTAL  USAGE
SECONDS                            0      0      0      0      0     0 %
CALLS                              0      0      0      0      0     -

LINE 1:0:3              HOUR=14  00-14  15-29  30-44  45-59  TOTAL  USAGE
SECONDS                            0      0      0      0      0     0 %
CALLS                              0      0      0      0      0
```

Figure 1 Sample Line Group Usage Report

- Figure 2 shows a sample Summary Line Group Usage Report.

```
          TOTAL USAGE PER GROUP SUMMARY REPORT
               Tue Aug 24, 1995  2:43 pm

                 Hours 8-17  Days 1-5
          GROUP    SECONDS      CALLS
             1        515         24
             2         43          4
```

Figure 2 Sample Summary Line Group Usage Report

Run a Line Usage Report

VoiceMemo Release 6.0A and later

This procedure describes how to enter the parameters for a line usage report, and how to run the report.

Step	*Reference*

1. Reach the Statistics Menu, then go to the Line Usage Report Menu. — Menu Map 9

   Select: (L) Line usage
   Prompt: ENTER:
   Response: Enter **menu parameters** as described in the next section.

Specify the Report Parameters

2. Select the line or range of lines to report. Phone lines are specified by a *triplet* representing module (1-4), line card slot number (0-15), and port number (0-n, where n is the number of ports on the line card).

   Select: (A) Add lines to report
   Prompt: `Enter lines to add to report:`
   Response: A phone line **triplet** or **range**. Valid entries are:

   - * = all phone lines
   - A wildcard range, such as 1:1:* (all ports on module 1, slot 1) or 1:* (all slots and ports on module 1)
   - A range of triplets, for example, 1:3:0-1:4:7
   - A series of triplets separated by commas, for example, 1:0:0,1:3:0,1:3:1

   Drop any lines not needed, if necessary.

   Select: (B) Drop lines to report
   Prompt: `Enter lines to drop from report:`
   Response: A phone line **triplet** or **range**. Valid entries are:

   - * = all phone lines
   - A wildcard range, such as 1:1:* (all ports on module 1, slot 1) or 1:* (all slots and ports on module 1)
   - A range of triplets, for example, 1:3:0-1:4:7
   - A series of triplets separated by commas, for example, 1:0:0,1:3:0,1:3:1

   If you are unsure of which lines will be reported on, examine the current lines.

   Select: (C) Show lines to report
   Response: No response is necessary. The server displays all lines to be reported on. You can add or drop lines until you have the desired set.

Step	*Reference*

3. Select the time interval for the report.

   Select: (D) Beginning hour
   Prompt: `Beginning hour (0-23):`
   Response: Enter the **number**, in military time, of the first hour of the time period for the report. The default is 8:00 a.m. (8). The range is 0 to 23 hours. 0 (zero) is midnight, 12 is noon, and 23 is 11:00 p.m.

   Select: (E) Ending hour
   Prompt: `Ending hour (0-23):`
   Response: Enter the **number**, in military time, of the last hour of the time period for the report. The default is 5:00 p.m. (17). The range is 0 to 23 hours.

4. Select the day or days for the report.

   Select: (F) Beginning day
   Prompt: `Beginning day of week Sun-Sat (0-6):`
   Response: Enter **number** of the first day of the period for the report.

Sunday	=	0
Monday	=	1
Tuesday	=	2
Wednesday	=	3
Thursday	=	4
Friday	=	5
Saturday	=	6

   The default is Monday (1).

   Select: (G) Ending day
   Prompt: `Ending day of week Sun-Sat (0-6):`
   Response: Enter **number** of the last day of the period for the report. See the beginning day for a listing of the day numbers. The default is Friday (5).

5. Specify whether you want the report in a summary form or in a detail form.

   Select: (H) Summary
   Prompt: `Summary:`
   Response: **Y** to run a summary report, *or*
   N to run a standard report with details in 15 minute intervals.

Step *Reference*

Run the Report

6. Run the report.

   Select: (I) Run Report
   Prompt:
   ```
   REPORT OUTPUT ROUTING

   (C) Console (screen)
   (1) //1/dev/ser1
   (F) File...
   COMMAND (C/1/F):
   ```
   Response: **Enter** to send the report to the console,
   1 to send the report to serial port #1*, *or*
   F to send the report to a file (you are prompted for a file name).

   * This option list varies depending on server configuration.

   The server displays the report to the output device you select. If you are display it at the console, use the following commands to control scrolling:

   To stop scrolling: Press **Ctrl-S**
   To restart scrolling: Press **Ctrl-Q**

- Figure 1 shows a sample Summary Line Usage Report. Lines that had no use are not reported.

```
TOTAL USAGE PER LINE SUMMARY REPORT
     Wed Apr  5, 1995  3:10 pm

        Hours 8-17  Days 1-5
TRIPLET    SEC_BUSY        CALLS
 1:3:0        22703          168
 1:3:1         4069           31
 1:3:2          695            4
 1:3:3          108            1
 1:3:4           44            2
```

Figure 1 Sample Summary Line Usage Report

Step *Reference*

- Figure 2 shows a sample Standard Line Usage Report. All data is reported whether or not there was any use of the line.

```
                          LINE USAGE 15min REPORT
                         Wed Apr  5, 1995  3:05 pm

04/05/95  8hr-17hr       --- minutes interval ---

DAY=01 LINE=1:3:1

HOUR=08                 00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                 0         0         0         0       0     0 %
    CALLS                   0         0         0         0       0

HOUR=09                 00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                 0         0         0         0       0     0 %
    CALLS                   0         0         0         0       0

HOUR=10                 00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                 0         0         0         0       0     0 %
    CALLS                   0         0         0         0       0

HOUR=11                 00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                 0         0         0         0       0     0 %
    CALLS                   0         0         0         0       0

HOUR=12                 00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                 0         0         0         0       0     0 %
    CALLS                   0         0         0         0       0

HOUR=13                 00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                 0         0         0         0       0     0 %
    CALLS                   0         0         0         0       0

HOUR=14                 00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                 0         0         0         0       0     0 %
    CALLS                   0         0         0         0       0

HOUR=15                 00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                 0         -         0         0       0     0 %
    CALLS                   0         -         0         0       0

HOUR=16                 00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                 0         0         0         0       0     0 %
    CALLS                   0         0         0         0       0

HOUR=17                 00-14     15-29     30-44     45-59   TOTAL USAGE
    SECONDS                 0         0         0         0       0     0 %
    CALLS                   0         0         0         0       0
HIGHEST USAGE: 0 sec at 8,9,10,11,12,13,14,15,16,17 hr
LOWEST  USAGE: 0 sec at 8,9,10,11,12,13,14,15,16,17 hr
```

Figure 2 Sample Standard Line Usage Report

Run a Logfile Report

The Logfile report shows if there have been any server errors or resets. In a multi-module server, each module maintains its own logfile, so you must enter the number of the module and specify the file you want to review.

This procedure describes how to send the logfile either to the console or to a serial port, how to view or print the logfile, and how to delete the logfile.

Step | *Reference*

1. Reach the Reports Menu, then go the Logfile Menu. Then go to the task you want to perform. — Menu Map 9

Specify Where to Send the Logfile

2. Enter the name of the file to record the logfile information and where you want to direct the file.

   Select: (C) Choose Logfile Serial Redirection
   Prompt: `Enter filename to save log data = [/usr/vm/log/logfile]`
   Response: Press **Enter** to accept file name shown in brackets,

   or

   Enter a **file name.**

   Prompt:
   ```
   Redirect logfile output to :
            1:  /dev/ser1, serial port 1
            2:  /dev/ser2, serial port 2
            3:  /dev/ser3, serial port 3
            4:  /dev/ser4, serial port 4
            5:  /dev/ser5, serial port 5
            6:  /dev/ser6, serial port 6
            7:  /dev/con1,   console
            8:  Clear redirection
   Current serial port redirection is: []

   Enter number from 1 to 8:
   ```
   Response: Enter the **number** to designate where you want to send the logfile,

   or

   Press **Enter** to accept the redirection as shown in brackets.

   If nothing is listed in the brackets, the logfile is sent to the hard disk. To print the logfile, enter the number of the serial port where the printer is attached.

   Prompt:
   ```
   Redirect Serial Port is set to [ ]
   Save logfile changes?
   ```
   Response: **Y** to save changes, *or*
   N to exit without saving changes.

Step *Reference*

View the Logfile

3. Review the logfile.

   Select: (S) Show Logfile
   Prompt: `Which host's logfile do you want to review(<Enter> to exit):`
   `1 2 3 4`
   `Which host?`
   Response: **Number** of the module logfile you want to review.

   The server displays the report to the output device selected.

4. Review another logfile or exit to the Logfile Menu.

   Prompt: `Which Host?`
   Response: **Number** of the module logfile you want to review,

   or

   Press **Enter** to exit the option.

Delete the Logfile

5. Delete the logfile for the module you specify.

   Select: (D) Delete Logfile
   Prompt: `Which host?`
   Response: **Number** of the module logfile you want to delete.

   Prompt: `Clear the log file?`
   Response: **Y** to continue and delete the logfile, *or*
   N to keep the logfile.

6. Delete another logfile or exit to the Logfile Menu.

   Prompt: `Which Host?`
   Response: **Number** of the module logfile you want to delete,

   or

   Press **Enter** to exit the option.

Run a Mailbox Blocked Report

VoiceMemo Release 6.0A and later

This procedure describes how to run a Mailbox Blocked Report (sometimes called "Blocked Billing Report").

Step	*Reference*
1. Reach the Reports Menu, then go to the Billing Menu.	Menu Map 9

2. Choose the destination of the report.

Select: (M) Mailbox Blocked Report
Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays the report to the output device you select.

3. Choose the mailbox numbers you want to bill.

Prompt: `Range of extensions to bill? (start-end)`
Response: A mailbox **number** or **range**. Valid entries are:

- A single mailbox number
- A range of mailbox numbers, for example 2000-2999
- Press **Enter** to bill all mailbox numbers

Step	*Reference*

4. Choose the FCOS you want to bill.

   Prompt: `FCOS service to bill? (1-640)`
   Response: An FCOS **number** or **range**, from 1 through 640. Valid entries are:

   - A = all FCOSs
   - E = even-numbered FCOSs
   - O = odd-numbered FCOSs
   - L = Lower half (FCOSs 1-32)
   - U = upper half (FCOSs 33-64)
   - A range of first-last, for example, 1-5
   - A series of numbers separated by commas, for example 1,3,5
   - Press **Enter** to choose mailboxes with any FCOS assigned.

   Note: FCOSs 65 to 640 are billed at the rate for FCOS 64.

5. Choose the LCOS you want to bill.

   Prompt: `LCOS service to bill? (1-640)`
   Response: An LCOS **number** or **range**, from 1 through 640. Valid entries are:

   - A = all LCOSs
   - E = even-numbered LCOSs
   - O = odd-numbered LCOSs
   - L = lower half (LCOSs 1-32)
   - U = upper half (LCOSs 33-64)
   - A range of first-last, for example, 1-5
   - A series of numbers separated by commas, for example 1,3,5
   - A single LCOS number
   - Press **Enter** to choose mailboxes with any LCOS assigned.

6. Choose the GCOS you want to bill.

   Prompt: `GCOS service to bill? (1-64)`
   Response: A GCOS **number** or **range**, from 1 through 64. Valid entries are:

Step *Reference*

- A = all GCOSs
- E = even-numbered GCOSs
- O = odd-numbered GCOSs
- L = lower half (GCOSs 1 -32)
- U = upper half (GCOSs 33 - 64)
- A range of first-last, for example, 1-5
- A series of numbers separated by commas, for example 1,3,5
- A single GCOS number
- Press **Enter** to choose mailboxes with any GCOS assigned (including affinity GCOSs 65-32,000).

7. Choose the NCOS you want to bill.

   Prompt: `NCOS service to bill? (1-64)`
   Response: An NCOS **number** or **range**, from 1 through 64. Valid entries are:

   - A = all NCOSs
   - E = even-numbered NCOSs
   - O = odd-numbered NCOSs
   - L = lower half (NCOSs 1-32)
   - U = upper half (NCOSs 33-64)
   - A range of first-last, for example, 1-5
   - A series of numbers separated by commas, for example 1,3,5
   - A single NCOS number
   - Press **Enter** to choose mailboxes regardless of any NCOS assigned.

8. Choose the department code you want to bill.

   Prompt: `Department code to bill?`
   Response: A single department **code** (1 through 10 characters), or press **Enter** to choose mailboxes regardless of department code.

9. Choose the pager system number to bill.

   Prompt: `Pager system number to bill?`
   Response: A pager system **number** (0 through 15), or press **Enter** to choose mailboxes regardless of pager system assigned.

The server generates the report according to choices you just entered and displays it at the server maintenance console or sends it as output through serial port 1 or 2.

Run a Mailbox Data Report

This procedure describes how to run a Mailbox Data Report. To run a Mailbox Search Utility Report, which also shows mailbox configurations, see CP 5005 (Search for Mailboxes).

Step	*Reference*
1. Reach the Main Menu, then go to the Reports Menu.	Menu Map 9

2. Choose the destination of the report.

Select: (M) Mailbox Data

Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays the report to the output device you select.

The server displays, saves, or prints parameter settings for every mailbox in the server.

Figure 1 shows a sample of how the Mailbox Data Report looks.

Step *Reference*

```
                              MAILBOX DATA REPORT
                            Fri Jun 16 15:36:35 1995


 MAILBOX: 22          Created: 05/11/95 10:52 am
    MSGS: 0         UNPLAYED: 0           URGENT: 0          RECEIPT: 0
        LCOS: Default           : 1                     FCOS: FAX+MSGUNDELETE
: 1
        GCOS: Default GCOS 1    : 1                     NCOS: Default
: 1
        TCOS: Default TCOS 1    : 1                     RCOS:
: 1
BAD LOGS: 0          LAST LOG: NEVER                                        MINS
: 0.0
  PASSWD: N             TUTOR: Y              DAY: M            NIGHT: M
    NAME:                                    CODE:
   EXTEN: 22                                INDEX: 0
ATTEN DN:                                   INDEX: 0
  ACCESS: NONE                                          NOTIFICATION: Y
INTERNAL INDEX: NONE       BILLED INDEX: NONE       NON-BILLED INDEX: NONE
  FAX RETRIEVAL INDEX: NONE
  FAX DEFAULT TELEPHONE NUMBER: NONE
      CALL PLACEMENT INDEX:   NONE                  TIME ZONE OFFSET: 0
DISTRIBUTION LISTS WITH CHANGE RIGHTS:

   all
DISTRIBUTION LISTS WITH REVIEW RIGHTS:
        all


 MAILBOX: 998         Created: 12/05/94  1:30 pm
    MSGS: 0         UNPLAYED: 0           URGENT: 0          RECEIPT: 0
        LCOS: Default           : 1                     FCOS: FAX+MSGUNDELETE
: 1
        GCOS: Default GCOS 1    : 1                     NCOS: Default
: 1
        TCOS: Default TCOS 1    : 1                     RCOS:
: 1
BAD LOGS: 0          LAST LOG: NEVER                                        MINS
: 0.0
  PASSWD: N             TUTOR: N              DAY: M            NIGHT: M
    NAME:                                    CODE:
   EXTEN: 998                               INDEX: 0
ATTEN DN:                                   INDEX: 0
  ACCESS: NONE                                          NOTIFICATION: Y
INTERNAL INDEX: 0          BILLED INDEX: 0          NON-BILLED INDEX: 0

 FAX RETRIEVAL INDEX: NONE
  FAX DEFAULT TELEPHONE NUMBER: NONE
      CALL PLACEMENT INDEX:   NONE                  TIME ZONE OFFSET: 0
DISTRIBUTION LISTS WITH CHANGE RIGHTS:
        all
DISTRIBUTION LISTS WITH REVIEW RIGHTS:
        all
```

Figure 1 Sample Mailbox Data Report (partial)

Run a Message Usage Report

This procedure describes how to enter the parameters for a message usage report, and how to run the report.

Step *Reference*

1. Reach the Statistics Menu, then go to the Message Usage Report Menu. — Menu Map 9

   Select: (M) Message counts usage
   Prompt: `ENTER:`
   Response: Enter **menu parameters** as described in the next section.

Specify the Report Parameters

2. Select the time interval for the report.

   Select: (A) Beginning hour
   Prompt: `Beginning hour (0-23):`
   Response: Enter the **number**, in military time, of the first hour of the time period for the report. The default is 8:00 a.m. (8). The range is 0 to 23 hours. 0 (zero) is midnight, 12 is noon, and 23 is 11:00 p.m.

   Select: (B) Ending hour
   Prompt: `Ending hour (0-23):`
   Response: Enter the **number**, in military time, of the last hour of the time period for the report. The default is 5:00 p.m. (17). The range is 0 to 23 hours.

3. Select the day or days for the report.

   Select: (C) Beginning day
   Prompt: `Beginning day of week Sun-Sat (0-6):`
   Response: Enter **number** of the first day of the period for the report.

Sunday	=	0
Monday	=	1
Tuesday	=	2
Wednesday	=	3
Thursday	=	4
Friday	=	5
Saturday	=	6

   The default is Monday (1).

   Select: (D) Ending day
   Prompt: `Ending day of week Sun-Sat (0-6):`
   Response: Enter **number** of the last day of the period for the report. See the beginning day for a listing of the day numbers. The default is Friday (5).

Step *Reference*

4. Specify whether you want the report in a summary form or in a detail form.

   Select: (E) Summary
   Prompt: `Summary:`
   Response: **Y** to run a summary report, *or*
   N to run a standard report with details in 15 minute intervals.

Run the Report

5. Run the report.

   Select: (R) Run Report
   Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(1) //1/dev/ser1
(F) File...
COMMAND (C/1/F):
```

   Response: **Enter** to send the report to the console,
   1 to send the report to serial port #1*, *or*
   F to send the report to a file (you are prompted for a file name).

