

# Panasonic

DIGITAL SUPER HYBRID SYSTEM

## *Features Guide*

Model No. **KX-TD500**



**Please read this manual before connecting  
the Digital Super Hybrid System.**

# *Introduction*

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## *About this Features Guide*

This Features Guide is designed to serve as an overall features reference for the Panasonic Digital Super Hybrid System, KX-TD500.

It explains what the KX-TD500 System can do, and how to obtain the most out of its many features and capabilities.

## *Terms used in this Features Guide*

### *Connection References*

Lists any additional hardware required to use the feature.

Refer to Section 2 “Installation” in the *Installation Manual* for detailed information.

### *Programming References*

The related and required programming titles are noted for your reference.

**System Programming** should be done with a PC.

Refer to Section 4 “System Programming” in the *Installation Manual* for detailed information.

**Station Programming** is individual programming executed by each Proprietary Telephone (PT) user at his or her own PT. They can customize their PTs based on their personal needs.

Refer to Section 2 “Station Programming” in the *User Manual* for detailed information.

### *Feature References*

The related feature titles described in this *Features Guide* are noted for your reference.

### *Operation References*

The operation required to implement the feature is noted for your reference.

Refer to Section 4 “Station Features and Operation” in the *User Manual* for detailed information.

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# *Introduction*

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## *About the other manuals*

Along with this Features Guide, the following manuals are available to help you install, program, and use the KX-TD500 System:

### *Installation Manual*

Provides instructions for installing the hardware and programming the system.

### *User Manual*

Designed for users of Digital Super Hybrid System, KX-TD500.  
The focus is Digital Proprietary Telephones (DPTs), Digital DSS Consoles, Single Line Telephones (SLTs) and their features.

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# Features Guide

This manual describes every basic, optional, and programmable feature in alphabetical order. It also provides information about the conditions, connection references, programming required, related features, and operation for every feature.

## Absent Message Capability

### Description

Once set, this option provides a message, on the display of the calling extension, to show the reason for the called extension's absence. Up to nine absent messages, common to all extension users, can be programmed as desired. There are six pre-programmed default absent messages.

Message No.	Message
1	Will Return Soon
2	Gone Home
3	At Ext %%% <div style="margin-left: 150px;">└── Extension number</div>
4	Back at %:% <div style="margin-left: 100px;">└── Minute</div> <div style="margin-left: 100px;">└── Hour</div>
5	Out Until %/% <div style="margin-left: 100px;">└── Day</div> <div style="margin-left: 100px;">└── Month</div>
6	In a Meeting
7-9	—

**Note :** The “%” means a parameter to be entered when assigning a message at individual extension.

### Conditions

- Absent Messages can be programmed either by User or System Programming.
- Setting or canceling an absent message can be done by any extension user but only callers with a display PT can receive the absent message.
- An extension user can select only one absent message at a time. A newly assigned absent message overwrites the previous one.
- The selected message is displayed every time the extension user (who set the message) goes off-hook.

### Programming References

**System Programming** .....Installation Manual, Section 4  
 4.2.2 System - Numbering Plan  
 — (48) Absent Message Set / Cancel  
 4.5.7 Features - Absent Message  
**User Programming** .....User Manual, Section 3  
 [008] Absent Messages

### Feature References

None

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
 Absent Message Capability

## Account Code Entry

---

### Description

An Account Code (max. 10 digits) is used to identify incoming and outgoing CO calls for accounting and billing purposes.

#### **[For Outgoing CO Calls]**

One of the following three Account Code Entry modes is selected for each extension on a Class of Service basis:

#### **Verified-All Calls mode:**

An extension user must always enter a pre-assigned account code when making CO calls.

#### **Verified-Toll Restriction Override mode:**

An extension user can enter a pre-assigned account code to override toll restriction.

#### **Option mode:**

An extension user can enter any account code if needed.

#### **[For Incoming CO Calls]**

Account code entry is optional.

### Conditions

- Up to 1000 account codes per system can be assigned by System Programming.  
These account codes are required when extension users in “Verified — All Calls mode” or “Verified — Toll Restriction Override mode” make outside CO calls.
- **Tenant Service**  
If Tenant Service is employed, the affiliation of each account code is determined by System Programming.
- **SMDR**  
The account code is appended to the Station Message Detail Recording (SMDR) call record.  
If two or more different account codes are entered during a single call:  
**Option mode**  
Only the last entered account code is appended to the SMDR.  
**Verified-All Calls mode**  
The entered account code is appended to the SMDR.
- **Memory Dialing**  
An account code can be stored into Memory Dialing (System / Station Speed Dialing; One-Touch Dialing).
- **Account code entry after CPC detection**  
Should be done within 15 seconds. Otherwise, call record is appended to SMDR call record and entry becomes impossible afterwards.

- **TRS Level**  
Each account code is appended with unique TRS Level for “Toll Restriction Override by Account Code Entry” feature.
- **Emergency numbers**  
Regardless of the Account Code Entry mode setting, emergency numbers can be dialed out without entering an account code.
- **Account button**  
The Account button can be used instead of dialing the feature number. It can be assigned to a flexible (CO, DSS, PF) button by Station, User or System Programming.
- The account code used for making a CO call is memorized in the following auto dial memories: Last Number Redial, Saved Number Redial, Call Log - Outgoing

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.2 System - Numbering Plan	
— (36) Account Code	
4.2.3 System - Class of Service	
— Account Code Mode	
4.4.2 Line - Extension Line	
— Flexible CO/PF Key Assignment	
4.4.3 Line - DSS Console	
— Flexible DSS/PF Key Assignment	
4.5.5 Features - Account Code	
— Tenant No.	
— Entry No.	
— Code	
— TRS Level	
<b>User Programming</b> .....	User Manual, Section 3
[005] Flexible CO Button Assignment	
<b>Station Programming</b> .....	User Manual, Section 2
Flexible Button Assignment – Account Button	

**Feature References** Toll Restriction Override by Account Code Entry

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Account Code Entry

## Alternate Calling – Ring / Voice

---

### Description

Allows an extension user either to ring-signal (Ring call) or voice-signal (voice call) the other PT extensions.

**Ring call:** The called PT rings.

**Voice call:** The caller's voice is heard through the built-in speaker of the called PT instead of ringing.

The calling extension user can switch ring-signaling to voice-signaling and vice versa by pressing “\*” during an intercom call.

### Conditions

- **Mode Selection**

The PT user can select either to be ring-signaled or voice-signaled by Station Programming.

- Any extension user (PT, SLT) can use this feature during an intercom call if destination extension is a PT.

- **One time switching**

Switching of signaling mode is available only once during a call.

- **Voice-signaling is not available in the following cases:**

- if the other extension is an SLT.
- if the other extension is busy on another call.
- if another call is ringing on the other extension.

### Programming References

**Station Programming**.....User Manual, Section 2  
Intercom Alert Assignment

### Feature References

Hands-free Answerback

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Alternate Calling — Ring / Voice

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## ANSWER and RELEASE buttons Operation

---

### Description

ANSWER and RELEASE buttons are useful when using the headset or in hands-free mode. With the ANSWER button, an extension user can answer all incoming calls. With the RELEASE button, an extension user can disconnect the line during or after a conversation or complete a Call Transfer.

### Conditions

- **ANSWER and RELEASE Buttons Assignment**

ANSWER and RELEASE buttons are provided as a fixed button on the KX-T7441 (DSS Console). For other PTs and DSS Consoles, these buttons can be assigned to a flexible (CO, DSS, PF) button by Station, User or System Programming.

- **What if the ANSWER button is pressed during a call?**

If a new call comes in while engaged in the current call, the extension user can answer it simply by pressing the ANSWER button. In this case, the current call will be disconnected.

- **Call Answering Priorities**

If the ANSWER button is pressed when two or more calls are ringing on an extension at a time, the extension will be connected to one of them according to the following priorities:

- (1) BSS (Busy Station Signaling ) calls
- (2) Line Preference
- (3) In the order of arrival

- **Delayed Ringing or No Ringing Calls**

If a call which comes in on an extension is not ringing (Delayed Ringing or No Ring), it cannot be answered by pressing the ANSWER button.

### Programming References

**System Programming** .....Installation Manual, Section 4  
 4.4.2 Line - Extension Line  
     — Flexible CO/PF Key Assignment  
 4.4.3 Line - DSS Console  
     — Flexible DSS/PF Key Assignment  
**User Programming** .....User Manual, Section 3  
 [005] Flexible CO Button Assignment  
**Station Programming** .....User Manual, Section 2  
 Flexible Button Assignment — ANSWER Button, RELEASE Button.

### Feature References

None

### Operation References

**Station Features and Operation** .....User Manual, Section 4.3  
 ANSWER and RELEASE buttons Operation

## Answering, Direct Trunk

---

**Description** Allows the PT user to answer an incoming CO call simply by directly pressing a flashing CO button without lifting the handset or pressing the SP-PHONE / MONITOR button. This feature permits the extension user to answer the desired line when multiple incoming CO calls are coming in on their extension.

**Conditions** None

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.4.2 Line - Extension Line  
— Flexible CO Key Assignment  
**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment  
**Station Programming**.....User Manual, Section 2  
Flexible Button Assignment

**Feature References** None

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Answering, Direct Trunk



## Automatic Callback Busy (Camp-On)

### **Description**

The system calls back the extension user when the called party or the selected CO line becomes idle, if this feature was activated beforehand.

#### **Automatic Callback – Extension**

If the extension user answers the callback ringing, the called extension (previously busy) automatically starts ringing.

#### **Automatic Callback – Trunk**

If the extension user answers the callback ringing, the designated CO line (previously busy) is automatically selected for making an outside call.

### **Conditions**

- If the callback ringing is not answered in four rings (within 10 seconds), this feature is canceled.
- The extension user can cancel this feature by dialing the feature number for “Automatic Callback Busy Cancel.”
- More than one extension user can set this function to one extension or CO line at the same time.
- **FWD/DND Override**  
Call Forwarding or Do Not Disturb feature does not work to the callback ringing. It always rings the extension on which this feature was activated.

### **Programming References**

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (59) Automatic Callback Busy Cancel

### **Feature References**

Automatic Route Selection (ARS)            Trunk Access, Idle  
Trunk Access, Individual Trunk

### **Operation References**

**Station Features and Operation**.....User Manual, Section 4.3  
Automatic Callback Busy (Camp-On)

## Automatic Configuration†

---

### Description

This is one of the DPT Integration features. If DPT Integration is activated, the system transmits the extension number configuration information to the Voice Processing System (VPS). The VPS then automatically creates the mailbox for each extension based on this information.

### Conditions

- Correct Mailbox No. length must be selected in Panasonic Voice Mail System Reset/Clear Menu to create proper Mailbox No. based on three-digit or four-digit numbering plan.
- Automatic Configuration is available with one of the following KX-TVS series VPSs: KX-TVS75, KX-TVS100, KX-TVS200
- When "Automatic Configuration" is executed, the VPS will automatically create 64 (KX-TVS75/KX-TVS100)/1024 (KX-TVS200) mailboxes.
- **“PBX Type” selection of the KX-TVS series VPS**  
When integrating the KX-TD500 System with one of the KX-TVS series VPSs, please select ‘TD500’ in ‘PBX Type’ menu of the VPS. However, if 'TD500' is not listed in the menu, please select 'TD1232' instead.

### Programming References

Refer to “VPS Integration - DPT Integration.”

### Feature References

VPS Integration - DPT Integration

### Operation References

Not applicable.

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†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports Digital Proprietary Telephone integration; e.g. KX-TVS100).

## Automatic Hold – All Calls

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### Description

Allows the PT user engaged in a call (both extension and outside) to hold the current call and get a new line for transfer with a single operation.

This simplifies the transfer operation by eliminating the need for pressing the TRANSFER button.

The PT user engaged in a call can also answer a new incoming call without losing the current call by pressing the CO/DN (on which the call is coming) button. Then the current call is placed on consultation hold automatically.

Buttons/operation available for this feature are:

DSS\*, SCO, GCO, LCO, PDN, SDN, Phantom\*, direct dial

\*One-Touch Transfer will be activated.

This feature is convenient for extension users, such as Operators, who handle a large volume of calls.

### Conditions

- COS (Class of Service) programming determines the extension that can perform this feature.
- If this feature is not allowed by COS programming, the current call will be disconnected by pressing an idle button, or dialing the extension number. “Automatic Hold – Trunk” is not available for all extension users by default.
- It is possible to return to the held party by pressing the corresponding button.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.3 System - Class of Service  
— Automatic Hold

### Feature References

Automatic Hold -Trunk

One-Touch Transfer

### Operation References

Not applicable.

## Automatic Hold – Trunk

### Description

Allows the PT user engaged in a CO call to hold the current call and get a new line with a single operation.

This feature can be categorized as the following two types:

#### **Automatic Hold - Trunk (CO)**

Allows the PT user engaged in a CO call to hold the current call and get another CO line for making or answering purpose with a single operation.

#### **Automatic Hold - Trunk (DSS)**

Allows the PT user engaged in a CO call to transfer the current call to another extension simply by pressing the DSS button associated with that extension.

Refer to “**One-Touch Transfer**” in this manual.

### Conditions

- This feature is enabled/disabled on a system-wide basis.
- If Automatic Hold for DSS is disabled, pressing DSS button disconnects the current call. (Default=Hold)
- If Automatic Hold for CO is disabled, pressing CO button disconnects the current call. (Default=Disconnect)
- It is possible to return to the held party by pressing the corresponding CO button.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.7 System - System Option  
— (25) Pressing DSS key operation in CO talking  
— (26) Pressing CO key operation in CO talking

### Feature References

Automatic Hold - All Calls

One-Touch Transfer

### Operation References

Not applicable.

## Automatic Route Selection (ARS)

---

### Description

Automatic Route Selection (ARS) is a system programmable feature that automatically selects the least expensive route available at the time an outgoing outside call is made. ARS applies to an outgoing CO call made by dialing the feature number for Local Access/ARS (9 = default). Pre-programming eliminates the need of dialing the access code of the least expensive carrier. The appropriate Trunk Group is selected and the carrier access code is added before the number is outpulsed.

### Conditions

- ARS mode can be turned on/off on a tenant basis.
- Toll Restriction check is performed before ARS is applied.
- **Dialing Plan**  
ARS works according to the selected dialing plan. Thus, if the dialed number is not found in the dialing plan (Leading Digit Tables), the CO call is made by Idle Trunk Dial Access (Automatic Line Access) feature.
- ARS is not applied to a call made by specifying a Trunk Group.
- This feature also applies to a call forwarded by “Call Forwarding – to Trunk” feature.
- If a call is made by using a memory dialing (Redial, One-Touch, Station/System Speed Dialing, Call Log - Outgoing) a dial tone is not sent to the extension user.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.1 System - Tenant
  - Automatic Route Selection
- 4.2.2 System - Numbering Plan
  - (18) Local CO Line Access/ARS
- 4.7.1 ARS - Time Table
- 4.7.2 ARS - Leading Digit Table
- 4.7.3 ARS - Routing Plan
- 4.7.4 ARS - Digits Modification

### System Programming Example (See the Installation Manual)

The following shows how to program ARS so that the extension user can call the XYZ Company via the least expensive line.

**Step 1.** To utilize ARS feature, set “Automatic Route Selection” in Section 4.2.1 “System-Tenant” to “Yes.”

**Step 2.** Store the telephone number of the outside party that will use the ARS feature. For example, if XYZ Company’s telephone number is “1-234-567-8910” (not including the line access code), store the leading 7 digits of the number “1234567” and associated Route Plan Table (RPT) No. (01 for example) in Section 4.7.2 ”ARS - Leading Digits table.”

### Example: ARS Leading Digit Table

Entry	Dialing No.	RPT No.
001	1234567	01
002		
•		
•		
•		
800		

**Table 1**

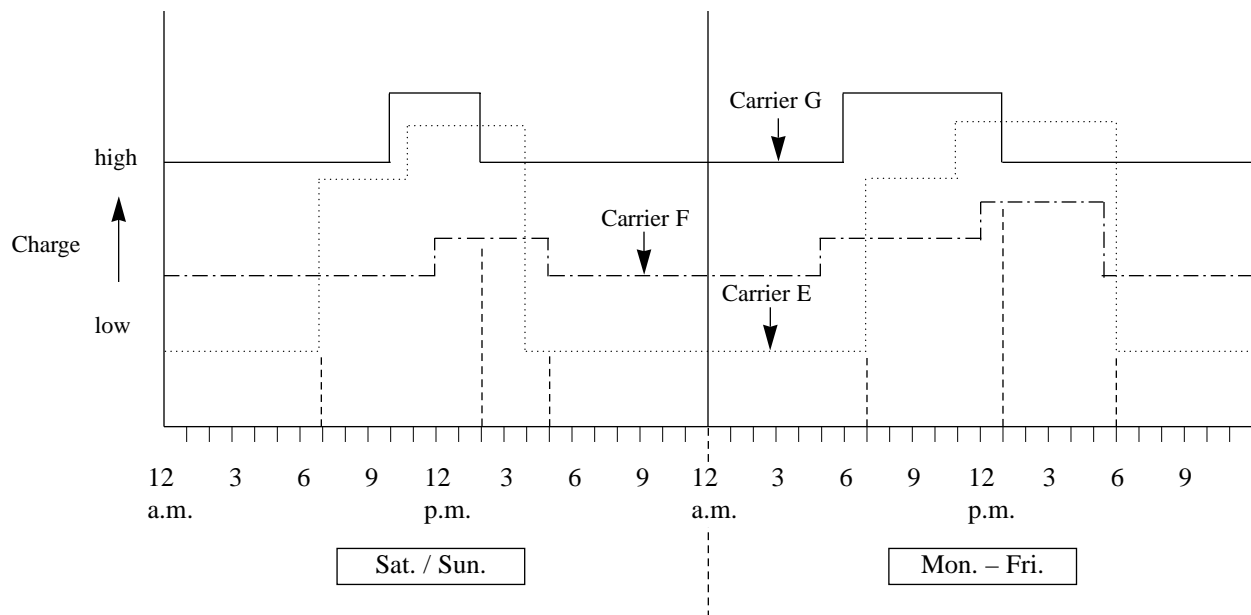
**Step 3.** Check all carriers available to call the stored telephone number and their Trunk Groups. Supposing that there are three carriers available to call the XYZ Company and each carrier's line is assigned to a Trunk Group as follows:

Carrier E — Trunk Group 1

Carrier F — Trunk Group 2

Carrier G — Trunk Group 3

Then check the fee charged by each carrier:



As shown in Table 2, the least costly route varies with the day of the week and the time of day. To select the least expensive line at a certain time, split the day into three zones as follows:

Sat. / Sun.	Mon. – Fri.
(1) 7:00 a.m. - 2:00 p.m.	(1) 7:00 a.m. - 1:00 p.m.
(2) 2:00 p.m. - 5:00 p.m.	(2) 1:00 p.m. - 6:00 p.m.
(3) 5:00 p.m. - 7:00 a.m.	(3) 6:00 p.m. - 7:00 a.m.

**Table 2**

To program the time zones listed on the previous page, use the program Section 4.7.1 “ARS - ARS Time Table” In this table, up to four time zones (Time-A, Time-B, Time-C, Time-D) can be programmed. Enter the starting hour for each zone.

**Example: ARS Time Table**

Sat. / Sun.		Mon. – Fri.	
Time Zones	Entry	Time Zones	Entry
Time-A	7:00 a.m.	Time-A	7:00 a.m.
Time-B	2:00 p.m.	Time-B	1:00 p.m.
Time-C	5:00 p.m.	Time-C	6:00 p.m.
Time-D	Disable	Time-D	Disable

← Enter the starting time of each zone. If a zone is not necessary, select “Disable.”

**Table 3**

**Step 4.** Determine the priority of the Trunk Groups in each time zone. The table below shows the carriers and Trunk Groups selected for each priority and time zone:

	Time-A	Time-B	Time-C
Least Costly Carrier / Trunk Group (Priority 1)	Carrier F/Group 2	Carrier F/Group 2	Carrier E/Group 1
Next Less Costly Carrier / Trunk Group (Priority 2)	Carrier E/Group 1	Carrier G/Group 3	Carrier F/Group 2
Most Costly Carrier / Trunk Group (Priority 3)	Carrier G/Group 3	Carrier E/Group 1	Carrier G/Group 3

**Table 4**

Assign the above Routing Plan (Table 4) to Section 4.7.3 “ARS - Routing Plan”. Enter the Trunk Group numbers in order of priority. If the specified Trunk Group requires digit modification, assign the appropriate Digit Modification Table number (01 to 48).

This table is required to have the system automatically add a specific carrier access code to the extension user-dialed number.

**Example: ARS Route Plan Table**

	Time-A		Time-B		Time-C		Time-D	
	TRG	Modify	TRG	Modify	TRG	Modify	TRG	Modify
Priority 1	2	2	2	2	1	1		
Priority 2	1	1	3	3	2	2		
Priority 3	3	3	1	1	3	3		

**Table 5**

TRG: Trunk Group  
Modify: Modification Table Number

**Note:** Up to 16 Priorities (01-16) can be utilized in the system.

**Step 5.** Create a Digit Modification Table. Carriers E, F and G match the Trunk Groups and Modification Tables as follows and have the following Access Code:

Carrier	TRG	Mod. Table	Access Code
E	1	1	1-0-333
F	2	2	1-0-555
G	3	3	1-0-666

**Table 6**

According to Table 6, enter the Access Codes in the respective Modification Tables as follows:

Example: Program Section 4.7.4 “ARS—Digits Modification”.

Modification Table 1

Remove	0
Add	10333

Modification Table 2

Remove	0
Add	10555

Modification Table 3

Remove	0
Add	10666

← Enter the number of digits to be deleted.

← Enter the digits to be added.

If Modification Table 1 is applied, the user-dialed number “9-1-234-567-8910” is modified to “9-10333-1-234-567-8910” to access the least expensive Carrier E.

Similarly, if Modification Table 2 is applied, it is modified to “9-10555-1-234-567-8910” to access Carrier F.

Use the “Removed Digit” program when it is necessary to delete some leading digits from the extension user-dialed number. For example, if the extension user manually dials a Carrier Access Code but the carrier is not the least expensive, modification is required. For example, to delete “10333” from the beginning of the extension user-dialed number and add “10555,” enter “5” in the “Removed Digit” program. Enter “10555” in the “Added Number” program. When “9-10333-1-234-567-8910” is dialed,

9-10333-1-234-567-8910.



The leading 5 digits (except a line access code) are deleted and “10555” is added. “10555-1-234-567-8910” is sent to the CO line.

**[Notes]**

– “X” can be used as a wild card character which substitutes any digit in its position.

(Example 1.) Leading Digits: 1800 -> ARS Plan 1. Leading Digits: 1XXX -> ARS Plan 2. If the user-dialed number is “1800,” the system selects ARS Plan 1.

(Example 2.) Leading Digits: 1800 -> ARS Plan 1. Leading Digits: 1X-> ARS Plan 2. If the user-dialed number is “1800,” the system selects ARS Plan 2.

**Feature References**

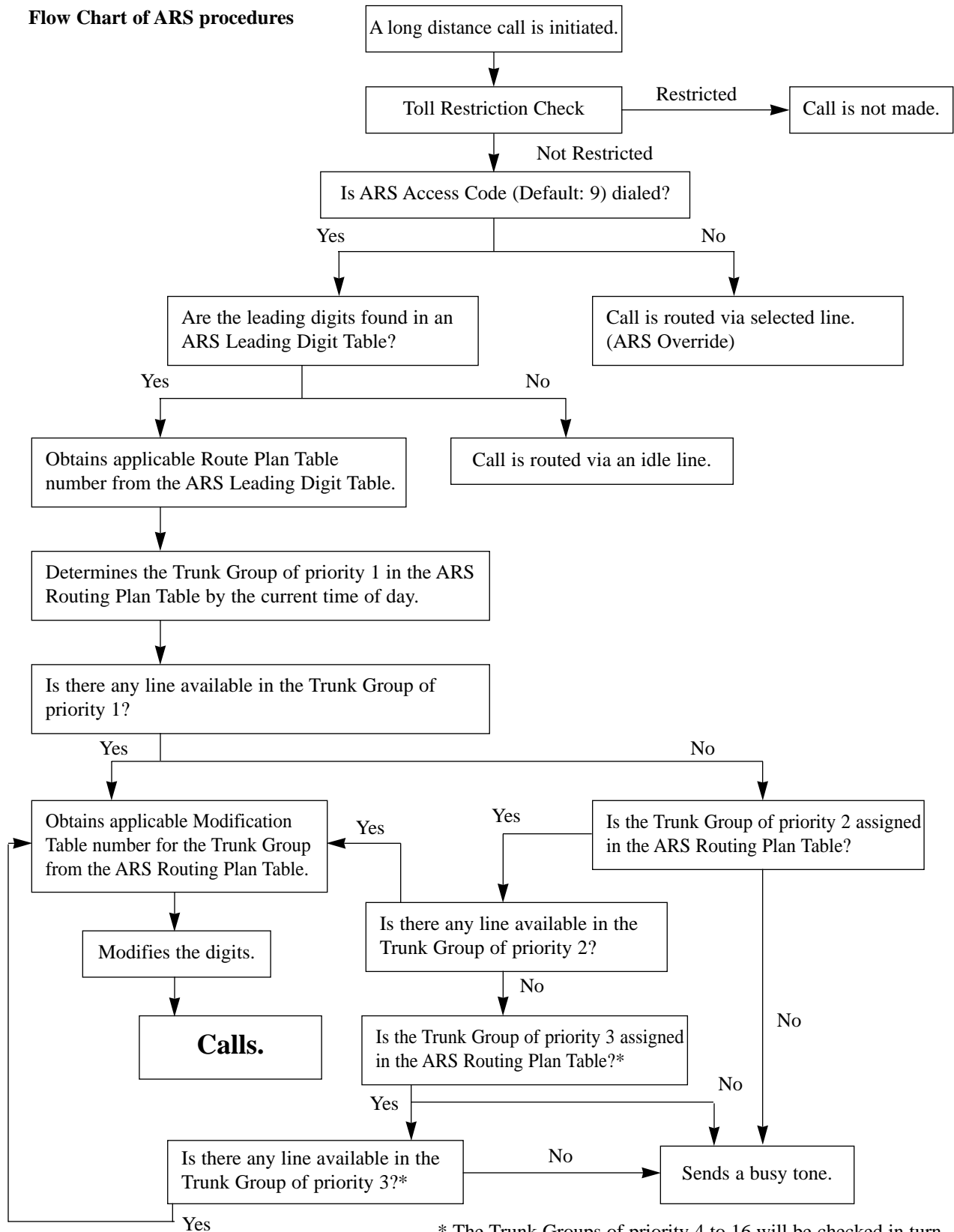
Trunk Access, Idle

**Operation References**

**Station Features and Operation**.....User Manual, Section 4.3  
Outward Dialing – Trunk Access, Idle



**Flow Chart of ARS procedures**



## Automatic Station Release

---

### Description

If the extension user fails to dial any digits within a specified time period after going off-hook, the user will be disconnected from the line after reorder tone is sent. To get a line again, the user must go on-hook first and then go off-hook.

### Conditions

- This function works in the following cases:  
When making a call
  - (1)The first digit has not been dialed within 10 seconds.
  - (2)After a digit is dialed, the next one is not dialed within 10 seconds (Intercom call only).

### Programming References

None

### Feature References

Pickup Dialing (Hot Line)

### Operation References

Not applicable.

## Background Music (BGM)

---

### Description

Allows the PT user in on-hook status to listen to Background music (BGM) from the built-in speaker of his/her PT.

### Conditions

- **Hardware Requirements**

A user-supplied external music source, such as a radio, is required to utilize this feature. Up to two music sources can be connected to the system.

- **Tenant Service**

If “Tenant Service” is utilized, a music source for BGM is determined by System Programming on a tenant basis.

- **Turning on/off**

This feature can be turned on/off by pressing “1” while the extension is on-hook. If it goes off-hook, BGM is suspended temporarily.

- **Changing Music Source**

Before changing the music source (MUS1 or MUS2) by software control, you must first turn off the BGM at your extension; change the source; and then turn on the BGM again.

### Connection References

**Installation** .....Installation Manual, Section 2  
2.8.3 External Music Source

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.1 System - Tenant  
— BGM Source

### Feature References

Music on Hold

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Background Music (BGM)

---

## Background Music (BGM) – External

---

**Description** Background Music (BGM) can be broadcast throughout the office via the external pagers. The BGM through External Pagers can be turned on/off by the Manager and the Operators.

- Conditions**
- **Hardware Requirements**  
It is required to connect a user-supplied external pager. Up to two pagers and up to two external music sources can be installed in the system.
  - To make BGM-External possible, you must enable BGM and select a music source in “4.4.5 External Paging” (System Programming) of the Installation Manual.
  - **External Pager Priority**  
Priority of access to external pager is: (1) TAFAS; (2) Paging; (3) BGM. Higher priorities will override the BGM.

### Connection References

**Installation** .....Installation Manual, Section 2  
2.8.2 External Pager (Paging Equipment)  
2.8.3 External Music Source

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.1 System - Tenant  
— BGM Source  
4.2.2 System - Numbering Plan  
— (53) External BGM On/Off  
4.4.5 Line - External Paging  
— BGM  
— BGM Source

**Feature References** Background Music (BGM)

**Operation References** **Operator/ Manager Service Features** .....User Manual, Section 4.4  
Background Music (BGM) — External

## Bilingual Display

---

**Description** Provides the display PT user with either an English or French display. Either display can be selected by Station or System Programming.

**Conditions** None

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.4.2 Line - Extension Line  
— Language  
**Station Programming** .....User Manual, Section 2  
Bilingual Display Selection

**Feature References** None

**Operation References** Not applicable.



## Busy Station Signaling (BSS)

**Description** Used to prompt a busy extension (engaged in a call) to answer a new incoming call. When BSS is activated by the calling extension, a call waiting tone is generated at the busy extension to inform that another call is waiting.

**Conditions**

- BSS feature functions, if the other busy extension is an ICM type PT in the following state:
  - (1) The extension is off-hooked.
  - (2) ICM button is idle.
  - (3) “Call Waiting” is enabled.
- BSS feature does not function, if the other busy extension is a DN type PT.
- **BSS / OHCA / Whisper OHCA**  
 If an extension user dials “1” while hearing a busy tone, BSS or OHCA or Whisper OHCA may be activated at the called extension. This is determined by the following conditions.

Calling extension	Called extension			
	Call Waiting setting			
	OFF	ON		
COS-OHCA assignment	0	1	2	3
Disable	————	BSS	BSS	BSS
Enable	————	BSS	OHCA*1→BSS	W-OHCA*2 →OHCA→BSS

\*1: OHCA (Off-Hook Call Announcement) is activated when the called extension is KX-T7130, KX-T7235 or KX-T7436.

\*2: Whisper OHCA is activated when both calling and called extensions are using one of the KX-T7400 series PT.