   * This option list varies depending on server configuration.

   The server displays the report to the output device you select. If you are displaying it at the console, use the following commands to control scrolling:

   To stop scrolling: Press **Ctrl-S**
   To restart scrolling: Press **Ctrl-Q**

Step *Reference*

- Figure 1 shows a sample Standard Message Usage Report.

```
                    MESSAGE USAGE 15min REPORT
                    Fri Apr 21, 1995 10:42 am

04/17/95  8hr-11hr  --- minutes interval ---      Max Messages=90000

MESSAGE  HOUR=07      00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE         86534     86533     86534     86533     86533
PERCENT  USED             4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=08      00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE         86518     86501     86484     86508     86502
PERCENT  USED             4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=08      00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE         86484     86508     86484     86508     86496
PERCENT  USED             4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=09      00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE         86512     86515     86558     86568     86538
PERCENT  USED             4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=09      00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE         86558     86568     86558     86568     86563
PERCENT  USED             4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=10      00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE         86611     86636     86641     86621     86627
PERCENT  USED             4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=10      00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE         86641     86621     86641     86621     86631
PERCENT  USED             4 %       4 %       4 %       4 %       4 %

MESSAGE  HOUR=11      00-14     15-29     30-44     45-59   AVERAGE
MESSAGE  FREE         86593     86598     86592     86583     86591
PERCENT  USED             4 %       4 %       4 %       4 %       4 %
```

Figure 1 Sample Message Usage Report

Step *Reference*

- Figure 2 shows a sample Summary Message Usage Report.

```
AVERAGE MESSAGE USAGE SUMMARY REPORT
     Fri Apr 21, 1995 10:50 am

   04/14/95  13hr-16hr  Max Messages=90000
DAY      HOUR      FREE      USED   PERCENT
  1        13     86512      3488        4%
  1        14     86518      3482        4%
  1        15     86489      3511        4%
  1        16     86472      3528        4%

   04/14/95  13hr-16hr  Max Messages=90000
DAY      HOUR      FREE      USED   PERCENT
  2        13     86210      3790        4%
  2        14     86189      3811        4%
  2        15     86271      3729        4%
  2        16     86227      3773        4%

   04/14/95  13hr-16hr  Max Messages=90000
DAY      HOUR      FREE      USED   PERCENT
  3        13     86138      3862        4%
  3        14     86096      3904        4%
  3        15     86062      3938        4%
  3        16     86015      3985        4%
```

Figure 2 Sample Summary Message Usage Report

Run a Phonebook Report

VoiceMemo Release 6.0A and later

This procedure describes how to run a Phonebook Report. This report is available only if the Dial-by-Name function is enabled and if the FCOS assigned to a mailbox includes feature bit 92 (User will be in Dial-by-Name database).

Step	*Reference*
1. Reach the Main Menu, then go to the Reports Menu.	Menu Map 9

2. Choose the destination of the report.

Select: (J) Phonebook Report

Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays, saves, or prints an alphabetic list of every mailbox owner's name, the mailbox number, and the GCOS assigned to the mailbox. A sample is shown in Figure 1.

```
                    >>>Acme Management Systems<<<
                              PHONEBOOK
                        Tue Apr 31, 1995 12:57 pm

NAME                          MAILBOX     GCOS
----------------------------- -------- -----
ATTEND. MB                    3850        2
Allen, Debbi                  3852        9
Allen, Richard                511         14
Bau, Lee                      255         14
Barric, Randy                 601         14
Borregas, Rita                3809        9
.
.
.
```

Figure 1 Sample Phonebook Report

Run a Previous Billing Report

VoiceMemo Release 6.0A and later

This procedure describes how to run a Previous Billing Report. The parameters you set in this procedure apply to statistics gathered in the previous billing period.

Step	*Reference*
1. Reach the Reports Menu, then go to the Billing Menu.	Menu Map 9

2. Choose the source of the report.

   Select: (P) Previous Billing Report
   Prompt: `Where should billing data come from? (F/H/X)`
   Response: Enter **F** if data is to be read from the backup diskette,

   or

   Enter **H** if data is to be read from the hard disk,

   or

   Enter **X** to cancel this procedure and return to the Billing Menu.

3. If you want to read data from the backup diskette, insert the diskette when prompted.

   Prompt:
   ```
   Insert VoiceMemo Backup Diskette in floppy drive
   Hit return when ready
   ```
   Response: Insert the appropriate backup diskette in the server floppy drive, then press **Enter**.

4. Choose the destination of the report.

   Prompt:
   ```
   REPORT OUTPUT ROUTING

   (C) Console (screen)
   (P) Console with pause
   (1) Printer A
   (F) File...
   (A) Append to file...
   (X) Exit (no report)

   If you need help later, type ?.

   COMMAND (C/P/1/F/A/X):
   ```
   Response: **C** to send the report to the console without pausing
   P to send the report to the console, pausing as the screen fills,
   1 to send the report to Printer A*,
   F to send the report to a file on the Series 6 server,
   A to append the report to an existing file on the Series 6 server, or
   X to exit report output options (no report).

   * This option list varies depending on server configuration.

The server displays the report to the output device you select.

Step *Reference*

5. Choose the mailbox numbers you want to bill.

   Prompt: `Range of extensions to bill? (start-end)`
   Response: A mailbox **number** or **range**. Valid entries are:

   - A single mailbox number
   - A range of mailbox numbers, for example 2000-2999
   - Press **Enter** to bill all mailbox numbers

6. Choose the FCOS you want to bill.

   Prompt: `FCOS service to bill? (1-640)`
   Response: An FCOS **number** or **range**, from 1 through 640. Valid entries are:

   - A = all FCOSs
   - E = even-numbered FCOSs
   - O = odd-numbered FCOSs
   - L = Lower half (FCOSs 1-32)
   - U = upper half (FCOSs 33-64)
   - A range of first-last, for example, 1-5
   - A series of numbers separated by commas, for example 1,3,5
   - Press **Enter** to choose mailboxes with any FCOS assigned.

   Note: FCOSs 65 to 640 are billed at the rate for FCOS 64.

7. Choose the LCOS you want to bill.

   Prompt: `LCOS service to bill? (1-640)`
   Response: An LCOS **number** or **range**, from 1 through 64. Valid entries are:

   - A = all LCOSs
   - E = even-numbered LCOSs
   - O = odd-numbered LCOSs
   - L = lower half (LCOSs 1-32)
   - U = upper half (LCOSs 33-64)
   - A range of first-last, for example, 1-5
   - A series of numbers separated by commas, for example 1,3,5
   - A single LCOS number
   - Press **Enter** to choose mailboxes with any LCOS assigned.

8. Choose the GCOS you want to bill.

   Prompt: `GCOS service to bill? (1-64)`

Step *Reference*

Response: A GCOS **number** or **range**, from 1 through 64. Valid entries are:

- A = all GCOSs
- E = even-numbered GCOSs
- O = odd-numbered GCOSs
- L = lower half (GCOSs 1 -32)
- U = upper half (GCOSs 33 - 64)
- A range of first-last, for example, 1-5
- A series of numbers separated by commas, for example 1,3,5
- A single GCOS number
- Press **Enter** to choose mailboxes with any GCOS assigned (including affinity GCOSs 65-32,000).

9. Choose the NCOS you want to bill.

Prompt: `NCOS service to bill? (1-64)`
Response: An NCOS **number** or **range**, from 1 through 64. Valid entries are:

- A = all NCOSs
- E = even-numbered NCOSs
- O = odd-numbered NCOSs
- L = lower half (NCOSs 1-32)
- U = upper half (NCOSs 33-64)
- A range of first-last, for example, 1-5
- A series of numbers separated by commas, for example 1,3,5
- A single NCOS number
- Press **Enter** to choose mailboxes regardless of any NCOS assigned.

10. Choose the department code you want to bill.

Prompt: `Department code to bill?`
Response: A single department **code** (1 through 10 characters), or press **Enter** to choose mailboxes regardless of department code.

11. Choose the pager system number to bill.

Prompt: `Pager system number to bill?`
Response: A pager system **number** (0 through 15), or press **Enter** to choose mailboxes regardless of pager system assigned.

The server generates the report according to choices you just entered and displays it at the server maintenance console or sends it as output through serial port 1 or 2.

Run a Speech Usage Report

This procedure describes how to enter the parameters for a speech usage report, and how to run the report.

Step *Reference*

1. Reach the Statistics Menu, then go to the Speech Blocks Usage Report Menu. Menu Map 9

   Select: (S) Speech blocks usage
   Prompt: `ENTER:`
   Response: Enter **menu parameters** as described in the next section.

Specify the Report Parameters

2. Select the time interval for the report.

   Select: (A) Beginning hour
   Prompt: `Beginning hour (0-23):`
   Response: Enter the **number**, in military time, of the first hour of the time period for the report. The default is 8:00 a.m. (8). The range is 0 to 23 hours. 0 (zero) is midnight, 12 is noon, and 23 is 11:00 p.m.

   Select: (B) Ending hour
   Prompt: `Ending hour (0-23):`
   Response: Enter the **number**, in military time, of the last hour of the time period for the report. The default is 5:00 p.m. (17). The range is 0 to 23 hours.

3. Select the day or days for the report.

   Select: (C) Beginning day
   Prompt: `Beginning day of week Sun-Sat (0-6):`
   Response: Enter **number** of the first day of the period for the report.

Sunday	=	0
Monday	=	1
Tuesday	=	2
Wednesday	=	3
Thursday	=	4
Friday	=	5
Saturday	=	6

   The default is Monday (1).

   Select: (D) Ending day
   Prompt: `Ending day of week Sun-Sat (0-6):`
   Response: Enter **number** of the last day of the period for the report. See the beginning day for a listing of the day numbers. The default is Friday (5).

Step *Reference*

4. Specify whether you want the report in a summary form or in a detail form.

   Select: (E) Summary
   Prompt: `Summary:`
   Response: **Y** to run a summary report, *or*
   N to run a standard report with details in 15 minute intervals.

Run the Report

5. Run the report.

   Select: (R) Run Report
   Prompt:
   ```
   REPORT OUTPUT ROUTING

   (C) Console (screen)
   (1) //1/dev/ser1
   (F) File...
   COMMAND (C/1/F):
   ```
   Response: **Enter** to send the report to the console,
   1 to send the report to serial port #1*, *or*
   F to send the report to a file (you are prompted for a file name).

   * This option list varies depending on server configuration.

   The server displays the report to the output device you select. If you are displaying it at the console, use the following commands to control scrolling:

   To stop scrolling: Press **Ctrl-S**
   To restart scrolling: Press **Ctrl-Q**

- Figure 1 shows a sample Standard Speech Usage Report.

```
                    SPEECH USAGE 15min REPORT
                    Fri Apr 21, 1995 10:54 am

04/17/95  15hr-16hr  --- minutes interval ---    Max Speech Blks=0

SPEECH    HOUR=15      00-14     15-29     30-44     45-59    AVERAGE
BLOCKS    FREE             -    328304    327818    327603    327908
PERCENT   USED             -        15 %      15 %      15 %      15 %

SPEECH    HOUR=16      00-14     15-29     30-44     45-59    AVERAGE
BLOCKS    FREE        327708    327400    326773    326367    327062
PERCENT   USED            15 %      15 %      15 %      15 %      15 %
```

Figure 1 Sample Speech Usage Report

Step *Reference*

- Figure 2 shows a sample Summary Speech Usage Report.

```
AVERAGE SPEECH_BLOCK USAGE SUMMARY REPORT
        Fri Apr 21, 1995 10:58 am

   04/17/95  8hr-17hr MAX  BLOCKS=384000
    HOUR       FREE       USED    PERCENT
       8     327175      56825       15 %
       9     327723      56277       15 %
      10     329312      54688       14 %
      11     328879      55121       14 %
      12     328290      55710       15 %
      13     328231      55769       15 %
      14     328473      55527       14 %
      15     327908      56092       15 %
      16     327062      56938       15 %
      17     325930      58070       15 %
```

Figure 2 Sample Summary Speech Usage Report

Run a System Information Report

The System Information Report shows all the levels of software previously loaded in the Series 6 server; the type of floppy drive installed; the hard disk serial number(s); and the number of system hours, ports and links in the server.

This procedure describes how to run a System Information Report.

Step	*Reference*
1. Reach the Reports Menu.	Menu Map 9
2. Run the System Information report.	

Select: (I) System Information
Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays the report to the output device you select.

3. Follow any additional prompts to display or save the report.

Step | *Reference*

- The following is a sample System Information Report.

```
                              SYSTEM INFORMATION
                            Fri Dec  1 09:59:37 1995

Thu Oct 26 14:19:45 PDT 1995
VoiceMemo FaxMemo Release 6.00 Rev A23 Sat Oct 21 15:21:58 1995

Wed Nov 22 14:10:43 PST 1995
VoiceMemo MESA-Net Async Release 6.00 Rev A23.03 Wed Nov 22 10:09:45 1995


                    * * *  D I S K   I N F O R M A T I O N  * * *

 DISK     SERIAL                 CONFIG     SPEECH          ACCOUNTS
  ID      NUMBER     CAPACITY    TYPE    (Messages)      (Mailboxes etc.)
 ====    ========    ========   ======  ==========  ======================
  0:0    1234         2049 MB     1       240 Hours   57344 Account Records
  0:1    1234         2049 MB     1       240 Hours   57344 Account Records

 Redundant Drives Lock : 8
           System hours : 40
              Hour Lock : 0
              Port Lock : 0
              Link Lock : 0
                UI Lock : 0
 OneView session licenses: 100
 OneView client licenses: 300
 OneView remote licenses: 300
```

Figure 1 Sample System Information Report

Run a System Phoneline Exception Report

This procedure describes how to run a System Phoneline Exceptions Report.