## Programming References

**System Programming** .....Installation Manual, Section 4  
 4.2.2 System - Numbering Plan  
 — (45) Call Waiting Set/Cancel

**Feature References** Call Waiting Off-Hook Call Announcement (OHCA), Whisper Off-Hook Call Announcement (OHCA)

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
 Busy Station Signaling (BSS)

## Button, Direct Station Selection (DSS)

---

**Description** DSS button permits the PT user One-Touch access to other extension users.

- Conditions**
- A DSS button can be assigned to a flexible CO button on a PT by Station, User or System Programming.
  - **Busy Lamp Field**  
Once a button is assigned as a DSS button, it provides Busy Lamp Field (BLF) status.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.4.2 Line - Extension Line  
    — Flexible CO Key Assignment  
4.4.3 Line - DSS Console  
    — Flexible DSS Key Assignment  
**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment  
**Station Programming**.....User Manual, Section 2  
Flexible Button Assignment – Direct Station Selection (DSS) Button

**Feature References** Busy Lamp Field                      DSS Console  
One-Touch Transfer

**Operation References** **Basic Operations**.....User Manual, Section 4.2  
Making Calls  
**Station Features and Operation**.....User Manual, Section 4.3  
Call Transfer – to Station  
**DSS Console Features** .....User Manual, Section 5  
DSS (Direct Station Selection) Buttons



## Button, Flexible

### Description

The use of Flexible Buttons on PT is determined by Station, User or System Programming.  
The following three types of Flexible Buttons are provided on PT and/or DSS Consoles:

- **Flexible CO buttons** (provided on all PTs)
- **Flexible DSS buttons** (provided on DSS Consoles)
- **Flexible PF (Programmable Feature) buttons**

### Assignable features by Flexible Button type

Features to be assigned \ Button	CO (PT)	DSS (DSS)	PF (PT/DSS)
Single-CO	✓	✓*	
Group-CO	✓	✓*	
Loop-CO	✓		
DSS(Direct Station Selection)	✓	✓	
Phantom	✓		
PDN (Primary Directory Number)	✓		
SDN (Secondary Directory Number)	✓		
ONE-TOUCH (One-Touch Dialing)	✓	✓	✓
MESSAGE (Message Waiting)	✓	✓	
FWD/DND (Call Forwarding/Do Not Disturb)	✓	✓	✓
SAVE (Saved Number Redial)	✓	✓	✓
ACCOUNT (Account Code Entry)	✓	✓	✓
CONF (Conference)	✓	✓	✓
VTR (Voice Mail Transfer)	✓	✓	
Log-In / Log-Out	✓		
2WAY-REC (Two-Way Record)†	✓	✓	
2WAY-TRAN (Two-Way Transfer)†	✓	✓	
LCS (Live Call Screening)†	✓	✓	
LCS (Live Call Screening) Cancel†	✓	✓	
DAY/NIGHT (Day/Night Switch)	✓		
Alarm	✓		
Answer	✓	✓	✓
Release	✓	✓	✓
Tone Through	✓	✓	

“✓” indicates that the feature is available.

\* Available for monitoring the call activity only.

## Conditions

- **Station Programming mode**  
A PT in Station Programming mode is treated as a busy extension. CO buttons and DSS buttons on a PT in Station Programming mode do not show the indication of call activity.
- **Flexible CO buttons**  
Flexible CO buttons are provided on all types of PTs.

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.4.2 Line - Extension Line
  - Flexible CO Key Assignment
  - Flexible PF Key Assignment
- 4.4.3 Line - DSS Console
  - Flexible DSS Key Assignment
  - Flexible PF Key Assignment
- User Programming** .....User Manual, Section 3
- [005] Flexible CO Button Assignment
- Station Programming** .....User Manual, Section 2
- Flexible Button Assignment

## Feature References

Buttons on Proprietary Telephones      DSS Console

## Operation References

Not applicable.

## BUTTON, LINE ACCESS — SUMMARY

### Description

Used to get a line for making/answering a call. Line Access Buttons are provided on PTs only. They are categorized as follows:

<b>ICM (INTERCOM)</b>		Used to make or receive intercom calls and to access various system features.
<b>DN</b>	<b>PDN</b>	Used to make or receive both intercom and outside calls (CO, TIE) and to access various system features.
	<b>SDN</b>	
<b>CO</b>	<b>S-CO</b>	Used to make or receive outside calls (CO, TIE).
	<b>G-CO</b>	
	<b>L-CO</b>	

All PTs in the system can be categorized as <ICM type PT> or <DN type PT>.

<ICM type PT> (default)

ICM button + CO buttons

All PTs in the system have one ICM button and one L-CO button by default.

<DN type PT>

DN button(s) + CO buttons

If at least one PDN is assigned, all intercom calls come on a PDN button instead of ICM button.

### Conditions

- DN buttons and CO buttons can be assigned to a PT by Station, User or System Programming.

### Programming References

**System Programming** .....Installation Manual, Section 4  
 4.4.2 Line - Extension Line  
 —Flexible CO Key Assignment

**User Programming** .....User Manual, Section 3  
 [005] Flexible CO Button Assignment

**Station Programming** .....User Manual, Section 2  
 Flexible Button Assignment

### Feature References

Button, Group-CO (G-CO)      Button, INTERCOM (ICM)  
 Button, Loop-CO (L-CO)      Button, Primary Directory Number (PDN)  
 Button, Secondary Directory Number (SDN)      Button, Single-CO (S-CO)

### Operation References

Not applicable.

## Button, Line Access — Group-CO (G-CO)

### Description

To support efficient utilization of CO lines, a group of CO lines (Trunk Group) can be assigned to a flexible CO button as Group-CO (G-CO). Any incoming call from CO lines in the Trunk Group arrives at the G-CO button. To make an outside call, the extension user can get an idle CO line in the trunk group simply by pressing the assigned G-CO button.

Assignable for both ICM type and DN type PTs.

### LED Indicator Patterns – G-CO

Indicator	Line status
Off	Idle
Green On	You are using the line.
Green slow flash	You have a held call.
Green moderate flash	You have one of the following: (1) Exclusive hold (2) CO-to-CO line call (3) Conference, unattended
Green rapid flash	Hold Recall/an outside call is coming in on a single extension.
Red On	Other in use
Red slow flash	_____
Red moderate flash	_____
Red rapid flash	an outside call is coming in on multiple extensions simultaneously.

### Conditions

- **G-CO Button Assignment**

A G-CO button can be assigned to a flexible CO button on a PT or a flexible DSS button on a DSS Console by Station, User or System Programming.

However, a G-CO button assigned to a DSS button of a DSS console is available for monitoring the call activity only, not available for making or receiving a call.

- It is possible to assign the same Trunk Group to more than one different G-CO button on the same PT.
- It is possible to assign the same CO line to an S-CO button and to a G-CO button.
- It is possible to assign the Single-CO, Group-CO and Loop-CO buttons on one PT. Incoming and outgoing calls on the line are shown on the button in the following priority.

Single-CO > Group-CO > Loop-CO

- **Ring Tone Selection (DPT only)**

A ringing tone type for G-CO buttons can be selected either by Station or System Programming.

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.3 System - Class of Service	
— Trunk Group Setting	
4.3.1 Group - Trunk Group	
4.4.2 Line - Extension Line	
— Flexible CO Key Assignment	
4.4.3 Line - DSS Console	
— Flexible DSS Key Assignment	
<b>User Programming</b> .....	User Manual, Section 3
[005] Flexible CO Button Assignment	
<b>Station Programming</b> .....	User Manual, Section 2
Flexible Button Assignment – Group-CO (G-CO) Button	
Ringing Tone Selection	

## Feature References

Answering, Direct Trunk	LED Indication
Ringing Tone Selection	Trunk Access, Direct
Trunk Access, Trunk Group	

## Operation References

<b>Basic Operations</b> .....	User Manual, Section 4.2
Making Calls	Receiving Calls
<b>Station Features and Operation</b> .....	User Manual, Section 4.3
Answering, Direct Trunk	
Outward Dialing – Trunk Access, Trunk Group	



## Button, Line Access — Loop-CO (L-CO)

---

### Description

All CO lines in the system or in a tenant (if “Tenant Service” is utilized) can be assigned to a flexible CO button on a PT as a Loop-CO (L-CO) button. An incoming CO call on any CO line arrives at the L-CO, unless there are S-CO or G-CO buttons associated with the line or unless the L-CO button is already in use. The PT user can get an idle CO line simply by pressing the dedicated L-CO button.

Available for both ICM type and DN type PTs.

### LED Indicator Patterns – L-CO

Indicator	Line status
Off	Idle
Green On	You are using the line.
Green slow flash	You have a held call.
Green moderate flash	You have one of the following: (1) Exclusive hold (2) CO-to-CO line call (3) Conference, unattended
Green rapid flash	Hold Recall/an outside call is coming in on a single extension.
Red On	_____
Red slow flash	_____
Red moderate flash	_____
Red rapid flash	an outside call is coming in on multiple extensions simultaneously.

### Conditions

- **L-CO Button Assignment**

An L-CO button can be assigned to a flexible CO button by Station, User or System Programming. By default, there is one L-CO button on each PT.

- It is possible to assign the Single-CO, Group-CO and Loop-CO buttons on one PT. Incoming and outgoing calls on the line are shown on the button in the following priority.

Single-CO > Group-CO > Loop-CO

- **Local Access/ARS**

Pressing the L-CO button provides the same operation as dialing the feature number for “Local Access/ARS” (default = 9). This results in Idle Trunk Dial Access or Automatic Route Selection (ARS), depending on the System Programming.

- **Ringing Tone Selection (DPT only)**

A ringing tone type for L-CO buttons can be selected either by Station or System Programming.

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.3 System - Class of Service	
— Trunk Group Setting	
4.2.5 System - Local Hunt Sequence	
4.4.2 Line - Extension Line	
— Flexible CO Key Assignment	
<b>User Programming</b> .....	User Manual, Section 3
[005] Flexible CO Button Assignment	
<b>Station Programming</b> .....	User Manual, Section 2
Flexible Button Assignment – Loop-CO (L-CO) Button	
Ringing Tone Selection	

## Feature References

Answering, Direct Trunk	Automatic Route Selection (ARS)
LED Indication	Ringing Tone Selection
Trunk Access, Direct	Trunk Access, Idle

## Operation References

<b>Basic Operations</b> .....	User Manual, Section 4.2
Making Calls	Receiving Calls
<b>Station Features and Operation</b> .....	User Manual, Section 4.3
Outward Dialing – Trunk Access, Idle	



## Button, Line Access — Primary Directory Number (PDN)

---

### Description

Used to make or receive both intercom and outside (CO, TIE) calls, and access various system features.

#### LED Indicator Patterns – PDN

Indicator	Line status
Off	Idle
Green On	You are using the line.
Green slow flash	You have a held call.
Green moderate flash	You have one of the following: (1) Exclusive hold (2) Consultation hold (3) Conference, unattended
Green rapid flash	a CO call is coming in on a single extension. Hold Recall/Automatic Callback Busy
Red On	Other in use/SDN on exclusive hold
Red slow flash	SDN on hold
Red moderate flash	—————
Red rapid flash	a CO call is coming in on multiple extensions simultaneously.

### Conditions

- **PDN Button Assignment**

A PDN button can be assigned to any one of the flexible CO buttons on a PT by Station, User or System Programming.

Up to three PDN buttons can be assigned to any flexible CO button on a PT. However, the first PDN button should always be assigned to the CO 01 button regardless of the number of the PDN buttons assigned.

- **<DN type PT>**

If at least one PDN button is assigned on a PT, it functions as a DN type PT. ICM button on a DN type PT does not function.

- Both incoming extension and CO calls appear on a PDN button either when the extension is on-hook or off-hook (including when engaged in another call) if at least one PDN button is idle.

- **Priority of CO Call Indication**

Both DN buttons and CO buttons can be assigned on one PT at a time. In this case, an incoming CO call appears on a CO button if it has the associated CO line. If not, the incoming CO call appears on a PDN button.

- **Delayed Ringing**  
Immediate, delayed or no ringing can be assigned to the first PDN button. This assignment applies to all PDN buttons on the same PT.
- **Ring Tone Selection (DPT only)**  
A ringing tone type for PDN buttons can be selected either by Station or System Programming.

## Programming References

**System Programming** .....Installation Manual, Section 4  
4.4.2 Line - Extension Line  
— Flexible CO Key Assignment

**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment

**Station Programming**.....User Manual, Section 2  
Flexible Button Assignment – Primary Directory Number (PDN) Button.  
Ringing Tone Selection for CO Buttons

<b>Feature References</b>	Button, Secondary Directory Number (SDN) Ringing, Delayed	LED Indication Ringing Transfer
---------------------------	--	------------------------------------

**Operation References** Not applicable.

## Button, Line Access — Secondary Directory Number (SDN)

---

### Description

The extension user can assign the PDN of other extension (owner extension) on his/her own extension as the SDN button. SDN button reflects the status of the PDN button of owner extension. Incoming calls to the owner extension appear on both PDN button and SDN button.  
Assignable for a DN type PT only.

### LED Indicator Patterns – SDN

Indicator	Line status
Off	Idle
Green On	You are using the line.
Green slow flash	You have a held call.
Green moderate flash	You have one of the following: (1) Exclusive hold (2) Consultation hold (3) Conference, unattended
Green rapid flash	Hold Recall/ Automatic Callback Busy
Red On	Other in use/PDN on exclusive hold
Red slow flash	PDN on hold
Red moderate flash	_____
Red rapid flash	a call is coming in.

### Conditions

- **SDN Button Assignment**  
An SDN button can be assigned to a flexible CO button on a PT by Station, User or System Programming.
- **<DN type PT only>**  
An SDN button should be assigned to a DN type PT. If an SDN button is assigned on an ICM type PT, it does not function.
- **Associated PDN button**  
An SDN button should have its associated PDN button. Otherwise, it does not function.
- **SDN COS (Class of Service)**  
This setting is applied when the extension user makes an outside call using an SDN button on his/her own extension.
  1. Own Extension (default)  
His/her own toll restriction level (determined by COS programming) is applied to the call.
  2. PDN  
Toll restriction level of the PDN owner is applied to the call.

- SDN buttons can be used to answer the following types of call which come in on its associated PDN.
  - DIL 1:1
  - DISA
  - DID
  - UCD
  - Call hunting
  - IRNA
  - Extension
- Up to eight SDN buttons per PDN button (DN type PT only) can be assigned on eight different PTs respectively.
- On a single PT, up to three different SDN buttons can be assigned.
- **Delayed Ringing**  
Immediate, delayed or no ringing can be assigned to SDN buttons. Each SDN button can have unique delayed ringing assignment respectively.
- **Ring Tone Selection (DPT only)**  
A ringing tone type for an SDN button can be selected either by Station or System Programming.
- **Ring Transfer**  
An extension user can transfer a call on an SDN button to its associated PDN button simply by pressing the SDN button.  
See “Ring Transfer” in this manual.
- **PDN Call**  
An SDN button can be used to call the extension which has the PDN button associated with the SDN with a simple operation.  
See “PDN Call” in this manual.

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.3 System - Class of Service (COS)
  - SDN COS
- 4.4.2 Line - Extension Line
  - Flexible CO Key Assignment
- User Programming** .....User Manual, Section 3
- [005] Flexible CO Button Assignment
- Station Programming** .....User Manual, Section 2
- Flexible Button Assignment — Secondary Directory Number (SDN) Button
- Ring Tone Selection for CO Buttons

## Feature References

- |  |                |
|--|----------------|
| Button, Primary Directory Number (PDN) | LED Indication |
| PDN Call                               | Ring, Delayed  |
| Ring Transfer                          |                |

## Operation References

Not applicable.

## Button, Line Access — Single-CO (S-CO)

---

### Description

A Single-CO (S-CO) button is a CO line access button. This allows the PT user to get a specific line for making or receiving outside calls simply by pressing an S-CO button. An incoming call can be directed to an S-CO button.

Assignable for both ICM type and DN type PTs.

### LED Indicator Patterns – S-CO

Indicator	Line status
Off	Idle
Green On	You are using the line.
Green slow flash	You have a held call.
Green moderate flash	You have one of the following: (1) Exclusive hold (2) Consultation hold (3) Conference, unattended
Green rapid flash	Hold Recall/Privacy release possible/an outside call is coming in on a single extension
Red On	Other in use/Other on exclusive hold
Red slow flash	Other on hold
Red moderate flash	—————
Red rapid flash	an outside call is coming in on multiple extensions simultaneously.

### Conditions

#### • S-CO Button Assignment

An S-CO button can be assigned to a flexible CO button on a PT or a flexible DSS button on a DSS Console by Station, User or System Programming.

However, an S-CO button assigned to a DSS button of a DSS console is available for monitoring the call activity only, not available for making or receiving a call.

#### • Busy/Idle Status

An S-CO button indicator provides busy/idle status of the CO line.

- It is possible to assign one CO line to both an S-CO and a G-CO button at a time.

- It is possible to assign the Single-CO, Group-CO and Loop-CO buttons on one PT. Incoming and outgoing calls on the line are shown on the button in the following priority.

Single-CO > Group-CO > Loop-CO

- **ARS Override**  
If Automatic Route Selection (ARS) is set, it is overridden by an outgoing call made by pressing the S-CO button.
- **Ring Tone Selection (DPT only)**  
A ringing tone type for S-CO buttons can be selected either by Station or System Programming.

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.3 System - Class of Service	
— Trunk Group Setting	
4.4.2 Line - Extension Line	
— Flexible CO Key Assignment	
4.4.3 Line - DSS Console	
— Flexible DSS Key Assignment	
<b>User Programming</b> .....	User Manual, Section 2
[005] Flexible CO Button Assignment	
<b>Station Programming</b> .....	User Manual, Section 2
Flexible Button Assignment – Single-CO (S-CO) Button	
Ring Tone Selection for CO Buttons	

## Feature References

Answering, Direct Trunk	LED Indication
Ring Tone Selection	Trunk Access, Direct
Trunk Access, Individual Trunk	

## Operation References

<b>Basic Operations</b> .....	User Manual, Section 4.2
Making Calls	Receiving Calls
<b>Station Features and Operation</b> .....	User Manual, Section 4.3
Outward Dialing – Trunk Access, Individual Trunk	

## Buttons on Proprietary Telephones

### Description

Proprietary Telephones are provided with the feature / line access buttons listed below:

#### Proprietary Telephones KX-T:

Buttons	7020	7030	7050	7055	7130	7220	7230	7235	7250	7420	7425	7431	7433	7436
AUTO ANSWER / MUTE †	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	✓
AUTO DIAL / STORE †	✓	✓	✓	✓ !	✓	✓	✓	✓	✓ !	✓	✓	✓	✓	✓
CO † *	✓ (12)	✓ (12)	✓ (12)	✓ (3)	✓ (12)	✓ (24)	✓ (24)	✓ (12)	✓ (6)	✓ (12)	✓ (24)	✓ (12)	✓ (24)	✓ (24)
CONF †	✓	✓	✓ !	✓ !	✓	✓	✓	✓		✓	✓	✓	✓	✓
FLASH	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Function								✓ (10)						✓ (10)
FWD / DND †	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	✓
HOLD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
INTERCOM †	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Jog Dial										✓	✓	✓	✓	✓
MESSAGE †	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
MODE												✓		
MONITOR			✓ †	✓					✓					
PAUSE	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓
PF (Programmable Feature)	✓ (4)	✓ (4)	✓ (4)	✓ (3)	✓ (12)									
PROGRAM						✓	✓	✓	✓	✓	✓	✓	✓	✓
REDIAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SAVE					✓									
SELECT												✓		
SHIFT †							✓	✓					✓	✓
Soft							✓ (3)	✓ (3)					✓ (3)	✓ (3)
SP-PHONE †	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	✓
TRANSFER	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VOLUME						✓	✓	✓	✓					

- ✓ : The button is provided on the designated telephones.
- † : The button is provided with an LED (Light Emitting Diode).
- \* : The buttons which can be changed to function as a feature button are called flexible buttons.
- ! : The button is provided without an LED.
- (x) : Shows the number of buttons only if multiple buttons are provided.

The functions of the listed buttons are described below:

#### **AUTO ANSWER / MUTE:**

This dual function button is used for hands-free answer back and microphone mute during a conversation.

#### **AUTO DIAL / STORE:**

Used for System Speed Dialing and storing program changes.

#### **CO (Central Office line):**

Used to make or receive an outside call. This can be re-assigned to a different CO or to various feature buttons.

**CONF (Conference):**

Used to establish a 3-party conference call.

**FLASH:**

Used to disconnect the current call and get another line for making a call without hanging up (Flash). Sends a flash signal to the Central Office or host PBX to access their features (External Feature Access).

**Function:**

Used to perform the displayed function / operation.

**FWD / DND (Call Forwarding / Do Not Disturb):**

Used to program Call Forwarding, set Do Not Disturb.

**HOLD:**

Used to place a call on hold.

**INTERCOM:**

Used to make or receive intercom calls.

**Jog Dial:**

Used to adjust the volume of the handset receiver, headset, ringer and speaker. It also adjusts the display contrast. Please refer to “Initial Setting for KX-T7400 Series” in Section 1.1 Configuration of the User Manual.

For KX-T7431, KX-T7433 and KX-T7436 users, it is also used to select data from the Call Directory and the System Feature Access Menu.

**MESSAGE:**

Used to send a message indication to another extension, and confirm and call back the message sender.

**MODE:**

Used to shift the display in order to access various features. During the Station Speed Dialing Number/Name assignment, this button is used to enter the name assignment mode.

**MONITOR:**

Used for hands-free operation.

**PAUSE:**

Used to insert a pause in a System Speed/Station Speed/One-Touch Dialing number. With an APT, this button is used as the PROGRAM button.

**PF (Programmable Feature):**

This flexible button can be programmed to be a One-Touch Dialing, FWD / DND, SAVE, Account, CONF (Conference), Answer or Release button as desired.

**PROGRAM:**

Used to enter / exit the Programming mode. With the KX-T7220 and KX-T7250, this button can be used as the PAUSE button.

**REDIAL:**

Used for Last Number Redial.



**SAVE:**

Used to store a dialed telephone number for Saved Number Redial.

**SELECT:**

Used to select the displayed function or to call the displayed phone number.

**SHIFT:**

Used to access the next level of Soft button function.

**Soft:**

Pressing a Soft button performs the function / operation appearing on the bottom line of the display.

**SP-PHONE (Speakerphone):**

Used for hands-free operation. Pressing the button causes the telephone to switch between handset and hands-free operation.

**TRANSFER:**

Used to transfer a call to another extension or external destination.

**VOLUME:**

Used to adjust the speaker/ handset receiver/ headset/ ringer, speaker, handset and headset volume and the display contrast. During Special Display Features operation, this button is used to change the display.

## Conditions

**• LED Indication**

Certain buttons are equipped with LED (light-emitting diode) indicators to show line or feature status.

**• CO Button Type**

CO buttons can be classified as the following three types:

Single-CO (S-CO) button / Group-CO (G-CO) button / Loop-CO (L-CO) button

## Programming References

**System Programming** .....Installation Manual, Section 4

4.4.2 Line - Extension Line

— Flexible CO Key Assignment

**User Programming** .....User Manual, Section 3

[005] Flexible CO Button Assignment

**Station Programming** .....User Manual, Section 2

Flexible Button Assignment

## Feature References

None

## Operation References

Refer to respective operating instructions (Section 4.3 “Station Features and Operation” in the User Manual).

## **CALL FORWARDING FEATURES – SUMMARY**

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**Description** Provides automatic redirection of incoming calls to the pre-assigned destination (extension or outside party).

Call Forwarding features can be categorized as follows:

**Call Forwarding – All Calls**

**Call Forwarding – Busy**

**Call Forwarding – Busy / No Answer**

**Call Forwarding – Follow Me**

**Call Forwarding – No Answer**

**Call Forwarding – to CO/TIE**

## Call Forwarding – All Calls

### Description

All incoming calls to an extension are automatically redirected to the pre-assigned extension regardless of the status of the called extension.

### Conditions

- **Applicable Call Types**

This feature applies to the following calls:

Outside calls – DIL 1:1; DISA; Intercept Routing; TIE; DID  
Intercom calls – Extension; Transfer

- **Floating Station**

A Floating Station cannot be programmed as the destination of this feature.

- **Forwarded call is not forwarded furthermore**

There can be only one stage of Call Forwarding. If a call is forwarded to an extension in Call Forwarding mode, the call is not forwarded furthermore.

- **Message Waiting**

Although calls are forwarded, Message Waiting is not. The MESSAGE button indicator is lit on the originally called extension.

- **Station Hunting**

Station Hunting applies to calls forwarded to a busy extension in a Station Hunting group.

- An extension user may have only one type of Call Forwarding / Do Not Disturb feature in effect at any time. If one of Call Forwarding / Do Not Disturb feature is assigned, another does not function but the assignment itself is preserved for future use. The extension user can choose either one by pressing the FWD/DND button while on-hook. In this case, pressing the button changes the settings as follows:

The lighting patterns of the FWD/DND button are as follows:

Off : Both functions are canceled.

Red on : DND mode This setting can be changed

Red flash : FWD mode by System Programming.

- **Station Programming mode**

This feature functions even if the extension is in Station Programming mode.

- **Remote FWD (Call Forwarding) Cancel - Once**

The Manager and the Operators can reach an extension that has set Call Forwarding.

- **FWD/DND button**

Regarding the PT (7050/7055/7250) without the FWD/DND button, it can be assigned to a flexible (CO, DSS, PF) button by Station, User or System Programming.

- **Distinctive Dial Tone**

Distinctive Dial Tone is sent to the user on the extension with this feature when the extension user goes off-hook.

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.2 System - Numbering Plan	
— (42) Call FWD - Do Not Disturb Set/Cancel	
4.2.7 System - System Option	
— (15) Special dial tone after setting feature	
— (33) FWD / DND lamp pattern	
4.4.2 Line - Extension Line	
— Flexible CO/PF Key Assignment	
4.4.3 Line - DSS Console	
— Flexible DSS/PF Key Assignment	
<b>User Programming</b> .....	User Manual, Section 3
[005] Flexible CO Button Assignment	
<b>Station Programming</b> .....	User Manual, Section 2
Flexible Button Assignment – FWD/DND Button	

## Feature References

None

## Operation References

<b>Station Features and Operation</b> .....	User Manual, Section 4.3
Call Forwarding — All Calls	

## Call Forwarding – Busy

### Description

Incoming calls to an extension are re-directed to the pre-assigned extension if the called extension is busy.

### Conditions

- **Applicable Call Types**

This feature applies to the following calls.

Outside calls – DIL 1:1; DISA; Intercept Routing; TIE; DID

Intercom calls – Extension; Transfer

- **Floating Station**

A Floating Station cannot be programmed as the destination of this feature.

- **Forwarded call is not forwarded furthermore**

There can be only one stage of Call Forwarding. If a call is forwarded to an extension in Call Forwarding mode, the call is not forwarded furthermore.

- **Message Waiting**

Although calls are forwarded, Message Waiting is not. The MESSAGE button indicator is lit on the originally called extension.

- **Station Hunting**

Station Hunting applies to calls forwarded to a busy extension in a Station Hunting group.

- An extension user may have only one type of Call Forwarding / Do Not Disturb feature in effect at any time. If one of Call Forwarding / Do Not Disturb feature is assigned, another does not function but the assignment itself is preserved for future use. The extension user can choose either one by pressing the FWD/DND button while on-hook. In this case, pressing the button changes the setting as follows:

□ → DND → FWD → Off □

The lighting patterns of the FWD/DND button are as follows:

Off : Both functions are canceled.

Red on : DND mode    □    This setting can be changed

Red flash : FWD mode    □    by System Programming.

- **Remote FWD (Call Forwarding) Cancel - Once**

The Manager and the Operators can reach an extension that has set Call Forwarding.

- **FWD/DND button**

Regarding the PT (7050/7055/7250) without the FWD/DND button, it can be assigned to a flexible (CO, DSS, PF) button by Station, User or System Programming.

- **Distinctive Dial Tone**

Distinctive Dial Tone is sent to the user on the extension with this feature when the extension user goes off-hook.

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.2 System - Numbering Plan	
— (42) Call FWD - Do Not Disturb Set/Cancel	
4.2.7 System - System Option	
— (15) Special dial tone after setting feature	
— (33) FWD / DND lamp pattern	
4.4.2 Line - Extension Line	
— Flexible CO/PF Key Assignment	
4.4.3 Line - DSS Console	
— Flexible DSS/PF Key Assignment	
<b>User Programming</b> .....	User Manual, Section 3
[005] Flexible CO Button Assignment	
<b>Station Programming</b> .....	User Manual, Section 2
Flexible Button Assignment – FWD/DND Button	

## Feature References

None

## Operation References

<b>Station Features and Operation</b> .....	User Manual, Section 4.3
Call Forwarding — Busy	

## Call Forwarding – Busy / No Answer

### Description

Incoming calls to an extension are re-directed to the pre-assigned extension if the called extension is busy or the call was not answered within a pre-determined time.

### Conditions

- **Applicable Call Types**

This feature applies to the following calls.

Outside calls – DIL 1:1; DISA; Intercept Routing; TIE; DID

Intercom calls – Extension; Transfer

- **Floating Station**

A Floating Station cannot be programmed as the destination of this feature.

- This feature operates the same way as Call Forwarding – Busy and Call Forwarding – No Answer.

- **Forwarded call is not forwarded furthermore**

There can be only one stage of Call Forwarding. If a call is forwarded to an extension in Call Forwarding mode, the call is not forwarded furthermore.

- **Message Waiting**

Although calls are forwarded, Message Waiting is not. The MESSAGE button indicator is lit on the originally called extension.

- **Station Hunting**

Station Hunting applies to calls forwarded to a busy extension in a Station Hunting group.

- An extension user may have only one type of Call Forwarding / Do Not Disturb feature in effect at any time. If one of Call Forwarding / Do Not Disturb feature is assigned, another does not function but the assignment itself is preserved for future use. The extension user can choose either one by pressing the FWD/DND button while on-hook. In this case, pressing the button changes the settings as follows:

The lighting patterns of the FWD/DND button are as follows:

Off : Both functions are canceled.

Red on : DND mode This setting can be changed

Red flash : FWD mode by System Programming.

- **Remote FWD (Call Forwarding) Cancel - Once**

The Manager and the Operators can reach an extension that has set Call Forwarding.

- **FWD/DND button**

Regarding the PT (7050/7055/7250) without the FWD/DND button, it can be assigned to a flexible (CO, DSS, PF) button by Station, User or System Programming.

- **Distinctive Dial Tone**

Distinctive Dial Tone is sent to the user on the extension with this feature when the extension user goes off-hook.

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.2 System - Numbering Plan	
— (42) Call FWD - Do Not Disturb Set/Cancel	
4.2.4 System - System Timer	
— Call Forwarding-No Answer Time (1-12 rings)	
4.2.7 System - Numbering Plan	
— (15) Special dial tone after setting feature	
— (33) FWD / DND lamp pattern	
4.4.2 Line - Extension Line	
— Flexible CO/PF Key Assignment	
4.4.3 Line - DSS Console	
— Flexible DSS/PF Key Assignment	
<b>User Programming</b> .....	User Manual, Section 3
[005] Flexible CO Button Assignment	
<b>Station Programming</b> .....	User Manual, Section 2
Flexible Button Assignment – FWD/DND Button	

## Feature References

Call Forwarding – Busy	Call Forwarding – No Answer
------------------------	-----------------------------

## Operation References

<b>Station Features and Operation</b> .....	User Manual, Section 4.3
Call Forwarding — Busy / No Answer	



## Call Forwarding – Follow Me

---

**Description** If you forget to set Call Forwarding – All Calls before you leave your desk, you can set the same function from the destination extension.