Step	*Reference*
1. Reach the Reports Menu, then choose the Phoneline Exceptions option.	Menu Map 9

2. Specify the destination of the report.

Select: (P) Phoneline Exceptions
Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays the report to the output device you select.

3. Choose the phone lines (ports) you want a report of. Phone lines are specified by a *triplet* representing module (1-4), line card slot number (0-15), and port number (0-n, where n is the number of ports on the line card).

Prompt:

```
Keep entering triplets, then enter <CR> on a
line by itself.
line triplets to report:
```

Response: A phone line **triplet** or **range**. Valid entries are:

- * = all phone lines
- A wildcard range, such as 1:1:* (all ports on module 1, slot 1) or 1:* (all slots and ports on module 1)
- A range of triplets, for example, 1:3:0-1:4:7
- A series of triplets separated by commas, for example 1:0:0,1:3:0,1:3:1

Press **Enter** when you are done entering triplets

The server displays or prints the module number, the number and name of the telephone parameter, and the value assigned to the parameter.

Step	*Reference*
4. When the next Line triplet to report prompt appears, continue specifying lines to report or press **Enter** to exit.	

Run a Termination Report

VoiceMemo Release 6.0A and later

This procedure describes how to run a Termination Report.

Step	*Reference*
1. Request a gather to ensure that the Billing Report reflects current charges.	CP 4357, Ch. 11
2. Go to the Billing Menu.	Menu Map 9

3. Choose the Termination Report option, and specify the destination of the report.

Select: (T) Termination Report

Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays the report to the output device you select.

4. Specify the mailbox you want to generate the report of.

Prompt:

```
Termination Billing Report
Enter account to report (hit return to exit)
```

Response: The **number** of the mailbox being terminated or for which paging service is discontinued,

or

Press **Enter** to not run the report.

Step	*Reference*

5. Specify a new base rate.

   Prompt: `Enter new base rate (hit return to keep displayed value).`
   `FCOS n: <name> base rate ($0.00) ? $`

   Response: Enter an **amount** from $0.01 through $654.99,

   or

   Enter **0.00** to clear the current rate (you must enter two digits after the decimal point when entering an amount or clearing the current rate),

   or

   Press **Enter** to keep the current setting.

   The server displays or prints the Termination Report for the specified mailbox.

6. When the next Enter Account to Report prompt displays, specify the next mailbox to generate a report of, or press **Enter** to exit.

Run a Total Statistics Report

This procedure describes how to run a total system statistics report.

Step	*Reference*
1. Reach the Reports Menu, then go to the Statistics Menu.	Menu Map 9

2. View the report.

Select: (T) Total System Statistics

Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays the report to the output device you select.

Figure 1 shows a sample System Statistics Report.

```
                    SYSTEM STATISTICS
                Fri Apr 21 11:05:40 1995


                          Total          Free      Used
Message Numbers           90000         85909       5 %
  Speech Blocks          384000        314271      18 %
Account Sectors           57344         54218       5 %

                       -------- Sectors -------     ----- Speech Blocks ----
        Prompt Vid        Total    Free    Used     Total    Free    Used
     english   1            6000    4894    18 %     13365   11759    12 %

Calls answered since Thu Apr 20, 1995 12:12 pm: 1116
```

Figure 1 Sample Total System Statistics Report

Run a Virtual Drive Statistics Report

VoiceMemo Release 6.0A and later

This procedure describes how to run a virtual drive statistics report.

Step	*Reference*
1. Reach the Reports Menu, then go to the Statistics Menu.	Menu Map 9
2. View the report.	

Select: (V) Virtual Drive Statistics

Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays the report to the output device you select.

Step | *Reference*

- Figure 1 shows a sample Virtual Drive Statistics Report.

```
                         SYSTEM STATISTICS
                     Fri Apr 21 12:18:03 1995

                                        Total            Free      Used
        Virtual Drive #5
               Message Numbers           3750            3560       0 %
                 Speech Blocks          16000           13056      18 %
        Virtual Drive #6
               Message Numbers           3750            3570       0 %
                 Speech Blocks          16000           13060      18 %
        Virtual Drive #7
               Message Numbers           3750            3552       0 %
                 Speech Blocks          16000           13056      18 %
        Virtual Drive #8
               Message Numbers           3750            3573       0 %
                 Speech Blocks          16000           13065      18 %
        .
        .
        .
Total for all Virtual Drives
               Message Numbers          90000           85821       5 %
                 Speech Blocks         384000          313264      18 %
               Account Sectors          57344           54208       5 %

                                      -------- Sectors ------- -----
Speech Blocks ----
                      Prompt Vid        Total    Free    Used   Total
Free    Used
                    english   1          6000    4894    18 %   13365
11759    12 %

        Calls answered since Fri Apr 21, 1995 12:07 pm: 16
```

Figure 1 Sample Virtual Drive Statistics Report

Run Mailbox Statistics Reports

VoiceMemo Release 6.0A and later

This procedure describes how to run these reports of mailbox statistics:

- Mailbox Data Inquiry Report
- Mailbox Block Inquiry Report
- Mailbox Dump Report
- Total Speech and Account Breakdown Report
- Idle Mailboxes Report
- Mailbox Totals Report

Step *Reference*

Mailbox Data Inquiry Report

1. Reach the Main Menu, then go to the Mailbox Maintenance Menu. Menu Map 3
2. Specify Mailbox Inquiry, and request the mailbox you want a report of.

   Select: (I) Inquire About Mailboxes
   Prompt: `Mailbox to display:`
   Response: A mailbox **number** or **range** of numbers. Enter a range of numbers in the format *first-last,* for example, 4000-4999.

   The server displays a list of all mailboxes specified that shows message statistics, classes of service, message waiting type, and login status of each mailbox.
3. When the Mailbox to Display prompt displays again, enter more mailbox numbers, if desired, or press **Enter** to exit.

   Figure 1 shows a sample Mailbox Data Inquiry Report.

```
                    Mailbox Data Inquiry
                  Fri Jun 16 15:42:20 1995


Box                  Msgs Unp Urg Rec   Mins FCOS LCOS GCOS NCOS MWI
Passwd
3553          2   0   0   0    11.3 44   1    1    1    None          Y
```

Figure 1 Sample Mailbox Data Inquiry Report

Mailbox Block Inquiry Report

1. Reach the Main Menu, then go to the Mailbox Maintenance Menu. Menu Map 3
2. Specify Mailbox Block Inquiry, and request the mailboxes you want a report of.

   Select: (B) Mailbox Block Inquiry
   Prompt: `Mailbox to display:`
   Response: A mailbox **number** or **range** of numbers. Enter a range of numbers in the format *first-last,* for example, 4000-4999.

   The server displays an unformatted report of all billing statistics that have been configured for each mailbox specified and the rate set for each statistic.

Step	*Reference*

3. When the Mailbox to Display prompt displays again, enter more mailbox numbers, if desired, or press **Enter** to exit.

   Figure 2 shows a sample Mailbox Block Inquiry Report.

```
Mailbox to display: 3553-3560
     00000003553 44  1    1 1 1 0       eng  2  0    11.3YN 2 2
Harper, Maryjane           3553 0                 0
     00000003555 14  1    1 1 1 0       mfg 11  0    26.2YN 2 2
Viswayathan, Ravi          3555 0                 0
     00000003556 31  1    1 1 1 0       eng  0  0     0.0YY 2 2
Jenkins, Julie             3556 0                 0
     00000003559 44  1    1 1 1 0 marketing  2  0     2.3YN 2 2
DeSanctis, Dan             3559 0                 0
     00000003560 31  1    1 1 1 0       eng  0  0     0.0YN 2 2
Rodrigues, Jorge           3560 0                 0
```

Figure 2 Sample Mailbox Data Inquiry Report

Mailbox Dump Report

1. Reach the Main Menu, then go to the Mailbox Maintenance Menu. — Menu Map 3
2. Specify the mailbox you want a report of.

   Select: (E) Mailbox Dump
   Prompt: `Mailbox #:`
   Response: Enter the desired mailbox **number**.

3. Select the labeled report version.

   Prompt: `(M)ailbox, (D)ump ?`
   Response: Enter **M** for mailbox information in ASCII (text),

   or

   Enter **D** for mailbox information in hexadecimal.

   The server displays the login status, configuration, usage statistics, and message queue statistics for the specified mailbox.

4. When the Mailbox # prompt displays again, enter another mailbox number, if desired, or press **Enter** to exit. Refer to the Reports chapter for a sample of the Mailbox Dump report.

Total Speech and Account Breakdown Report

1. Reach the Statistics Menu, then go to the Mailbox Statistics Menu. — Menu Map 9

Step	*Reference*

2. Choose the destination of the report.

Select: (B) Total Speech and Account Breakdown
Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays, saves, or prints account statistics, speech statistics, and a summary of message statistics. See the Reports chapter for a sample of this report.

Idle Mailboxes Report

1. Reach the Statistics Menu, then go to the Mailbox Statistics Menu. — Menu Map 9
2. Choose the destination of the report.

Select: (I) Idle Mailboxes
Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Step	*Reference*

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays, saves, or prints numbers of all mailboxes that have never logged in, then summarizes idle mailbox activity, FCOSs assigned to idle mailboxes, LCOSs assigned to idle mailboxes, and department codes assigned to idle mailboxes. See the Reports chapter for a sample of this report.

Mailbox Totals Report

1. Reach the Statistics Menu, then go to the Mailbox Statistics Menu. — Menu Map 9
2. Choose the destination of the report.

Select: (M) Mailbox Totals Report
Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays, saves, or prints numbers of all mailboxes, then summarizes mailbox activity, FCOSs assigned to mailboxes, LCOSs assigned to mailboxes, and department codes assigned to mailboxes. This report is similar to the Idle Mailboxes Report; see the Reports chapter for more information.

Run Receptionist II Reports

This procedure describes how to run a Pre-Extension Dial Strings Report and a Receptionist Day/Night Treatment Types Report. These reports are available only if the Receptionist II optional feature is installed in your server.

Step	*Reference*

Pre-Extension Dial Strings Report

1. Reach the Main Menu, then go to the Reports Menu. — Menu Map 9
2. Choose the destination of the report.

   Select: (D) Pre-Extension Dial Strings
   Prompt:
   ```
   REPORT OUTPUT ROUTING

   (C) Console (screen)
   (P) Console with pause
   (1) Printer A
   (F) File...
   (A) Append to file...
   (X) Exit (no report)

   If you need help later, type ?.

   COMMAND (C/P/1/F/A/X):
   ```
   Response: **C** to send the report to the console without pausing
   P to send the report to the console, pausing as the screen fills,
   1 to send the report to Printer A*,
   F to send the report to a file on the Series 6 server,
   A to append the report to an existing file on the Series 6 server, or
   X to exit report output options (no report).

   * This option list varies depending on server configuration.

   The server displays the report to the output device you select.

The server displays, saves, or prints a list of all extension pre-dial indexes (attendant extension pre-dial index) with their associated pre-dial strings and names.

Receptionist Day/Night Treatment Types Report

1. Reach the Main Menu, then go to the Reports Menu. — Menu Map 9
2. Select the Receptionist Treatments option.

   Select: (T) Receptionist Treatments

Step	*Reference*

3. Choose the destination of the report.

Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

The server displays the report to the output device you select.

The server displays, saves, or prints a list of all treatment types that shows extension pre-dial indexes (attendant extension pre-dial index) associated with the treatment types and line conditions.

Show or Edit the History File

VoiceMemo Release 6.0A and later

This procedure describes how to view the History File or enter information in it (update it).

Step	*Reference*
1. Reach the Utility Menu, then go to the History Menu.	Menu Map 12

View the History File

2. Review the History File.

   Select: (S) Show File
   Prompt: `Enter record number or 'a' for all non-empty records:`
   Response: **Number** of a specific record to review,

   or

   A for all non-empty records.

   The server displays the file to the console. Use the following commands to control scrolling:

   To stop scrolling: Press **Ctrl-S**
   To restart scrolling: Press **Ctrl-Q**

Update the History File

3. Enter information to the History File.

   Select: (U) Update File
   Prompt: `Contact person name:`
   Response: **Name** of the person who made changes to the server, up to 15 characters.

   Prompt: `Reported problem:`
   Response: **Description** of the problem you encountered, up to 79 characters.

   Prompt: `Fixed problem:`
   Response: **Description** of changes you made to the server to correct the reported problem, up to 159 characters.

   Prompt: `Other comments:`
   Response: Any other necessary information, up to 79 characters,

   or

   Press **Enter** to leave blank.

View the Hard Disk Operational Parameters

VoiceMemo Release 6.0A and later

This procedure describes how to determine the hard disk size and manufacturer.

Step	*Reference*
1. Reach the System Maintenance Menu, then go to the Hard Disk Utilities Menu.	Menu Map 8
2. Review the hard disk information.	

Select: (O) Display the Operation Parameters for a disk
Prompt:

```
REPORT OUTPUT ROUTING

(C) Console (screen)
(P) Console with pause
(1) Printer A
(F) File...
(A) Append to file...
(X) Exit (no report)

If you need help later, type ?.

COMMAND (C/P/1/F/A/X):
```

Response: **C** to send the report to the console without pausing
P to send the report to the console, pausing as the screen fills,
1 to send the report to Printer A*,
F to send the report to a file on the Series 6 server,
A to append the report to an existing file on the Series 6 server, or
X to exit report output options (no report).

* This option list varies depending on server configuration.

Prompt: `Enter hard disk id of disk as 'bus:id' pair:`
Response: The **bus id** and the **SCSI ID number** of the disk to be reviewed. Use the format **b:s**, where **b** is the bus ID and **s** is the SCSI ID.

The server displays the report to the output device you select.

Refer to the Reports chapter for a sample Hard Disk Operational Parameters report.

VoiceMemo Worksheet

Offline Parameters

Define Line Groups

Current group

Add lines to current group

Name of current group

Drop lines from current group

Line Group Only Applications

Group selected

Select application

Online Parameters

VoiceMemo Configuration Online Menu

Group selected

Day/Night

Start time of workday AM PM

End time of workday AM PM

M T W Th F Sa Su

Weekend days

Dialing Plan Menu

Dialing plan

1 2 3 4 5 6 7 8 9

Optional Star * Prefix Dialing Plan

*Networking with prefix dplan digit

*Networking with prefix dplan length

*Dial by name dplan digit

* Networking without prefix dplan digit

*Networking without prefix dplan length

*Call placement msg delivery dplan digit

Dial String and Mailbox Menu

System attendant's extension

Attendant's transfer string or PBX predirectory #

Aministrator's mailbox #

Attendant's mailbox #

E-mail transfer string

General greeting mailbox #

Pre-company name dial string

Pre-maibox greeting dial string

VoiceMemo Configuration-Online Menu

Key *0* for attendant transfer during greeting? yes no

Prompts "Enter mailbox # or wait"? yes no

Allow multiple messages for outside caller? yes no

Delay before answer (time in tenths/sec.)