- Conditions**
- **Class of Service**  
Class of Service programming determines the extension that can perform this feature.
  - Other conditions are the same as that of Call Forwarding – All Calls.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (42) Call FWD - Do Not Disturb Set/Cancel  
4.2.3 System - Class of Service  
— Call FWD Follow Me  
4.4.2 Line - Extension Line  
— Flexible CO/PF Key Assignment  
4.4.3 Line - DSS Console  
— Flexible DSS/PF Key Assignment  
**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment  
**Station Programming** .....User Manual, Section 2  
Flexible Button Assignment – FWD / DND Button

**Feature References** Call Forwarding – All Calls

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Call Forwarding — Follow Me

## Call Forwarding – No Answer

### Description

Incoming calls to an extension are re-directed to the pre-assigned extension if they are not answered within a specified period of time.

### Conditions

- **Applicable Call Types**

This feature applies to the following calls:

Outside calls – DIL 1:1; DISA; Intercept Routing; TIE; DID

Intercom calls – Extension; Transfer

- **Floating Station**

A Floating Station cannot be programmed as the destination of this feature.

- **Call Forwarding-No Answer Time**

This feature operates if an incoming call is not answered (including a busy status) in a specified period of time (Call Forwarding-No Answer Time).

- **Forwarded call is not forwarded furthermore**

There can be only one stage of Call Forwarding. If a call is forwarded to an extension in Call Forwarding mode, the call is not forwarded furthermore.

- **Message Waiting**

Although calls are forwarded, Message Waiting is not. The MESSAGE button indicator is lit on the originally called extension.

- **Station Hunting**

Station Hunting applies to calls forwarded to a busy extension in a Station Hunting group.

- An extension user may have only one type of Call Forwarding / Do Not Disturb feature in effect at any time. If one of Call Forwarding / Do Not Disturb feature is assigned, another does not function but the assignment itself is preserved for future use. The extension user can choose either one by pressing the FWD/DND button while on-hook. In this case, pressing the button changes the settings as follows:

[→DND → FWD → Off]

The lighting patterns of the FWD/DND button are as follows:

Off : Both functions are canceled.

Red on : DND mode  This setting can be changed

Red flash : FWD mode  by System Programming.

- **Remote FWD (Call Forwarding) Cancel - Once**

The Manager and the Operators can reach an extension that has set Call Forwarding.

- **FWD/DND button**

Regarding the PT (7050/7055/7250) without the FWD/DND button, it can be assigned to a flexible (CO, DSS, PF) button by Station, User or System Programming.

- **Distinctive Dial Tone**

Distinctive Dial Tone is sent to the user on the extension with this feature when the extension user goes off-hook.

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.2 System - Numbering Plan	
— (42) Call FWD - Do Not Disturb Set/Cancel	
4.2.4 System - System Timer	
— Call Forwarding-No Answer Time (1-12 rings)	
4.2.7 System - System Option	
— (15) Special dial tone after setting feature	
— (33) FWD / DND lamp pattern	
4.4.2 Line - Extension Line	
— Flexible CO/PF Key Assignment	
4.4.3 Line - DSS Console	
— Flexible DSS/PF Key Assignment	
<b>User Programming</b> .....	User Manual, Section 3
[005] Flexible CO Button Assignment	
<b>Station Programming</b> .....	User Manual, Section 2
Flexible Button Assignment – FWD/DND Button	

## Feature References

None

## Operation References

<b>Station Features and Operation</b> .....	User Manual, Section 4.3
Call Forwarding — No Answer	

## Call Forwarding – to CO / TIE

### Description

All incoming calls to an extension are automatically re-directed to the pre-assigned outside party via a CO line or a TIE line regardless of the status of the called extension.

### Conditions

- **Applicable Call Types**

This feature applies to the following calls:

Outside calls – DIL 1:1; DISA; TIE; DID

Intercom calls – Extension; Transfer

- **Class of Service**

Class of Service programming determines the extensions that can perform this feature.

- **Treatment of the forwarded call**

Toll Restriction, Automatic Route Selection (ARS) and Account Code Entry requirements of the extension in Call Forwarding mode still apply to the call forwarded by this feature.

- An extension user may have only one type of Call Forwarding / Do Not Disturb feature in effect at any time. If one of Call Forwarding / Do Not Disturb feature is assigned, another does not function but the assignment itself is preserved for future use. The extension user can choose either one by pressing the FWD/DND button while on-hook. In this case, pressing the button changes the settings as follows:

→DND → FWD → Off →

The lighting patterns of the FWD/DND button are as follows:

Off : Both functions are canceled.

Red on : DND mode

Red flash : FWD mode



This setting can be changed by System Programming.

- **Extension-to-CO Line Call**

If a call between an extension and an outside party is established by this feature, the call duration can be restricted by the system timer “Extension-to-CO Line Call Duration Time (1-64 min.)”.

- **CO-to-CO Line Call**

If a call between two outside parties is established by this feature, the call duration is determined by “CO-to-CO Line Call Duration Time (1-64 min.)”. An alarm tone is sent to both outside parties 15 seconds before the time-out. The call is disconnected at the time-out.

- **Remote FWD (Call Forwarding) Cancel - Once**

The Manager and the Operators can reach an extension that has set Call Forwarding.

- **FWD/DND button**

Regarding the PT (7050/7055/7250) without the FWD/DND button, it can be assigned to a flexible (CO, DSS, PF) button by Station, User or System Programming.

- **Distinctive Dial Tone**

Distinctive Dial Tone is sent to the user on the extension with this feature when the extension user goes off-hook.

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.2 System - Numbering Plan	
— (42) Call FWD - Do Not Disturb Set/Cancel	
4.2.3 System - Class of Service	
— Time Limit of Outside Calls	
— Call FWD to CO	
— Trunk Group Setting	
4.2.4 System - System Timer	
— Extension-to-CO Line Call Duration Time (1-64 min.)	
— CO-to-CO Line Call Duration Time (1-64 min.)	
4.2.6 System - Trunk to Trunk Restriction	
4.2.7 System - System Option	
— (15) Special dial tone after setting feature	
— (33) FWD / DND lamp pattern	
4.4.2 Line - Extension Line	
— Flexible CO/PF Key Assignment	
4.4.3 Line - DSS Console	
— Flexible DSS/PF Key Assignment	
<b>User Programming</b> .....	User Manual, Section 3
[005] Flexible CO Button Assignment	
<b>Station Programming</b> .....	User Manual, Section 2
Flexible Button Assignment – FWD/DND Button	

## Feature References

Limited Call Duration

## Operation References

<b>Station Features and Operation</b> .....	User Manual, Section 4.3
Call Forwarding — to CO or TIE Line	



## Call Hold – Trunk

---

**Description** Allows the extension user to put an outside call (CO, TIE) on hold. The held call can be retrieved from any extension.

- Conditions**
- **Music on Hold**  
“Music on Hold” is sent to the party on hold, if available.
  - **What if a call on hold is not retrieved?**  
If a call on hold is not retrieved in a specified period of time (Hold Recall Time), Hold Recall tone (if the extension is on-hook) or Hold Warning tone (if engaged in another call) rings the extension where the call is held.
  - **Automatic Disconnection**  
If an outside call placed on hold is not retrieved within 30 minutes, it is automatically disconnected.
  - **How many outside calls can be held?**  
The number of outside calls that can be held on an extension at a time differs depending on the telephone type as follows:
    - < ICM type PT >  
as many outside calls as the number of CO buttons on it
    - < DN type PT >  
as many outside calls as the number of CO buttons and DN buttons on it
    - < SLT >  
One

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.1 System - Tenant
  - Music on Hold Source
- 4.2.2 System - Numbering Plan
  - (31) Hold
- 4.2.4 System - System Timer
  - Hold Recall Time (0-240 s)

**Feature References** Call Hold Retrieve — Trunk                      Call Park  
Hold Recall    Music on Hold

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Call Hold







## Call Hold Retrieve – Station

---

**Description** Allows the extension user to retrieve a call held at other extensions by specifying the extension number.

- Conditions**
- **Confirmation Tone**  
A Confirmation tone is sent to the extension user who retrieved the held call. Eliminating the tone is programmable.
  - The extension user cannot retrieve the following calls.
    - Unattended Conference Calls
    - Calls held at the System Call Parking Area
    - Calls placed on Exclusive Hold
  - **Tenant Service**  
If “Tenant Service” is utilized, this feature is only available within the same tenant.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (32) Hold Retrieve-Station
- 4.2.7 System - System Option
  - (9) Confirmation Tone for Call Pickup, Paging-Answer, TAFAS-Answer, Hold Retrieve and Call Park Retrieve

**Feature References** Call Hold – Station

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Call Hold Retrieve

## Call Hold Retrieve – Trunk

---

**Description** Allows the extension user to retrieve a specific outside call (CO, TIE) held at other extensions including a call on Consultation Hold by specifying the trunk number.

**Conditions**

- **Confirmation Tone**  
A confirmation tone is sent to the extension user who retrieved the held call. Eliminating the tone is programmable.
- The extension user cannot retrieve the following calls.
  - Unattended Conference Call
  - Calls held at the System Call Parking Area
  - Calls placed on Exclusive Hold
- **Tenant Service**  
If “Tenant Service” is utilized, this feature is only available for outside calls placed on hold at an extension within the same tenant.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (33) Hold Retrieve-Trunk  
4.2.7 System - System Option  
— (9) Confirmation Tone for Call Pickup, Paging-Answer,  
TAFAS-Answer, Hold Retrieve and Call Park Retrieve

**Feature References** Call Hold – Trunk

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Call Hold Retrieve

## Call Log, Incoming

### Description

This is one of the Caller ID service features available for the display DPT (KX-T7230, KX-T7235, KX-T7433, KX-T7436) users only. When an incoming CO call with Caller ID information directed to an extension is not answered, Caller ID information is automatically recorded in the Call Log of the called extension. This information can be used for confirming the caller and callback purposes.

#### Automatic Recording

If an incoming CO call directed to a single extension (DIL 1:1, DID) was not answered, the caller's information is automatically recorded in the Call Log of the called extension just after the call ringing has stopped.

#### Manual Recording

The extension user can record the caller's information manually during or after the call until the next caller information is displayed.

Up to 30 Call Records can be logged in the Call Log either automatically or manually per display DPT extension.

#### [Display example]

Caller's information is displayed as follows:

10101:AB COMPANY	— Trunk Port Physical Number, Name
0102030405	— Caller ID Number
BOB HANKS	— Caller ID Name
Oct30 09:00PM	— Date, Time
SEQ01 02 CALL	— Sequence Number (01-30)/ Number of Times Called (30 times max.)
MENU CLR NEXT	

#### Callback

The extension user can call back the outside caller by choosing the appropriate Call Records in the Call Log.

### Conditions

- **Calls to multiple DPTs (DIL 1:N, Ring Group, Phantom extensions)**  
If a call rang at more than one extension simultaneously but was not answered, the caller's information is recorded in the Call Log of the DPT with the lowest physical number.
- **Transferred Call**  
If a Caller ID call is transferred to an extension but not answered by the destination extension, the Call Record is logged in the Call Log of both transfer originator extension and transfer destination extension.
- **Call Log Incoming, Overwrite Mode**  
If the Call Log is full (30 call records are already logged) when a new caller ID call comes in, the extension user can choose one of the following two options.
  - (1) a new call record overwrites the oldest one in the Call Log
  - (2) a new call record is not logged

- **Call Log Incoming, Log Lock**

The extension user can lock the call log display so that incoming call information is not shown on the display. The Manager or an Operator can cancel the “Call Log Incoming, Log Lock” in case the extension user forgets the lock code.

- **Callback Process**

The system automatically modifies the incoming caller’s number in a pre-programmed way for local or long distance calls.

**<System Programming example>**

Section 4.5.10 Features - Caller ID Modification

- (1) Local Area Code : 201
- (2) Digits to delete for local calls :3
- (3) Number to be added for local calls : blank
- (4) Digits to delete for long distance calls : 0
- (5) Number to be added for long distance calls : 1

	<b>Caller’s number provided by CO</b>	<b>Recorded caller’s number</b>
Local call:	2011234567	1234567 (modified by steps (2) and (3))
Long distance call:	7149876543	17149876543 (modified by steps (4) and (5))

## Connection References

- Installation** .....Installation Manual, Section 2
- 2.5.2 ELCOT Card (KX-TD50180)
- 2.7.3 Caller ID Card (KX-TD193)

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.1.1.5 Configuration - Slot Assignment - Card Properties (ELCOT)
  - Caller ID Detection
- 4.2.2 System - Numbering Plan
  - (55) Call Log Incoming, Overwrite Mode
  - (56) Call Log Incoming, Log Lock
- 4.2.7 System - System Option
  - (12) Automatic adjustment of the clock using Caller ID Info
- 4.4.1 Line - Trunk Line
  - Name
- 4.4.2 Line - Extension Line
  - Initial Display Selection
  - Call Log Incoming Overwrite Mode
  - Lock Password
- 4.5.10 Features - Caller ID Modification
  - Local Call Area Code
  - Digits to delete
  - Number to be added

- Long Distance Call
  - Digits to delete
  - Number to be added
- 4.5.11 Features - Caller ID Registration
- 4.10.2 Maintenance - SMDR
  - Priority of Caller ID information

## Feature References

Caller ID Service

## Operation Reference

**Operator/Manager Service Features**, .....User Manual, Section 4.4  
Control of Call Log Incoming, Log Lock  
Remote Station Lock Control  
**Special Display Features** .....User Manual, Section 4.5  
Call Log, Incoming  
Call Log Incoming, Log Lock

## Call Park

---

### Description

Allows the extension user to place a call on hold into a system parking area so that any extension user can retrieve the call. This releases the user from the parked call to perform other operations.

### Conditions

- Up to 100 parking areas, numbered from 00 to 99, are available in the system by default. Up to 100 calls can be parked at the same time in the system.
- **Tenant Service**  
If “Tenant Service” is employed, each tenant can use up to 100 parking areas independently.
- **Call Park Recall**  
If a parked call is not retrieved in a specific period of time, Call Park Recall rings back the extension who parked the call.
- **Automatic Disconnection**  
If a parked call is not retrieved in 30 minutes, it is automatically disconnected.
- **Confirmation Tone**  
A confirmation tone is sent to the extension user who retrieved the parked call. Eliminating the tone is programmable.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (35) Call Park/Call Park Retrieve
- 4.2.4 System - System Timer
  - Call Parking Recall Time (0-1800 s)
- 4.2.7 System - System Option
  - (9) Confirmation Tone for Call Pickup, Paging-Answer, TAFAS-Answer, Hold Retrieve and Call Park Retrieve

### Feature References

None

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Call Park

## CALL PICKUP FEATURES - SUMMARY

---

### Description

Allows an extension user to answer a call ringing at another extension.

This feature can be categorized as the following three types:

- **Call Pickup, CO line**
- **Call Pickup, Directed**
- **Call Pickup, Group**

### Conditions

The following conditions apply to all Call Pickup features.

- A confirmation tone is sent to the extension user who picked up the call. Eliminating the tone is programmable.
- This feature is not available to answer the following calls:
  - a call ringing at an extension in “Call Pickup Deny” mode
  - a call which shows the call arrival indication but is not ringing yet (Delayed Ringing).



## Call Pickup, CO Line

---

### Description

Allows the extension user to answer an outside call ringing at another extension in the system simply by dialing the appropriate feature number. There is no need to specify the extension number and the CO line number.

### Conditions

- **Tenant Service**  
If “Tenant Service” is utilized, this feature is only available for an outside call ringing on an extension within the same tenant.
- Call Pickup starts with the lowest physical number CO.
- **Call Waiting**  
This feature does not apply to a call waiting call.
- **Confirmation tone**  
Confirmation tone is sent to the extension user who picked up the call. Eliminating the tone is programmable.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (28) CO Call Pickup
- 4.2.7 System - System Option
  - (9) Confirmation Tone for Call Pickup, Paging-Answer, TAFAS-Answer, Hold Retrieve and Call Park Retrieve

### Feature References

Call Pickup Deny

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Call Pickup, CO Line

## Call Pickup, Directed

---

**Description** Allows the extension user to answer a call (intercom, outside, doorphone) ringing at any other extension in the system by specifying the extension number.

- Conditions**
- **Tenant Service**  
If “Tenant Service” is utilized, this feature is only available for the calls ringing on an extension within the same tenant.
  - **Doorphone call**  
Doorphone calls can be picked up from extensions that are not programmed to answer doorphone calls.
  - **Call Waiting Call**  
This feature applies to a call waiting call.
  - **Confirmation tone**  
Confirmation tone is sent to the extension user who picked up the call. Eliminating the tone is programmable.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (30) Directed Call Pickup
- 4.2.7 System - System Option
  - (9) Confirmation Tone for Call Pickup, Paging-Answer, TAFAS-Answer, Hold Retrieve and Call Park Retrieve

**Feature References** Call Pickup Deny

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Call Pickup, Directed

## Call Pickup, Group

---

**Description** Allows the extension user to answer a call (intercom, outside, doorphone) ringing at another extension within the same Extension Group.

**Conditions**

- **Group Call Pickup Priority:**  
Outside call > Transferred call > Extension call > Doorphone call

If more than one call is ringing on an extension, Call Pickup to that extension works for the first arrived call.

- **Call Waiting Call**  
This feature does not apply to a call waiting call.
- **Confirmation tone**  
Confirmation tone is sent to the extension user who picked up the call. Eliminating the tone is programmable.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (29) Group Call Pickup
- 4.2.7 System - System Option
  - (9) Confirmation Tone for Call Pickup, Paging-Answer, TAFAS-Answer, Hold Retrieve and Call Park Retrieve
- 4.3.2 Group - Extension Group

**Feature References** Call Pickup Deny Extension Group

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Call Pickup, Group



## Call Splitting

---

<b>Description</b>	When there are two active calls on an extension, an extension user can talk either one of them alternately.
<b>Conditions</b>	<ul style="list-style-type: none"><li>• This feature does not work for the following calls:<ul style="list-style-type: none"><li>— Doorphone call</li><li>— Paging</li></ul></li></ul>
<b>Programming References</b>	No programming required.
<b>Feature References</b>	None
<b>Operation References</b>	<b>Station Features and Operation</b> .....User Manual, Section 4.3 Call Splitting

## CALL TRANSFER FEATURES – SUMMARY

### **Description**

Call Transfer allows the extension user to transfer a call (Intercom, CO, TIE) to another party (extension or outside party).

Call Transfer can be performed in one of the following two ways:

#### **Screened Call Transfer**

An extension user can transfer a call after announcing it to the destination party.

#### **Unscreened Call Transfer**

An extension user can transfer a call without announcing it.

Call Transfer feature can be categorized as follows:

- **Call Transfer – to CO**
- **Call Transfer, Screened – to Station**
- **Call Transfer, Screened – to TIE**
- **Call Transfer, Unscreened – to Station**
- **Call Transfer, Unscreened – to TIE**

## Call Transfer – to CO

---

**Description** Allows an extension user to transfer a call (intercom, CO, TIE) to an outside party via CO line.

**Conditions**

- **Class of Service**

Class of Service programming determines the extensions that can perform this feature.

- **CO-to-CO call**

If a CO call is transferred to an outside party, “CO-to-CO call” is established and the call duration is restricted by a system timer “CO-to-CO Line Call Duration Time (1-64 min.)”.

Hold Recall tone

Hold Recall tone is generated to the extension who transferred the call 50 seconds before the time-out.

Hold Alarm tone

Hold Alarm tone is generated to both outside parties 15 seconds before the time-out. The call is disconnected at the time-out unless the extension user (who transferred the call) joins the CO-to-CO call to establish a conference call.

**Programming References**

- System Programming** .....Installation Manual, Section 4
- 4.2.3 System - Class of Service
  - Transfer to CO
  - Trunk Group Setting
- 4.2.4 System - System Timer
  - CO-to-CO Line Call Duration Time (1-64 min.)

**Feature References**

Hold Recall                      Released Link Operation

**Operation Reference**

**Station Features and Operation**.....User Manual, Section 4.3  
Call Transfer — to CO

## Call Transfer, Screened – to Station

<b>Description</b>	Allows any extension user to transfer a call (intercom, CO, TIE) to another extension after announcing it.
<b>Conditions</b>	None
<b>Programming References</b>	None
<b>Feature References</b>	Released Link Operation
<b>Operation Reference</b>	<b>Station Features and Operation</b> .....User Manual, Section 4.3 Call Transfer, Screened — to Station



## Call Transfer, Screened - to TIE

---

### Description

Allows the PT user to transfer a call (intercom, CO, TIE) to an outside party via TIE line after announcing it to the destination party.

### Conditions

- **Class of Service**  
Class of Service programming determines the extensions that can perform this feature.
- **CO-TIE call**  
If a CO call is transferred to the destination party via TIE line, a CO-to-TIE call is established and the call duration is restricted by the System Timer “CO-to-CO Line Call Duration Time (1-64 min.)”

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.3 System - Class of Service
  - Transfer to CO
  - Trunk Group Setting
- 4.2.4 System - System Timer
  - CO-to-CO Line Call Duration Time (1-64 min.)

### Feature References

TIE LINES                      Released Link Operation

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Call Transfer, Screened - to TIE Line

## Call Transfer, Unscreened – to Station

### Description

Allows the extension user to transfer a call (intercom, CO, TIE) to an extension user without announcing it. After dialing the destination extension number, the extension user can replace the handset.

### Conditions

- **Music on Hold or Ringback Tone**  
If “Music on Hold” is enabled, music is sent to the caller while being transferred. It is system programmable whether to send ringback tone or “Music on Hold” to the caller.
- **Transfer Recall Destination**  
If the call (either extension or outside) transferred to the destination party is not answered within a specified period of time (Transfer Recall Time), it may ring an Operator Group extension instead of the extension who originally transferred it. This is determined by System Programming.
- **Automatic Disconnection**  
If there is no answer for 30 minutes after “Transfer Recall” starts, the line will be disconnected.
- **Remote Administration**  
Any extension user can transfer a call to the Remote resource (Modem) for Remote Administration.
- **Camp-on Transfer**  
When the transfer destination party is busy, the call is put in waiting status. If the destination party remains busy or does not answer the call within a specified period of time (Transfer Recall Time), the call will ring back the extension who transferred the call.
- **Ringing Pattern**  
A transferred call will ring following the regular ringing pattern depending on the type of call being transferred.
- During a call transfer to the Remote Resource (Modem) or a UCD group, a confirmation is not emitted after dialing the FDN for the Remote Resource or a UCD Group.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.4 System - System Timer
  - Transfer Recall Time (0-48 rings)
- 4.2.7 System - System Option
  - (1) Sound source during transfer
  - (6) Transfer recall destination

### Feature References

Released Link Operation

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Call Transfer — to Station

## Call Transfer, Unscreened - to TIE

---

**Description** Allows any extension user to transfer a call (intercom, CO, TIE) to an outside party via TIE line without announcing it.

- Conditions**
- **Class of Service**  
Class of Service programming determines the extensions that can perform this feature.
  - **CO-TIE call**  
If a CO call is transferred to the destination party via TIE line, a CO-to-TIE call is established and the call duration is restricted by the System Timer "CO-to-CO Line Call Duration Time (1-64 min.)."

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.3 System - Class of Service
  - Transfer to CO
  - Trunk Group Setting
- 4.2.4 System - System Timer
  - CO-to-CO Line Call Duration Time (1-64 min.)

**Feature References** TIE LINES Released Link Operation

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Call Transfer, Unscreened - to TIE Line

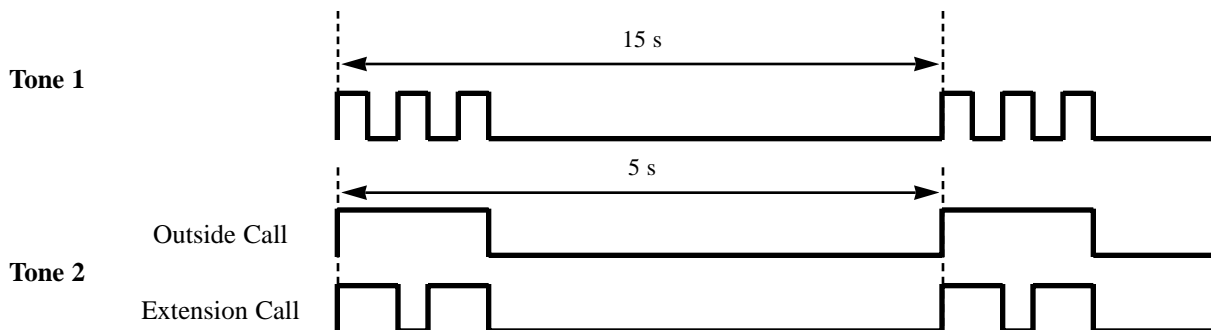
## Call Waiting

### Description

Used to inform a busy extension that another call is waiting. The busy extension can answer the second call by disconnecting the current call or placing it on hold. This feature can be activated or deactivated by dialing the appropriate feature number.

### Conditions

- The Call Waiting tone is generated at the busy extension which is engaged in a call (extension, outside, conference), when an outside call or a doorphone call comes in on the busy extension or when another extension caller executes Busy Station Signaling (BSS) to the busy extension.
- **Call Waiting Tone Selection**  
For PT users, two types of call waiting tones (see the Chart below) are provided to prevent them from missing the tone.  
A Call Waiting Tone type can be selected either by Station or System Programming.



- **BSS / OHCA / Whisper OHCA**

If an extension user dials “1” while hearing a busy tone, BSS or OHCA or Whisper OHCA may be activated at the called extension.

This is determined by the following conditions.

Calling extension	Called extension			
	Call Waiting setting			
COS-OHCA assignment	OFF	ON		
	0	1	2	3
Disable	————	BSS	BSS	BSS
Enable	————	BSS	OHCA <sup>*1</sup> →BSS	W-OHCA <sup>*2</sup> →OHCA→BSS

<sup>\*1</sup>: OHCA (Off-Hook Call Announcement) is activated when the called extension is KX-T7130, KX-T7235 or KX-T7436.

<sup>\*2</sup>: Whisper OHCA is activated when both calling and called extensions are using one of the KX-T7400 series PT.

- **Data Line Security**  
Setting Data Line Security temporarily cancels Call Waiting which has been turned on by an extension user.
- BSS, OHCA and Whisper OHCA do not function at a DN type PT.
- “Call Waiting” does not function, when only one PDN button is assigned on a DN type PT.

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.2 System - Numbering Plan	
— (45) Call Waiting Set/Cancel	
4.2.3 System - Class of Service	
— Off-Hook Call Announcement (OHCA)	
4.4.2 Line - Extension Line	
— Call Waiting Tone Type	
<b>Station Programming</b> .....	User Manual, Section 2
Call Waiting Tone Type Assignment	

## Feature References

Busy Station Signaling (BSS)	Data Line Security
Off-Hook Call Announcement (OHCA) Ringing, Delayed	Off-Hook Call Announcement (OHCA), Whisper

## Operation References

<b>Station Features and Operation</b> .....	User Manual, Section 4.3
Call Waiting	

## Call Waiting from Central Office

---

### Description

During a conversation, a call waiting tone offered by the local Central Office informs the extension user of another incoming call that is waiting. He or she can answer the new call by placing the current call on hold.

### Conditions

- This is an optional telephone company service. For more information, consult the local telephone company.

### Programming References

No programming required.

### Feature References

None

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Call Waiting from Central Office

## Caller ID Service

---

### Description

Provides the display PT user with a caller's information, such as name and telephone number, sent from the Central Office over the CO line assigned to receive Caller ID service calls.

### Conditions

- A special arrangement is required with the telephone company to utilize the Caller ID Service.
- **Hardware Requirements**  
To utilize this feature, the ELCOT card (KX-TD50180) and Caller ID card (KX-TD193) are required.
- **Caller ID Number and Name Registration**  
Up to 1000 entries of number and name for Caller ID Service can be programmed either by User or System Programming.
- **Tenant Service**  
If "Tenant Service" is employed, up to 2000 entries of number and name for Caller ID Service can be shared among each tenant under the condition of up to 1000 entries per tenant.
- If neither the telephone number nor the name is stored in the Caller ID Table, the number sent from Caller ID service is displayed.
- If the network provides a telephone number only, the system searches for the matching name for the number from the Caller ID Table and displays both of them.
- **Call Log, Incoming**  
A Caller ID information is recorded in the Call Log of a display DPT (KX-T7230, KX-T7235, KX-T7433, KX-T7436) either automatically or manually.
- A display PT with one-line readout (KX-T7431 and display APTs) will show either the name or the number at a time. To alternate the display, press the \* key.
- **Initial Display Selection**  
If Caller ID is available, the initial display (Caller ID or CO Line Name) is determined either by Station or System Programming. Caller ID Detection is set by System Programming (Section 4.1.1.5 Configuration- Slot Assignment - Card Properties (ELCOT) "Caller ID Detection" in the Installation Manual). CO Line Name can be changed by System Programming (Section 4.4.1 Line - Trunk Line, "Name" in the Installation Manual).
- **Display Selection During a Call**  
During a call, the extension user can alternate the display (Caller ID or CO Line Name) by pressing the SHIFT or "\*" button.

### Connection References

**Installation** .....Installation Manual, Section 2  
 2.5.2 ELCOT card (KX-TD50180)  
 2.7.3 Caller ID card (KX-TD193)

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.1.1.5 Configuration - Slot Assignment - Card Properties (ELCOT)	
— Caller ID Detection	
4.2.7 System - System Option	
— (12) Automatic adjustment of the clock using Caller ID info	
— (37) LCD Display Mode while CO talking	
4.4.1 Line - Trunk Line	
— Name	
4.4.2 Line - Extension Line	
— Initial Display Selection	
— Call Log Incoming	
Overwrite Mode	
Lock Password	
4.5.10 Features - Caller ID Modification	
— Local Call	
Area Code	
Digits to delete	
Number to be added	
— Long Distance Call	
Digits to delete	
Number to be added	
4.5.11 Features - Caller ID Registration	
4.10.2 Maintenance - SMDR	
— Priority of Caller ID information	
<b>User Programming</b> .....	User Manual, Section 3
[006] Caller ID Dial Set	
[007] Caller ID Name Set	
<b>Station Programming</b> .....	User Manual, Section 2
Initial Display Selection	

**Feature References**      Call Log, Incoming

**Operation References**    **Special Display Features** .....User Manual, Section 4.5  
Call Information Display  
Call Log, Incoming



## Calling Party Control (CPC) Signal Detection

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### Description

The Calling Party Control (CPC) Signal is an on-hook indication (disconnect signal) sent from the Central Office when the telephone is hung up at the other end. To maintain efficient utilization of CO lines, the system monitors their state and when CPC Signal is detected from a line, the system disconnects the line and alerts the extension with a reorder tone.

### Conditions

- This feature is enabled or disabled on incoming and outgoing CO calls separately by System Programming.
- **CPC Signal Detection on outgoing outside calls**  
Generally CPC Signal Detection works on incoming CO calls, and does not work on outgoing CO calls (except once they are placed on Call Hold, Exclusive Call Hold or Consultation Hold). In this case, if the extension user remains off-hook after the completion of an outgoing CO call, the system does not release all the switches used to establish the connection. The connected CO line will continue to be in use. To prevent this, it is programmable to make CPC Signal Detection work on outgoing outside calls.  
**Note:** Some Central Offices (CO) may send CPC-like signals during the dialing sequence and an attempt to make a call may be terminated. If your CO sends such signals, it is recommended to make CPC Signal Detection work on outgoing outside calls.
- **Digits Restriction in CO Talk mode**  
If your Central Office does not send CPC-like signals, it is effective to limit the number of dialing digits permitted during an outside call by the program “Digits Restriction in CO Talk mode” of Class of Service programming to prevent unauthorized calls.
- If a CPC Signal is detected during a Conference call, the line is disconnected and the remaining two parties resume the call.
- If a CPC Signal is detected during a DISA call, the line is disconnected.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.3 System - Class of Service  
— Digits Restriction in CO Talk mode  
4.4.1 Line - Trunk Line  
— CPC Signal  
OUT Detection, Detection Time  
IN Detection, Detection Time

**Feature References** None

**Operation References** Not applicable.

## Class of Service (COS)

**Description** Used to define a set of services available to the extension user. Up to 96 different types of Class of Service can be established by System Programming. Each extension is assigned a Class of Service number by System Programming.

The programmable items are shown below:

<b>Account Code Mode</b>	: Optional/Verify-Toll/Verify-All
<b>Automatic Hold</b>	: Enable/Disable
<b>Call Forwarding Follow Me</b>	: Enable/Disable
<b>Call Forwarding to CO</b>	: Enable/Disable
<b>Call from TRS (Toll Restriction) Level 7 Extension</b>	: Enable/Disable
<b>Digits Restriction in CO Talk Mode</b>	: Unrestricted/1-15 digits
<b>DND (Do Not Disturb) Override</b>	: Enable/Disable
<b>Executive Busy Override</b>	: Enable/Disable
<b>Executive Busy Override Deny</b>	: Enable/Disable
<b>Off-Hook Call Announcement (OHCA)</b>	: Enable/Disable
<b>Released Link Operation</b>	: Enable/Disable
<b>SDN COS</b>	: Owner Extension/PDN
<b>Switching Day/Night Mode</b>	: Enable/Disable
<b>Time Limit of Outside Calls</b>	: Yes/No
<b>Transfer to CO</b>	: Enable/Disable
<b>TRS (Toll Restriction) Level – Day/Night</b>	: 1-8
<b>Trunk Group Setting, Day/Night</b>	: Trunk Group 01-48

### Conditions

- **Walking COS**

The extension user can make a toll call at other lower level COS extensions (toll/outward restricted) by employing his/her own higher level COS temporarily.

### Programming References

**System Programming** .....Installation Manual, Section 4  
 4.2.3 System - Class of Service  
 4.4.2 Line - Extension Line  
 — COS No.

**Feature References** Walking COS

**Operation References** Not applicable.

## Conference

---

### Description

The system supports 3-party conference calls which include outside and/or inside parties. During a 2-party conversation, the extension user can add a third party to their conversation, thereby establishing a conference.

### Conditions

- **Conference call arrangements**  
A conference call can be one of the following three arrangements: 1-inside and 2-outside; 2-inside and 1-outside; and 3-inside.
- **Conference trunk**  
Up to eight conference calls are available simultaneously at a time by default. If the optional TSW Conference Expansion card is installed, up to 64 conference calls are available simultaneously.
- **Executive Busy Override, Privacy Release**  
A 3-party call is also established by Executive Busy Override or Privacy Release.
- **Confirmation tone**  
When a 2-party call is changed to a 3-party conference call or vice versa, a confirmation tone is sent to all three parties. Eliminating the tone is programmable.
- **CONFERENCE button**  
If CONFERENCE button is not provided on a PT, it can be assigned to a flexible (CO, DSS, PF) button by Station, User or System Programming.
- **Call Splitting**  
During a 3-party conference call, the conference originator can talk to either one of other two parties alternately by pressing the TRANSFER button (for PT user) or flashing the switchhook (for SLT user). In this case, the PT user is connected with the latter party first and the SLT user is connected with the previous party first.

### Programming References

**System Programming** .....Installation Manual, Section 4  
 4.2.7 System - System Option  
     — (8) Confirmation Tone for Override, Barge-in and Conference  
 4.4.2 Line - Extension Line  
     — Flexible CO/PF Key Assignment  
 4.4.3 Line - DSS Console  
     — Flexible DSS/PF Key Assignment  
**User Programming** .....User Manual, Section 3  
 [005] Flexible CO Button Assignment  
**Station Programming** .....User Manual, Section 2  
 Flexible Button Assignment – Conference (CONF) Button

### Feature References

Call Splitting	Conference, Unattended
Executive Busy Override	Privacy Release

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
 Conference

## Conference, Unattended

### Description

A PT user who originated a conference call with two outside parties can leave the conference for a while to allow the other two parties to continue conversation. This is called an Unattended Conference. The conference originator may return to the conference, if desired.

### Conditions

- **Class of Service**

An Unattended Conference cannot be established unless the extension is allowed to transfer a call to an outside party by COS programming.

- **Call duration limit**

The duration of an unattended conference is restricted by a system timer.

Hold Recall tone

Hold Recall tone is sent to the extension user who left the conference 50 seconds before the time-out.

Alarm tone

An alarm tone is sent to both outside parties three times at 5-second interval 15 seconds before the time-out. The call is disconnected at the time-out unless the extension who originated the Unattended Conference returns to the call.

- **CONFERENCE button**

If CONFERENCE button is not provided on a PT, it can be assigned to a flexible (CO, DSS, PF) button by Station, User or System Programming.

### Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.3 System - Class of Service	
— Transfer to CO	
— Trunk Group Setting	
4.2.4 System - System Timer	
— CO-to-CO Line Call Duration Time (1-64 min.)	
4.4.2 Line - Extension Line	
— Flexible CO/PF key Assignment	
4.4.3 Line - DSS Console	
— Flexible DSS/PF Key Assignment	
<b>User Programming</b> .....	User Manual, Section 3
[005] Flexible CO Button Assignment	
<b>Station Programming</b> .....	User Manual, Section 2
Flexible Button Assignment – Conference (CONF) Button	

### Feature References

Conference	Hold Recall
Limited Call Duration	

### Operation References

<b>Station Features and Operation</b> .....	User Manual, Section 4.3
Conference, Unattended	

## Confirmation Tones

### Description

Confirmation tone indicates an action was accepted by the system, and the extension user can proceed to the next operation. At the end of various operations, the extension user can confirm the success of the operation by hearing a confirmation tone.

#### Confirmation tone 1:

- (a) Indicates that the new setting differs from the previous setting.
- (b) Set or cancel the Electronic Station Lockout.



#### Confirmation tone 2:

- (a) Indicates that the new setting is identical to the previous one.
- (b) In addition, sent when various features are successfully performed or accessed. (e.g. Call Hold; Automatic Callback Busy)
- (c) Sent when accessing external paging equipment. (e.g. Paging – All; Paging – External) Confirmation tone from external pagers can be enabled or disabled by System Programming.

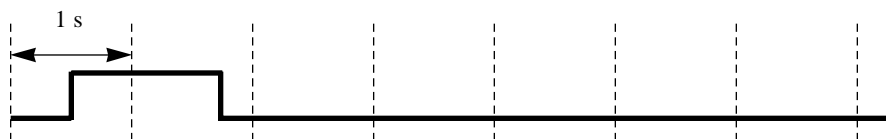


#### Confirmation tone 3:

Sent when a conversation is established just after dialing. For example, when accessing the following features by the feature numbers:

- Call Park Retrieve
- Call Pickup
- Hold Retrieve
- Paging Answer
- TAFAS Answer

This tone can be eliminated by System Programming so that the user can start talking instantly.



### Confirmation tone 4:

Sent when a 2-party call is changing to a 3-party call and vice versa. (These are caused by Executive Busy Override, Barge-in, Conference, or Privacy Release.) It is possible to eliminate this tone by System Programming.



### Conditions

- Confirmation Tone 1 and 2 are provided to reconfirm the assigned feature.

### Programming References

- System Programming .....Installation Manual, Section 4
- 4.2.1 System - Tenant
  - External Paging Tone
- 4.2.7 System - System Option
  - (8) Confirmation Tone for Override, Barge-in and Conference
  - (9) Confirmation Tone for Call pickup, Paging Answer, TAFAS Answer, Hold Retrieve and Call Park Retrieve

**Feature References**      None

**Operation References**    Not applicable.

## Consultation Hold

---

### Description

Allows an extension user to place a call on hold temporarily on purpose to transfer it, to make a Conference call, or to perform Call Splitting.

**A PT user** can place a call on Consultation Hold by pressing TRANSFER or CONF button.

**An SLT user** can place a call on Consultation Hold by pressing the switchhook lightly only to transfer it.

### Conditions

- The following calls cannot be placed on Consultation Hold.
  - Doorphone calls
  - Paging
- <ICM type PT>  
A new incoming call will not come in on the extension which has a call on Consultation Hold. The extension is regarded as busy.
- **Music on Hold**  
When a call (extension/outside) is placed on Consultation Hold, Music on Hold is sent to the caller, if available.
- **Hold Recall**  
If a call on hold is not retrieved in a specific period of time, Hold Recall starts.
- **Automatic Disconnection**  
If a call (extension/outside) placed on consultation hold is not retrieved in 30 minutes, it is disconnected automatically.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.4 System - System Timer
  - Hold Recall Time (0-240 s)
- 4.2.7 System - System Option
  - (2) SLT On-Hook with Consultation Hold Call

### Feature References

- |                                      |  |
|--------------------------------------|--|
| Call Splitting                       | Call Transfer – to CO                  |
| Call Transfer, Screened – to Station | Call Transfer, Unscreened – to Station |
| Conference                           | Conference, Unattended                 |
| Music on Hold                        |  |

### Operation References

Not applicable.

---

## Data Line Security

---

### Description

Once Data Line Security is set on the extension, communication between the extension and the other end is protected from any signal such as Call Waiting, Hold Recall and Executive Busy Override. Data equipment or a facsimile may be connected to an extension port so that the extension user can perform data communications. During communication, Data Line Security maintains secure data transmission against tones or interruptions from other extensions.

### Conditions

- **Automatic Privacy**  
Assigning Data Line Security always offers conversation privacy unless Privacy Release is executed.
- If one extension in a conversation has set Data Line Security, it applies to the both extensions.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (44) Data Line Security Set/Cancel  
4.4.2 Line - Extension Line  
— Data Line Mode

### Feature References

None

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Data Line Security

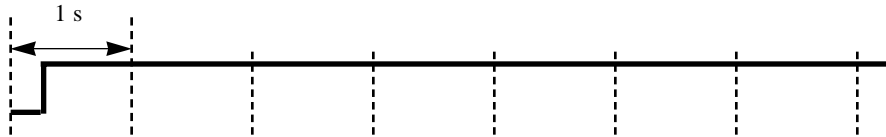


## Dial Tones, Distinctive

### Description

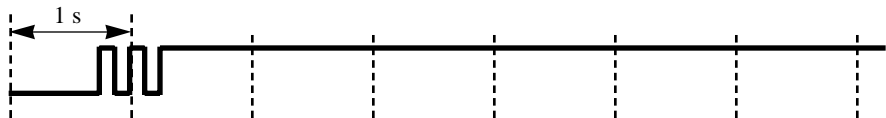
The following four types of dial tone patterns are provided to give information about features activated on the extension.

**Dial tone 1:** Normal dial tone. None of the features listed below are activated.



**Dial tone 2:** Emitted when any one of the features below are set.

- Absent Message Capability
- Background Music (BGM)
- Call Forwarding
- Call Pickup Deny
- Call Waiting
- Data Line Security
- Do Not Disturb (DND)
- Electronic Station Lockout
- Executive Busy Override Deny
- Paging Deny
- Pickup Dialing
- Timed Reminder



**Dial tone 3:** Emitted when performing Account Code Entry. Also sounds when answering Timed Reminder call.



**Dial tone 4:** Emitted when messages are waiting for extension.



### Conditions

None

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.7 System - System Option  
— (15) Special dial tone after setting feature

### Feature References

None

### Operation References

Not applicable.



## Direct In Lines (DIL)

---

### Description

Enables an incoming CO call to go directly to one or more answering points without assistance of the operator.

**DIL 1:1** puts an incoming CO call to a single destination.

Assignable destinations are:

**(1) Extension**

**(2) Floating Extension**

- modem (Remote Administration)
- external pager (TAFAS)
- OGM Group (DISA message)
- Extension Group
- DIL 1:N Group
- Phantom Extension

This CO line can be used by multiple extension users to make calls but can be used by only one extension to receive calls.

DIL 1:1 can have different destinations for day and night modes (Night Service).

### Conditions

- DIL 1:1 to the modem allows the caller to perform remote administration. When receiving incoming calls (TAFAS feature), DIL 1:1 pages an external pager. DIL 1:1 to DISA message allows an external caller to access the system directly (DISA feature).

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.4.1 Line - Trunk Line

- Incoming Type
- Destination, Day/Night

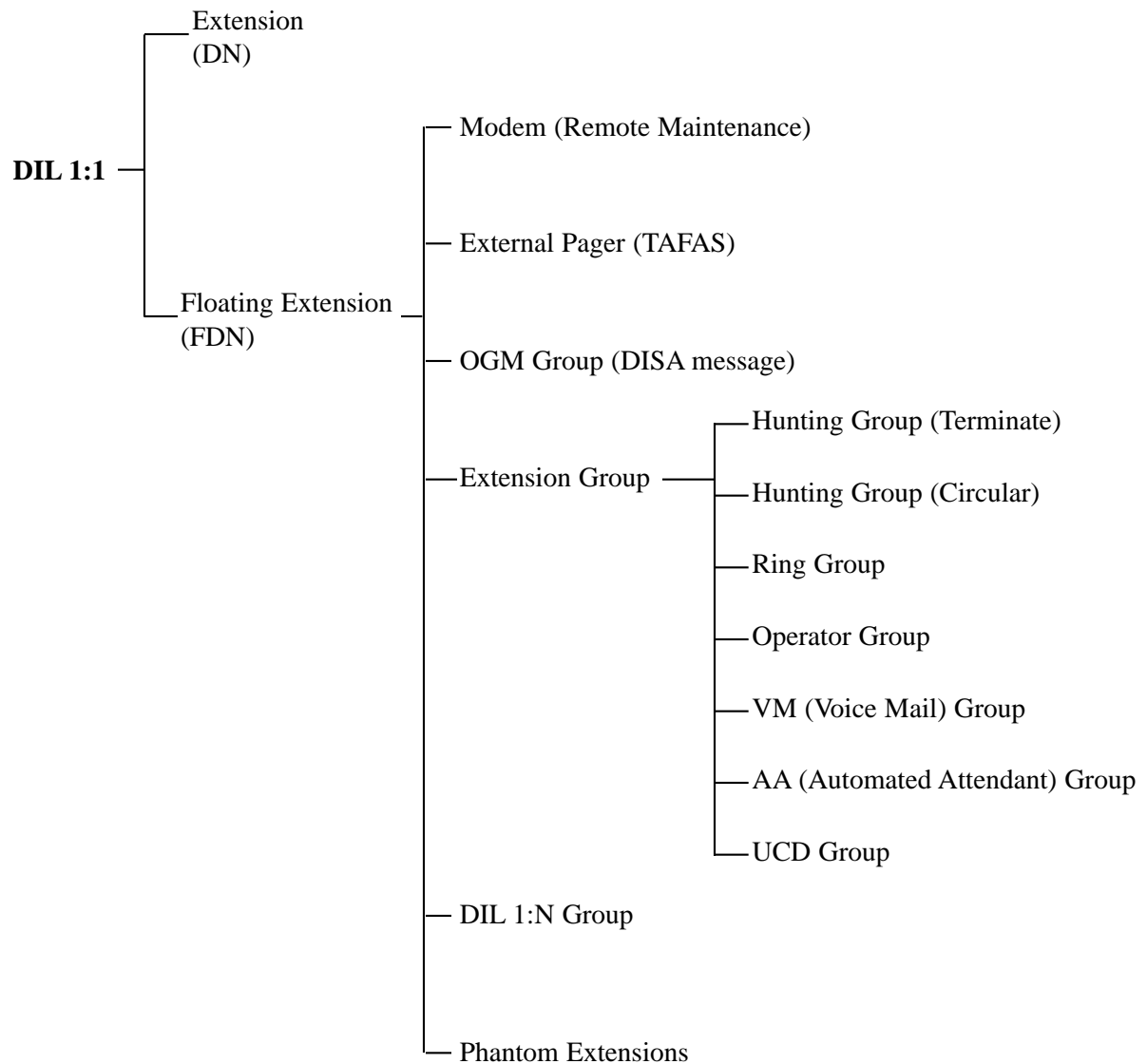
### Feature References

None

### Operation References

Not applicable.

## Outline sketch of Direct In Lines (DIL)



## DIL 1:N Group

---

**Description** Used to group extensions and/or Extension Groups so that an incoming CO call comes in on multiple extensions simultaneously.  
Up to 96 DIL 1:N Groups can be set up in the system.  
Each group can include up to 72 extensions and/or Extension Groups.

**Conditions**

- A single extension can be assigned to up to eight different DIL 1:N Groups at a time.
- **Delayed Ringing**  
When an outside call directed to a DIL 1:N Group comes in, all extensions in the group ring immediately by default.  
This setting can be changed to delayed ringing or no ring on each DIL 1:N Group member (extension or Extension Group) basis.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.3.4 Group - DIL 1:N Group  
    — DN  
    — Ringing Type  
4.4.1 Line - Trunk Line  
    — Incoming Type  
    — Destination, Day/Night

**Feature References** Ringing, Delayed

**Operation References** Not applicable.

## Direct Inward Dialing (DID)

### Description

Allows incoming CO calls to reach a specific extension, a virtual extension or a group of extensions in the system directly in accordance with the subscriber number sent from the Central Office.

### Possible destination of DID calls

- Extension user
- Extension Group
- TAFAS
- Remote
- Phantom extension

### Call Flow

Receives the subscriber number from the Central Office via a DID line.



Modifies the subscriber number according to “DID Digit Modification Parameters.”



Determines the destination DN according to “DID Dial Registration Table.”

### DID Digits Modification Procedures

The System modifies the subscriber number according to the following three parameters.

#### **1. DID Receive Digit**

The number of digits effective in the received subscriber number.

#### **2. DID/TIE Delete Digits**

The number of digits to be deleted from the beginning of the digits processed in Step 1.

#### **3. DID/TIE Insert Dial**

The dials to be inserted at the beginning of the digits processed in Step 2.

**[Example]**

DID Receive Digit : 4 (digits)  
DID/TIE Delete Digits : 1 (digit)  
DID/TIE Insert Dial : 2

The System modifies the received subscriber number “4311” into “2311” as follows:

**Processed in Step 1:** 4311 → 311

The first digit “4” was deleted. This results in “311.”

**Processed in Step 2:** 311 → 2311

The digit “2” was added to the beginning of “311.” This results in “2311.”

**DID Dial Registration Table**

The System converts the modified number into the destination DN according to this table.

**[Example]**

The System searches for the number “2311” in the table. When matching is found, the call rings the corresponding extension or floating station.

Modified number (Max. 7 digits)	Destination DN (Day)	Destination DN (Night)	Destination Name (Max. 10 characters)
2311	200	300	PANASONIC

## Conditions

- **Hardware Requirements**

DID card (KX-T96182) or T-1 Digital Trunk card (KX-T96187) is required to utilize this feature.

These cards are used for receiving incoming calls only.

- **What if the dialing digits received is not enough to decide the call destination?**

If the number of digits received is less than the number which is programmed in DID Receive Digit, reorder tone is sent to the caller, or the call is redirected to the IRNA destination (IRNA feature). This is determined by System Programming (Section 4.2.7 System - System Option, (22) Illegal Number-DID in the Installation Manual).

- **What if the call destination is not registered?**

If the number converted by the DID modification table has no corresponding destinations, reorder tone is sent to the caller, or the call is redirected to the IRNA destination (IRNA feature). This is determined by System Programming (Section 4.2.7 System - System Option, (22) Illegal Number-DID in the Installation Manual).

- **What if the call destination is busy?**

If the destination of a DID call is in busy status, the caller may hear a busy tone or the call is redirected to the IRNA destination. This is determined by System Programming (Section 4.2.7 System - System Option, (18) Destination Busy-DID in the Installation Manual).

- **Incoming only**

DID trunk is used for receiving incoming calls only.

If the extension user attempts to make a call using a DID trunk (incoming only), the system sends a reorder tone.

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.1.2 Configuration - Trunk Port Assignment	
— Group No.	
4.1.5 Configuration - T1 Port Assignment	
— Channel Type	
— Group No.	
4.2.7 System - System Option	
— (18) Destination Busy-DID	
— (22) Illegal Number-DID	
4.3.1 Group - Trunk Group	
— Intercept Destination, Day/Night	
4.4.1 Line - Trunk Line	
— Group No.	
— Incoming Type	
— Start Signal Type	
— DID Receive Digit	
— DID/TIE	
Delete Digits	
Insert Dial	
4.9.1 DID - DID Dial Registration	
— DID No.	
— Destination, Day/Night	

**Feature References**      Floating Station

**Operation References**    Not applicable.



## Direct Inward System Access (DISA)

### Description

Allows an outside caller to access specific system features without operator assistance as if the caller is an extension user in the system.

The outside caller can have direct access to features such as:

- **Placing an intercom call** to an extension, modem (for remote system administration), external pager (for TAFAS) Phantom extension or Extension Group.

#### **DISA built-in Automated Attendant**

A DISA caller can access the desired extension simply by dialing a one-digit code.

- **Calling an outside party.**

To control the DISA caller's calling ability, one of the following three Security modes can be assigned on an OGM Group basis.

<b>Non Security mode</b>	DISA callers can make both outside and intercom calls without restriction.
<b>Trunk Security mode</b>	DISA callers are required to enter a pre-assigned DISA user code to make outside calls.
<b>All Security mode</b>	DISA callers are required to enter a pre-assigned DISA user code to make both outside and intercom calls.

**Outgoing Message (OGM)** can be recorded for the DISA feature. When a caller reaches the system via DISA line, a pre-recorded message will greet the caller. DISA OGMs may be recorded by the Manager extension or an Operator.

### Conditions

- The following items are required to utilize the DISA feature:
  - (1) An optional DISA Card (KX-T96191) must be installed. Up to eight DISA cards can be installed in the system.
  - (2) The FDN of the OGM Group number should be assigned as the DIL 1:1 destination. This assigns the DISA line and the message accessed by external callers.
  - (3) The DISA OGM(s) should be recorded by the Manager or an Operator.
  - (4) The OGM Type should be set to "DISA" under OGM Group setting.
- **DISA Delayed Answer Time**  
A DISA call is answered after a ringback tone is returned to the caller after the "DISA Delayed Answer Time" expires. The caller can dial while hearing the OGM message.

- **DISA User Code**

This system can store up to 32 programmable DISA user codes with a COS (Class of Service) level for each. Each code should be unique.

- **DISA User Code Entry Failure**

If the DISA caller fails to enter the valid DISA user code three times consecutively, the call will be disconnected.

- **DISA built-in Automated Attendant Tables**

This system can store up to 8 DISA built-in auto attendant number tables, each includes 10 one-digit numbers.

- **DISA built-in Automated Attendant Number**

The DISA built-in auto attendant number may be the same as the first digit of other numbers (extension number, Floating Number, etc.). To avoid confusion, the system waits for the second digit for a pre-programmed amount of time (default: 1 second). If the second digit is not dialed before the timer expires, the system assumes that the first digit is a DISA built-in auto attendant number.

- **Call Forwarding-to CO or TIE Line**

If a DISA call is forwarded to an outside party, the caller is not required to enter a DISA user code if the DISA security mode is “Non Security” or “Trunk Security.”

- **CO-to-CO line call duration**

The duration of CO-to-CO line calls can be limited by System Programming. When a specified period of time (default:10 min) expires, both lines are disconnected unless the caller prolongs the duration time, if available. A warning tone is sent to both parties 15 seconds before the time-limit at 5-second intervals.

- Prolonging the CO-to-CO line call is possible. To prolong his/her call, the caller should press any dialpad key except \* . The amount of prolonging is set by “DISA Prolong Time” (0 to 7 minutes). (If this is set to zero, then prolonging is disabled.) Depending on “(13) DISA Prolong Operation”, the call can be prolonged ten timers or without limit.

- To detect the end of a CO-to-CO line call, CPC Signal Detection and Tone Detection can be assigned.

- **Tone Detection**

The following three ways of "Tone Detection" are enabled to disconnect a CO-to-CO line call by default.

1. Cyclic Signal Detection:

Used to disconnect the trunk line if the system detects a cyclic signal during a CO-to-CO line call by DISA or AGC.

2. Continuous Signal Detection:

Used to disconnect the trunk line if the system detects a continuous signal during a CO-to-CO line call by DISA or AGC.

3. Silence Detection:

Used to disconnect the trunk line if the system detects no signal during a CO-to-CO line call by DISA or AGC.

- **DISA Call Re-try by Pressing \***  
The “\*” key can be entered during a DISA call. The action taken by the system depends upon System Programming (System Option 2/4, (14) ‘ Dialing “\*” in DISA CO-to-CO talking ’ ). If “Disconnect and make a new call” is selected, then the system will disconnect the current call and prepare for a new call. Otherwise, the \* will be transmitted down the line to the other party.
- **Intercept Routing**  
The Floating Number of a DISA OGM Group may be selected as the destination of Intercept Routing.
- **What if the destination is busy?**  
If the destination has enabled Call Waiting, then he or she will hear the Call Waiting tone.  
Otherwise, the caller may hear a busy tone, or the call is redirected to the IRNA destination. This is determined by System Programming (Section 4.2.7 System - System Option, “(17) Destination Busy-DISA” in the Installation Manual).
- **What if an illegal number is dialed?**  
The caller may hear a reorder tone, or the call is redirected to the IRNA destination. This is determined by System Programming (Section 4.2.7 System - System Option, “(21) Illegal Number-DISA” in the Installation Manual).
- **How many times does the IRNA destination ring?**  
This is determined by System Programming (Section 4.2.4 System-System Timer, “Call Forwarding- No Answer Time” in the Installation Manual).

## Connection References

- Installation** .....Installation Manual, Section 2
- 2.6.1 DISA Card (KX-T96191)
- 2.6.3 RMT Card (KX-T96196)
- 2.6.4 ERMT Card (KX-TD50197)

## Programming References

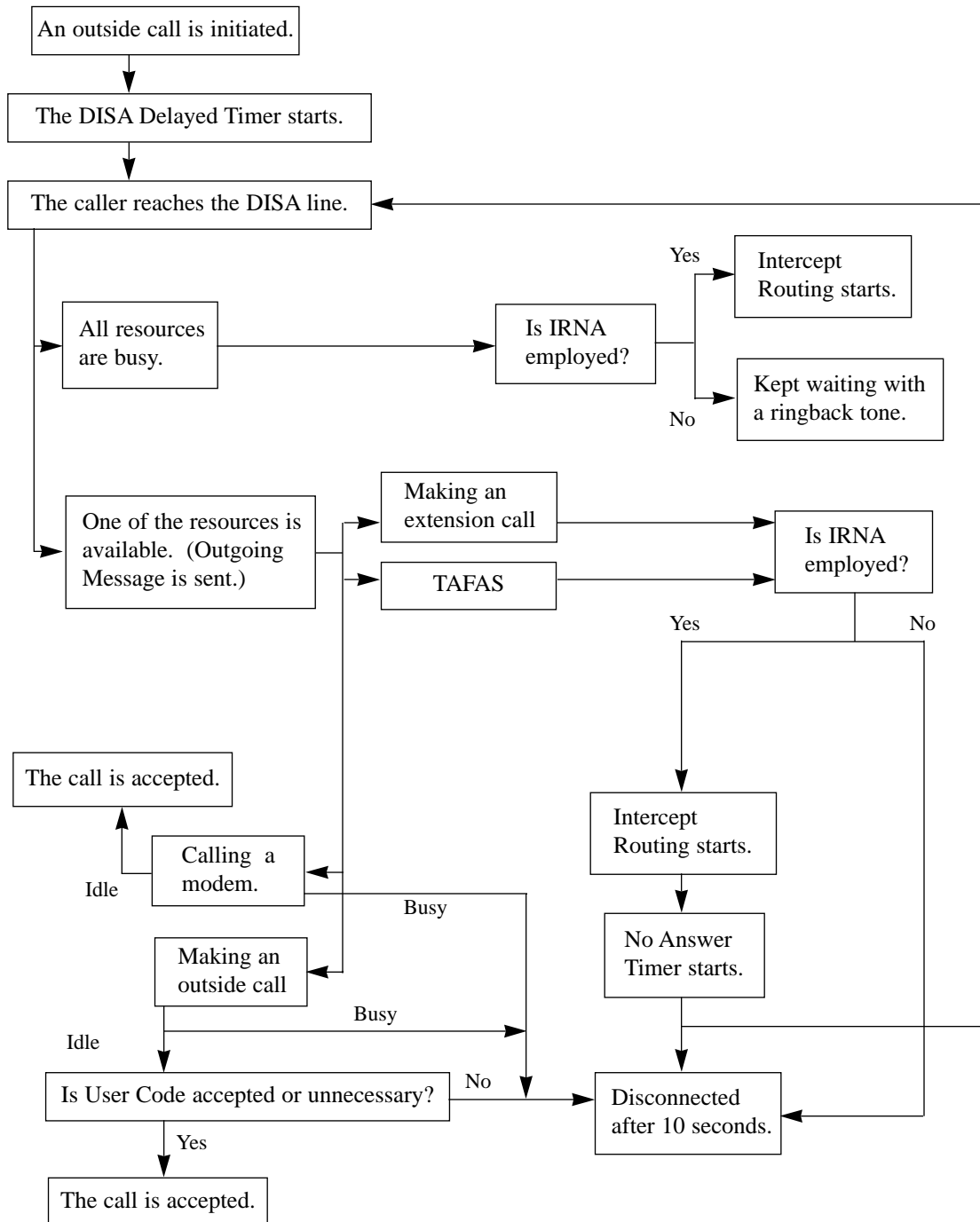
- System Programming** .....Installation Manual, Section 4
- <**To enable DISA feature**>
- 4.1.6 Configuration - DISA Port Assignment
- 4.2.2 System - Numbering Plan
  - (41) OGM Playback /Record
- 4.2.6 System - Trunk to Trunk Restriction
- 4.2.7 System - System Option
  - (13) DISA Prolong Operation
  - (14) Dialing “\*” in DISA CO-to-CO talking
  - (17) Destination busy-DISA
  - (21) Illegal Number -DISA
- 4.3.5 Group - OGM Group
  - FDN

- Tenant No.
- OGM Type
- Security Mode
- Destination of DISA single digit dialing
- 4.4.1 Line - Trunk Line
  - Incoming Type
  - Destination, Day/Night
  - CPC Signal
    - OUT Detection, Detection Time
    - IN Detection, Detection Time
- 4.5.8 Features - DISA/TIE User Code
  - Code
  - COS
- <To set DISA timer values>**
- 4.2.4 System - System Timer
  - CO-to-CO Line Call Duration Time (1-64 min.)
  - DISA Prolong Time (0-7 min.)
  - DISA Delayed Answer Time (0-6 rings)
  - DISA Automated Attendant Time (1-5 s)
- < To enable the Intercept Routing feature>**
- 4.2.4 System - System Timer
  - DISA IRNA Time (5-240 s)
  - Intercept Timer after OGM
- 4.3.1 Group - Trunk Group
  - Intercept Destination, Day/Night

**Feature References** Intercept Routing Outgoing Message (OGM)

**Operation References** Station Features and Operation.....User Manual, Section 4.3  
Direct Inward System Access (DISA)

Flow chart of possible cases and results for DISA calls



## Display, Call Information

---

### Description

The display PT shows the extension user the following call information:

#### Extension number and name

These are shown when calling or called by an extension user and during an established intercom call.