Default language for prompts

Dial-by-Name Menu

Last name first flag? yes no

Exact match break? yes no

Single digit access? yes no

Suppress mailbox number? yes no

Number of names threshold

Passcode Menu

Minimum passcode length

Maximum passcode length

Passcode trip count

Passcode trip period

Allow Dial an Extension Menu

Allow dial an extension for callers? yes no

Allow dial an extension for users? yes no

Speech Quality Menu

All names and greetings

All recorded messages

DID VoiceMemo Worksheet

Offline Parameters

Define Line Groups

Current group

Add lines to current group

Name of current group

Drop lines from current group

Line Group Only Applications

Group selected

Select application

Online Parameters

VoiceMemo Configuration Online Menu

Group selected

Configure mobile DID? ☐ yes ☐ no

Digit Manipulation Menu

DID digits expected

DID digits absorbed

DID signed offset

Day/Night

Start time of workday AM PM

End time of workday AM PM

M T W Th F Sa Su

Weekend days

Dialing Plan Menu

Dialing plan

1 2 3 4 5 6 7 8 9

Optional Star * Prefix Dialing Plan

*Networking with prefix dplan digit

*Networking with prefix dplan length

*Dial by name dplan digit

* Networking without prefix dplan digit

*Networking without prefix dplan length

*Off system msg. delivery dplan digit

Dial String and Mailbox Menu

System attendant's extension

Attendant's transfer string or PBX predirectory #

Aministrator's mailbox #

Attendant's mailbox #

E-mail transfer string

General greeting mailbox #

Pre-company name dial string

Pre-maibox greeting dial string

VoiceMemo Configuration-Online Menu

Key *0* for attendant transfer during greeting? ☐ yes ☐ no

Prompts "Enter mailbox # or wait"? ☐ yes ☐ no

Allow multiple messages for outside caller? ☐ yes ☐ no

Delay before answer (time in tenths/sec.)

Default language for prompts

Dial-by-Name Menu

Last name first flag? ☐ yes ☐ no

Exact match break? ☐ ☐

Single digit access? ☐ yes ☐ no

Suppress mailbox number? ☐ yes ☐ no

Number of names threshold

Passcode Menu

Minimum passcode length

Maximum passcode length

Passcode trip count

Passcode trip period

Allow Dial an Extension Menu

Allow dial an extension for callers? ☐ yes ☐ no

Allow dial an extension for users? ☐ yes ☐ no

Speech Quality Menu

All names and greetings

All recorded messages

Mailbox Individual Worksheet

Mailbox Type

Standard ☐ **Tree** ☐ (also complete Tree Mailbox Worksheet) **Rotational** ☐ (also complete Rotational Maibox Worksheet)

Create New Mailboxes

Mailbox to create | Name

Department code | Access code

Receptionist day treatment | Receptionist night treatment

Mailbox's extension number | Mailbox's extension pre-dial index

Attendant extension number | Attendant extension pre-dial index

Features Class of Service | Limits Class of Service | Group Class of Service | Network Class of Service

Tenant Class of Service | Restriction Class of Service | Temporary passcode

Message waiting type #1 | Message waiting type #2 | Message waiting type #3

Call placement pager access type | Turn off pager/outcall notification? ☐ yes ☐ no | Time zone offset

Lists with change rights | Lists with review rights

Message speech quality | Name/greeting speech quality

For outdial billing only

Internal outdial index | Billed outdial index | Unbilled outdial index

Billing number | Billing dialing order ☐ NB ☐ BN

For AC message lamp (message waiting type # 2only)

AC message waiting lamp address

For message waiting type 5 only

Pager access type | Pager number | Post-pager number

Pager frequency | Pager interval | Message delivery? ☐ yes ☐ no | Suppress pages? ☐ yes ☐ no

Busy pager attempts | Busy pager interval | Pager start time AM PM | Pager stop time AM PM

Define additional pager number? ☐ yes ☐ no

5305wsht

Outdial Line Group Worksheet

Pager Systems Index Plan

Pager System	Pager Name	Access Code	Hold Time
0			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Offline Parameters

Define Line Groups

Current group _____ Add lines to current group _____

Name of current group _____

Line Group Only Applications

Group selected _____ Select application _____

Online Parameters

VoiceMemo Configuration Online Menu

Group selected _____

Pagers

Pager systems supported (from Pager Systems Index Plan, above) _____

DTMF-to-PBX Message Lights Worksheet

Offline Parameters

Define line groups

Current group

Add lines to current group

Name of current group

DTMF Applications

Group selected

Select application

Online Parameters

DTMF to PBX

Initial dial tone detect? ☐ yes ☐ no

PBX special access code

Dial tone confirmation? ☐ yes ☐ no

Pre-DN ON dial string

Pre-DN OFF dial string

Suppress updates to MWL? ☐ yes ☐ no

Pre-DN ON dial string

Pre-DN OFF dial string

Wait for dial tone? ☐ yes ☐ no

Enable alternate code? ☐ yes ☐ no

RS-232 Message Waiting Indicators Interface Worksheet

RS-232 Only Applications

Serial Port Selected

Serial port index ☐ Serial port type ☐ Serial port number ☐

Select Application

- ☐ AC Message Waiting Lights (BSR)
- ☐ BBL Pager
- ☐ Centigram Standard Interface
- ☐ Hyatt Encore PMS Integration
- ☐ PMS Integration
- ☐ HIS PMS Integration
- ☐ Hitachi PMS Integration
- ☐ Hitachi DX
- ☐ Programmable
- ☐ SL-1 Background Terminal Facility
- ☐ SL-1 Multiple Message Waiting Set Ports
- ☐ Tip & Ring Message Waiting Lamps
- ☐ Video Dispatch
- ☐ Citywide SMDI
- ☐ Fujitsu 960

AC Message Waiting Lights

☐ AC Controller I ☐ AC Controller II

Programmable

Initialize string ☐

RS- 232 reply string ☐

Delay between requests ☐

Pre-DN ON string ☐

Pre-DN OFF string ☐

Post DN-ON string ☐

Post-DN OFF string ☐

Department code as DN? ☐ yes ☐ no

Unplayed number sent? ☐ yes ☐ no

Delay after post-DN string ☐

Ending trailer string ☐

Suppress updates to MWL? ☐ yes ☐ no

Customer

Page of

Mailbox Group Worksheet

Mailbox # | Name

Dep't | Access code | Day | Night | MB ext | Pdial index | Attn ext | F COS | L COS | G COS | N COS | T COS | Passcode | Wake up | MWI 1 | MWI 2 | MWI 3 | AC MWL | Call P type | TZ offset | Chng lists | Review lists

Msg. spch qual. | Name/grt spch qual | Pager type | Outdial index | Post outdial index | Freq | Interval | Msg dely? | Spress pgs? | Busy attempts | Busy interval | Start time | Stop time | Add pager? | Intrnl od idx | Billed od idx | Unbilled od idx | Billing # | Bill dial order

---

Mailbox # | Name

Dep't | Access code | Day | Night | MB ext | Pdial index | Attn ext | F COS | L COS | G COS | N COS | T COS | Passcode | Wake up | MWI 1 | MWI 2 | MWI 3 | AC MWL | Call P type | TZ offset | Chng lists | Review lists

Msg. spch qual. | Name/grt spch qual | Pager type | Outdial index | Post outdial index | Freq | Interval | Msg dely? | Spress pgs? | Busy attempts | Busy interval | Start time | Stop time | Add pager? | Intrnl od idx | Billed od idx | Unbilled od idx | Billing #

Mailbox # | Name

Dep't | Access code | Day | Night | MB ext | Pdial index | Attn ext | F COS | L COS | G COS | N COS | T COS | Passcode | Wake up | MWI 1 | MWI 2 | MWI 3 | AC MWL | Call P type | TZ offset | Chng lists | Review lists

Msg. spch qual. | Name/grt spch qual | Pager type | Outdial index | Post outdial index | Freq | Interval | Msg dely? | Spress pgs? | Busy attempts | Busy interval | Start time | Stop time | Add pager? | Intrnl od idx | Billed od idx | Unbilled od idx | Billing # | B

Mailbox # | Name

Dep't | Access code | Day | Night | MB ext | Pdial index | Attn ext | F COS | L COS | G COS | N COS | T COS | Passcode | Wake up | MWI 1 | MWI 2 | MWI 3 | AC MWL | Call P type | TZ offset | Chng lists | Review lists

Msg. spch qual. | Name/grt spch qual | Pager type | Outdial index | Post outdial index | Freq | Interval | Msg dely? | Spress pgs? | Busy attempts | Busy interval | Start time | Stop time | Add pager? | Intrnl od idx | Billed od idx | Unbilled od idx | Billing # | B

Mailbox # | Name

Dep't | Access code | Day | Night | MB ext | Pdial index | Attn ext | F COS | L COS | G COS | N COS | T COS | Passcode | Wake up | MWI 1 | MWI 2 | MWI 3 | AC MWL | Call P type | TZ offset | Chng lists | Review lists

Msg. spch qual. | Name/grt spch qual | Pager type | Outdial index | Post outdial index | Freq | Interval | Msg dely? | Spress pgs? | Busy attempts | Busy interval | Start time | Stop time | Add pager? | Intrnl od idx | Billed od idx | Unbilled od idx | Billing # | Bill dial order

FCOS Worksheet

FCOS

FCOS to modify _____ FCOS name _____ FCOS to copy _____

Feature Bits

1	Greeting	060	062	063	064	165	161	162	164	224																
2	Login	001	016	066	069	081	101	102	103	104	105	106	107	108	109	132	151	152	156	160	165	218	219~	225		
3	Logout	003	009	170	220																					
4	Attendant call	002	098	159																						
5	Outside caller	**004**	002	005	017	041	051	092	098	111	112	113	114	115	116	117	118	119	137	160	176	203	221			
6	Prompts	051	082	083	097	098	099	131	133	136	138	140	146	155	157	159	163	176	202	208						
	Interface (choose 1)	209	210	211																						
7	Receive messages	039	040	041	043	044	045	046	047	088	111	112	113	114	115	116	117	118	119	127	173	175	179	185	190	1
		199	223																							
8	Play messages	**050**	006	007	039	046	047	048	049	052	057	058	059	075	076	089	144	145	147	153	204	215	216	255		
9	Answer messages	**029**	019	030	031	038	147	158																		
10	Keep/discard msg	**053**	**055**	054	056	145	227~																			
11	Make message	**020**	021	022	023	032	034	061	087	092	096	110	126	157	158	171	172	188	191							
12	Give messages	**024**	**086**	018	025	026	027	028	033	035	061	084	085	110	126	157	158	192								
13	Message address	018	019	021	023	025	027	030	031	087	095															
14	User options	**070**	015	071	072	073	074	077	078	093	094	095	124	125	127	130	142	143	148	180	195	196	201			
15	User dist. list	032	033	036	044	074	134	222																		
16	Master dist. list	034	035	045																						
17	Check in/out	008	090	091																						
18	Super user	**121**	**122**	068	120	123	141	147	152	174	178	186	187	189	229	231	232	234								
19	Msg. wait indicator	079	080	134	182	183	205	228	234																	
20	Fax memo	190	191	192	193	194	195	196	197	198	199	200	203	206	207	230	235	236	237	238	239	240	247			
21	Paging	077	124	068	169	171	172	173	181	188	208	209	210	211	212	213	209									
22	VG, E-mail	154	170	184	205	217	220	221	224	225	226															
23	Network/VForms	135	139	149	166																					
24	OneView	250	251	252																						

GCOS Worksheet

GCOS to modify ☐ GCOS name ☐

Group numbers ☐

GCOS to modify ☐ GCOS name ☐

Group numbers ☐

GCOS to modify ☐ GCOS name ☐

Group numbers ☐

GCOS to modify ☐ GCOS name ☐

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Group numbers ☐

GCOS to modify ☐ GCOS name ☐

Group numbers ☐

GCOS to modify ☐ GCOS name ☐

Group numbers ☐

RCOS Worksheet

Select RCOS: Modify Selected RCOS

RCOS to modify ☐ RCOS Name ☐

RCOS System Wide Parameters Menu

Starting digit position of NPA ☐ Ending digit position of NPA ☐

Starting digit position of NXX ☐ Ending position of NXX ☐

RCOS Specific Parameters

Home NPA ☐ Check numbers which do not have absorb digits? ☐ yes ☐ no

Digits to be absorbed (16 patterns, 10 digits each) ☐

☐

☐

☐

Exact Match Numbers: ☐ Allow ☐ Disallow

Exact Match Numbers (100 patterns, 25 digits each) ☐

☐

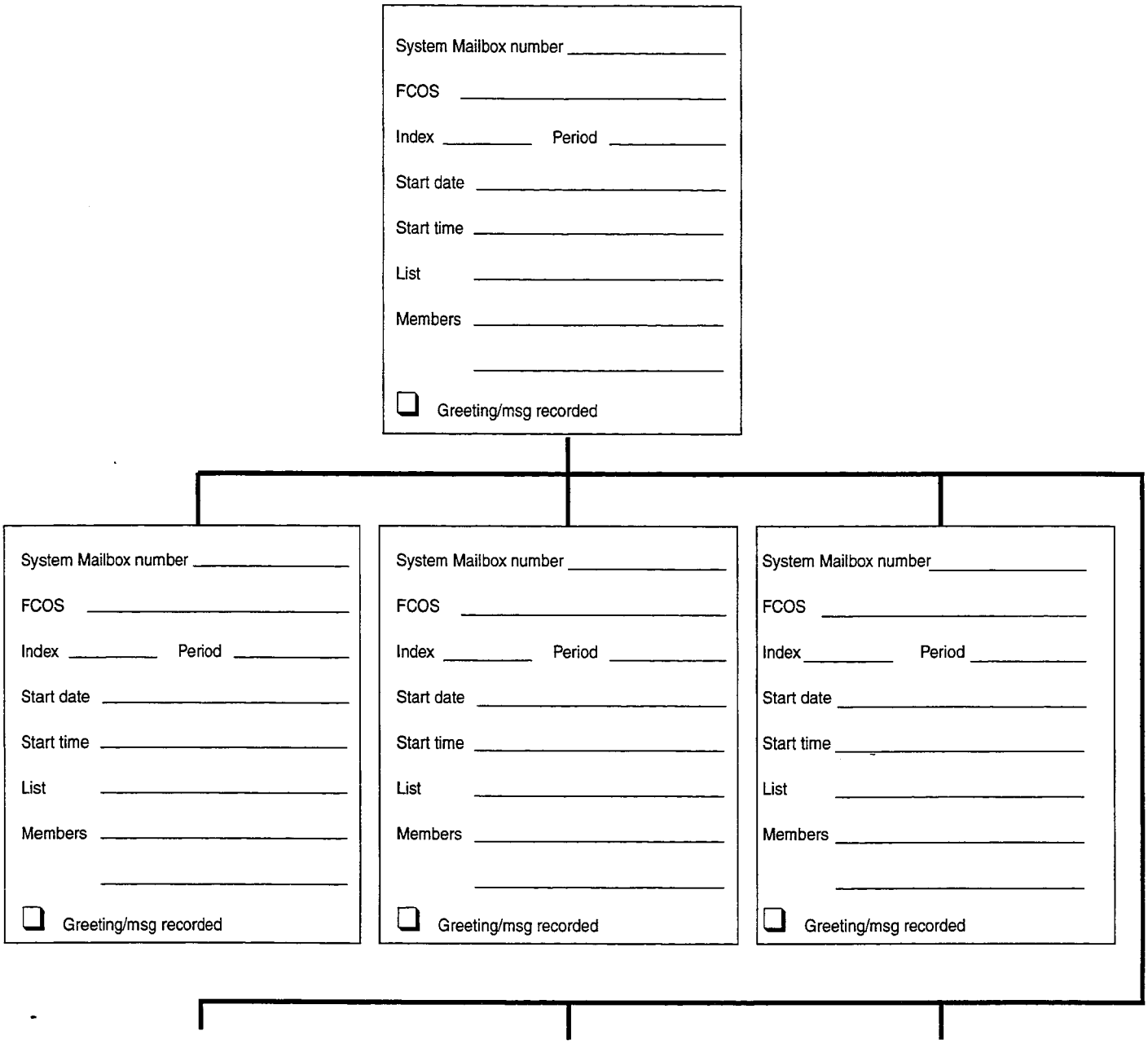
☐

☐

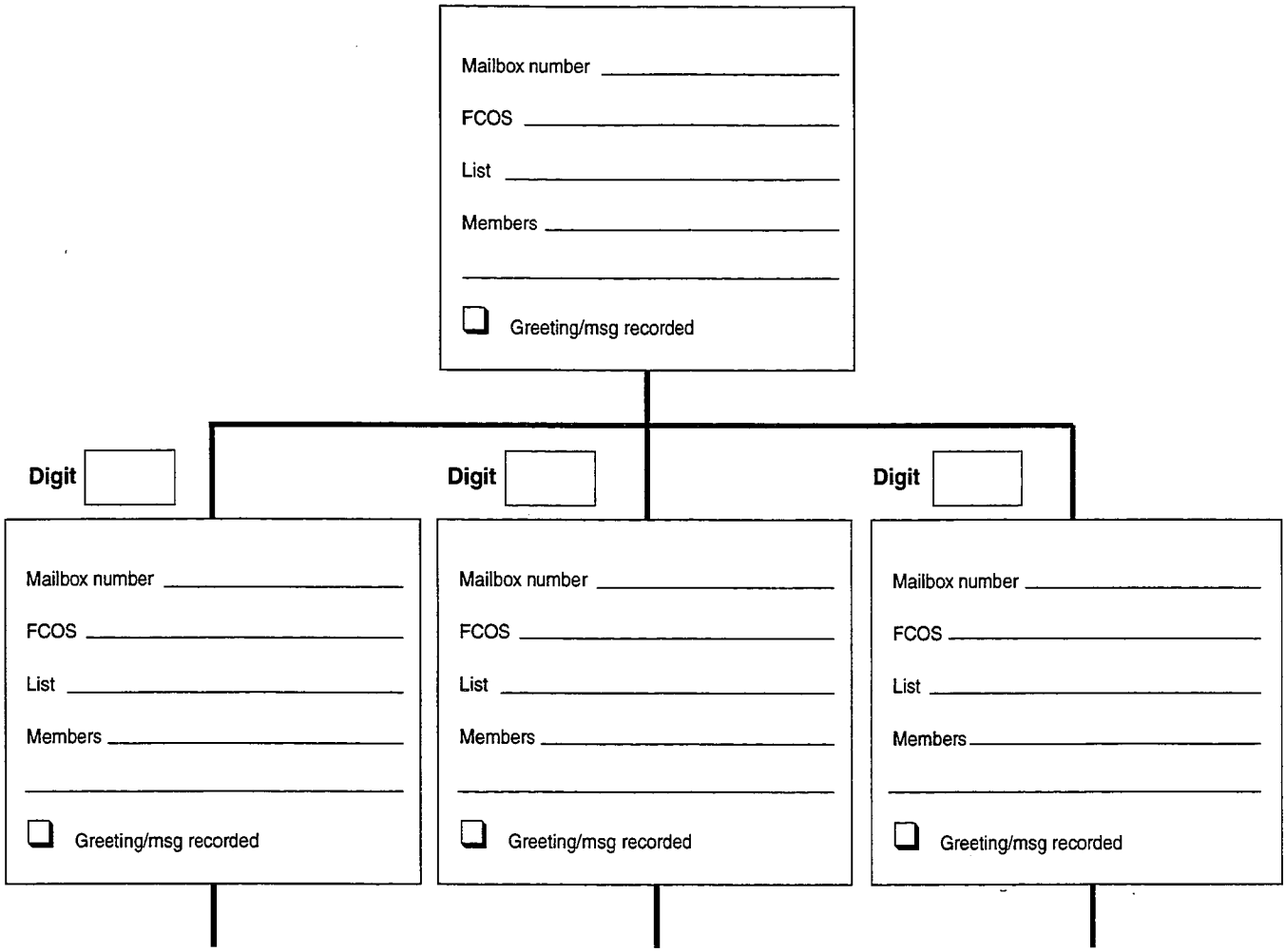
NPA: ☐ Allow ☐ Disallow

NPA	NXX
	☐ Allow ☐ Disallow
	☐ Allow ☐ Disallow
	☐ Allow ☐ Disallow
	☐ Allow ☐ Disallow
	☐ Allow ☐ Disallow

Rotational Mailbox Worksheet



Tree Mailbox Worksheet



Billing Worksheet, Page 1 of 2

	RATE		
Messages Received	**Low Usage**	**Boundary**	**High Usage**
Messages received from users			
Messages received from callers			
Messages future deliveries			
Call placement per minute rate (Connect Time)			
Call placement per call rate			
Urgent messages received from callers			
Auto wakeups or TAS messages			
Receipt requests			
Disk usage (Disk Usage)			
Network Billing			
Network messages sent			
Network urgent messages sent			
Network messages received			
Network urgent messages received			
Number of network nodes sent to			
Number of network nodes sent urgent			
Number of remote network recipients			
Number of remote network recipients urgent			
Message length network sent			
Message length urgent network sent			
Message length network received			
Message length urgent network received			
Message length, number of nodes sent			
Msg. length, number of nodes sent urgent			
Message length, number of remote recipients			
Message length, number of remote recipients urgent			
Messages Received (fax)			
Number of fax messages received			
Number of fax messages sent			
Number of fax retrieval			
Faxes retrieved to billing number			
Number of undelivered fax			
Number of fax pages received			
Number of fax pages sent			
Number of fax pages retrieval			
Fax pages retrieved to billing number			
Fax disk usage (Disk Usage)			

Billing Worksheet, Page 2 of 2

	Mailbox Accesses						Connect Time					
	Greeting Rate			Login Rate			User Connect Time			Caller Connect Time		
Line Group	Low	Bound	High	Low	Bound	High	Low	Bound	High	Low	Bound	High
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												

Pager Billing

Pager No.	Low	Bound	High	Pager No.	Low	Bound	High
0				8			
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			

Base Rates

FCOS	Rate	FCOS	Rate	FCOS	Rate	FCOS	Rate
1		17		33		49	
2		18		34		50	
3		19		35		51	
4		20		36		52	
5		21		37		53	
6		22		38		54	
7		23		39		55	
8		24		40		56	
9		25		41		57	
10		26		42		58	
11		27		43		59	
12		28		44		60	
13		29		45		61	
14		30		46		62	
15		31		47		63	
16		32		48		64+	

List of Centigram Procedures

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 1340	12	Run a System Information Report		
CP 3289	11	Bill Outdials to an Account or Long Distance Carrier	CP 5019	
CP 3290	10	Respond to "Login Incorrect" or "Permission Denied"	CP 4342	
			CP 4344	
CP 3291	2	Configure TDDMemo	CP 5007	
			CP 4353	
			CP 5047	
CP 3292	6	Configure a Chain Mailbox	CP 3305	
CP 3293	8	Use NPA/NXX Call Screening	CP 5401	
			CP 3295	
			CP 5047	
CP 3295	8	Configure an RCOS	CP 4332	CP 3293
			CP 4333	
			CP 4334	
			CP 5404	
CP 3299	10	Log In or Log Out of the Server Console	CP 4344	

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 3301	2	Configure the VoiceMemo Application	CP 5010	
			CP 5024	
			CP 5002	
			CP 3306	
			CP 5020	
			CP 3303	
			CP 3304	
			CP 5023	
			CP 5022	
			CP 3312	
			CP 3309	
			CP 5021	
			CP 5015	
			CP 5053	
			CP 7002	
CP 3302	6	Create a Master Distribution List	CP 5045	
			CP 5006	
			CP 5025	
CP 3303	6	Define an Administrator's Mailbox	CP 3305	CP 3301
				CP 3310
				CP 3320
CP 3304	6	Define an Attendant's Mailbox	CP 3305	CP 3301
				CP 3310
				CP 3314
				CP 3320

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 3305	6	Configure a Standard Mailbox	CP 5019	CP 3292
				CP 3303
				CP 3304
				CP 3310
				CP 3311
				CP 3313
				CP 3326
				CP 3329
				CP 3360
				CP 3362
CP 3306	4	Enable Call Placement	CP 5011	CP 3301
			CP 5007	CP 3320
			CP 5017	
			CP 5013	
			CP 5047	
CP 3307	6	Enable or Disable a Message of the Day	CP 5003	
CP 3308	6	Enable or Disable Tutorials	CP 5048	CP 3310
			CP 5011	
			CP 5007	
			CP 5003	
CP 3309	2	Enable the Dial-by-Name Function	CP 5002	CP 3301
			CP 5011	CP 3320
			CP 5007	

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 3310	6	Configure Mailboxes	CP 3305	CP 3412
			CP 3303	
			CP 3304	
			CP 3311	
			CP 3313	
			CP 3326	
			CP 5046	
			CP 5047	
			CP 5048	
			CP 3308	
			CP 5005	
CP 3311	6	Configure a Tree Mailbox	CP 3305	CP 3310
			CP 5048	CP 3328
			CP 5025	
CP 3312	6	Set Languages for Prompts	CP 4351	CP 3301
			CP 5017	CP 3320
CP 3313	6	Configure a Rotational Mailbox	CP 3305	CP 3310
			CP 5048	
			CP 5025	
CP 3314	2	Configure for Unaddressed Messages	CP 3304	
CP 3315	6	Configure Distribution Lists	CP 5011	CP 3316
			CP 5007	
			CP 5017	
			CP 5030	
			CP 5037	
CP 3316	6	Allow Broadcasting to a Broadcast Mailbox	CP 5011	
			CP 5007	
			CP 3315	

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 3318	6	Configure for Name and Greeting Broadcast	CP 5011	
			CP 5007	
			CP 5025	
CP 3319	6	Nest a Distribution List or Prevent Nesting	CP 5025	
			CP 5011	
CP 3320	3	Configure DID VoiceMemo	CP 5010	
			CP 6000	
			CP 5024	
			CP 5002	
			CP 3306	
			CP 5020	
			CP 3303	
			CP 3304	
			CP 5023	
			CP 5022	
			CP 3312	
			CP 3309	
			CP 5021	
			CP 5015	
			CP 7002	
CP 3321	4	Set Paging or Message Delivery Schedules and Intervals	CP 5011	
			CP 5007	
			CP 3334	
CP 3322	6	Configure for a Receipt Notice or Receipt Summary	CP 5011	
			CP 5007	
			CP 5017	
			CP 4351	

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 3323	5	Configure DTMF-to-PBX Message Waiting Indicators	CP 5010	
			CP 8008	
			CP 5032	
			CP 5015	
			CP 7002	
			CP 5031	
			CP 3359	
CP 3324	5	Configure the Programmable RS-232 Interface	CP 5038	
			CP 5036	
			CP 5040	
			CP 5034	
			CP 5039	
			CP 5032	
			CP 5015	
			CP 7002	
			CP 5031	
			CP 3359	
CP 3325	5	Configure Pre-programmed RS-232 Interfaces	CP 5038	
			CP 5015	
			CP 7002	
			CP 5031	
CP 3326	6	Configure a Broadcast Mailbox	CP 3305	CP 3310
			CP 5025	
CP 3328	6	Configure a Shared Extension Mailbox	CP 3311	
			CP 5011	
			CP 5007	
			CP 5025	
CP 3329	6	Configure an Overflow Mailbox	CP 3305	
			CP 5025	

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 3330	4	Configure for Display Pagers	CP 5010	
			CP 5012	
			CP 5011	
			CP 5007	
			CP 3336	
			CP 5019	
			CP 3334	
			CP 4362	
			CP 5015	
			CP 7002	
CP 3332	4	Allow Mailbox Owners to Control Paging	CP 5011	
			CP 5007	
			CP 5003	
CP 3334	4	Assign an Alternate Pager to a Mailbox		CP 3321
				CP 3330
				CP 3335
				CP 3343
CP 3335	4	Configure for Voice Pagers	CP 5010	
			CP 5012	
			CP 5011	
			CP 5007	
			CP 3336	
			CP 5019	
			CP 3334	
			CP 4362	
			CP 5015	
			CP 7002	
CP 3336	4	Set Limits for Paging	CP 5017	CP 3330
			CP 5019	CP 3335
				CP 3343

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 3337	4	Configure Message Delivery	CP 5010	
			CP 5013	
			CP 5011	
			CP 5007	
			CP 3338	
			CP 5018	
			CP 5016	
			CP 5015	
			CP 7002	
CP 3338	4	Set Limits for Message Delivery	CP 5017	CP 3337
			CP 5018	
CP 3339	4	Allow Mailbox Owners to Control Message Delivery	CP 5011	
			CP 5007	
			CP 5003	
CP 3342	7	Use an FCOS	CP 5004	
			CP 5007	
			CP 5008	
			CP 5009	
			CP 5003	
CP 3343	4	Configure for Tone Pagers	CP 5010	
			CP 5012	
			CP 5011	
			CP 5007	
			CP 3336	
			CP 5019	
			CP 3334	
			CP 4362	
			CP 5015	
			CP 7002	

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 3344	4	Allow Receipt of Urgent Pages or Urgent Message Delivery Only	CP 5011	
			CP 5007	
			CP 5019	
			CP 5018	
CP 3345	8	Use a GCOS	CP 4347	
			CP 3348	
			CP 4346	
CP 3346	10	Run an Audit Trail Report	CP 4338	
CP 3348	8	Use an Empty GCOS for One-Way Communication	CP 5011	CP 3345
			CP 5007	
			CP 4346	
CP 3350	8	Use an LCOS	CP 5017	
			CP 5054	
			CP 4351	
CP 3358	4	Test a Pager	CP 4353	CP 3356
CP 3359	6	Test Message Waiting Indication	CP 4353	CP 3323
				CP 3324
				CP 3356
				CP 3361
CP 3360	6	Test Mailbox Capabilities	CP 4353	CP 3356
			CP 5006	
			CP 6048	
			CP 6049	
			CP 3305	
CP 3361	4	Test Message Delivery	CP 4353	CP 3356
			CP 3359	
CP 3362	4	Test Call Placement	CP 4353	CP 3356
			CP 3305	

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 3365	11	Use the Billing Function	CP 4354	
			CP 4359	
			CP 4363	
			CP 4364	
			CP 4358	
			CP 4360	
			CP 4361	
			CP 4362	
			CP 4356	
			CP 7002	
			CP 4357	
CP 3366	12	Run a Billing Report	CP 4357	CP 3375
CP 3370	12	Run a Termination Report	CP 4357	CP 3375
CP 3375	12	Run Reports	CP 4357	
			CP 3366	
			CP 4367	
			CP 4368	
			CP 3370	
			CP 4353	
			CP 5015	
			CP 4372	
			CP 5005	
			CP 4373	
			CP 4369	
			CP 4371	
			CP 4374	
			CP 5316	

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 3401	9	Perform Administration by Phone	CP 4402	
			CP 4403	
			CP 4404	
			CP 4405	
			CP 4406	
			CP 4407	
			CP 4408	
			CP 4409	
CP 3410	10	Configure Server Security	CP 4339	
			CP 3412	
			CP 5021	
			CP 3411	
			CP 5048	
CP 3411	10	Configure Mailbox Passcode Parameters by FCOS	CP 5011	CP 3410
			CP 5007	
			CP 5003	
CP 3412	10	Restrict Line Group Access	CP 5011	CP 3410
			CP 5007	
			CP 3310	
			CP 5003	
CP 3413	3	Test the DID VoiceMemo Application	CP 5010	CP 3356
CP 4332	8	Modify the Absorption Table		CP 3290
				CP 3295
CP 4333	8	Modify the Exact Match Table		CP 3295
CP 4334	8	Modify NPA/NXX Tables		CP 3290
				CP 3295
CP 4335	8	Assign an RCOS to a Mailbox		
CP 4338	10	Format an Audit Trail Report		CP 3346
CP 4339	10	Configure FPSA Password Parameters		CP 3410
CP 4340	10	Start or Stop an Audit Trail		