A display example: **123: Tony Viola**

#### Dialed telephone number

This is shown when dialing the telephone number.

A display example: **1234567890**

#### Number or name of the caller

These are shown if the Caller ID feature is available.

Display examples: **10101: 1234567890**

**10101: Panasonic**

#### CO Line number and name

This is shown when receiving a CO call.

A display example: **10101: AB COMPANY**

#### DID number and name

These are shown when receiving a DID call.

Display examples: **DID: Tony Viola**

(When "Name" is registered.)

**10101: CO001**

(When "Name" is not registered.)

#### Call duration of outside call

This is shown during an established CO call. The display remains for 5 seconds after the call is finished.

A display example: **10101 0 : 02'28**

### Conditions

- Extension numbers and names are programmable. If no extension name is stored, only the extension number is displayed.
- Intercom Call Duration is not shown on the display.
- The outgoing CO call duration count starts when a specified time expires.

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.4 System - System Timer
  - Call Duration Count Start Time (0-60 s)
- 4.4.1 Line - Trunk Line
  - Name
- 4.4.2 Line - Extension Line
  - DN
  - Name

## Feature References

Caller ID Service

## Operation References

- Special Display Features** .....User Manual, Section 4.5
- Call Information Display

## Display, Date and Time

---

**Description** Allows the display PT users to display the following “Date and Time Notation” while on-hook.

**Display example :** Day of the week, Month, Day, Time (AM / PM)

THU JAN01 12:00A

- Conditions**
- The display PT users can alternate between “Date and Time” display and “Self-extension number” display by pressing “\*” while on-hook.
  - The current date and time are set by User or System Programming.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.7 System - System Option  
— (36) LCD Time Display Mode  
4.10.5 Maintenance - System Time  
— System Time  
**User Programming** .....User Manual, Section 3  
[000] Date and Time Set

**Feature References** None

**Operation References** **Appendix** .....User Manual, Section 6  
Display Examples





## Display Contrast Adjustment

---

<b>Description</b>	Allows the display PT user to adjust the display contrast.  The adjusting method differs depending on the type of PT. <b>DPT</b> Soft buttons and Volume button are used to adjust the contrast to one of three levels. <b>APT</b> a sliding lever on the telephone (CONTRAST selector) is used to select one of three levels.
<b>Conditions</b>	None
<b>Programming References</b>	<b>Configuration</b> .....User Manual, Section 1 Display Contrast Adjustment
<b>Feature References</b>	None
<b>Operation References</b>	Not applicable.

## Do Not Disturb (DND)

### Description

Allows the extension user to appear busy to an incoming outside or extension calls.

### Conditions

• **DND does not work for the following calls:**

- Hold Recall
- Timed Reminder Alarm Tone
- Calls directed by Intercept Routing

• **Do Not Disturb Override**

An extension in DND mode can be called by other extension users who are allowed to override DND in their Class of Service.

- An extension user may have only one type of Call Forwarding / Do Not Disturb feature in effect at any time. If one of Call Forwarding / Do Not Disturb feature is assigned, another does not function but the assignment itself is preserved for future use. The extension user can choose either one by pressing the FWD/DND button while on-hook. In this case, pressing the button changes the settings as follows:



The lighting patterns of the FWD/DND button are as follows:

Off : Both functions are canceled.

Red on : DND mode   This setting can be changed  
 Red flash : FWD mode   by System Programming.

• **FWD/DND button**

Regarding the PT (7050/7055/7250) without the FWD/DND button, it can be assigned to a flexible (CO, DSS, PF) button by Station, User or System Programming.

- A PT user in DND mode can answer a call by pressing a flashing button which shows the arrival of the call.

• **Distinctive Dial Tone**

Distinctive Dial Tone is sent to the user on the extension with this feature when the extension user goes off-hook.

### Programming References

- System Programming .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (42) Call FWD - Do Not Disturb Set/Cancel
- 4.2.3 System - Class of Service
  - DND Override
- 4.2.7 System - System Option
  - (15) Special dial tone after setting feature
  - (33) FWD / DND lamp pattern

4.4.2	Line - Extension Line	
	— Flexible CO/PF Key Assignment	
4.4.3	Line - DSS Console	
	— Flexible DSS/PF Key Assignment	
	<b>User Programming</b> .....	User Manual, Section 3
	[005] Flexible CO Button Assignment	
	<b>Station Programming</b> .....	User Manual, Section 2
	Flexible Button Assignment – FWD/DND Button	

**Feature References**      Do Not Disturb (DND) Override

**Operation References**    **Station Features and Operation**.....User Manual, Section 4.3  
Do Not Disturb (DND)

## Do Not Disturb (DND) Override

---

### Description

Allows the extension user to ring the other extension in DND mode by dialing “1” while hearing the DND tone.

### Conditions

- **Class of Service**  
Class of Service (COS) programming determines the extension users who can perform DND Override.
- **What if a busy tone is heard after executing DND override?**  
If the extension user hears a busy tone after performing this feature, the other extension in DND mode is busy.  
In this case, the extension can perform the following features.
  - Automatic Callback (Camp-on)
  - Busy Station Signaling (BSS)
  - Executive Busy Override - Extension
  - Off-Hook Call Announcement (OHCA)
  - Off-Hook Call Announcement (OHCA), Whisper

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.3 System - Class of Service  
— DND Override

### Feature References

Do Not Disturb (DND)

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Do Not Disturb (DND) Override

## Door Opener

---

**Description** Allows the extension users to unlock the door for a visitor from their extensions. The door can be unlocked by extension users assigned as the destination of doorphone calls anytime by dialing the appropriate feature number. However, during a doorphone call, any extension user can open the door from their extensions by dialing “5” to let the visitor in.

**Conditions**

- **Hardware Requirements**  
It is necessary to install a DPH Card (KX-T96161) and a user-supplied door opener on each door to be opened. Up to eight door openers can be installed in the system.

**Connection References**

**Installation** .....Installation Manual, Section 2  
2.7.3 DPH Card (KX-T96161)

**Programming References**

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (37) Door Open  
4.2.4 System - System Timer (1/2)  
— Door Opener Time (0-10 s)  
4.4.4 Line - Doorphone  
— Destination, Day/Night

**Feature References** Doorphone Call

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Doorphone Call

## Doorphone Call

---

### Description

Doorphone provides a conversation between an extension user and a visitor at a door. When a visitor presses the doorphone button, pre-assigned destination extensions ring. The extension who answered the call can talk to the visitor. It is possible for any extension user to call a doorphone.

### Conditions

- **Hardware Requirements**  
To utilize this feature, a DPH Card (KX-T96161) and a Doorphone are required. The System supports up to eight doorphones.
- **Doorphone Call Destination**  
It is necessary to program the extensions that can receive doorphone calls during day and night mode.
- **What if a doorphone call is not answered?**  
If not answered within 30 seconds, the call stops ringing and is canceled.
- **Unlocking the door opener**  
During a doorphone call, any extension user can unlock the door opener (user-supplied) from his/her extension by dialing “5” to let the visitor in.
- The extension user cannot hold and transfer the doorphone call.

### Connection References

**Installation** .....Installation Manual, Section 2  
2.7.3 DPH Card (KX-T96161)

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (23) Doorphone Call  
4.2.4 System - System Timer  
— Door Opener Time  
4.4.4 Line - Doorphone  
— Destination, Day/Night

### Feature References

Door Opener

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Doorphone Call

## DSS Console

### Description

The DSS (Direct Station Selection) Console (KX-T7040, KX-T7240, KX-T7440, KX-T7441) provides DSS buttons for direct access to stations and busy lamp display, and PF (Programmable Feature) buttons.

The DSS Console must be programmed to work with a PT in pairs. System Programming assigns the extension port numbers of the DSS Console and its associated PT.

Up to 8 DSS Consoles can be connected to a PT

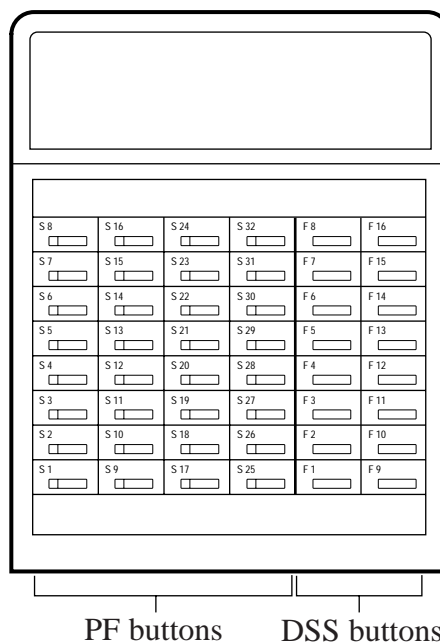
In total, up to 64 DSS Consoles can be installed in the system.

The paired PT user can carry out the following operations simply by pressing buttons on the DSS console which were pre-programmed as function buttons:

- Direct access to an extension (Direct Station Selection)
- Quick access to an outside party (One-Touch Dialing)
- Easy transfer of an outside call to an extension (The programmable One-Touch Transfer feature provides simplified operation.)
- Quick access to a system feature

A DSS Console has two types of buttons as shown below:

Example:DSS Console KX-T7240





**DSS (Direct Station Selection) buttons:** Used to call a corresponding extensions with One-Touch. Every button is provided with an indicator (Busy Lamp Field), which shows the current state of the corresponding extension as shown in the Table below:

Light	State of extension
Off	Idle
On	Busy* <sup>1</sup>
Flash	Logout* <sup>2</sup>

**Busy Lamp Field Table**

\*<sup>1</sup>If the DSS button is corresponded with a DN type PT, the DSS indicator turns on when at least one PDN button on the corresponding DN type PT becomes busy.

\*<sup>2</sup>If the extension corresponding with the DSS button is in “Logout” status and idle, the DSS indicator flashes in red.

To meet the user’s various needs, DSS buttons can be changed to the other function buttons.

**PF (Programmable Feature) buttons printed as F1 through F16:** These buttons are provided without default setting. The paired PT user can program the buttons for the other function buttons.

## Conditions

- Programming the DSS and PF buttons can be done only from the paired PT by Station Programming, or System Programming with Personal Computer.
- If the extension number assigned to a DSS button is changed to another number, the DSS button automatically follows the new number. (Re-programming is not necessary.)

## Connection References

**Installation** .....Installation Manual, Section 2  
2.4 Extension Cards

## Programming References

**System Programming** .....Installation Manual, Section 4  
4.1.3 Configuration - Extension Port Assignment  
— Attribute  
— DN (Paired EXT)  
4.4.3 Line - DSS Console  
— Paired Extension  
— Flexible DSS/PF Key Assignment  
**Station Programming** .....User Manual, Section 2  
Flexible Button Assignment

## Feature References

Button, Flexible EXtra Device Port (XDP)  
One-Touch Transfer

## Operation References

**DSS Console Features** .....User Manual, Section 5

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## Electronic Station Lockout

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**Description** Allows the extension user to lock his/her extension so that other users cannot make outside calls. Any 3-digit numeric code (000-999) can be used to lock and unlock the extension.

- Conditions**
- **How does this feature restrict the extension?**  
This feature restricts the extension from making an outside call only. Other operations are not affected.
  - **Remote Station Lock**  
Remote Station Lock Control overrides Electronic Station Lockout. If the Manager extension or an Operator extension sets Remote Station Lock on an extension that has already been locked by the extension user, the extension user cannot unlock it.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (50) Station Lock Set/Cancel

**Feature References** Remote Station Lock Control

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Electronic Station Lockout

## Emergency Call

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### Description

Allows any extension user to dial out a pre-assigned emergency number after seizing a CO line regardless of the restrictions imposed on the extension.

### Conditions

- Up to 10 emergency numbers, such as 911 (emergency services) can be stored. The number “911” is already stored at the factory by default.
- Emergency number is allowed to call even in the following cases;
  - in Account Code – Verified (All Calls, Toll Restriction Override) mode
  - in any toll restriction level
  - in Electronic Station Lockout/Remote Station Lock

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.5.3 Features - Emergency Dial Code

### Feature References

None

### Operation Reference

**Station Features and Operation**.....User Manual, Section 4.3  
Emergency Call

## End-to-End DTMF Signaling (Tone Through)

**Description** DTMF signaling is required for access to special network services offered by some telephone companies. This system allows the extension user to signal the other end using DTMF tones during an established call.

- Conditions**
- If the dial type of the line is assigned to DTMF, Tone Through mode is established automatically after the dialing sequence is finished and the call is established.
  - **Pulse to Tone Conversion**  
If the dial type of the line is assigned to dial pulse, Tone Through mode is established after the dialing sequence is finished and the “ \*#” buttons are pressed.
  - This function also works during extension and conference calls.
  - **Tone Through button**  
This button can be assigned to a flexible button (CO, DSS) by Station, User or System Programming.
  - **Automatic Hold**  
If Automatic Hold mode is enabled by System Programming, Tone Through button is required to perform End-to-End DTMF Signaling.
  - Tone Through button is effective during a call between two extensions, extension to outside, or a conference call.

### Programming References

- System Programming** .....Installation Manual, Section 4
  - 4.2.3 System - Class of Service
    - Automatic Hold
  - 4.4.2 Line - Extension Line
    - Flexible CO Key Assignment
  - 4.4.3 Line - DSS Console
    - Flexible DSS Key Assignment
- User Programming** .....User Manual, Section 3
  - [005] Flexible CO Button Assignment
- Station Programming** .....User Manual, Section 2
  - Flexible Button Assignment – Tone Through Button

**Feature References** Dial Type Selection Pulse to Tone Conversion

**Operation Reference** **Station Features and Operation**.....User Manual, Section 4.3  
End-to-End DTMF Signaling (Tone Through)



## Executive Busy Override – Extension

**Description** Allows the extension user to interrupt an existing extension call (either between two inside parties or between an outside party and an inside party) by dialing “2”. This establishes a 3-party conference call.

- Conditions**
- **Class of Service**  
Class of Service programming determines the extension users who can perform this feature.
  - **Executive Busy Override Deny**  
It is possible for extension users to prevent this feature from being executed by another extension user.
  - This feature does not work if “Executive Busy Override Deny” or “Data Line Security” is set at either one of two extensions or both of them.
  - **Confirmation tone**  
When a 2-party call is changed to a 3-party call and vice versa, a confirmation tone is sent to all three parties. This tone can be eliminated by System Programming.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (44) Data Line Security Set/Cancel
  - (46) Executive Override Deny Set/Cancel
- 4.2.3 System - Class of Service
  - Busy Override
  - Busy Override Deny
- 4.2.7 System - System Option
  - (8) Confirmation tone for Override, Barge-in and Conference

**Feature References** Conference Executive Busy Override Deny

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Executive Busy Override — Extension

## Executive Busy Override Deny

---

**Description** Allows the extension user to prevent his/her extension from being interrupted by “Executive Busy Override” from another extension user.

**Conditions**

- **Class of Service**  
Class of Service programming determines the extension that can perform this feature.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (46) Executive Override Deny Set/Cancel  
4.2.3 System - Class of Service  
— Busy Override Deny

**Feature References** Executive Busy Override

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Executive Busy Override Deny

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## EXTENSION GROUP-SUMMARY

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### Description

To support efficient utilization of extensions, they can be grouped together as an Extension Group.

Any extension in the Extension Group can pick up a call ringing at another extension within the same Extension Group (Call Pickup - Group).

Extension Group is used to direct incoming calls (both extension and outside) to a group of answering extensions associated with the type of incoming calls.

Up to 128 Extension Groups can be created in the system.

The following seven different types of Extension Group can be created:

- **Automated Attendant (AA) Group**
- **Operator Group**
- **Ring Group**
- **Station Hunting Group (Circular)**
- **Station Hunting Group (Terminate)**
- **Uniform Call Distribution (UCD) Group**
- **Voice Mail (VM) Group**

### Conditions

- **Log-in, Log-out**

Members of an Extension Group (except for Group Type:None) can leave the group temporarily when they are away from their desks, to prevent calls being sent to their extension (Log-out). They can return to the group when they are ready to answer a call (Log-in).

- A single extension user cannot belong to two or more different Extension Groups at a time.

### Programming References

**System Programming** .....Installation Manual, Section 4

4.1.3 Configuration - Extension Port Assignment

— Group No.

4.2.2 System - Numbering Plan

— (58) Login/Logout

4.3.2 Group - Extension Group

— FDN

— Group Type

— Tenant No.

— Overflow Setting

Destination, Day/Night

Timer

— FWD/DND Mode

— Extension Call Hunting

— Operator Setting

Ringing Type



- Call Priority
  - UCD Setting
  - Time Table No.
  - FWD No Answer
  - Auto LOGOUT Mode
  - Supervisor Extension
  - LOGIN Monitor
  - UCD Call Waiting
- 4.4.2 Line - Extension Line
- Group No.

## Description of Programming Items

### 1. FDN

Specifies the FDN (Floating Directory Number) for each Extension Group.

### 2. Group Type

Specifies the Group Type for each Extension Group

This determines how the Extension Group handles the incoming calls directed to it.

### 3. Tenant No.

Assigns a Tenant No. (1-8) to which the Extension Group is assigned (Required if "Tenant Service" is employed.)

### 4. Overflow Setting

#### Destination, Day/Night

Specifies the destination extension where the call is transferred to when all extensions in the Extension Group are busy or logged-out.

#### Timer

Specifies the length of time in minutes the system is to wait before transferring the call in the waiting queue to the Overflow Destination. (Assignable only when "Operator" is specified in "Group Type" programming.)

### 5. FWD/DND Mode

Specifies whether to enable or disable the FWD/DND (Call Forwarding or Do Not Disturb) feature assigned on an extension in the Extension Group.

(Assignable only when "Group Type" is set to "Terminate," "Circular" or "UCD.")

### 6. Extension Call Hunting

Specifies whether station hunting feature works or not when the other party calls a busy extension in the group by dialing DN of the extension (extension call).

### 7. Operator Setting

(Assignable only when "Operator" is specified in "Group Type" programming.)

**Ringling Type**

Specifies whether the call coming in on an Operator Group rings one Operator (Single) or all Operators in the group (Multi) simultaneously.

**Call Priority**

Specifies the answering priority of incoming calls to the Extension Group by call type when more than one call is ringing at an Operator extension.

**8. UCD Setting**

(Assignable only when "UCD" is specified in "Group Type" programming.)

**Time Table No.**

Specifies the UCD Time Table number for the Extension Group.

**FWD No Answer**

Specifies the treatment of the call which is not answered by the extension in the UCD group within a specified period of time (Call Forwarding — No Answer Time).

**Auto LOGOUT Mode**

Specifies the treatment of extensions in the UCD group who do not / cannot answer the call. A member extension may be logged-out automatically, if it does not answer the call for pre-determined times (1-10) consecutively. If "Disable" is specified, this setting does not function.

**Supervisor Extension**

Specifies the Supervisor Extension per UCD Group. The extension specified as the Supervisor Extension can monitor the number of calls put in the waiting queue.

**LOGIN Monitor**

Specifies whether or not the extensions in the same UCD Group can monitor (via DSS button) the Login/Logout status of other UCD Group members.

**UCD Call Waiting**

Specifies whether or not Call Waiting to a UCD Group member extension is available.

**Feature References**

Automated Attendant (AA) Group	Call Pickup, Group
Log-In/Log-Out	Operator Group
Ring Group	Station Hunting Group (Circular)
Station Hunting Group (Terminate)	Uniform Call Distribution (UCD) Group
Voice Mail (VM) Group	

**Operation References** Not applicable.

## Extension Group — Automated Attendant (AA) Group

---

### Description

This is one of seven incoming call services assignable on an Extension Group basis.  
If Voice Processing System is integrated with your KX-TD500 system (VPS Integration), we recommend to group multiple AA extensions together as an AA Group.  
This ensures that callers who need AA service can surely access it. Within a group, an incoming call hunts for an idle AA extension in a circular way.

AA Group can be made up by assigning the group type of an Extension Group as “AA.” Up to 128 AA Groups, each consisting of more than one extension in the same tenant, can be created in the system.  
By default, Extension Group #127 is assigned as AA Group.

### Conditions

- Refer to “Extension Group — Summary” in this manual.

### Programming References

- System Programming .....Installation Manual, Section 4
- 4.1.4 Configuration - VPS (DPT) Port Assignment
- 4.2.2 System - Numbering Plan
  - (58) Login/Logout
- 4.3.2 Group - Extension Group
  - FDN
  - Group Type
  - Tenant No.
  - Overflow Setting
    - Destination, Day/Night
- 4.4.2 Line - Extension Line
  - Group No.
- 4.5.9 Features - VPS Integration
  - Integration Code
  - Voice Mail Command

### Feature References

Extension Group

VPS Integration—Voice Mail (VM) Service Integration

### Operation References

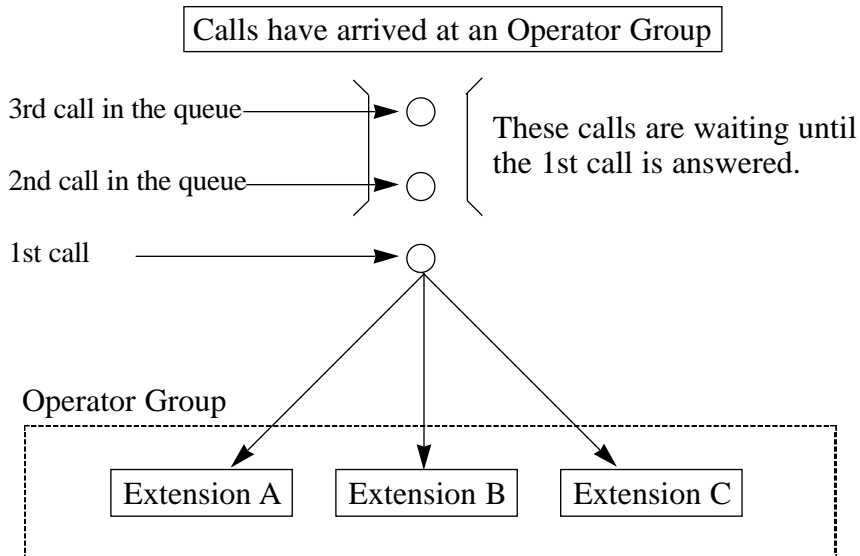
Not applicable



## (1) Outline sketch of Operator feature.

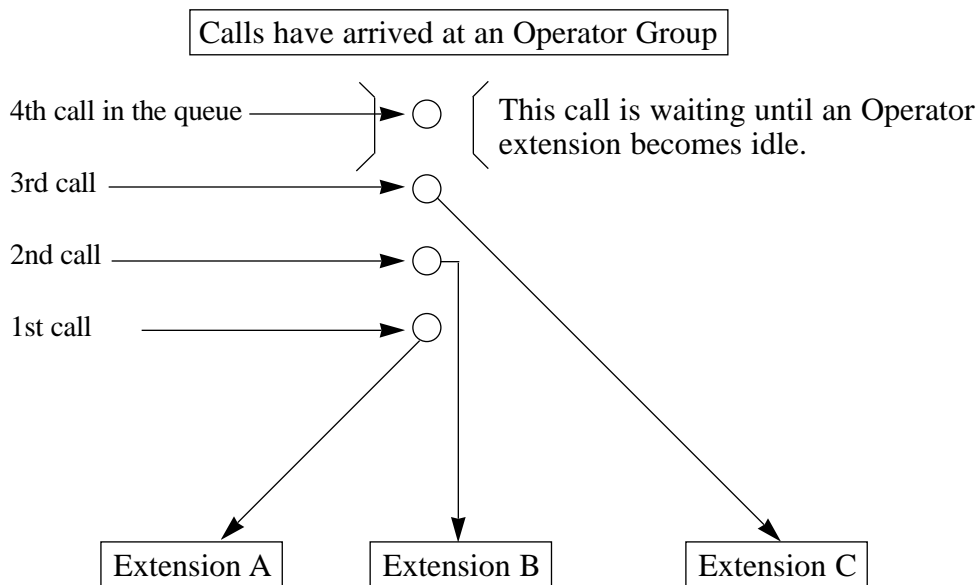
### 1. When “Ringing Type” is set to “Multi.”

An incoming call (intercom / outside call) arrives at all Operator extensions at the same time.

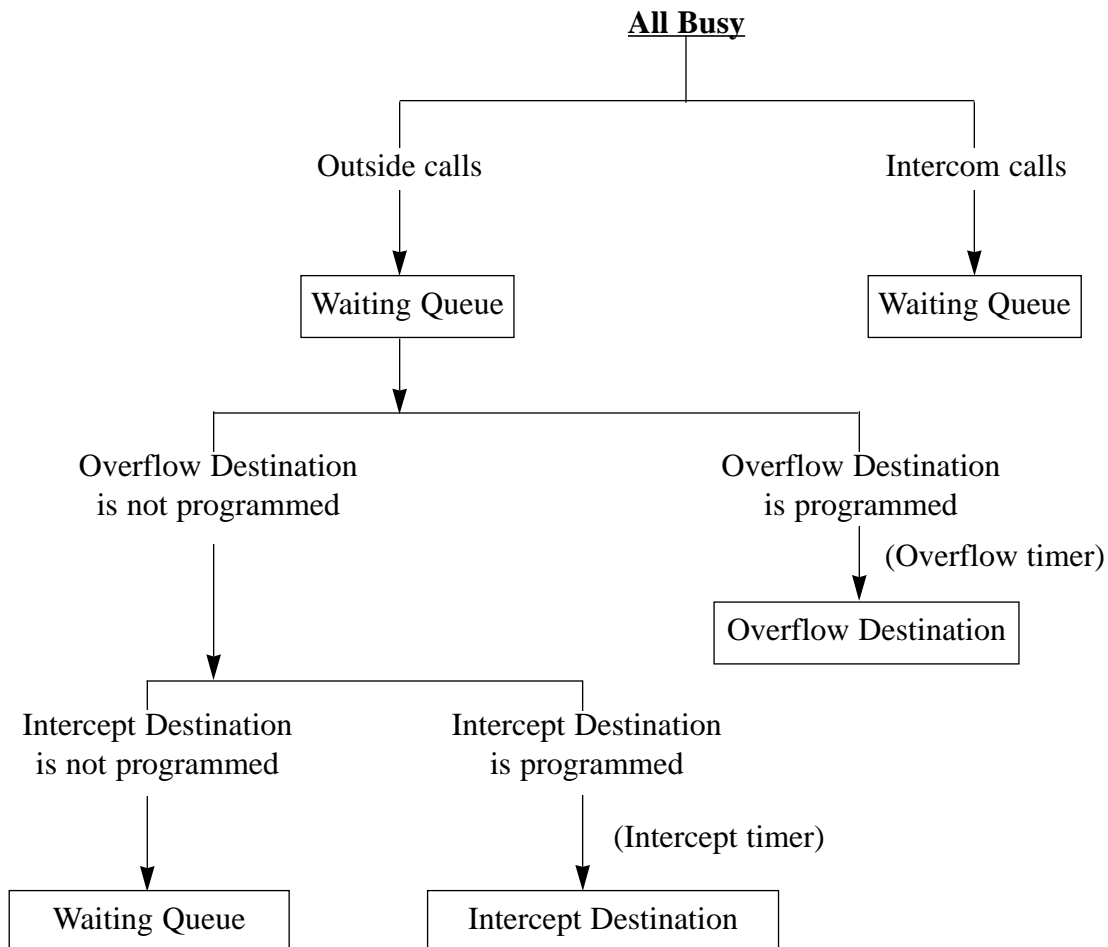


### 2. When “Ringing Type” is set to “Single.”

An incoming call (intercom / outside call) arrives at an Operator extension.



## (2) What if all Operator extensions are busy ?



**Note:**

- An incoming call which is arriving on a CO key of an Operator PT extension is regarded as an arrived call.

## Extension Group — Ring Group

---

### Description

This is one of seven incoming call services assignable on an Extension Group basis. Allows both extension and outside users to ring all extensions in a Ring Group simultaneously by dialing the Floating Directory Number (FDN) of the Ring Group. This feature is useful for talking to or transferring calls to anyone in the same group.

Ring Group can be made up by assigning the group type of an Extension Group as “Ring.” Up to 128 Ring Groups, each consisting of more than one extension in the same tenant, can be created in the system.

### Conditions

- Types of calls whose destination can be the Ring Group are:  
Outside calls – DIL 1:1; DISA; IRNA; UCD-Overflow, DID, TIE  
Intercom calls – Extension; Transfer

### Programming References

- System Programming .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (58) Login/Logout
- 4.3.2 Group - Extension Group
  - FDN
  - Group Type
  - Tenant No.
- 4.4.2 Line - Extension Line
  - Group No.

### Feature References

Extension Group Floating Station

### Operation References

Not applicable.







## Extension Group — Uniform Call Distribution (UCD) Group

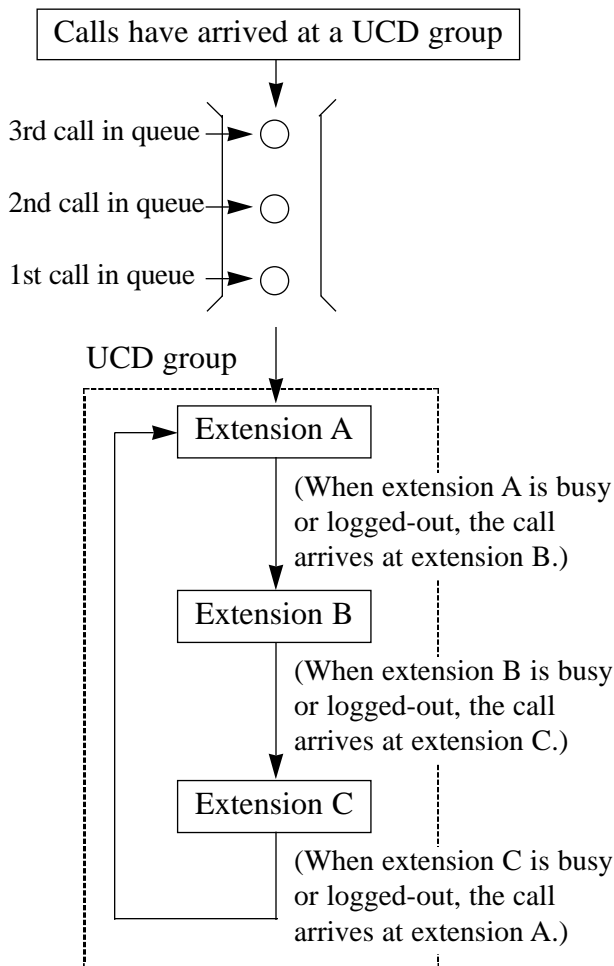
### Description

This is one of seven incoming call services assignable on an Extension Group basis. Calls to a UCD group are distributed uniformly among the group members so that each member can share the same load. Calls to a UCD group hunt for an idle extension in a circular way, starting at the extension following the last one called. This UCD feature is particularly helpful when a certain extension receives a high volume of calls compared with other extensions.