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 4341	10	View a List of Current Users		
CP 4342	10	Add, Delete, or Unlock a User ID		
CP 4343	10	Modify Permission Categories for Current User IDs		
CP 4344	10	Change or Reset a Password		CP 3299
CP 4345	10	Activate or Deactivate FPSA		
CP 4346	8	Assign a GCOS to a Mailbox		CP 3345
				CP 3348
CP 4347	8	Define a Bitmapped GCOS		CP 3345
CP 4348	10	Bypass Passcode Requirement for Server Superuser		CP 3290
				CP 3299
CP 4351	8	Assign an LCOS to a Mailbox		CP 3322
				CP 3350
CP 4353	1	Run a Server Configuration Report		CP 3291
				CP 3356
				CP 358
				CP 3359
				CP 3360
				CP 3361
				CP 3362
				CP 3375
CP 4354	11	Check Current Billing Rates		CP 3365
CP 4356	11	Configure an Automatic Gather		CP 3365
CP 4357	11	Request a Gather		CP 3365
				CP 3366
				CP 3370
				CP 3375
CP 4358	11	Set Billing Rates for Disk Usage		CP 3365
CP 4359	11	Set Billing Rates for Mailbox Accesses		CP 3365
CP 4360	11	Set Billing Rates for Messages Received		CP 3365

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 4361	11	Set Billing Rates for Network Usage		CP 3365
CP 4362	11	Set Billing Rates for Pager Calls		CP 3330
				CP 3335
				CP 3343
				CP 3365
CP 4363	11	Set Base Rates		CP 3365
CP 4364	11	Set Billing Rates for Connect Time		CP 3365
CP 4367	12	Run a Mailbox Blocked Report		CP 3375
CP 4368	12	Run a Previous Billing Report		CP 3375
CP 4369	12	Run a System Phoneline Exceptions Report		CP 3375
CP 4371	12	Run Receptionist II Reports		CP 3375
CP 4372	12	Run a Mailbox Data Report		CP 3375
CP 4373	12	Run Reports of Mailbox Usage		CP 3375
CP 4374	12	Run a Phonebook Report		CP 3375
CP 4402	9	Set or Change Administrator's Mailbox Passcode by Phone		CP 3401
CP 4403	9	Add a Mailbox by Phone		CP 3401
CP 4404	9	Delete a Mailbox by Phone		CP 3401
CP 4405	9	Modify a Mailbox by Phone		CP 3401
CP 4406	9	Set a Mailbox Passcode and Tutorial by Phone		CP 3401
CP 4407	9	Set Server Date and Time by Phone		CP 3401
CP 4408	9	Back Up Mailboxes to Diskette by Phone		CP 3401
CP 4409	9	Report Server Usage Statistics by Phone		CP 3401
CP 5002	2	Configure a Dialing Plan		CP 3301
				CP 3309
				CP 3320

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 5003	7	Assign an FCOS to a Mailbox		CP 3307
				CP 3308
				CP 3312
				CP 3332
				CP 3339
				CP 3342
				CP 3411
				CP 3412
CP 5004	7	Create a New FCOS		CP 3342
CP 5005	6	Search for Mailboxes		CP 3310
				CP 3375
CP 5006	7	View FCOS Information		CP 3302
				CP 3360

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 5007	7	Customize an FCOS Copy		CP 3291
				CP 3306
				CP 3308
				CP 3309
				CP 3312
				CP 3315
				CP 3316
				CP 3318
				CP 3321
				CP 3322
				CP 3328
				CP 3330
				CP 3332
				CP 3335
				CP 3337
				CP 3339
				CP 3342
				CP 3343
				CP 3344
				CP 3348
				CP 3411
				CP 3412
CP 5008	7	Modify or Renumber a Default FCOS		CP 3342
CP 5009	7	Restore a Default FCOS		CP 3342

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 5010	1	Define a Line Group		CP 3301
				CP 3320
				CP 3323
				CP 3330
				CP 3335
				CP 3337
				CP 3343
				CP 3413
CP 5011	7	Add or Delete FCOS Bits		CP 3306
				CP 3308
				CP 3309
				CP 3312
				CP 3315
				CP 3316
				CP 3318
				CP 3319
				CP 3321
				CP 3322
				CP 3328
				CP 3330
				CP 3332
				CP 3335
				CP 3337
				CP 3339
				CP 3343
				CP 3344
				CP 3348
				CP 3411
				CP 3412

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 5012	4	Define a Pager System		CP 3330
				CP 3335
				CP 3343
CP 5013	4	Define a Pager System for Message Delivery		CP 3306
				CP 3337
CP 5014	4	Turn All Pagers or Message Delivery in a Mailbox On or Off		
CP 5015	1	Verify Configuration Parameters		CP 3301
				CP 3320
				CP 3323
				CP 3324
				CP 3325
				CP 3330
				CP 3335
				CP 3337
				CP 3343
				CP 3375
CP 5016	11	Set Billing Rates for Message Delivery		CP 3337
CP 5017	8	Create a New LCOS or Modify Existing LCOS Limits		CP 3306
				CP 3315
				CP 3322
				CP 3336
				CP 3338
				CP 3350
CP 5018	4	Configure a Mailbox for Message Delivery		CP 3337
				CP 3338
				CP 3344

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 5019	4	Configure a Mailbox for Paging		CP 3289
				CP 3305
				CP 3330
				CP 3335
				CP 3336
				CP 3343
				CP 3344
CP 5020	2	Configure for Transfer to a Server Attendant		CP 3301
				CP 3320
CP 5021	10	Configure Mailbox Passcode Parameters by Line Group		CP 3301
				CP 3320
				CP 3410
CP 5022	2	Enable Multiple Messages for Outside Callers		CP 3301
				CP 3320
CP 5023	2	Prevent Unaddressed Messages		CP 3301
				CP 3320
CP 5024	6	Schedule Company Greetings		CP 3301
				CP 3320
CP 5025	6	Create or Modify a List for Mailbox Owners		CP 3301
				CP 3311
				CP 3313
				CP 3318
				CP 3319
				CP 3326
				CP 3328
				CP 3329
CP 5026	6	Delete a Distribution List		
CP 5027	6	Delete a Member From All Distribution Lists		
CP 5028	6	View All Lists Containing a Specified Member		
CP 5029	6	View Members of a Single List		

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 5030	8	Add or Delete a Bitmapped GCOS Group		CP 3315
CP 5031	5	Assign Message Waiting Indicators to a Mailbox		CP 3323
				CP 3324
				CP 3325
CP 5032	5	Compensate for Different Directory and Mailbox Numbers		CP 3323
				CP 3324
CP 5034	5	Enable or Disable Light-on Requests for Successive Messages		CP 3324
CP 5036	5	Create an RS-232 Programmable Interface String		CP 3324
CP 5037	6	Configure a Mailbox for Distribution Lists		CP 3315
CP 5038	5	Define an RS-232 Serial Port		CP 3324
				CP 3325
CP 5039	5	Send the Number of Unplayed Messages Through the RS-232 Interface		CP 3324
CP 5040	5	Set Delay Times for RS-232 Message Waiting Indicators Requests		CP 3324
CP 5041	6	Record an Alternate Company Greeting		
CP 5042	6	Enable an Alternate Company Greeting		
CP 5043	6	Record Company Greetings		
CP 5044	1	Duplicate a Configuration		
CP 5045	6	Inquire About Mailboxes		CP 3302
CP 5046	6	Delete a Mailbox		CP 3310
CP 5047	6	Modify a Mailbox Configuration		CP 3291
				CP 3293
				CP 3306
				CP 3310

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 5048	6	Set the Passcode, Passcode Count and Tutorial Setting for a Mailbox		CP 3308 CP 3310 CP 3311 CP 3313 CP 3410
CP 5049	6	Allow a Transfer Automatically After a Greeting		
CP 5051	6	Copy a Mailbox Greeting		
CP 5053	2	Configure Speech Quality for an Application		CP 3301
CP 5054	8	Create a New LCOS from a Copy		CP 3350
CP 5302	12	Run a Logfile Report		
CP 5304	12	Show or Edit the History File		
CP 5305	12	Run a Complete Summary Report		
CP 5306	12	Run a Group Usage - All Trunks Busy Report		
CP 5307	12	Run a Line Group Usage Report		
CP 5308	12	Run a Message Usage report		
CP 5309	12	Run a Line Usage report		
CP 5310	12	Run a Speech Usage Report		
CP 5311	12	Run a Total Statistics Report		
CP 5312	12	Run a Virtual Drive Statistics Report		
CP 5313	12	View the Hard Disk Operation Parameters		
CP 5315	2	Test the VoiceMemo Application		CP 3356
CP 5316	12	Run a Fax Group Usage Report		CP 3375
CP 5401	8	Set RCOS System-Wide Parameters		CP 3293
CP 5404	8	View RCOS Information		CP 3295
CP 5406	8	Delete an RCOS		
CP 5415	10	Set the Site Name, Site Banner, and the Site Code		
CP 5703	1	Perform a Floppy Backup		
CP 6000	3	Set Parameters for Digit Absorption and Offset		CP 3320
CP 6001	4	View Pager Configuration		

Procedure Number	Chapter Number	Title	CPs called	Called by
CP 6047	6	Test Conditional Greetings		CP 3356
CP 6048	8	View LCOS Information		CP 3360
CP 6049	8	View GCOS Information		CP 3360
CP 7002	1	Activate the Inactive Configuration		CP 3301
				CP 3320
				CP 3323
				CP 3324
				CP 3325
				CP 3330
				CP 3335
				CP 3337
				CP 3343
				CP 3365
CP 8008	5	Set DTMF-to-PBX Protocols		CP 3323

Glossary

Here are some commonly used terms in Centigram documents.

Access code. A **dial string** used by the **Pager application**. See **Pager system**.

ACD. Automatic Call Distributor a specialized phone system used for handling a large number of incoming calls, which includes recorded announcements, routing, and call data logging.

Administration by phone. The capability to perform certain **server** administrative functions through a telephone set instead of the **server console**. This is usually done by the **Administrator**.

Administrator. Person responsible for day-to-day **server** implementation, changes and maintenance.

Administrator's mailbox. Special **mailbox** belonging to the **Administrator**, with system-wide abilities.

Affinity group. See **GCOS**

Alternate MWI. A "backup" **message waiting indicator**, used when the **mailbox** owner does not respond to the **primary MWI**.

Alternate pager. A "backup" **pager**, used when the **mailbox** owner does not respond to the **primary pager**; also, a mailbox configuration parameter that sets **message delivery**.

AMIS. Audio Messaging Interchange Specification; a council set up to develop a standard for exchange of voice **messages** between different vendors. Used with the AMIS Analog Optional Feature.

Analog networking. Networking scheme that reconverts voice **messages** to analog signals for transmission between two or more voice messaging systems. Voice messages are sent over regular telephone lines.

Append. Add comments to the end of a **message**.

Answer. Send a new **message** to a **user** in response to the original message.

Application. A set of voice processing functions assigned to a **line group**. The **VoiceMemo application** is an example.

Attendant. Person responsible for handling live telephone calls, such as a switchboard operator.

Attendant's mailbox. Special **mailbox** belonging to the **Attendant**, with **server**-wide abilities.

BBL paging. **Paging** system with direct RS-232 connection from **server**, instead of a dial-up system. This is an **optional feature**.

Billed outdial index. See **Outdial index**.

Bitmapped group. See **GCOS**.

Broadcast mailbox. **Mailbox** address that sends simultaneous **messages** to a group of **users** without requiring use of a **distribution list**. The distribution list assigned to the broadcast mailbox determines which users get the broadcast message.

Callers. People who do not have voice **mailboxes** on the **server**, also called "outside callers." Callers usually have fewer call processing options than **users** (mailbox

owners). Callers can call in to extensions, route their calls to other extensions and listen to **greetings**; they may also be able to leave **messages**.

Call placement. The ability to send a **message** to an outside telephone number instead of a **mailbox**.

Call placement pager access type. Used with **call placement**, this works the same as the access type for a **pager**. It is stored in the **user's mailbox**.

Centrex. Central Exchange; a business telephone system where the equipment is at the **CO** instead of at the customer site. Contrast with **CPE**.

Child mailboxes. Mailboxes assigned to **distribution lists** of **parent mailboxes**. Child mailboxes can give information to **users** and **callers**, or can connect users and callers to other extensions and allow them to make **messages**.

CO. Central Office; of a telephone company.

Confidential message. A **message** that cannot be Given to another **user**.

Console. See **server maintenance console**.

Console user. When **FPSA** is activated, persons who have access to the Change **Password** option in the FPSA Menu and to all options in any combination of other menus except the network configuration menus. This classification is the most restricted level of access.

CPE. Customer Premise Equipment; equipment at customer's site.

CSO. Continuous System Operation; an optional feature that allows the **server** to continue operation when individual **modules** or assemblies experience hardware or software failures.

Cut-through Paging. An **optional feature** that allows a **caller** to **page** a **user** by entering a telephone number on the **keypad**. The telephone number will then be displayed on the user's **pager**.

Day and night programming. A feature of the **VoiceMemo application** that sets the work schedule and handles certain situations such as a **user** wishing to speak to an **Attendant**.

DDD. Direct Distance Dialing; telephone calls placed over the public telephone network.

Default. The value a **VoiceMemo** parameter takes if not specifically changed by the **Administrator**.

Dial-by-Name. A **VoiceMemo application** capability that allows someone to leave a **message** for a **user** without knowing the mailbox number. Instead, the caller can enter the user's name on the **keypad**.

Dialing plan. A numerical structure of how **mailbox** numbers are assigned, and their length. Also used to determine which digit implements a capability, such as **call placement**.

Dial string. Group of alphanumeric characters dialed or **outdialed** by the **server**. Often used to facilitate call transfers. Outdialing is used in the **Pager application**.

DID. Direct Inward Dialing; routes outside calls to a specific **station** without operator or **attendant** assistance.

DID line. Direct Inward Dial Line; a trunk line that accepts incoming calls only. You cannot use this line to make **outcalls** or transfers. If you try to make an outcall or transfer a call, you will not get a dial tone. This trunk line uses **E & M signaling** and requires special trunk circuits from the telephone company, and interfacing circuitry for the **server**.

DID VoiceMemo application. A **VoiceMemo application** that handles DID lines.

DIL. Direct In-Line; an outside **caller** can reach a specific extension by dialing the seven-digit telephone number. The caller does not go through an **attendant** or switchboard.

Digit absorption. Used by the **DID VoiceMemo application**, this process ignores leading **DN** digits not needed for a **user**'s extension or **mailbox** number.

Digit offset. Used by the **DID VoiceMemo application**, this process adds digits to or subtracts digits from the **DN** to correspond a **user**'s extension or **mailbox** number.

Digital networking. Networking method that transmits voice **messages** to remote **servers** as digital files. See **MESA-Net.**

Distribution list. A group of **mailboxes** to which the **VoiceMemo application** sends the same **message**. Distribution lists allows a **user** to send the same message to a number of recipients at the same time. Users and the **Administrator** can assign mailbox numbers to distribution lists.

DN. Directory number; a telephone number.

DTMF tone. Dual Tone Multi Frequency; the sounds created by pressing the keys on a pushbutton telephone.

E & M signaling. Ear and mouth signaling; a pair of wires carrying signals between trunk equipment and separate signaling equipment. The E lead receives, the M lead transmits.

ESMDI. Enhanced Simplified Message Desk Interface; a standard call data packet format used in **Centrex** applications, with additional features not found in **SMDI.** Used by Centigram in unified **integrations.**

ESS. Electronic Switching System; switching equipment used in Bell System **COs.**

FCOS. Feature Class of Service; a combination of **features**. By assigning an FCOS to a **mailbox**, the **Administrator** determines what capabilities a mailbox has.