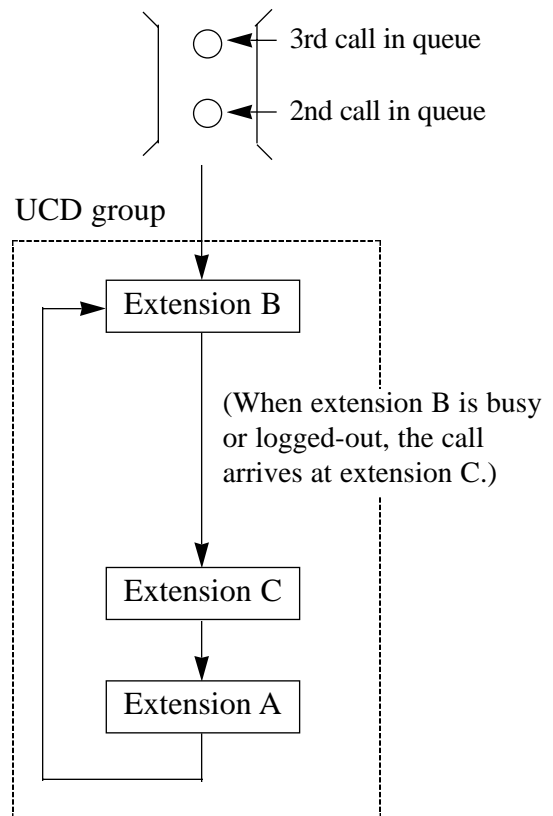
UCD Group can be made up by assigning the group type of an Extension Group as "UCD." Up to 128 UCD Groups, each consisting of more than one extension in the same tenant, can be created in the system.

### (1) Outline sketch of UCD feature

1. When more than one call is in the UCD group, the 1st call will arrive at extension A first.



2. If the 1st call arrives at extension A, the 2nd call will arrive at extension B.



3. When the 2nd call arrives at extension B, the 3rd call will arrive at extension C.

## Notes:

### 1. Busy status

If group members are in one of the following conditions, they are considered as busy.

- The extension is in Call Forwarding/Do Not Disturb (FWD/DND) mode.
  - Calls to a UCD Group may ring the extension in FWD/DND mode, or skip it. This is determined by System Programming (Section 4.3.2 Group - Extension Group, “FWD/DND Mode” in the Installation Manual).
- Another call is already ringing on the extension.
- The extension is off-hook.
- The extension is logged-out.

### 2. Login / Logout

Extension users in the UCD Group can leave the group temporarily when they are away from their desks, to prevent calls being sent to their extensions (Logout).

They can return to the group when they are ready to answer calls (Login).

### 3. UCD Supervisory Features

#### Login Monitor

Login/Logout status of the UCD Group members can be monitored by the extensions in the same UCD Group through Busy Lamp Field of the corresponding DSS button.

Login Monitor is enabled or disabled by System Programming (Section 4.3.2 Group - Extension Group, “LOGIN Monitor” in the Installation Manual).

#### UCD Monitor Mode

The extension specified as the Supervisor Extension can monitor the number of calls put in the waiting queue by dialing the feature number for “UCD Monitor Mode.”

To start UCD monitor: dial feature number + UCD Group FDN

To end UCD monitor: dial feature number + “ \* ”

You can also use the Features menu of a large display DPT.

The extension that can perform this feature is determined by System Programming (Section 4.3.2 Group - Extension Group, “Supervisor Extension” in the Installation Manual).

### 4. What if a call ringing on a member extension is not answered?

If not answered within a specified period of time (Call Forwarding – No Answer Time), the call is transferred to the next idle member extension, or the call continues to ring on the current destination extension.

This is determined by System Programming (Section 4.3.2 Group - Extension Group, “FWD-No Answer” in the Installation Manual).

## 5. Auto Logout

A member extension may be logged-out automatically, if it does not answer the call for pre-determined times (1-10) consecutively.

This is determined by System Programming (Section 4.3.2 Group - Extension Group, “Auto LOGOUT Mode” in the Installation Manual).

**PT:** To use this feature correctly, program Login/Logout button. After the system activates Auto Logout, press Login/Logout button in the off-hook status to go back to the Login mode.

**SLT:** After the system activates Auto Logout, enter the feature number for Login in the off-hook status to go back to the Login mode.

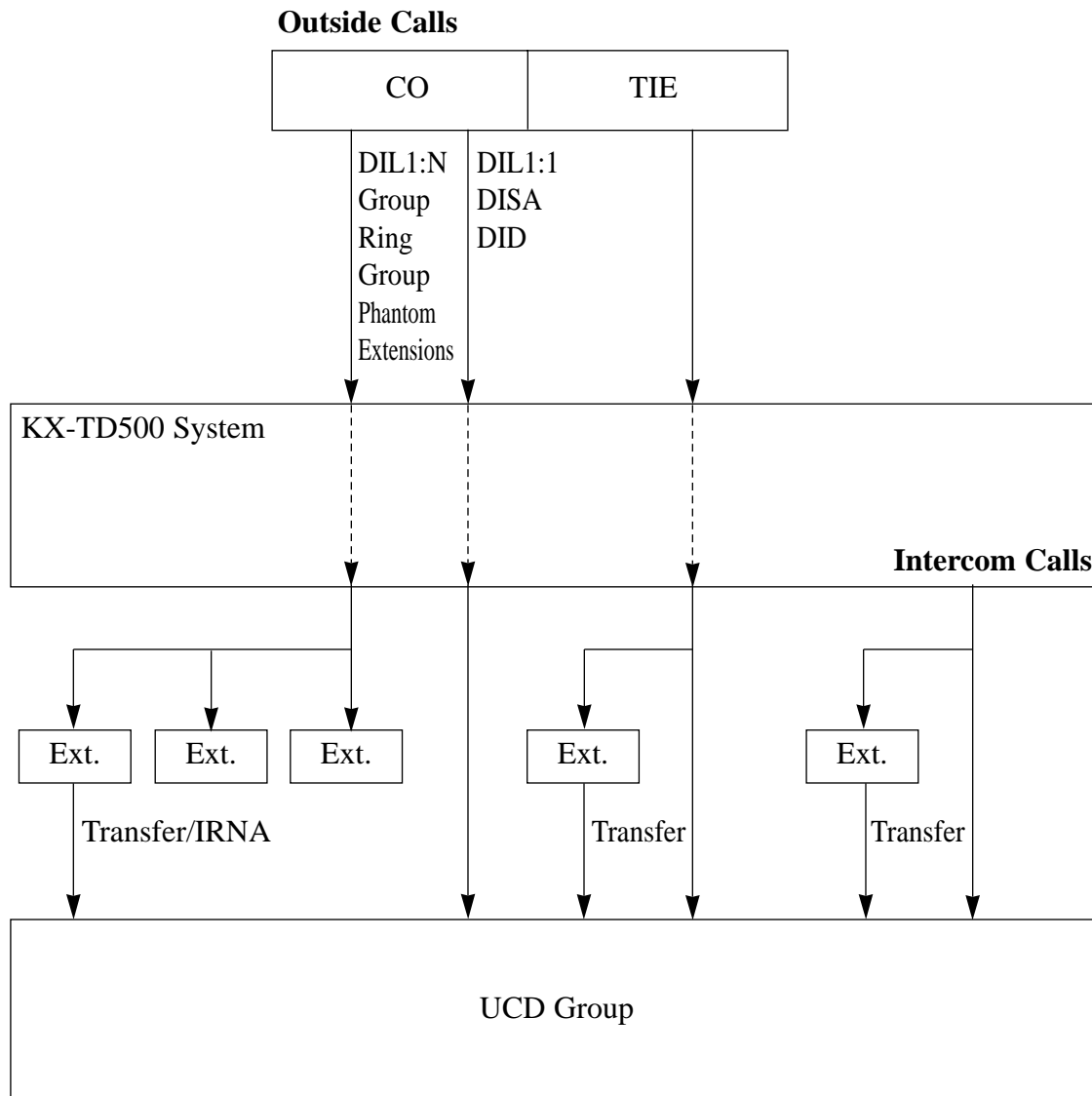
## 6. UCD Call Waiting

This feature is different from regular Call Waiting. This feature (if enabled) allows UCD group members to hear a Call Waiting tone when an outside call arrives but all the extensions in the UCD Group are busy.

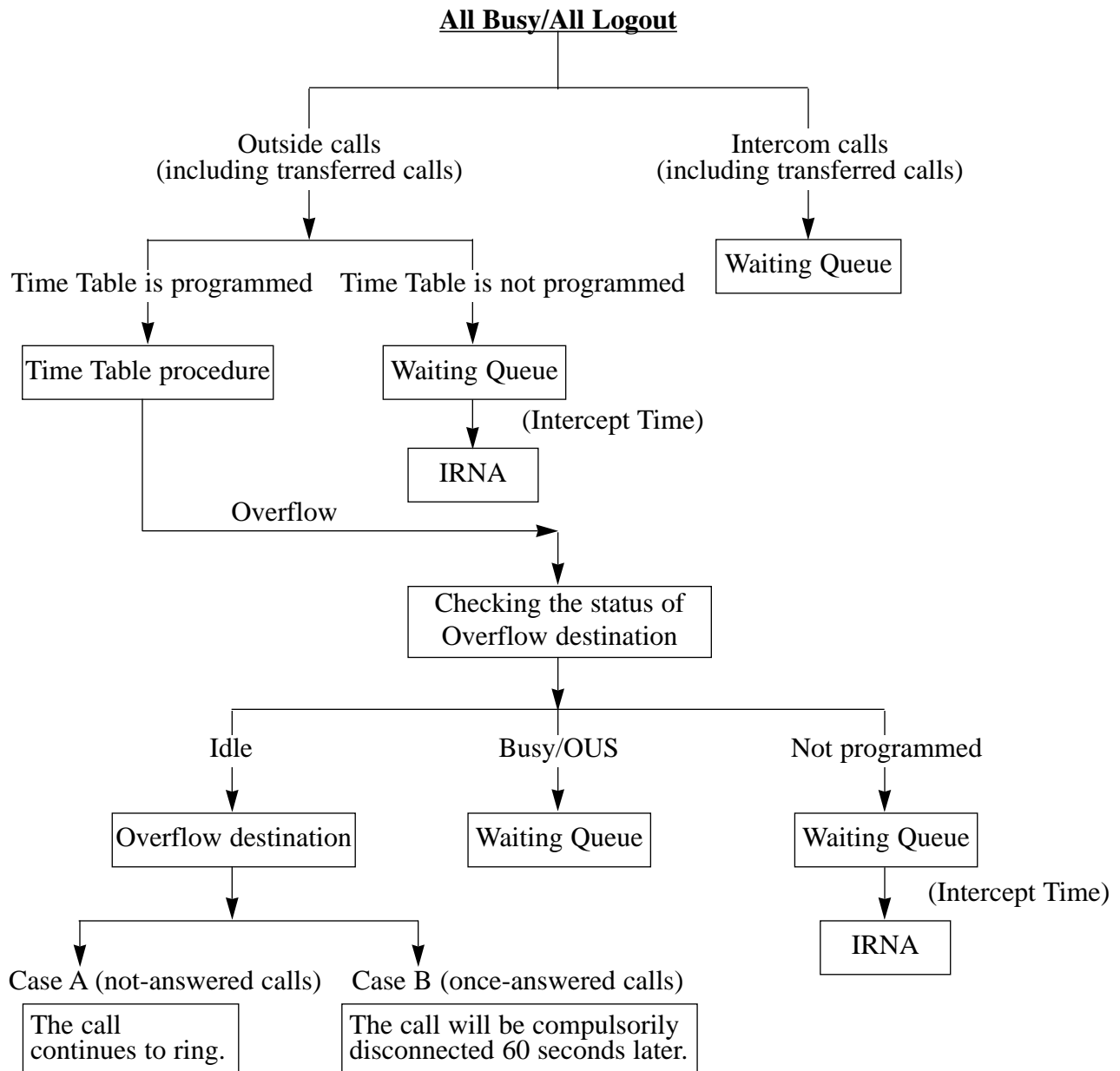
## (2) Types of calls which come in on a UCD Group

FDN (Floating Directory Number) for UCD Group can be assigned or dialed as a destination of the following calls:

<b>Outside calls</b>	DIL 1:1, DISA, DID, IRNA, Transfer, TIE
<b>Intercom calls</b>	Intercom, Transfer



### (3) What if all extensions in a UCD Group are busy or logged out?



**Note:**

• **Overflow destination**

- One of the following four destinations can be assigned as the Overflow destination per UCD Group: an extension, other Extension Group, Phantom Extension or TAFAS (outside calls only).
- If the overflow destination or UCD Time Table is not programmed, the call is put in the waiting queue. Then if not answered within a specified period of time (Intercept time), the call will be transferred to the IRNA destination.

### (4) UCD Time Table

If all extensions in a UCD group are busy, the incoming CO calls will be handled by the UCD Time Table procedure.

Up to 32 UCD Time Tables, max. 16 steps for each, can be assigned by System Programming.

The following commands are provided to make up a UCD Time Table procedure.

#### Command list and functions

Command	Functions
S (1-8)	OGM (1-8) is sent to the caller if available. If not, wait until OGM (1-8) becomes available.
1T-4T	Callers are put in the waiting queue for $N (1-4) \times 8$ seconds while hearing the ringback tone.
RET	Returns to the first step of the sequence.
TR	Transfers a call to the Overflow destination.
OFF	Disconnects the call compulsorily.

**Note:** The first command in each table is set to “1T” by default.

#### Example of UCD Time Table Assignment

UCD	FDN	OFDN	TT
1	191	101	1
2	192	291	2
3	193		
4	194		
5	291		
6	292		
7	293		
8	294		

UCD : UCD Group Number (1 – 128)

FDN : Floating Directory Number of the  
UCD Group

OFDN : Overflow Destination FDN

TT : Time Table Number (1 – 32)

## Procedure Assignment Example

UCD Time Table procedure can be assigned as follows:

Table No.	Sequence
1	S1 → 4T → 2T → S2 → TR → →
2	S1 → 2T → S3 → OFF → → →
3	1T → TR → → → → →
4	S1 → 2T → S4 → 2T → TR → →

### (Example 1)

S1 → 4T → 2T → S2 → TR

(1) (2) (3) (4)

UCD Group

- (1) The caller hears OGM1, if available.

(Sample OGM 1)

Sorry, all lines are busy.  
Please wait a moment.

- What if OGM1 is busy?

The caller first hears ringback tone and then will hear OGM1 as soon as it becomes available (Go to Step 2).

- What if OGM1 is OUS (Out-of-Service)?

Step (1) will be skipped (Go to Step 2).

- (2) The caller is put in the waiting queue for 48 seconds (4T + 2T).

- (3) The caller hears OGM2.

(Sample OGM 2)

Sorry, all lines are still busy.  
Calling the Operator.

- (4) The caller is transferred to the Overflow destination (Operator or covering extension).

### Note:

During Steps (1) - (3), the caller will be connected to a UCD group member as soon as anyone of members becomes available to answer the call.

### (Example 2)

S1 → 2T → S3 → OFF

(1) (2) (3) (4)

UCD Group

- (1) The caller hears OGM1, if available.

(Sample OGM 1)

Sorry, all lines are busy.  
Please wait a moment.

- What if OGM1 is busy?

The caller first hears ringback tone and then will hear OGM1 as soon as it becomes available (Go to Step 2).

- What if OGM1 is OUS (Out-of-Service)?

Step (1) will be skipped. (Go to Step 2).

- (2) The caller is put in the waiting queue for 16 seconds (2T).

- (3) The caller hears OGM3.

(Sample OGM 3)

Sorry, all lines are still busy.  
Please call us again.  
Thank you for calling.

If OGM3 is busy, the caller first hears ringback tone and then will hear OGM3 as soon as it becomes available.

- (4) The caller is disconnected from the switch.

### (Example 3)

1T → TR

(1) (2)

UCD Group

- (1) The caller is put in the waiting queue for 8 seconds (1T).



(2) The caller is transferred to the Overflow destination.

**(Example 4)**

→S1 → 2T → S4 → 2T → TR

(1) (2) (3) (4) (5)

(1) The caller hears OGM1, if available.

(Sample OGM 1)

Sorry, all lines are busy.  
Please wait a moment.

• What if OGM1 is busy?

The caller first hears ringback tone and then will hear OGM1 as soon as it becomes available (Go to Step 2).

• What if OGM1 is OUS (Out-of-Service)?

Step (1) will be skipped (Go to Step 2).

(2) The caller is put in the waiting queue for 16 seconds (2T).

(3) The caller hears OGM4.

(Sample OGM 4)

Sorry, all lines are still busy.  
Please wait a moment.

If OGM 4 is busy, the caller hears Music on Hold and then will hear OGM4 as soon as it becomes available.

(4) Same as Step (2).

(5) The caller is transferred to the Overflow destination.

**Note:**

- The UCD Time Table procedure applies to outside calls (including transferred calls) only.
- Any command after “TR”, “RET” or “Blank” does not function.
- If any unavailable OGM S(1-8) is assigned in the UCD Time Table, it will be ignored.

## Conditions

- This feature must be enabled by System Programming for the desired UCD Group(s).
- In addition, each extension must enable regular Call Waiting feature (See “Call Waiting” in the User Manual).
- **UCD-OGM**  
To utilize OGM messages for UCD callers, assign “OGM Type” to “UCD-OGM” by System Programming (Section 4.3.5 Group - OGM Group, “OGM Type” in the Installation Manual).
- **Music on Hold or Ringback Tone**  
It is determined by System Programming (Section 4.2.7 System-System Option, “(1) Sound source during transfer” in the Installation Manual) whether to send ringback tone or Music on Hold to the caller.

## Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.2 System - Numbering Plan	
— (58) Login/Logout	
— (75) UCD Monitor Mode	
4.2.4 System - System Timer	
— Intercept Time (3-48 rings)	
4.2.7 System - System Option	
— (1) Sound source during transfer	
4.3.2 Group - Extension Group	
— FDN	
— Group Type	
— Tenant No.	
— Overflow Setting	
Destination, Day/Night	
— FWD/DND mode	
— UCD Setting	
Time Table No.	
FWD No Answer	
Auto LOGOUT Mode	
Supervisor Extension	
LOGIN Monitor	
UCD Call Waiting	
4.3.5 Group - OGM Group	
— FDN	
— OGM Type	
4.4.2 Line - Extension Line	
— Group No.	

<b>Feature Reference</b>	Extension Group	Log-In / Log-Out
--------------------------	-----------------	------------------

<b>Operation References</b>	<b>Station Features and Operation</b> .....	User Manual, Section 4.3
	UCD Login Monitor	
	UCD Supervisor Mode	

## Extension Group — Voice Mail (VM) Group

---

### Description

This is one of seven incoming call services assignable on an Extension group basis.  
If a Voice Processing System is integrated with your KX-TD500 system (VPS Integration), we recommend to group multiple VM extensions together as a VM Group.  
This ensures that callers who need VM service can surely access it. Within a group, an incoming call hunts for an idle VM extension in a circular way.

VM Group can be made up by assigning the group type of an Extension Group as “VM.” Up to 128 VM Groups, each consisting of more than one extension in the same tenant, can be created in the system.

### Conditions

- Same as Extension Group-Summary

### Programming References

- System Programming .....Installation Manual, Section 4
- 4.1.4 Configuration - VPS (DPT) Port Assignment
- 4.2.2 System - Numbering Plan
  - (58) Login/Logout
- 4.3.2 Group - Extension Group
  - FDN
  - Group Type
  - Tenant No.
  - Overflow Setting
  - Destination, Day/Night
- 4.4.2 Line - Extension Line
  - Group No.
- 4.5.9 Features - VPS Integration
  - Integration Code
  - Voice Mail Command

### Feature References

- Extension Group
- VPS Integration - Voice Mail (VM) Service Integration

### Operation References

Not applicable.

## External Feature Access

---

### Description

Allows the extension user to have access to the features of a host PBX, Centrex or Central Office, such as Call Waiting, etc. This is performed by putting the current party on hold and sending a flash signal to the other end during an outside call.

### Conditions

- **FLASH Button Operation**  
Pressing the FLASH button on a PT results in either sending Flash signal or disconnecting the current call.  
This is determined by System Programming (Section 4.2.7 System - System Option, “(3) and (4)” in the Installation Manual).
- **Flash Time**  
The flash time must be assigned as required by the Centrex, host PBX or CO line.
- **Memory Dialing**  
During outside calls, a FLASH stored in System Speed Dialing, Station Speed Dialing or One-Touch Dialing works as External Feature Access, not as Flash (Disconnect Signal) used to disconnect the calls.
- **<PT>**  
FLASH button or the feature number is used to perform this feature.
- **<SLT>**  
Feature number is used to perform this feature. This feature does not function, if an SLT has a call on Consultation Hold.

### Programming References

- System Programming .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (38) External Feature Access
- 4.2.7 System - System Option
  - (3) FLASH button operation while CO talking
  - (4) FLASH button operation when “Don’t release the trunk” is selected at #3.
- 4.3.1 Group - Trunk Group
  - Flash Time
  - Max. Dial No. after EFA Signal

### Feature References

Flash Host PBX Access

### Operation References

Station Features and Operation .....User Manual, Section 4.3  
External Feature Access

## External Modem Control

### Description

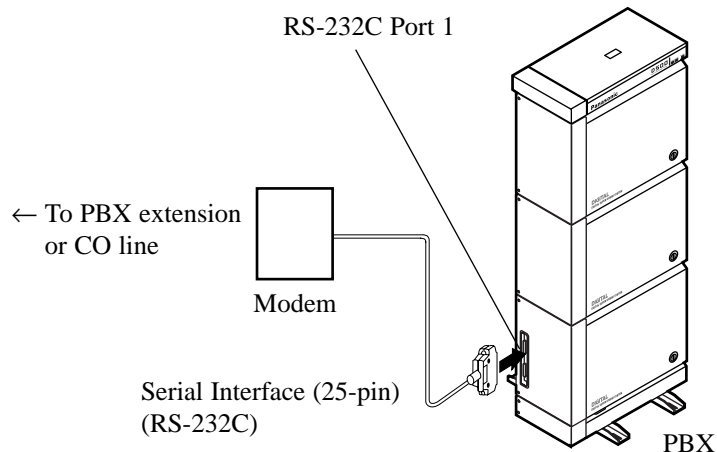
The system supports an external modem (see **Note 1**) plugged into the RS-232C Port 1. The system communicates with the remote terminal at data rate of up to 19,200 bps and enables remote system maintenance through an external modem. A pre-assigned AT Command (see **Note 2**) can be sent to an external modem automatically when it is plugged into the RS-232C port 1. The extension user is also allowed to control the external modem by sending the pre-assigned AT Commands.

### Conditions

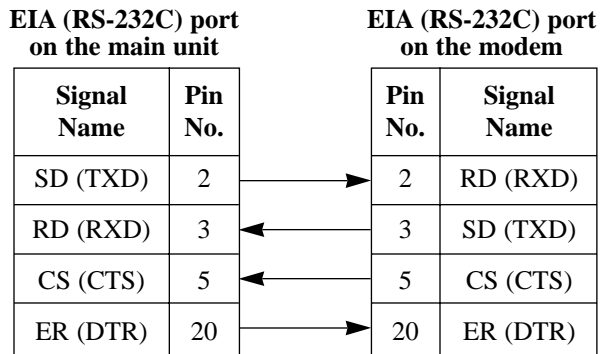
- To connect an external modem to your system, perform the following procedures:
  - 1) Connect the modem to the system with the EIA (RS-232C) cable.
  - 2) Connect the modem to an extension port which is assigned as the DIL 1:1 destination. Or connect the CO line directly to the modem.
  - 3) Set the power switch of the modem to “ON,” then the modem will be initialized with the default values.
  - 4) The following AT Command programming may be required for the modem.
    - The Data Terminal Ready (DTR) signal should be ignored.
    - The Data Terminal Equipment (DTE)/Modem flow control should be turned off.
    - The data compression should be disabled.
    - Error Correction is not necessary.

**Note 1: Not all modems will be compatible. Please contact the Panasonic Bulletin Board System (BBS) at (201) 271-3346 for a list of recommended modems.**

**Note 2: Please refer to the modem instructions as the AT Commands depend on the manufacturer of your model.**



- The connection chart for the external modem (25-pin) is as follows:



- EIA (RS-232) parameters of the EIA/remote programming software should be the same as the PBX. When you use 9600 bps, we recommend the combination of “8” Word Length, “None” Parity and “1” Stop Bit.
- An AT Command (for initialization, enabling Automatic Answer, etc.) can only be programmed by EIA/remote programming software. The default is “AT&F0Q0E0V1S0=1X0&D0.”
- For more information about the AT Command, please refer to the modem instructions.

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (61) Modem Control
- 4.10.1 Maintenance - External Modem 1/2
  - Manual Initialization Command 1-5
  - Automatic Initialization Command
- 4.10.1 Maintenance - External Modem 2/2
  - Connection Message 1-5
  - Disconnection Message 1-5

## Feature References

System Programming and Diagnosis with Personal Computer

## Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
External Modem Control

## EXtra Device Port (XDP)

---

**Description** A DPT and an SLT can be connected to the same extension port but have different extension numbers so that they can act as completely different extensions.

- Conditions**
- **Hardware Requirements**  
DHLC card (KX-TD50170) is required to utilize this feature.
  - XDP requires previous programming of the extension port. Enable XDP mode for the desired port by System Programming.
  - If one or more DHLC cards are installed after booting up the System with default values, DN assignment should be done before performing XDP assignment.

### Connection References

**Installation** .....Installation Manual, Section 2  
2.4.13 EXtra Device Port (XDP) Connection

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.1.3 Configuration - Extension Port Assignment  
— Parallel/XDP

**Feature References** Paralleled Telephone

**Operation References** Not applicable.

---

## Flash

---

**Description** The FLASH button is used to allow a PT user to disconnect the current call and originate another call without hanging up.

- Conditions**
- **Flash or External Feature Access**  
Pressing the FLASH button on a PT results in either sending Flash signal (External Feature Access) or disconnecting the current call (Flash). This is determined by System Programming (See Programming References below).
  - Pressing the FLASH button re-starts the conversation duration, outputs an SMDR record, and checks toll restriction level again.

### Programming References

- **System Programming** .....Installation Manual, Section 4.2.7 System - System Option
  - (3) FLASH button operation while CO talking
  - (4) FLASH button operation when “Don’t release the trunk” is selected at #3
- **4.3.1 Group - Trunk Group**
  - Disconnecting Time

**Feature References** Electronic Station Lockout External Feature Access

**Operation References** Station Features and Operation.....User Manual, Section 4.3 Flash



## Flexible Numbering

### Description

The numbers used for the access codes of system features and the numbers used for extension numbers are not fixed. They can be set as required, provided there are no conflicts.

**Feature numbers** can be from **1 to 4 digits**, utilizing numbers “0 through 9” as well as “\*” and “#.”

**Extension numbers** can be **3 to 4 digits** in length. Numbers “0 through 9” can be set as the leading 1 or 2 digits of the extension number. If 1 digit is assigned as the leading digit, extension numbers are 3-digit in length. If 2 digits are assigned as the leading digits, extension numbers are 4-digit in length.

### Flexible Feature Numbers

NUMBER	FEATURE	DEFAULT
01	1st Hundred Block Extension	10
02	2nd Hundred Block Extension	11
03	3rd Hundred Block Extension	12
04	4th Hundred Block Extension	13
05	5th Hundred Block Extension	14
06	6th Hundred Block Extension	20
07	7th Hundred Block Extension	21
08	8th Hundred Block Extension	22
09	9th Hundred Block Extension	23
10	10th Hundred Block Extension	24
11 – 16	11th through 16th Hundred Block Extension	Blank
17	Operator Call	0
18	Local CO Line Access / ARS	9
19	Trunk Group Access	8
20	Speed Dialing - System	*
21	Speed Dialing - Station	3 *
22	Speed Dialing - Station Programming	30
23	Doorphone Call	31
24	External Paging	32
25	External Paging Answer / TAFAS Answer	42
26	Station Paging	33
27	Station Paging Answer	43
28	CO Call Pickup	4 *
29	Group Call Pickup	40
30	Directed Call Pickup	41
31	Hold	50
32	Hold Retrieve – Station	51
33	Hold Retrieve – Trunk	53
34	Redial	#

# Features Guide

# F

## Flexible Feature Numbers (cont'd)

35	Call Park / Call Park Retrieve	52
36	Account Code	49
37	Door Open	55
38	External Feature Access	6
39	Station Program Clear	790
40	Message Waiting Set/Cancel/Call Back	70
41	OGM Playback/Record	36
42	Call FWD – Do Not Disturb Set/Cancel	710
43	Dial Call Pickup Deny Set/Cancel	720
44	Data Line Security Set/Cancel	730
45	Call Waiting Set/Cancel	731
46	Executive Override Deny Set/Cancel	733
47	Pickup Dialing Program/Set/Cancel	74
48	Absent Message Set/Cancel	750
49	Timed Reminder Confirm/Set/Cancel	761
50	Station Lock Set/Cancel	762
51	Night Mode Set/Cancel	78
52	Parallel telephone mode	39
53	External BGM On/Off	35
54†	Live Call Screening	799
55	Call Log Incoming, Overwrite Mode	56
56	Call Log Incoming, Log Lock	57
57	Timed Reminder, Remote	7*
58	Login /Logout	45
59	Automatic Callback Busy Cancel	46
60	Walking COS	47
61	MODEM Control	791
62	Reserved	—
63-70	Quick dial 1-8	Blank
71	Reserved	—
72	Remote DND	722
73	Remote FWD Cancel - once	723
74	Trunk Route Control	724
75	UCD Monitor Mode	725
76	TIE Line Access	77
77-92	Other PBX 01-16	Blank
93	Paging Deny Set/Cancel	721
94	Trunk Busy-out	726
95	Walking Station	727

Default feature numbers are shown above.

In addition to the flexible feature numbers above, fixed feature numbers are provided on the next page.

†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports Digital Proprietary Telephone integration; e.g. KX-TVS100).

## Fixed Feature Numbers

FEATURE	DEFAULT
<b>While busy tone is heard:</b>	
Automatic Callback Busy	6
Busy Station Signaling (BSS)/Off-Hook Call Announcement (OHCA)/Whisper OHCA	1
Executive Busy Override	2
<b>While Do Not Disturb tone is heard:</b>	
Do Not Disturb Override	1
<b>While calling or talking:</b>	
Account Code Delimiter	# / 99
Alternate Calling – Ring / Voice	*
Conference	3
Door Open	5
Pulse to Tone Conversion	* #
<b>When the extension is on-hook:</b>	
Background music (BGM) on / off	1
Day / Night mode display	#
Time display / Self-Extension Number display switching	*
<b>When a CO call is arriving (Receiving the Caller ID information):</b>	
Switching CO Line Name / Caller ID Number / Caller ID Name	*

## Conditions

- Flexible feature numbers can only be dialed during dial tone.
- **Feature Number Conflicts**  
Examples: 1 and 11, 0 and 00, 2 and 21, 10 and 101, 32 and 321, etc.
- **Additional Digits**  
Some flexible feature numbers require additional digits to make the feature active. For example, to set Call Waiting, the feature number for “Call Waiting” must be followed by “1” and to cancel it, the same feature number should be followed by “0.”