Feature bit. The smallest unit of **VoiceMemo mailbox** capability, also called a feature or an FCOS bit (avoid the latter term as it is often confused with FCOS). Each feature bit has a number and a name. Example: Feature bit 053 (Keep messages), allows **users** to store **messages** in their mailboxes after they have played them. You cannot assign an individual feature bit to a mailbox; you must assign a feature bit to an **FCOS** and assign the FCOS to the mailbox.

FPSA. Functionally Partitioned System Administration. **Server** software that prevents unauthorized changes and offers better security.

Functionally Partitioned System Administration. See **FPSA.**

Full-screen interface. An input screen on the **server maintenance console** where data is entered in different places by moving the cursor around the screen. Items can be changed and then all are saved at the same time. Contrast with **scrolling interface.**

Give. Ability to send an existing **message** to another **user.**

Greetings. Information meant to welcome **callers** when they reach the **VoiceMemo application** or a **mailbox.** Typically, callers hear a general company greeting, directions for using the system and a greeting from a **user** when they call from outside the system. **Administrators**, **Attendants** and users can record greetings.

Greeting-Only mailbox. Mailbox that does not allow **callers** to leave a **message.**

GCOS. Group Class of Service; a method of restricting communication between **mailboxes**. By assigning a GCOS to a each mailbox, the **Administrator** determines which **users** can exchange **messages**. There are two types, affinity GCOS and bitmapped GCOS. An affinity GCOS consists only of a GCOS number, whereas a bitmapped GCOS is a set of groups. A bitmapped GCOS can have from 0 to 128 **groups**.

Group. A component of a bitmapped **GCOS**. A single group has no intrinsic meaning; it simply acts as an "on/off" switch within a bitmapped GCOS. You cannot assign an individual group to a **mailbox**; you must assign a group to a bitmapped GCOS.

Guest mailbox. A temporary **mailbox** set up by a subscriber for guests. Used in the hotel/motel environment.

Hard play prompt. An instruction from the **VoiceMemo application** that cannot be interrupted by pressing a key on the telephone keypad. The keypress must send a **DTMF** tone to VoiceMemo before it will interrupt the instruction. See also **Prompts**.

Idle mailbox. A **mailbox** that has been created and assigned but which has not yet been logged into.

Integration. Hardware and software used to interface the **server** with a specific **PBX** or switch. Allows the **VoiceMemo application** to know what telephone number was originally dialed, for example.

Internal outdial index. See **Outdial index**.

Keep. The ability to store a **message** for future playing.

Keypad. The set of pushbuttons on a telephone set.

Keypress. Data entry using a telephone **keypad**.

LCOS. Limits Class of Service; a set of options that restricts the capabilities of a **mailbox**. By assigning an LCOS to each mailbox, the **Administrator** determines the controls, or **limits**, on a mailbox.

Limit. A single restriction on one of the capabilities of a **mailbox**. Limits may be on such things as time length of **messages** and number of messages per mailbox. You cannot assign an individual limit to a mailbox; you must assign an **LCOS**.

Line. Telephone line input to a **VoiceMemo port**.

Line card. Hardware circuit board in a **server** with **ports** for each telephone **line**. The line card interfaces between the **caller** and **VoiceMemo** software.

Line group. A set of one or more **lines** that are configured the same way. **Line groups** are assigned to specific applications such as the **VoiceMemo application** or the **Pager application**.

Login. The process of entering a (1) **passcode** from the telephone **keypad** to use various **server** functions from within a **mailbox**; or (2) a user ID then a **password** at a **server maintenance console** to gain access to menus, if **FPSA** is activated; or (3) a user ID and then an optional **password** at a server maintenance console to gain access to menus, if FPSA is not activated.

Logout. The **user**'s process of exiting (1) a **mailbox** by entering the proper command from the telephone **keypad**; or (2) from the **server maintenance console**, by selecting Exit when in the Main Menu.

Mailbox. The area set apart for each **user**'s **messages**, **distribution lists**, and other options.

Mailbox owner distribution list. A **distribution list** created by a **user**, assigned to that user's **mailbox**, and not accessible to any other **server** user.

Mailbox passcode. A **mailbox** security feature that requires a numeric security code to verify a mailbox owner's access to a mailbox; can be used whether **FPSA** is activated or not. Contrast with **password**.

Main Menu. The first and top-level set of choices that the **VoiceMemo application** offers people who have voice **mailboxes** in the **server** and are logged into it (for example, **users**).

Master feature bit. A **feature bit** that must be included in an **FCOS** in order for related features to work. For example, if you include feature bit 021 (Make and request receipt) in an FCOS, you must also include the master feature bit 020 (Make messages).

Master distribution list. A **distribution list** created by an **Administrator** (which is assigned to the **Administrator's mailbox**), accessible to many **users** with the proper **FCOS**.

Menu parameter. A particular menu choice whose value you can alter through the **server console.**

MESA. Modular Expandable System Architecture; the capability to expand or enhance a **server** by adding more **modules**.

MESA Forms. Voice forms; question and answer **mailboxes**.

MESA-Net. An **optional feature** used for **digital networking** a **server**.

Message. Also voice message; a voice recording left by **users** and **callers** in a **mailbox**, and stored by the **server**.

Message delivery. A **message waiting indication** that places a telephone call to a **user**, asks for a **passcode**, and plays the user's **messages**.

Message of the day. The "message of the day" is actually a **greeting**. Mailbox **users** hear it when they log in. It is stored in the **Attendant's mailbox**.

Message Waiting Indication/indicator. See **MWI**.

Message waiting type. A number used to indicate which form of **MWI** is being used by a particular **mailbox.**

Modifier. VoiceMemo characteristics common to all **applications**. Changing them alters the behavior of the application. Example: **Dialing plan**.

Module. An individual processor (CPU) and attached components on a **server**. The server can have between one and four modules. Modules are sometimes called "hosts."

MWI. Message waiting indication/indicator; a way to inform **users** of new **messages**. Examples include **pagers** and message waiting lights. There are 3 message waiting indication parameters for each **mailbox**, and each can have both a **primary MWI** and an **alternate MWI.**

NCOS. Network Class of Service; a **mailbox** option that controls access to network features. Examples include the ability to send, receive, or give **messages** across the network, and access to urgent or batch queues when sending messages.

New user tutorial. See **Standard tutorial.**

NPA. A communications industry term for the area code of a **DN**.

NPA/NXX screening. A communications industry term for restricting telephone calls based on the area code and exchange. See **NPA**, **NXX**, and **RCOS**.

NXX. A communications industry term for the exchange (prefix) of a **DN**. The exchange follows the area code and is a grouping of telephone numbers coming from the same **CO**.

Off-system messaging. See **Call placement**.

Optional feature. A capability that is not included in the base **VoiceMemo** software, and must be specifically configured.

Outcall. See **Outdial**.

Outdial. Creation of **DTMF** tones by the **server** when it originates a telephone call, such as when **paging** a **user**.

Outdial index. A number from 0 to 15 that indicates which **pager system** to use. There are three available outdial indexes: internal, billed, and unbilled. This information is set up in a **user**'s **mailbox**. Formerly called "pager system access code index."

Pager. Also radio pager; the device activated by a **Paging** system.

Pager application. The **VoiceMemo application** that allows **paging**, **message delivery** and **call placement.**

Pager number. A **dial string** used to dial a **pager**. Used with the **outdial index** and the **post-pager number**, all three of which are stored in the **user's mailbox**.

Pager system. A **dial string** used to access a group of **pagers**. This information is stored when configuring the **Pager application**. Referred to by the **outdial index**, and used with the **pager number** and **post-pager number** to reach a particular pager. Sometimes called "access code."

Pager system access code. See **Outdial index**.

Paging. Process where the **VoiceMemo application outdials** a **pager number** to activate a **user**'s **pager** when a new **message** is received.

Parent mailbox. **Mailbox** that routes **users** and **callers** to **child mailboxes**. Parent mailboxes must contain a **distribution list** so that the **server** knows how to route users and callers. Parent mailboxes can be **broadcast**, **rotational**, or **tree mailboxes**.

Passcode. See **Mailbox passcode**.

Password. A **server** security feature consisting of an alphanumeric code required during **login** to verify a **user**'s access to server menus. See also **mailbox passcode**.

PBX. Private Branch Exchange; a business telephone system, usually on premises, that switches calls from public telephone network to **stations** in the system.

Permission category. When **FPSA** is activated, one of five levels of access that the **server superuser** assigns to **VoiceMemo superusers** and **console users**. At least one category is associated with a user ID and every **server** menu.

Phoneline exceptions. Parameters that tell the **VoiceMemo application** how to handle phone **lines**, in terms of dialing speed, voltages, etc.

Play message. To listen to a voice **message**.

Played message. A **message** which the **user** has heard and decides to keep.

PMS. Property Management System. Integrated with a **server**, allows **mailbox** creation directly from the PMS.

Port. A physical hardware connection. A **server** port is the physical telephone **line** connection to the server. Also see **Serial port**.

Post-pager number. A **dial string** used to control a **pager**, either to display a set of numbers or to enter special codes. Used with the **outdial index** and the **pager number**, all three of which are stored in the **user**'s **mailbox**.

Primary MWI. The **message waiting indication** that is signaled when a **mailbox**

gets a new **message**. If an **alternate MWI** is also defined, that one will be signaled if the **user** does not respond by calling into the **server**.

Primary pager. The **pager** that is signaled when a **mailbox** gets a new **message**. If an **alternate pager** is also defined, that one will be signaled if the **user** does not respond by calling into the **server.**

Prompts. Recorded instructions that offer options to **users** and **callers**. For example, after users and callers reach a **mailbox**, they may hear the prompt, "Record your message." Prompts can be given in foreign languages (an **optional feature**). See also **Hard play** and **Soft play prompts**.

Queue. A group of related **messages**. Each **mailbox** should have a queue for **unplayed messages**, **played messages**, **receipts**, and **urgent messages**.

Receipt. Notification to a **user** about a **message**'s status.

Receptionist II. A Centigram **optional feature** that allows **callers** and **users** to reach extensions by **keypad** inputs. This is the only **application** that can be assigned to a **line group** that already has another application configured.

Return receipt. Request by a **user** for notification when a sent **message** has been played.

RCOS. Restriction Class of Service; a parameter assigned to **mailboxes** which limit what telephone numbers they can **outdial**. Limits are placed on the area codes or exchanges a mailbox can outdial. See **NPA/NXX screening**.

RNA. Ring No Answer; a condition where an extension rings but no one answers the telephone.

Rotational mailbox. Information-only **mailbox** whose **prompts** are changed on time or usage-sensitive basis.

Scrolling interface. An input menu on the **server maintenance console** where data is entered one line at a time. You are prompted for each item by the **server**. Contrast with **full-screen interface**.

Serial port. A physical interface to a serial data connection. Also see **Serial port index**.

Serial port index. A numeric pointer to the **serial port number** to be used by an **application**. This number can be 0 (don't use), 1, or 2. Each **serial port** can then be assigned to a device name.

Serial port number. A number assigned to a **serial port index** that points to a device name. For a CPU **serial port**, the number 1 or 2 will refer to $term1 or $term2. For a serial port hardware card, the numbers 1 through 32 refer to names $cti1 through $cti32.

Server. The Series 6 Communications server, both hardware and software used to run the Centigram **VoiceMemo** or **Voice Gateway** products.

Server administrator. See **Administrator**.

Server greeting. Initial **greeting** heard by **callers** who dial into a voice processing system.

Server maintenance console. The video display monitor and keyboard, (the terminal) connected to the **server**.

Server superuser. When **FPSA** is activated, the only person who has unlimited access to all **server** menus. This classification is the widest level of access.

Shared extension mailbox. A kind of **tree mailbox** used when several people share one telephone. Each **user** has a personal **mailbox**, which is a **child mailbox** of the

shared extension (**parent**) mailbox. **Callers** leave a **message** by pressing a digit to chose a user.

Site tutorial. A company-specified **tutorial** that you can create for your **users**. It is a form of **greeting**.

SMDI. Simplified Message Desk Interface. A standard call data packet format used in **Centrex** applications.

Soft play prompt. An instruction from the **VoiceMemo application** that can be interrupted by pressing a key on the telephone **keypad**. The **keypress** must send a **DTMF** tone to the **server** to interrupt the instruction. See also **Prompts**.

Standard tutorial. A **tutorial** supplied by Centigram that is set to play by default when a new **mailbox** is created and logged into for the first time. Sometimes called user tutorial, new user tutorial, and VoiceMemo tutorial.

Station. Telephone set.

System attendant. See **Attendant**.

TCOS. Tenant Class of Service; a **mailbox** option used with the **SMDI integration**. This feature governs mailbox interaction between **user** communities.

TDD Telecommunications Device for the Deaf; a terminal used by a hearing-impaired person to communicate over telephone **lines**. A TDD operator relays information from the TDD to another party, and types in any spoken information, which is sent back to the TDD.

TDDMemo An **optional feature** for the **server** that furnishes English prompts for a **TDD**. This functionality allows the hearing-impaired to use **VoiceMemo** software.

Tie trunks. Private telephone circuits used to connect two or more telephone systems together, or to connect a telephone system to a voice processing system.

Time stamp. Voice **prompts** that inform a **user** of the time and date each **message** was recorded.

Tip & Ring. Telephony term for the ground (tip) and positive (ring) wires in an electrical circuit. Also known as Tip-Ring or T-R.

Transfer. Moving a call from one **station** to another within a telephone network or site.

Tree mailbox. Mailbox that routes **users** and **callers** to **child mailboxes**, based on **keypad** input. Tree mailboxes must contain a **distribution list** so that the **server** knows how to route users and callers.

Triplet. A set of three numbers, separated by colons, that refer to a specific **line** connected to the **server**. Triplets use the form m:s:p, where m refers to the **module** number (1-4), s the **line card** slot number (0-15), and p the **port** number (starting from 0) on the line card.

Trunk. A telephone communication channel between two points, where one is usually the **CO** or switching center.

Tutorial. A **user** option which is a series of detailed **prompts** that guides the user through simple **mailbox** operation.

UCD. Uniform Call Distributor; a device to handle incoming calls and distribute them among several agents. Less "intelligent" than **ACD**.

Unbilled outdial index. See **Outdial index**.

Unplayed message. A **message** that has not been played (heard) by the **user**.

Urgent message. A **message** that is played before normal messages. Messages marked

Urgent are put in a different **queue** and can be treated differently.

User. Also called "mailbox user." A person who has one or more voice **mailboxes** in the **server** and is logged into it. Users may have extensive call processing options, such as play messages, answer messages, give messages, keep messages and use distribution lists. Contrast with **server superuser**, **VoiceMemo superuser**, and **console user**.

User distribution list. See **Mailbox owner distribution list**.

User ID. (User identifier). A security feature consisting of a unique identifier of up to 17 letters that is required as the first step in logging in to a **server**. The **server superuser**, each **VoiceMemo superuser**, and each **console user** have a user ID.

User options. Choices that the **server** announces to **users** during a call. When a user presses the U key (8 on the keypad) while listening to the main menu, the server presents the user with some or all of these options: name, **greeting**, **passcode**, **distribution lists**, **tutorial**, **pagers**.

User tutorial. See **Standard tutorial**.

VMUIF. A set of voice messaging **prompts** used by a number of vendors. This **user** interface is distinct from the standard **VoiceMemo application** user interface

Voice Gateway application. An IVR (Interactive Voice Response) software package for the **server** that provides an interface between the telephone and your data processing system (computer).

VoiceMemo application. The basic software application for the **server** that provides voice messaging.

VoiceMemo superuser. When **FPSA** is activated, persons who have access to the Change **Password** option in the FPSA Menu and to all options in all other menus. This classification is the second-widest level of access.

VoiceMemo tutorial. See **Standard tutorial**.

Voice message. See **message**.