## Programming References

- **System Programming** .....Installation Manual, Section 4
- 4.1.3 Configuration - Extension Port Assignment
  - Attribute
  - DN
- 4.2.2 System - Numbering Plan

**Feature References** None

**Operation References** Not applicable.

## Floating Station

### Description

Virtual extension numbers can be assigned to resources to make them appear as real extensions. These numbers are defined as Floating Directory Numbers (FDN).

The following resources can have FDNs:

Resource Name	Max. number of FDN	Incoming Call Type					
		DIL1:1	DISA	DID	TIE	Intercept Routing	Intercom Call
<b>External Pager (TAFAS)</b>	2	✓	✓	✓	/	✓	/
<b>OGM Group (DISA)</b>	8	✓	/	/	/	✓	/
<b>Modem (Remote System Administration)</b>	1	✓	✓	✓	✓	/	✓
<b>Extension Group</b>	128	✓	✓	✓	✓	✓	✓
<b>Phantom Extension</b>	448	✓	✓	✓	✓	✓	✓

“✓” indicates that the FDN can be assigned as the destination.

### Conditions

- FDNs cannot be used for setting a feature such as Call Forwarding, etc.

### Connection References

**Installation** .....Installation Manual, Section 2  
 2.6.1 DISA Card (KX-T96191)  
 2.6.3 RMT Card (KX-T96196)  
 2.6.4 ERMT Card (KX-TD50197)

### Programming References

**System Programming** .....Installation Manual, Section 4  
 4.2.2 System - Numbering Plan  
     — (01)-(16) 1st through 16th Hundred Block Extension  
 4.3.2 Group - Extension Group  
     — FDN

- 4.3.5 Group - OGM Group
  - FDN
- 4.4.5 Line - External Paging
  - FDN
- 4.5.2 Features - Phantom Extension
  - FDN
- 4.10.4 Maintenance - System Parameters
  - Remote FDN

**Feature References**      None

**Operation References**    Not applicable.

## Full One-Touch Dialing

---

### Description

Allows the PT user to have simple access to a desired party or system feature by pressing just one button without first going off-hook.

Hands-free operation is automatically provided simply by pressing one of the following buttons.

- **One-Touch Dialing**
- **DSS** (both on PTs and DSS consoles)
- **REDIAL**
- **SAVE**
- **Function (F1-F10)** (Special Display Features for KX-T7235 and KX-T7436 only).

### Conditions

- This feature can be enabled or disabled by Station Programming.

### Programming References

**Station Programming**.....User Manual, Section 2  
Full One-Touch Dialing Assignment

### Feature References

Button, Direct Station	One-Touch Dialing
Selection (DSS)	Redial, Last Number
Redial, Saved Number	SPECIAL DISPLAY FEATURES

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Full One-Touch Dialing

## Handset / Headset Selection

---

### Description

The system supports the use of optional headset on PTs.

### Conditions

- Headset mode can be set by:  
[DPT]  
Station Programming  
[APT]  
HANDSET/HEADSET selector on the APT and/or on the handset
- “OHCA” is available on an extension in Headset mode.

### Connection References

Refer to the Operating Instructions for the Headset KX-T7090 or KX-T30890.

### Programming References

**Station Programming**.....User Manual, Section 2  
Handset/Headset Selection

### Feature References

None

### Operation References

Refer to the Operating Instructions for the Headset KX-T7090 or KX-T30890.

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## Handset Microphone Mute

---

### Description

While on a handset call, the PT user (KX-T7400 series PT only) can turn off the handset microphone by pressing the AUTO ANSWER/MUTE button for privacy reasons. If the caller turns on the Handset Microphone Mute mode, the other party can't hear the caller's voice, but the caller can hear the other party's voice.

### Conditions

- This feature is available for KX-T7400 series PT only.
- If AUTO ANSWER/MUTE button is pressed during an OHCA call, Handset Microphone Mute mode will be turned on.
- If AUTO ANSWER/MUTE button is pressed in Hands-free mode, Microphone Mute mode will be turned on.

### Programming References

No programming required.

### Feature References

Microphone Mute

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Handset Microphone Mute



## Hands-free Answerback

---

### Description

Allows the PT (with SP-PHONE) user to answer an intercom call and talk to the caller without lifting the handset.

When an intercom call comes in on an extension in Hands-free Answerback mode, the speakerphone is turned on automatically and hands-free conversation is established immediately after the called extension hears a beep tone and the caller hears a confirmation tone.

### Conditions

- **AUTO ANSWER/MUTE Button**

Hands-free answerback mode can be turned on/off by pressing the AUTO ANSWER/MUTE button.

- This feature does not work for the following calls:

- CO calls
- Doorphone calls
- Calls to a Ring Group
- Calls to a Phantom button
- Calls from a VM (Voice Mail) extension
- Calls ringing on an SDN button

- **Ring/Voice Intercom Alerting Mode Override**

Hands-free Answerback set on a telephone overrides “Ring / Voice Intercom Alerting mode” preset on the extension; Hands-free conversation mode is established immediately after a confirmation tone is sent.

### Programming Reference

No programming required.

### Feature References

Alternate Calling – Ring / Voice

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Hands-free Answerback

## Hands-free Operation

---

**Description** Allows the PT user to dial and to talk to the other party without lifting the handset. Pressing an appropriate button provides hands-free mode.

- Conditions**
- This function can be utilized by pressing a button listed below when the SP-PHONE / MONITOR button indicator is off:
    - SP-PHONE button
    - MONITOR button
    - INTERCOM button
    - CO button
    - DN button
  - The hands-free mode is canceled if nothing is dialed within 10 seconds.
  - **PT with MONITOR button**  
The KX-T7050 and the KX-T7250 can be used for hands-free dialing operations, etc., but cannot be used for a hands-free conversation.
  - **Full One-Touch Dialing**  
A single press of a One-Touch Button, DSS button, REDIAL button or a SAVE button also provides the hands-free mode if Full One-Touch Dialing is activated.

### Programming References

No programming required.

**Feature References** Full One-Touch Dialing

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Hands-free Operation

## Hold Recall

---

### Description

Prevents a call on hold from being kept waiting longer than a pre-determined time. If the timer expires, ringing or an alarm tone is sent to the extension user who held the call as a reminder.

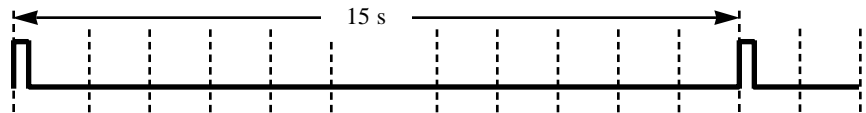
If the extension user is on-hook and its speaker-phone is off, the phone will ring.

If the extension user is engaged in a call when the Hold Recall Time expires, an alarm tone is sent from the built-in speaker of a PT or from the handset of an SLT at 15-second intervals.

In this case, Call Waiting feature should be enabled at the extension beforehand.

### Conditions

- Hold Recall applies to the following calls:
  - Calls on Consultation Hold
  - Calls on Hold
  - Calls on Exclusive Hold
- **Automatic Disconnection**  
If an outside call placed on hold is not retrieved within 30 minutes, it is automatically disconnected.
- Hold Recall can be disabled by System Programming.
- If “Call Waiting” is enabled at the extension where the call is held, an alarm tone is emitted as follows:



- The display PT flashes the indication of the held party for five seconds at 15-second intervals synchronizing with the tone.

### Programming References

- System Programming .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (45) Call Waiting Set/Cancel
- 4.2.4 System - System Timer
  - Hold Recall Time (0-240 s)

### Feature References

- |                                |                              |
|--------------------------------|------------------------------|
| Call Hold – Station            | Call Hold – Trunk            |
| Call Hold, Exclusive – Station | Call Hold, Exclusive – Trunk |

**Operation References** Not applicable.

## Host PBX Access

---

**Description** The system may be installed behind an existing host PBX. This is performed by connecting (extension) lines from the host PBX to CO line ports of the KX-TD500 System.

- Conditions**
- To enable Host PBX Access, put the host PBX line in a Trunk Group. The extension user can access the host PBX by selecting that CO line.
  - **Host PBX Access Code**  
A Host PBX Access Code is required to access CO lines of the host PBX for making an outside call.
  - **Automatic Pause Insertion**  
A pause, if programmed, can be inserted between the user-dialed Host PBX Access Code and the following digits. Program the pause time required by the Host PBX for that Trunk Group.
  - **External Feature Access**  
Access to the host PBX during a conversation is also possible.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.3.1 Group - Trunk Group  
— Pause Time  
— PBX Access Code

**Feature References** External Feature Access                      Pause Insertion, Automatic

**Operation References** Not applicable.

## Inter Office Calling

---

### Description

Allows the extension user to call another extension user within the system or a tenant. An inter office call is a call between two extensions in the KX-TD500 system.

### Conditions

- **Definition of extension busy status**
  - <ICM type PT>
    - Off-hook
    - ICM button is not idle
  - <DN type PT>
    - There is no idle DN buttons on a PT
  - <SLT>
    - Off-hook
    - an SLT is ringing
    - an SLT has a call placed on hold
- **Extension Number Assignment**

Extension numbers (3 or 4 digits) are assigned to all extensions according to “Numbering Plan” by System Programming.
- **DSS Button**

DSS buttons permit One-Touch access to an extension and provide Busy Lamp Field. A DSS button can be assigned on a Proprietary Telephone (PT) or DSS Console by Station, User or System Programming.
- **Call Directory – Extension Dialing**

The extension user with one of the following PTs can make an extension call with “Call Directory - Extension Dialing” on the display of the following PTs:KX-T7235, KX-T7431,KX-T7433, KX-T7436
- **Call Progress Tone**

After dialing an extension number, the extension user may hear one of the following call progress tones:

  - **Ringback tone:** indicates that the other extension is being called.
  - **Confirmation tone:** indicates that the user can perform Voice Calling.
  - **Busy tone:** indicates that the other extension is busy.
  - **Do Not Disturb tone:** indicates that the other extension has DND enabled.
- **Tenant Service**

If “Tenant Service” is employed, calling to other extensions in other tenants is enabled/disabled by System Programming.
- Names can be given to all extensions by User or System Programming. An extension number and a name, if programmed, are shown on the display PT during an intercom call.

### Programming References

- System Programming .....Installation Manual, Section 4
- 4.1.3 Configuration - Extension Port Assignment
  - Attribute
  - Tel. Type
  - DN

- 4.2.1 System - Tenant
  - Inter-tenant Calling
- 4.2.2 System - Numbering Plan
  - 1st through 16th Hundred Block Extension
- 4.4.2 Line - Extension Line
  - Name
  - Flexible CO Key Assignment
- 4.4.3 Line - DSS Console
  - Flexible DSS Key Assignment

**User Programming** .....User Manual, Section 3  
[004] Extension Name Set  
[005] Flexible CO Button Assignment  
**Station Programming**.....User Manual, Section 2  
Flexible Button Assignment – DSS Button

**Feature References**      Busy Lamp Field                      Button, Direct Station Selection (DSS)

**Operation References**    **Station Features and Operation**.....User Manual, Section 4.3  
Inter Office Calling

## Intercept Routing

---

### Description

Provides automatic redirection of incoming CO calls. There are the following two types of Intercept Routing:

#### **Rerouting**

Activated when an incoming CO call cannot be placed on the destination extension.

#### **Intercept Routing-No Answer (IRNA)**

Activated when an incoming CO call is not answered within a specified period of time (Intercept time).

### Conditions

- **Intercept Routing applies to:**

DIL 1:1, DIL 1:N, DISA, TAFAS, TIE, DID, Call Forwarding, and Station Hunting.

- **IRNA destinations**

The final destination of intercepted calls can be programmed for day and night modes individually.

There are five possible destinations:

- 1) an extension
- 2) an external pager
- 3) a DISA outgoing message
- 4) an Extension Group
- 5) a phantom extension

- **Do Not Disturb**

Even if the destination is in Do Not Disturb mode, it does not function and the call re-directed by Intercept Routing is placed there.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.4 System - System Timer  
— Intercept Time (3-48 rings)  
4.3.1 Group - Trunk Group  
— Intercept Destination, Day/Night

### Feature References

None

### Operation References

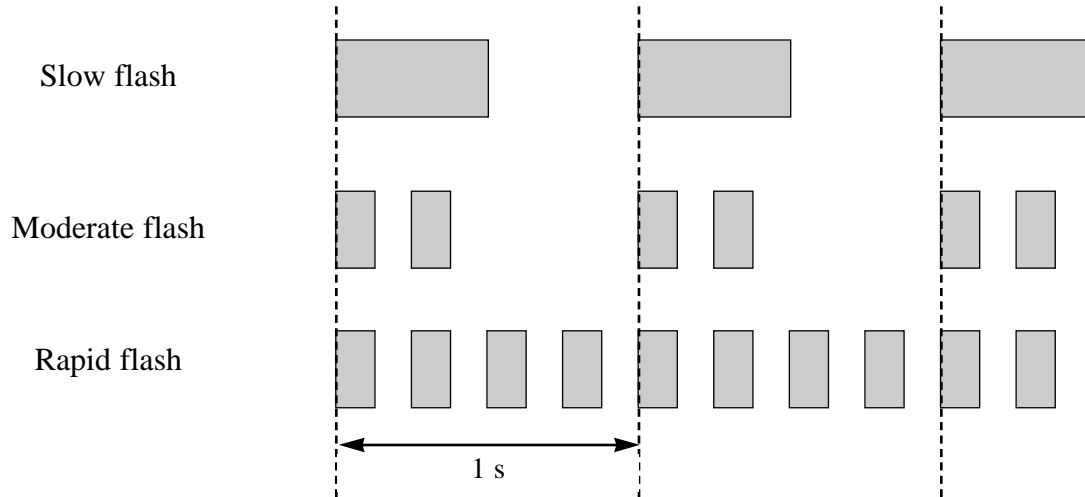
Not applicable.

## LED Indication

### Description

The LED (Light Emitting Diode) indicators of the Line Access Buttons display the line conditions with the following lighting patterns: Off, Steady On, Slow flash, Moderate flash, Rapid flash

### Flashing light (winks) patterns



### Conditions

None

### Programming References

No programming required.

### Feature References

Button, Group-CO (G-CO)                      Button, INTERCOM (ICM)  
Button, Loop-CO (L-CO)  
Button, Primary Directory Number (PDN)  
Button, Secondary Directory Number (SDN)  
Button, Single-CO (S-CO)

### Operation References

Not applicable.



## Limited Call Duration

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**Description** Limited Call Duration is a system programmable feature that disconnects a CO call when a specified timer expires. A warning tone is sent to the extension user 15 seconds, 10 seconds, and 5 seconds before the time-limit.

- Conditions**
- **Class of Service**  
Limiting the call duration can be activated or deactivated on a Class of Service (COS) basis for each extension.
  - **Extension-to-CO Line Call**  
Any outside call except CO-to-CO line call is limited by this feature. For CO-to-CO line calls, CO-to-CO Duration Time is activated.
  - This feature applies to the following calls:
    - (1) Ordinary CO calls
    - (2) Calls forwarded by “Call Forwarding to Trunk” feature\*
    - (3) Calls transferred by “Call Transfer to Trunk” feature\*\* Determined by COS of the extension who initiated the feature.
  - **Outgoing CO calls only or both**  
This feature may apply to outgoing CO calls only or both outgoing and incoming CO calls. This is determined by System Programming (Section 4.2.7 System - System Option, “(5) Limited Call Duration” in the Installation Manual).

### Programming References

- System Programming .....Installation Manual, Section 4
- 4.2.3 System - Class of Service
  - Time Limit of Outside Calls
- 4.2.4 System - System Timer
  - Extension-to-CO Line Call Duration Time (1-64 min)
- 4.2.7 System - System Option
  - (5) Limited Call Duration

**Feature References** Call Forwarding – to CO/TIE                      Call Transfer – to CO  
Conference, Unattended

**Operation References** Not applicable.

## Line Preference – Incoming (No Line / Prime Line / Ringing Line)

### Description

A PT user can select the method used to answer incoming calls from the following three line preferences:

(1) **No Line Preference**

No line is selected when an extension user goes off-hook to answer a call. He or she must press a desired Line Access button to answer an incoming call.

(2) **Prime Line Preference**

An extension user can assign a prime line beforehand and answer a call ringing on that line simply by lifting the handset, even when multiple calls are ringing on his or her extension simultaneously.

A Prime Line can be selected from the following line access buttons.

<ICM type PT>

ICM, S-CO, G-CO, L-CO

<DN type PT>

PDN, SDN, S-CO, G-CO, L-CO

(3) **Ringing Line Preference** (default)

An extension user can answer the call ringing at his or her extension simply by going off-hook.

### Conditions

- Setting a new line preference feature cancels the previous setting.
- If “Prime Line Preference” is selected, an incoming call coming from a line other than the prime line cannot be answered just by going off-hook. To answer the call, the extension user must press the flashing button associated with the ringing line.
- **Delayed Ringing**  
If “Ringing Line Preference” is selected, going off-hook does not answer a line programmed for “no ring” even though there is an incoming call. Going off-hook during the delay time does not answer a line programmed for “delayed ringing.”
- **<SLT>**  
An SLT is fixed to Ringing Line Preference mode.

### Programming References

- System Programming** .....Installation Manual, Section 4  
4.4.2 Line - Extension Line  
— Preferred Line  
  Incoming  
— Flexible CO Key Assignment
- User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment

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**Station Programming**.....User Manual, Section 2  
Flexible Button Assignment – Group-CO (G-CO) Button, Loop-CO (L-  
CO) Button, Primary Directory Number  
(PDN) Button, Secondary Directory Number  
(SDN) Button, Single-CO (S-CO) Button  
Preferred Line Assignment – Incoming

**Feature References**      None

**Operation References**    **Basic Operations**.....User Manual, Section 4.2  
Receiving Calls

## Line Preference – Outgoing (Idle Line / No Line / Prime Line)

### Description

A PT user can select a desired outgoing line preference to originate calls from the following three line preferences:

(1) **Idle Line Preference**

When an extension user goes off-hook to make a call, an idle line is automatically selected from the pre-assigned lines.

(2) **No Line Preference**

No line is selected when an extension user goes off-hook to make a call. He or she must select an appropriate Line Access button to make a call.

(3) **Prime Line Preference** (default)

When an extension user goes off-hook to make a call, a pre-programmed prime line is selected automatically.

A Prime Line can be selected from the following line access buttons.

<ICM type PT>

ICM, S-CO, G-CO, L-CO

<DN type PT>

PDN, SDN, S-CO, G-CO, L-CO

### Conditions

- This feature is available when there is no incoming call on the extension or when the extension has set “No Line Preference for incoming calls,” that is, “Line Preference-Incoming” overrides “Line Preference-Outgoing.”
- Setting a new line preference feature cancels the previous setting.
- The CO lines available for extension users must be assigned by System Programming.
- **Line Preference Override**  
The extension user can override the Idle / Prime Line Preference temporarily by pressing the desired line access button (INTERCOM, CO or DN (PDN/SDN)) before going off-hook; or if Full One-Touch Dialing is enabled, press One-Touch Dialing, DSS, REDIAL, or SAVE button.

### Programming References

- System Programming** .....Installation Manual, Section 4  
4.4.2 Line - Extension Line  
— Preferred Line  
Outgoing  
— Flexible CO Key Assignment
- User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment
- Station Programming** .....User Manual, Section 2  
Flexible Button Assignment – Group-CO (G-CO) Button, Loop-CO  
(L-CO) Button, Primary Directory Number  
(PDN) Button, Secondary Directory Number  
(SDN) Button, Single-CO (S-CO) Button

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Preferred Line Assignment – Outgoing

## Feature References

Trunk Connection Assignment – Outgoing

## Operation References

**Basic Operations**.....User Manual, Section 4.2  
Making Calls

## Live Call Screening (LCS)†

### Description

This is one of the DPT Integration features.

Allows the PT user to monitor his/her voice mailbox while a caller is leaving a message in it. The extension user can intercept the recording in order to talk with the caller. The voice mailbox can be monitored in one of the following two ways:

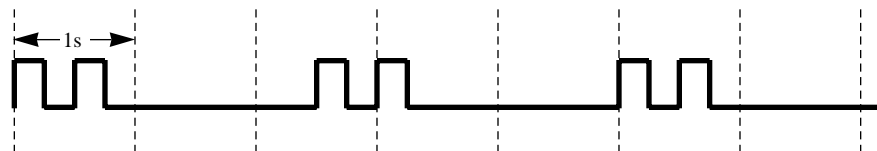
#### **Hands-Free Mode**

When a caller starts to record a message, the caller's voice is heard through the built-in speaker of a PT automatically; the extension user can talk to the caller by going off-hook.

#### **Private Mode**

When a caller starts to record a message, a notification tone is emitted by the DPT. The extension user can monitor the caller's voice by going off-hook.

#### **Notification Tone**



To intercept the call in either Hands-Free or Private mode, press the LCS button.

### Conditions

- **Call Waiting**

If the extension user is busy on a call when a caller begins to leave a message, a call waiting tone is sent (if programmed beforehand). The extension user can put the current call on hold before accessing LCS.

- **LCS button/LCS Cancel button**

LCS/LCS Cancel button can be assigned to a flexible (CO, DSS) button by Station, User or System Programming.

- **LCS Password Clear**

To prevent unauthorized monitoring, a 3-digit password must be set by the extension user. If the extension user forgets his/her password, it can be cleared by the Manager or an Operator.

- **Recording Mode**

Each extension can be programmed to either stop or continue recording the conversation after intercepting the recording in order to talk with the caller.

†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports Digital Proprietary Telephone integration; e.g. KX-TVS100).



## Local Alarm

### Description

If a system error is detected during on-line communication mode, the system alerts the extension of the Manager by turning on the Alarm button on it. The Alarm button lights in red. An error message will be shown on the display PT of the Manager by pressing the red lit Alarm button.

If a major error occurs, minor errors will be neglected and only the first major error message will be displayed. The second error will be neglected, if the error priority is the same as the first one. Please refer to "Section 7 Troubleshooting" in the Installation Manual for further information on error messages.

### Error Indications List (Priority order)

Indications	Description	Priority	Alarm LED
ERR CLCK IC	Calendar IC failure	1	A
ERR DC DOWN	DC power down	1	A
B/S FAN FLT!	Basic shelf fan alarm	1	B
E/S1 FAN FLT!	Expansion shelf 1 fan alarm	1	B
E/S2 FAN FLT!	Expansion shelf 2 fan alarm	1	B
B/S OVER HEAT!	Basic shelf heat alarm	1	B
E/S1 OVER HEAT!	Expansion shelf 1 heat alarm	1	B
E/S2 OVER HEAT!	Expansion shelf 2 heat alarm	1	B
ERR TSW DWN	TSW clock down	1	A
ERR BAT ALM	CPU RAM battery alarm	1	A
ERR AC DOWN	AC power down	2	A
ERR xyy CRD ERR	Option Card failure	2	B
ERR xyy DISCNCT	Card disconnect	2	A
ERR xyy DTR AIS	Digital trunk AIS reception	2	C
ERR xyy DTR FRM	Digital trunk frame failure	2	C
ERR xyy DTR RAI	Digital trunk RAI reception	2	C
ERR xyy DTR SYC	Digital trunk out of synchronization	2	C
ERR xyy LPR RAM	Option Card RAM failure	2	B
ERR xyy LPR ROM	Option Card ROM failure	2	B
ERR xyxe MODEM	Modem failure	2	B
ERR xyy OGM LOS	DISA OGM is lost	2	C
ERR xyy OPX POW	OPX power failure	2	C
ERR SMDR	Printer is not connected	2	A



## [Legend]

### Indications

- x : Shelf Number ( 1-3)
- yy : Slot Number (01-14)
- e : Error Number

### Priority

- 1 : Major Error
- 2 : Minor Error

### Alarm LED

(When a problem occurs)

- A : LED on PT/Top Shelf/Card -----OFF / ON  
The corresponding error indication will be displayed on the LCD by pressing the red lit Alarm button.
- B : LED on PT/Top Shelf -----OFF / ON  
The corresponding error indication will be displayed on the LCD automatically.
- C : LED on PT/Top Shelf -----OFF (no change)  
The contents of the error will be printed out by SMDR.

(When the problem is solved)

- A : LED on PT-----ON (no change)  
LED on Top Shelf/Card -----ON / OFF
- B : LED on PT/Top Shelf -----ON / OFF

## Conditions

- **Alarm button assignment**  
Alarm button can be assigned to a flexible CO button on PT by Station, User or System Programming.
- **Alarm LED indication**  
Major alarm (Priority 1) - Red moderate flash  
Minor alarm (Priority 2) - Red On
- If multiple errors occur at a time, only the error with highest priority will be displayed by pressing the red lit Alarm button.

## Programming References

- System Programming** .....Installation Manual, Section 4  
4.4.2 Line - Extension Line  
— Flexible CO Key Assignment
- User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment
- Station Programming** .....User Manual, Section 2  
Flexible Button Assignment — Alarm Button

## Feature References

None

## Operation References

- Operator / Manager Service Features** .....User Manual, Section 4.4  
Local Alarm Indication

## Lockout

---

### Description

If one party in a conversation goes on-hook, they both are disconnected from the speech path automatically. A reorder tone is sent to the off-hook party before it is disconnected. No operation is necessary.

### Conditions

- If nothing is dialed within a certain period of time after the other party goes on-hook, a reorder tone is sent to the extension user and then is disconnected from the speech path.

### Programming References

No programming required.

### Feature References

None

### Operation References

Not applicable.

## Log-In / Log-Out

### Description

Allows members (extension users) of an **Extension Group** (except for Group Type:None) and **Phantom Extensions** to join (log-in) or leave (log-out) the group.

They can leave the group temporarily when they are away from their desks, to prevent calls being sent to their extensions.

They can return to the group when they are ready to answer calls.

### The lighting patterns and status of the Log-In/Log-Out button

Lighting pattern	Status
Off	Log-In (no calls)
Red On	Log-Out
Red slow flash (UCD Group only)	Log-In (waiting calls)

### Conditions

- **Log-In/Log-Out button**

Log-In/Log-Out button can be assigned to a flexible CO button by Station, User or System Programming.

- When extensions are logged out, calls directed to the above mentioned group do not come in on their extension.

However, calls directed to their individual extension (extension call, DIL 1:1, DIL 1:N, etc.) still ring at their extension.

- The extension user cannot leave the group (Log-Out), if at least one call is coming in on the group.

- **UCD Login Monitor**

Login/Logout status of the UCD Group members can be monitored by the extensions in the same UCD Group through Busy Lamp Field of the corresponding DSS button. UCD Login Monitor is enabled or disabled by System Programming.

### Programming References

**System Programming** .....Installation Manual, Section 4

4.2.2 System - Numbering Plan

— (58) Login/Logout

4.3.2 Group - Extension Group

— LOGIN Monitor

4.4.2 Line - Extension Line

— Flexible CO Key Assignment

**User Programming** .....User Manual, Section 3

[005] Flexible CO Button Assignment



## Manager Extension

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### Description

One extension in each tenant can be assigned as the Manager Extension. This extension can perform the following Manager services:

#### <System/Tenant>

- BGM–External Turn on/off
- Local Alarm Indication
- OGM (outgoing messages) record/play
- Trunk Busy-out set
- Trunk Route Control

#### <To other extensions>

- Caller ID Log Lock clear
- DND remote set/cancel
- Live Call Screening Password clear
- Remote FWD (Call Forwarding) Cancel - Once
- Remote Station Lock set/cancel
- Timed Reminder (Wake-up Call), Remote set/cancel/confirm

### Conditions

#### • Operator Extensions

Operator extensions can also perform the above mentioned Manager Service functions except “Local Alarm Indication.”

#### • Tenant Service

If Tenant Service is employed, the Manager extension can be assigned to each tenant individually.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.1 System - Tenant  
— Manager Extension DN

### Feature References

None

### Operation References

**Operator/Manager Service Features** .....User Manual, Section 4.4

## Message Waiting

### Description

Allows an extension user to indicate to another extension that a message is waiting for him or her, by turning on the MESSAGE indicator (button) of the called extension. The extension that received the message waiting indication can call back the message sender simply by going off-hook and pressing the red lit MESSAGE indicator (button). Up to 448 message indications can be set in the system. This feature is useful when the called extension is busy or does not answer the call.

### Conditions

- **Turning off the light**  
Either the message sender or the receiver can turn off the light.
- Messages are always left on the first called extension. It is not sent to a Call Forwarding or Station Hunting destination.
- **MESSAGE button**  
If a MESSAGE button is not provided on a PT, it can be assigned to a flexible (CO, DSS) button by Station, User or System Programming.
- **VPS Integration**  
If VPS Integration is employed, a VM extension informs an extension that a message is left in his/her mailbox by turning on the MESSAGE lamp. The extension user can listen to the message in the mailbox simply by pressing the red lit MESSAGE lamp.
- **SLT with message waiting lamp**  
Any extension user can turn on the message waiting lamp on an SLT in the same way as the PTs. SLTs with message waiting lamp should be connected to an ESLC (KX-TD50175) or SLC-M (KX-T96175) card. One of 12 message waiting lamp lighting patterns (for SLTs) can be selected by System Programming.

### Programming References

- System Programming** .....Installation Manual, Section 4
  - 4.2.2 System - Numbering Plan
    - (40) Message Waiting Set/Cancel/Call Back
  - 4.2.7 System - Option
    - (27) Message Waiting lamp pattern
  - 4.4.2 Line - Extension Line
    - Message Lamp
    - Flexible CO Key Assignment
  - 4.4.3 Line - DSS Console
    - Flexible DSS Key Assignment
  - 4.5.9 Features - VPS Integration 2/2
    - Turn off control of Message Waiting Lamp
- User Programming** .....User Manual, Section 3
  - [005] Flexible CO Button Assignment
- Station Programming** .....User Manual, Section 2
  - Flexible Button Assignment – Message Waiting (MESSAGE) Button

### Feature References

VPS Integration—Voice Mail (VM) Service Integration

### Operation References

**Station Features and Operation** .....User Manual, Section 4.3  
Message Waiting VPS Integration

## Microphone Mute

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**Description** Allows the PT user to turn off the microphone for privacy reasons.

- Conditions**
- This is effective for the microphone only; only your voice will be muted during a hands-free conversation.
  - The extension user in Microphone Mute mode can hear the other party's voice.
  - This feature is not available for KX-T7050, KX-T7055 and KX-T7250.

**Programming References**  
No programming required.

**Feature References** None

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Microphone Mute

## Mixed Station Capabilities

**Description** The KX-TD500 system supports a wide range of telephone sets as follows:

- **Digital Proprietary Telephones (DPTs)**
- **Analog Proprietary Telephones (APT)**
- **Single Line Rotary Telephones — Dial Pulse Signaling**
- **Single Line Touch Tone Telephones — Tone Dialing**

The super hybrid method used in this system allows any telephone to be connected to an extension port without a special adaptor.