Voice processing. Generic term for any equipment that can handle voice **messages** from **callers**.

Wink. A short interruption in single-frequency tone, showing the **CO** is ready to receive digits you just dialed.

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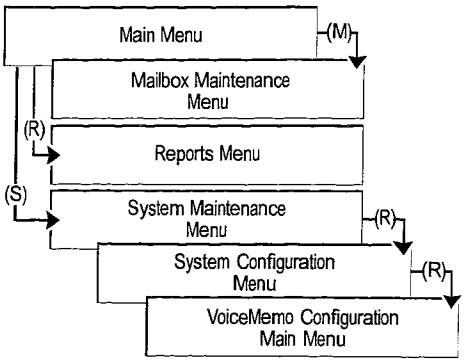
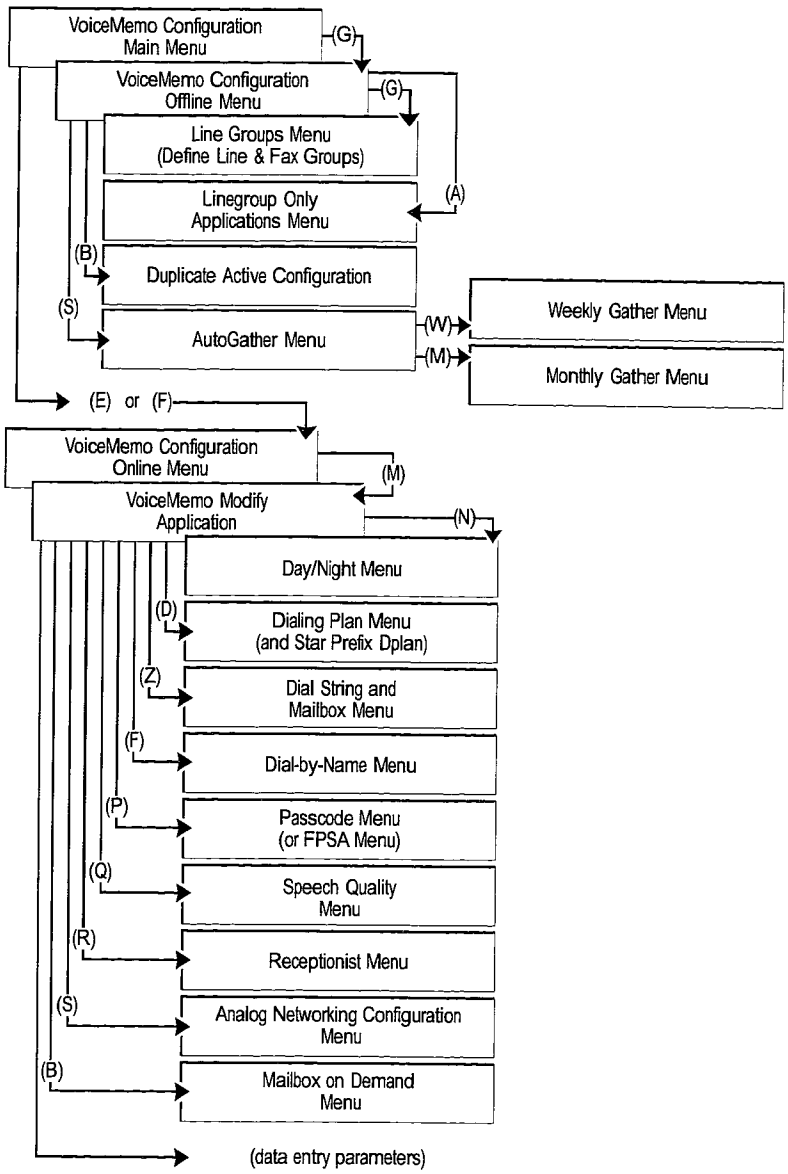
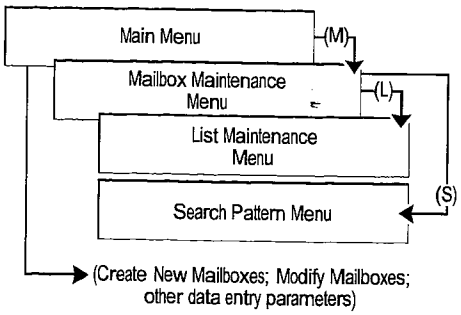
1 VoiceMemo Configuration Main Menu



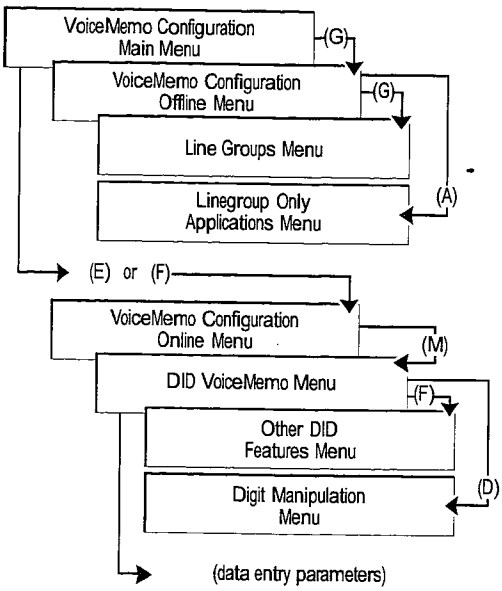
2 VoiceMemo Application



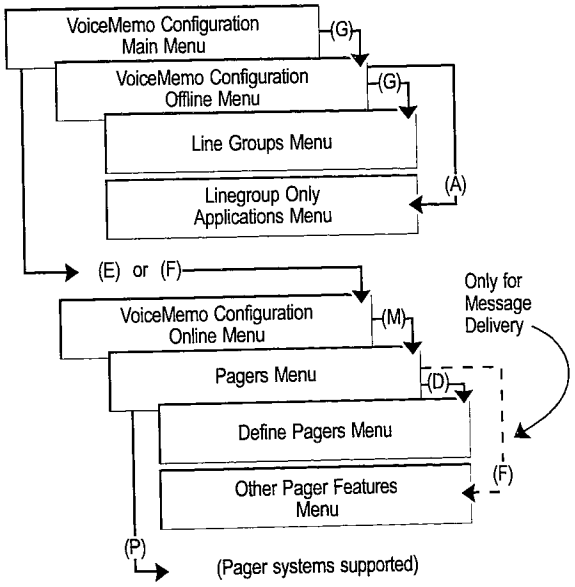
3 Mailboxes



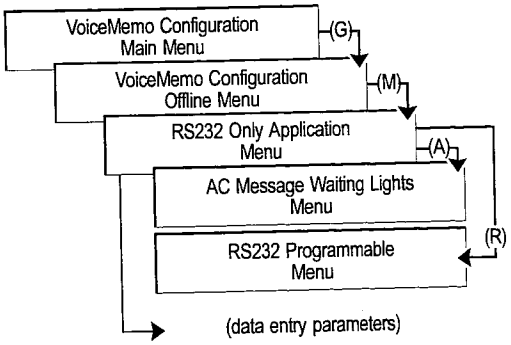
4 DID VoiceMemo Application



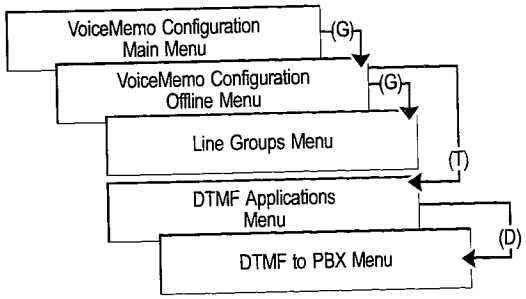
5 Pager Application



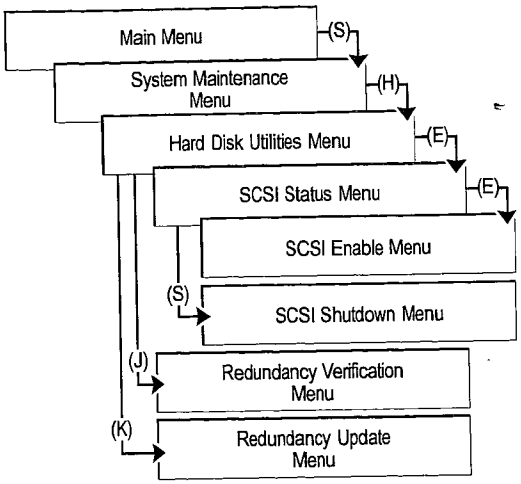
6 RS-232 Message Lights Application



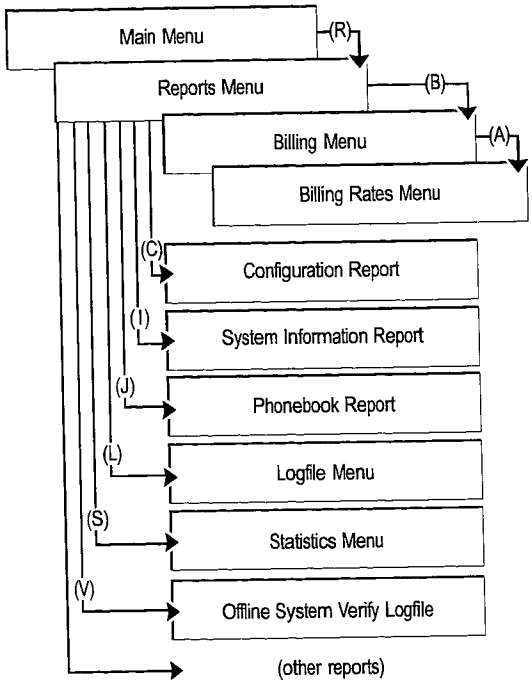
7 DTMF-to-PBX Message Lights Application



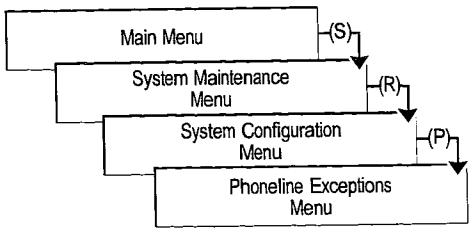
8 Hard Disk Utilities



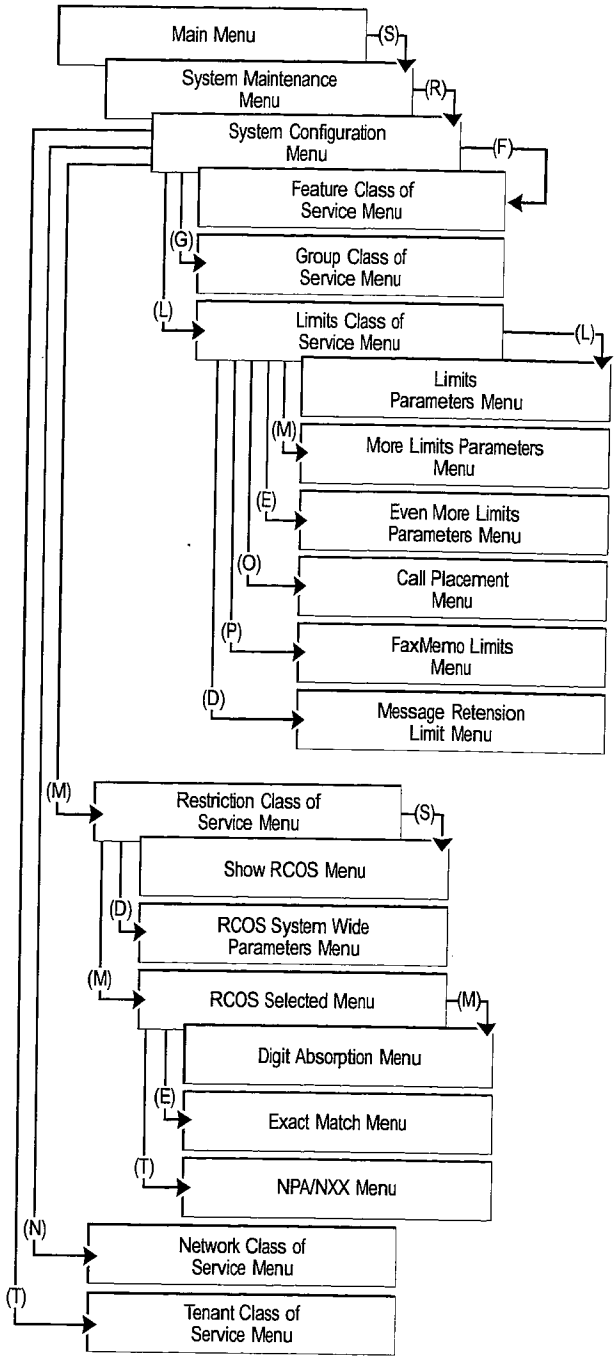
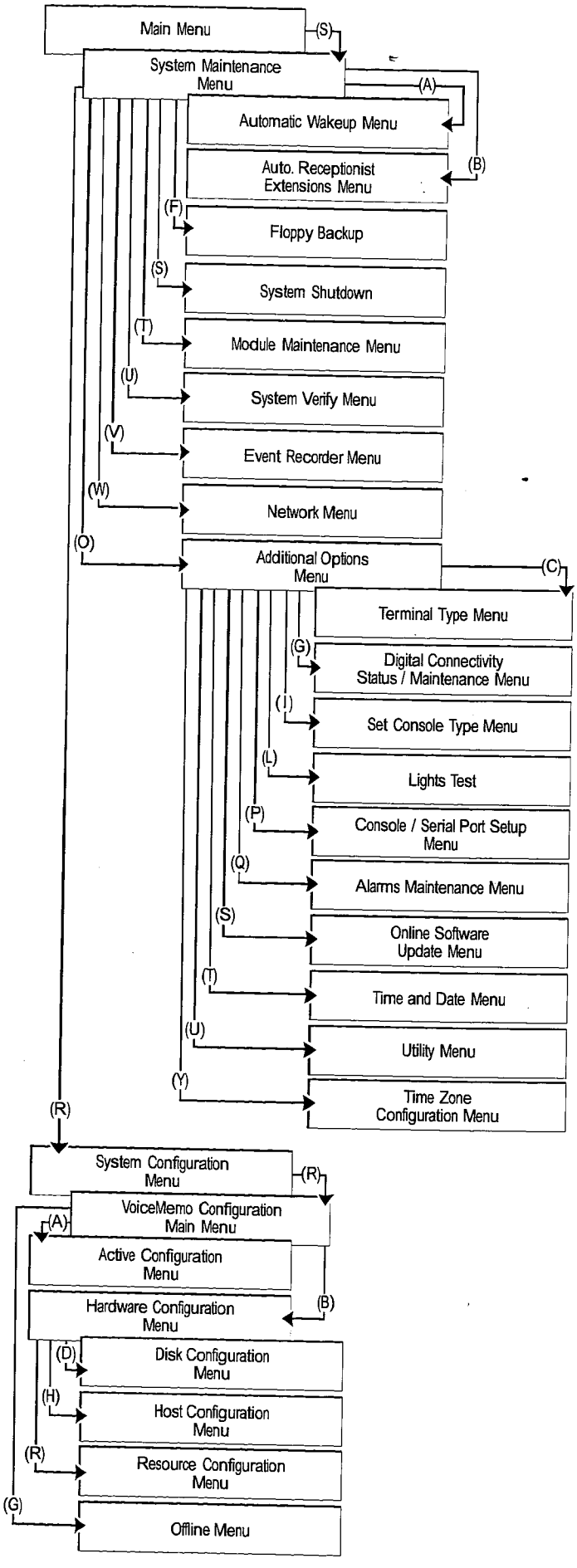
9 Billing & Reports



10 Phoneline Exceptions



11 FCOS, GCOS, LCOS, RCOS, NCOS and TCOS



12 System Maintenance