### Extension cards and compatible terminals

Card \ Terminal	DSS Console	Proprietary Telephone		SLT
		DPT	APT	
HLC (KX-T96170)	✓		✓	✓
PLC (KX-T96172)	✓		✓	
SLC (KX-T96174)				✓
DHLC (KX-TD50170)	✓	✓	✓	✓
DLC (KX-TD50172)	✓	✓		
ESLC (KX-TD50175)				✓

“✓” indicates that the extension card is available for the terminal.

**Conditions**

- If a telephone is replaced by another one, the stored data (such as feature button storage) is held for the new one.

### Connection References

**Installation** ..... Installation Manual, Section 2  
2.4 Extension Cards

### Programming References

No programming required.

**Feature References** None

**Operation References** Not applicable.



## Music on Hold

---

### Description

The system provides “Music on Hold” to callers on hold, if available.

### Conditions

- Operations such as Call Hold, Exclusive Call Hold or Consultation Hold generates Music on Hold.
- **Music on Hold or Ringback tone**  
It is system programmable whether to send ringback tone or “Music on Hold” to the caller while his/her call is being transferred.  
To send “Music on Hold” to the caller, the following optional equipment and System Programming are required:
  - Connect External Music Source, such as a radio, to the system (2.8.3 External Music Source).
  - Select ‘MUS1’ or ‘MUS2’ in “Music on Hold” menu ( 4.2.1 System - Tenant).
  - Select ‘Music on Hold’ in “(1)Sound source during transfer” menu ( 4.2.7 System - System Option).
- **Hardware Requirements**  
It is necessary to connect a user-supplied external music source such as a radio to the system. Up to two external music sources can be connected to the system.
- The music source is used for Music on Hold and/or BGM. If external music sources are in use, you can select a music source for each usage.

### Connection References

**Installation** .....Installation Manual, Section 2  
2.8.3 External Music Source

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.1 System - Tenant  
    — Music on Hold Source  
    — BGM Source  
4.2.7 System - System Option  
    — (1) Sound source during transfer

### Feature References

Background Music (BGM)

### Operation References

Not applicable.

## Night Service

---

### Description

The system supports both Night and Day modes of operation in a different arrangement. The system operation for originating and receiving calls can be different for day and night modes. The system operation for restricting toll calls can be arranged separately to prevent unauthorized toll calls at night.

#### **Switching of the Day / Night Mode**

Day/Night mode can be switched either automatically at a pre-assigned time or manually, by the extension allowed by COS (Class of Service) programming, at any time desired within each tenant individually.

#### **Automatic Night Service:**

If automatic switching mode is selected, the system will automatically switch the Day/Night mode at the programmed time each day. The starting time of the Day/Night mode can be set twice for each day.

#### **Manual Night Service:**

If manual switching mode is selected, **the extension allowed by COS (Class of Service) programming** can switch the Day/Night mode by dialing the feature number or pressing the Day/Night button.

### Conditions

- **Class of Service**  
Class of Service programming determines the extensions that can perform this feature.
- **Day/Night button**  
Day/Night button can be assigned to a flexible CO button by Station, User or System Programming.
- The following programming items may be assigned in a different way between day mode and night mode:
  - Trunk Connection Assignment — Outgoing Destination
  - Intercept Destination
  - Toll Restriction Level
  - Doorphone Destination
  - Overflow Destination

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.1 System - Tenant
  - DAY/NIGHT Switching Mode
  - Day 1/2, Night 1/2
- 4.2.2 System - Numbering Plan
  - (51) Night Mode, Set/Cancel
- 4.2.3 System - Class of Service
  - Switching Day/Night Mode
  - TRS Level, Day/Night
  - Trunk Group Setting, Day/Night

- 4.3.1 Group - Trunk Group
  - Intercept Destination, Day/Night
- 4.3.2 Group - Extension Group
  - Overflow Setting
  - Destination, Day/Night
- 4.4.1 Line - Trunk Line
  - Destination, Day/Night
- 4.4.2 Line - Extension Line
  - Flexible CO Key Assignment
- 4.4.4 Line - Doorphone
  - Destination, Day/Night
- 4.9.1 DID - DID Dial Registration
  - Destination, Day/Night

**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment

**Station Programming** .....User Manual, Section 2  
Flexible Button Assignment – DAY/NIGHT Button

**Feature References**           None

**Operation References**   **Station Features and Operation**.....User Manual, Section 4.3  
Night Service On/Off

## Off-Hook Call Announcement (OHCA)

### Description

OHCA allows the extension user to inform a busy extension (engaged in a call using the handset) that another call is waiting by talking through the built-in speaker of the busy extension's PT. If the existing call is performed over the handset, the second conversation is made with the speakerphone so that the called extension can talk to two parties independently. OHCA is performed the same way as Busy Station Signaling (BSS). It depends on the telephone type of the called party whether BSS or OHCA is activated by the operation. If the called extension is KX-T7130, KX-T7235 or KX-T7436, OHCA becomes active.

### Conditions

- **Call Waiting**

This feature is only effective if the called extension has set Call Waiting. If not, the caller will hear a reorder tone after dialing the extension number.

- **BSS / OHCA / Whisper OHCA**

If an extension user dials "1" while hearing a busy tone, BSS or OHCA or Whisper OHCA will be activated at the called extension.

This is determined by the following conditions.

Calling extension	Called extension			
	Call Waiting setting			
	OFF	ON		
	0	1	2	3
COS-OHCA assignment				
Disable	————	BSS	BSS	BSS
Enable	————	BSS	OHCA <sup>*1</sup> →BSS	W-OHCA <sup>*2</sup> →OHCA→BSS

<sup>\*1</sup>: OHCA (Off-Hook Call Announcement) is activated when the called extension is KX-T7130, KX-T7235 or KX-T7436.

<sup>\*2</sup>: Whisper OHCA is activated when both calling and called extensions are using one of the KX-T7400 series PT.

- BSS, OHCA and Whisper OHCA do not function at a DN type PT.

### Hardware Requirements

- **DPT**

Basic shelf, expansion shelf 1, 2 have 16 OHCA paths which are connected each other.

- **APT**

To utilize this feature, the OHCA card should be installed on a PLC card or HLC card beforehand.

- **DPT**

To utilize this feature, the DOHCA card should be installed on the TSW card beforehand.



## Off-Hook Call Announcement (OHCA), Whisper

### Description

This is a variation of the OHCA feature. The difference is, OHCA provides two-way communication, but Whisper OHCA provides one-way (from the calling extension to the called extension) communication.

### Conditions

- **Call Waiting**

This feature is only effective if the called extension has set Call Waiting feature.

By default, this feature works only when the called extension user is using KX-T7400 series PT. If the other extension is not a KX-T7400 series PT, Call Waiting works instead of this feature.

- **Non-KX-T7400 cases**

If the Whisper OHCA sender does not use a KX-T7400 series PT, it will work as OHCA. If the receiver does not use a KX-T7400 series PT, it may not work properly (e.g., the OHCA may be heard by unintended parties).

- **Enabling Feature for Any PT**

It is possible to enable the Whisper OHCA by any PT by System Programming. But it may not work properly (e.g., the OHCA may be heard by unintended parties).

- **Conference Trunk**

An idle conference trunk is required to perform this feature.

- **BSS / OHCA / Whisper OHCA**

If an extension user dials “1” while hearing a busy tone, BSS or OHCA or Whisper OHCA will be activated at the called extension. This is determined by the following conditions.

Calling extension	Called extension			
	Call Waiting setting			
	OFF	ON		
	0	1	2	3
COS-OHCA assignment				
Disable	————	BSS	BSS	BSS
Enable	————	BSS	OHCA <sup>*1</sup> →BSS	W-OHCA <sup>*2</sup> →OHCA→BSS

<sup>\*1</sup>: OHCA (Off-Hook Call Announcement) is activated when the called extension is KX-T7130, KX-T7235 or KX-T7436.

<sup>\*2</sup>: Whisper OHCA is activated when both calling and called extensions are using one of the KX-T7400 series PT.

- BSS, OHCA and Whisper OHCA do not function at a DN type PT.

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (45) Call Waiting Set/Cancel
- 4.2.3 System - Class of Service
  - Off-Hook Call Announcement (OHCA)
- 4.2.7 System - System Option
  - (32) Whisper OHCA to extensions other than T74XX

## Feature References

- Busy Station Signaling (BSS) Call Waiting
- Off-Hook Call Announcement (OHCA)

## Operation References

- Station Features and Operation**.....User Manual, Section 4.3
- Off-Hook Call Announcement (OHCA), Whisper

## Off-Hook Monitor

---

**Description** Allows a PT user on a handset call to let other people around him/her monitor the call by pressing the SP-PHONE button.

- Conditions**
- This feature is available for KX-T7400 series PT only.
  - If the SP-PHONE button is pressed during a handset call, either Off-Hook Monitor or SP-PHONE mode (hands-free mode) will be established. This is determined by System Programming (Section 4.2.7 System - System Option, (20) Off-hook Monitor” in the Installation Manual).
  - Making an OHCA call is not available if the other extension is in Off-Hook Monitor mode.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.7 System - System Option  
— (20) Off-hook Monitor

**Feature References** Hands-free Operation

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Off-Hook Monitor



## Off Premise Extension (OPX)

---

**Description** SLTs installed off the premise can be operated via a public or private network in the same way as extensions on the premise. These telephones are called Off Premise Extensions (OPX).

### Conditions

- **Hardware Requirements**  
OPX card (KX-T96185) or T-1 Digital trunk card (KX-T96187), and OPX Power Unit (KX-T96186) are required.
- **Ring Tone Pattern**  
When an incoming call is placed to an OPX, the ringing tone is same as the CO line incoming patterns.
- **Call Restriction**  
Calls between OPX and Doorphone are restricted. That is, both “Calling from OPX to Doorphone” and “Calling from Doorphone to OPX” are not possible.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.1.5 Configuration - T1 Port Assignment
  - Channel Type
  - DN
- 4.4.2 Line - Extension Line

**Feature References** None

**Operation References** Not applicable.

## One-Touch Dialing

### Description

One-Touch Dialing offers the PT user One-Touch access to a desired party or system feature by storing an extension number, telephone number, account code or a feature number (up to 16 digits) in a One-Touch Dialing button. The number of buttons available depends on the type of PT. One-Touch Dialing buttons can be programmed to flexible buttons: CO, DSS or PF (Programmable Feature).

### Conditions

- **Combination dialing**  
Speed Dialing, One-Touch Dialing, manual dialing, Last Number Redial and Saved Number Redial can be used together in a combination.
- **Storing more than 17 digits number**  
It is possible to store a number consisting of 17 digits or more by dividing it and storing it in two One-Touch Dialing buttons. In this case, a CO line access code should be stored in the first button.
- **Full One-Touch Dialing**  
If “Full One-Touch Dialing” is enabled, press the One-Touch Dialing button directly without going off-hook.
- To store the telephone number of an outside party, a line access code (9, or 801 through 848) must be stored as the leading digit.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.4.2 Line - Extension Line  
— Flexible CO/PF Key Assignment  
4.4.3 Line - DSS Console  
— Flexible DSS/PF Key Assignment  
**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment  
**Station Programming**.....User Manual, Section 2  
Flexible Button Assignment – One-Touch Dialing Button  
One-Touch Dialing Button for VM Direct  
Access  
Full One-Touch Dialing Assignment  
**DSS Console Features** .....User Manual, Section 5  
PF (Programmable Feature) Buttons – One-Touch Dialing

### Feature References

Full One-Touch Dialing

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
One-Touch Dialing  
**DSS Console Features** .....User Manual, Section 5  
One-Touch Dialing  
One-Touch Access for System Features



## Operator Call

---

**Description** To direct operator-seeking incoming calls to the Operators, one of the following ways can be used.

### **Intercom calls**

Extension users can call the Operator:

- by dialing the feature number for Operator Call
- by dialing the FDN for Operator Group

### **Outside calls**

To direct outside callers to the Operators, set the FDN of an Operator Group as the destination of the following calls:

- DISA
- DID
- DIL 1:1
- IRNA
- TIE

- Conditions**
- An operator-seeking call (extension/outside) may come in on a single operator or all operators in the group at once depending on System Programming.
  - The Operators can perform the special features which are available for the Manager.

### **Programming References**

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
    — (17) Operator Call  
4.3.2 Group - Extension Group  
    — FDN  
    — Group Type (:Operator)  
    — Tenant No.  
    — Overflow Setting  
    Destination, Day/Night  
    Timer (0-60 min)  
    — Operator Setting  
    Ringing Type  
    Call Priority

**Feature References**      Extension Group - Operator Group      Manager Extension

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Operator Call

## Outgoing Message (OGM)

---

### Description

Allows the Manager or an Operator to record and playback Outgoing Messages. The following three types of Outgoing Messages can be recorded.

**DISA message:**

This message is played when an outside caller accesses the system via DISA line.

**Timed Reminder (wake-up) message:**

This message is used in Timed Reminder. When answering the Timed Reminder alarm (often used as a wake-up call), the extension user will hear this message.

**UCD (Uniform Call Distribution) message:**

This message is played to the outside callers in conjunction with the UCD feature.

### Conditions

- **Hardware Requirements**

A DISA card (KX-T96191) is required to record an OGM.

Up to eight DISA cards can be installed in the system.

One OGM message can be recorded on a DISA card.

- **OGM Group**

Recording of OGM is performed per OGM Group (1-8) which consists of one or more DISA cards. Up to eight OGM Groups are available in the system.

- **OGM Type**

OGM Type is decided on an OGM Group basis.

- **Tenant Service**

If Tenant Service is employed, the affiliation of OGM Group should be decided by System Programming.

### Connection References

**Installation** .....Installation Manual, Section 2  
2.6.1 DISA Card (KX-T96191)

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.1 System - Tenant  
— Manager Extension DN  
4.2.2 System - Numbering Plan  
— (41) OGM Playback/Record  
4.3.5 Group - OGM Group  
— FDN  
— Tenant No.  
— OGM Type

# Features Guide

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<b>Feature References</b>	Direct Inward System Access (DISA)	OGM Group
	Timed Reminder (Wake-Up Call)	Extension Group-Uniform Call Distribution (UCD) Group
<b>Operation References</b>	<b>Operator/Manager Service Features</b> .....	User Manual, Section 4.4
	Outgoing Message (OGM) Record/Playback	

## Outgoing Message (OGM) Group

---

**Description** OGM resources on the DISA card can be grouped together as an OGM Group. Up to eight OGM Groups can be created in the system.

**Conditions**

- **Tenant Service**  
If Tenant Service is employed, the affiliation of OGM Group should be decided by System Programming.

### Connection References

**Installation** .....Installation Manual, Section 2  
2.6.1 DISA Card (KX-T96191)

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.1.6 Configuration - DISA Port Assignment  
4.3.5 Group - OGM Group  
— FDN  
— Tenant No.  
— OGM Type  
— Security Mode  
— Destination of DISA single digit dialing

**Feature References** Outgoing Message (OGM)

**Operation References** Not applicable.

---

## PAGING FEATURES – SUMMARY

---

### Description

Allows the extension user to broadcast a paging announcement to other users in the system.

The KX-TD500 System provides the following two types of Paging.

- **Paging - Station**

Pages through the built-in speakers of PTs.

The extension user can make a paging announcement by specifying one of Station Paging Groups or to all of them simultaneously.

A maximum of 16 Station Paging Groups, each consisting of one or more Extension Groups, can be created in the system.

- **Paging - External**

Pages through the External Paging Equipment (user-supplied).

A maximum of two External Paging Equipment can be installed in the system.

Paging features are classified as follows:

**Paging – All**

**Paging – External**

**Paging – Group**

(Paging Answer)

The paged party can reply to the paging announcement by dialing the feature number for paging answer from any extension.

(Paging and Transfer)

The extension user can transfer the call after paging the destination party.

(Paging Deny)

The PT users can deny receiving a paging announcement through the built-in speakers of their PTs.



## Paging – All

---

**Description** Allows the extension user to make a voice announcement through the built-in speakers of the PTs and the External Paging Equipment (external pagers) simultaneously. The paged party can reply to the paging announcement by dialing the feature number for paging answer from any extension.

- Conditions**
- **Confirmation tone for station paging**  
A confirmation tone is sent to extensions, when the paging is made or answered. Eliminating the tone is programmable.
  - **External Paging Tone**  
External paging tone is emitted from external pagers, before the voice announcement. Eliminating the tone is programmable.
  - A ringing or busy extension cannot receive a paging announcement.
  - To page extensions, extensions must belong to some extension group(s), and this/these extension group(s) must belong to some paging group(s).

### Connection References

**Installation** .....Installation Manual, Section 2  
2.8.2 External Pager (Paging Equipment)

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.1 System - Tenant  
— External Paging Tone  
— Confirmation Tone Station or External Paging  
4.2.2 System - Numbering Plan  
— (24) External Paging  
— (25) External Paging Answer/TAFAS Answer  
— (26) Station Paging  
— (27) Station Paging Answer  
4.2.7 System - System Option  
— (9) Confirmation Tone for Call Pickup, Paging-Answer,  
TAFAS-Answer, Hold Retrieve and Call Park Retrieve  
4.3.3 Group - Paging Group  
— Paging Group No.  
— Extension Group No.

**Feature References** None

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Paging — All  
Paging — ANSWER  
Paging and Transfer

## Paging – External

---

**Description** Allows the extension user to make a voice announcement through the External Paging Equipment (external pagers). Up to two External Pagers can be installed in the system. It is possible to select one or two pagers to perform the paging. Any extension user can answer the Paging – External by dialing the appropriate feature number.

- Conditions**
- A user-supplied external pager is required to utilize this feature.
  - **External Paging Priority**  
External pagers can be used for TAFAS, Paging – External , or Background Music (BGM) – External in this order.  
For example, if Paging – External is overridden by TAFAS, reorder tone is returned to the performer of the Paging – External. If BGM is overridden by another higher priority, it is interrupted and starts again when the higher priority is finished.
  - A confirmation tone is sent to the extensions, when the paging is made or answered. Eliminating the tone is programmable.
  - External paging tone is emitted from external pagers before the voice announcement. Eliminating the tone is programmable.

### Connection References

**Installation** .....Installation Manual, Section 2  
2.8.2 External Pager (Paging Equipment)

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.1 System - Tenant  
— External Paging Tone  
— Confirmation Tone Station or External Paging  
4.2.2 System - Numbering Plan  
— (24) External Paging  
— (25) External Paging Answer/TAFAS Answer  
4.2.7 System - System Option  
— (9) Confirmation Tone for Call Pickup, Paging-Answer, TAFAS Answer, Hold Retrieve and Call Park Retrieve

**Feature References** None

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Paging — External  
Paging — ANSWER  
Paging and Transfer

## Paging – Group

---

### Description

Allows the extension user to make a voice announcement by specifying one of 16 Paging Groups. All PTs in the group will receive the page. The paged party can reply to the paging announcement by dialing the feature number for paging answer.

### Conditions

- A maximum of 16 Paging Groups, each consisting of up to 24 Extension Groups, can be set up.
- A single Extension Group cannot belong to two or more different Paging Groups at a time.
- A confirmation tone is sent to extensions when the paging is made or answered. Eliminating the tone is programmable.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.1 System - Tenant
  - Confirmation Tone Station or External Paging
- 4.2.2 System - Numbering Plan
  - (26) Station Paging
  - (27) Station Paging Answer
- 4.2.7 System - System Option
  - (9) Confirmation Tone for Call Pickup, Paging-Answer, TAFAS-Answer, Hold Retrieve and Call Park Retrieve
- 4.3.3 Group - Paging Group
  - Paging Group No.
  - Extension Group No.

### Feature References

Paging Deny

### Operation References

- Station Features and Operation**.....User Manual, Section 4.3
- Paging — Group
- Paging — ANSWER
- Paging and Transfer

## Paging Deny

---

**Description** Allows the PT users to deny receiving a paging announcement through the built-in speakers of their PTs.

**Conditions** None

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (93) Paging Deny Set/Cancel

**Feature References** PAGING FEATURES

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Paging Deny

## Paralleled Telephone

---

### Description

Any PT can be connected in parallel with an SLT.

The following two combinations of telephones are available:

- (1) **APT + SLT** (an Analog Proprietary Telephone and a Single Line Telephone/a single extension port)
- (2) **DPT + SLT** (a Digital Proprietary Telephone and a Single Line Telephone/a single extension port)

When a parallel connection is made, an extension user can make and answer a call using either one of two telephones.

### Conditions

- To enable Paralleled Telephone mode, set “Parallel/XDP” to “Parallel” in the Extension Port Assignment screen (See Section 4.1.3 of the Installation Manual).
- The corresponding PT user can activate or deactivate the paralleled SLT ringing by dialing the feature number for “Parallel telephone mode.”
- Paralleled Telephones (APT+SLT/DPT+SLT) share the same extension number.
- **Extra Device Port (XDP)**  
If EXtra Device Port feature (DPT+SLT) is activated, each telephone has its own unique extension number and acts as completely different extensions.
- The PT can be used to perform normal operations whether or not the SLT is enabled.
- In the DPT + SLT combination, if one telephone goes off-hook while the other telephone is on a call, the call is switched to the former.
- In the APT + SLT combination, if one telephone goes off-hook while the other telephone is on a call, a 3-party call is established. If one user goes on-hook, the other user continues the call.
- **When receiving a call;**  
The SLT is activated; Both the PT and the SLT will ring except when the PT is in Hands-free Answerback mode or Voice Alerting mode.  
The SLT is deactivated; PT rings but the SLT does not ring.
- When the SLT is in operation, the display and LED indicator on the paired PT will work in the same way as if the PT is in operation.
- If APT + SLT are used, the extension user cannot originate a call from the SLT if the APT is:
  - playing BGM
  - in programming mode
  - receiving a paging announcement over the built-in speaker
- If DPT + SLT are used, the extension user cannot originate a call from the SLT if the DPT is:
  - in programming mode
- **Call Waiting Tone**  
Call Waiting tone rings at PT only.

## Connection References

**Installation** .....Installation Manual, Section 2  
2.4.12 Parallel Connection of the Extensions

## Programming References

**System Programming** .....Installation Manual, Section 4  
4.1.3 Configuration - Extension Port Assignment  
— Parallel/XDP

## Feature References

EXtra Device Port (XDP)

## Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Paralleled Telephone Connection

## Pause Insertion, Automatic

---

**Description** Used to insert a pre-assigned pausing time between the access code (CO line/host PBX/Centrex/Special Carrier) and dialed digits.

- Conditions**
- This feature requires previous programming of the access code (CO line/host PBX/Centrex/Special Carrier) as well as assignment of the pause duration.
  - **This feature applies to:**  
This feature works for Speed Dialing, One-Touch Dialing, Last Number Redial, Saved Number Redial, Pickup Dialing and Call Forwarding – to Trunk.
  - **Pause time (Manual)**  
Pressing the PAUSE button in dialing number inserts a pause for a pre-assigned time.

### Programming References

- System Programming .....Installation Manual, Section 4
- 4.3.1 Group - Trunk Group
  - Pause Time
  - PBX Access Code
- 4.5.6 Features - Special Carrier Code
  - Code

**Feature References** Host PBX Access Toll Restriction

**Operation References** Not applicable.

## PDN Call

---

### Description

If the Extension 100 has an SDN button which corresponds with the PDN button of the Extension 200 (PDN owner), the Extension 100 can call the Extension 200 simply by pressing the associated SDN button twice.  
The Extension 100 can also transfer a call (on the CO/PDN) to the Extension 200 with a simple operation.

### Conditions

- **SDN button**  
An SDN button can be assigned to a flexible CO button on a DN type PT by Station, User or System Programming.
- **FWD/DND Override**  
The call originated by this feature overrides FWD/DND (Call Forwarding/Do Not Disturb) feature assigned on the PDN owner extension.
- A call made by this feature rings the destination PDN button immediately even if delayed ringing or no ring is set on that PDN button. Refer to " PDN/SDN Button Delayed Ringing Assignment " in Section 2 of the User Manual.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 Line - Extension Line  
— Flexible CO Key Assignment

**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment

**Station Programming**.....User Manual, Section 2  
Flexible Button Assignment — Secondary Directory Number (SDN) Button

### Feature References

Button, Primary Directory Number (PDN)  
Button, Secondary Directory Number (SDN)                      Ringing Transfer

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
PDN Call



## Phantom Extension

### Description

This allows the system to route the calls to a phantom extension. The call to a phantom extension arrives at the extension who has the corresponding Phantom button. One phantom extension number can be assigned to multiple extensions so that the caller can ring a group of extensions simultaneously.

- The lighting patterns and status of the Phantom button are shown below.

Lighting pattern	Phantom Extension Status
Off	Idle
Red on	Calling a phantom extension
Green rapid flash	Incoming call

### Conditions

- A phantom button can be assigned to a flexible CO button by Station, User or System Programming.
- A phantom extension number must be assigned by System Programming before assigning the Phantom button.
- A maximum of 448 phantom extension numbers can be assigned. Each number has 3 to 4 digits, consisting of numbers **0 through 9**.
- Phantom extension number can be assigned to both PTs and SLTs.
- Types of calls whose destination can be the phantom extension are:
  - Outside calls – DIL 1:1; DISA; IRNA; UCD-Overflow, TIE, DID
  - Intercom calls – Extension; Transfer
- The extension user can call the phantom extension by pressing the Phantom button or by dialing the phantom extension number. If several extensions have the same phantom extension number, they will ring simultaneously.
- The phantom extension number cannot be used for feature settings such as Call Forwarding.
- Phantom Extension ringing is programmable.

### Programming References

**System Programming** .....Installation Manual, Section 4  
 4.4.2 Line - Extension Line  
     — Flexible CO Key Assignment  
 4.5.2 Features - Phantom Extension  
**User Programming** .....User Manual, Section 3  
 [005] Flexible CO Button Assignment  
**Station Programming** .....User Manual, Section 2  
 Flexible Button Assignment – Phantom Button  
 Phantom Button Ringing ON/OFF Assignment

### Feature References

None

### Operation References

**Station Features and Operation** .....User Manual, Section 4.3  
 Phantom Extension

## Pickup Dialing (Hot Line)

---

### Description

Allows the extension user to call a predetermined extension or outside party automatically just by lifting the handset. This feature is also known as Hot Line.

If the feature is activated and the extension user goes off-hook, a dial tone is generated for the waiting time and then dialing starts. During the waiting time the user can dial another party, overriding the Pickup Dialing function.

### Conditions

- To utilize this feature, an extension number or an outside telephone number (up to 16 digits) should be programmed beforehand.
- This feature works only when an extension user goes off-hook from on-hook status directly.
- A rotary dial telephone without the “#” button cannot program this feature. For programming the phone number, temporarily replace a rotary dial telephone with a pulse telephone with the “#” button.
- This feature does not work if the extension user goes off-hook to answer an incoming call or retrieve a call on hold.
- This feature does not work if a message notification is left on the extension.
- For a PT with a PF 12 button, the number stored in the PF12 button is used for Pickup Dialing.

### Programming References

- System Programming .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (47) Pickup Dialing Program/Set/Cancel
- 4.2.4 System - System Timer (1/2)
  - Pickup Dial Waiting Time (1-5 s)
- 4.4.2 Line - Extension Line
  - Pickup Dialing

**Feature References**      None

**Operation References**    **Station Features and Operation**.....User Manual, Section 4.3  
Pickup Dialing (Hot Line)

## Power Failure Re-start

---

**Description** When turning back on the electricity, the system re-starts the stored data automatically. Before re-starting, the system records the error log if necessary.

**Conditions**

- **Memory Protection**  
In the event of a power failure, system memory is protected by a factory-provided lithium battery.

**Programming References**  
No programming required.

**Feature References** None

**Operation References** Not applicable.

## Power Failure Transfer

---

**Description** Power Failure Transfer connects specific telephones (any SLT and a certain type of PT) to the pre-determined CO lines in the event of system power failure.

**Conditions**

- Up to 192 pairs of extension/CO connection are available to maintain a conversation when power is restored or TSW recovery.
- Auxiliary Connection between the Trunk card and the Extension card should be done as per the System Programming so that conversation is maintained when the power is restored or TSW recovery.
- KX-TD500 System changes the current connection to the Auxiliary connection automatically when the power supply stops.
- **DC Power Source**  
If DC power is available by the backup batteries even if the AC power fails, the KX-TD500 System will not change the current connection to the Auxiliary connection.

### Connection References

**Installation** .....Installation Manual, Section 2  
2.4 Extension Cards  
2.5 Trunk Cards  
2.9 Auxiliary Connection for Power Failure Transfer

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.10.3 Maintenance - Power Failure Transfer

**Feature References** Power Failure Re-start

**Operation References** Not applicable.

## Privacy, Automatic

---

**Description** By default all conversations established on CO lines, extension lines and doorphone lines have privacy activated, that is, an existing call is not interrupted by anyone.

**Conditions**

- **Privacy Release**  
Automatic privacy may be temporarily released to establish a 3-party conference, either by Executive Busy Override or Privacy Release.

**Programming References**  
No programming required.

**Feature References** Executive Busy Override – Extension      Executive Busy Override – Barge-in Privacy Release

**Operation References** Not applicable.

## Privacy Release

---

**Description** Allows the PT user to release Automatic Privacy for an existing call in order to establish a 3-party call. During a conversation with an outside party on a CO button, the extension user can allow another extension user to join in the existing call by pressing the CO button.

- Conditions**
- **Confirmation Tone**  
When a 2-party call is changed to a 3-party call and vice versa, a confirmation tone is sent to all three parties. Eliminating the tone is programmable.
  - This feature overrides “Data Line Security” and “Executive Busy Override Deny.”

**Programming References**

**System Programming** .....Installation Manual, Section 4  
4.2.7 System - System Option  
— (8) Confirmation Tone for Override, Barge-in and Conference

**Feature References** Privacy, Automatic

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Privacy Release

## Pulse to Tone Conversion

---

### Description

Allows the extension user to change the dialing mode from pulse dial to tone dial (DTMF) temporarily during a call so that they can access special services which require tone dialing such as a computer-accessed long distance call.

### Conditions

- This feature works only on CO lines set to Pulse Dialing mode.
- Dial Type Selection provides selection of a dial mode for each CO line.
- **DISA**  
This feature is not available during a DISA call.
- Changing from tone to pulse is not possible.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.4.1 Line - Trunk Line  
— Dial Type

### Feature References

Dial Type Selection

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Pulse to Tone Conversion

## Quick Dialing

---

### Description

Allows the extension user to call a desired party by dialing a short code (1-digit code). Quick Dialing is convenient for room service calls in a hotel, for example.

### Conditions

- To utilize this feature, an extension number or a telephone number should be stored beforehand either by User or System Programming.
- Up to eight quick dial numbers can be stored in the system.
- Assign a feature number in program “Numbering Plan” first and then a quick dial number in program “Quick Dialing” in order for Quick Dialing to be effective.

**Example:** To assign the extension number 101 in quick dial number 3;

- 1) Change or clear the feature numbers which have “3” in the first digit in program “Numbering Plan.”
- 2) Assign “3” in the selection number 63 (Quick dial location number 1) in program “Numbering Plan.”
- 3) Assign “101” in location number 1 in program “Quick Dialing” (same location number as the quick dial location number 1 in program “Numbering Plan”) in program “Quick Dial.”

Now quick dial number 3 is available to call extension 101.

### Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.2 System - Numbering Plan	
— (63) Quick dial 1	
:	
:	
— (70) Quick dial 8	
4.5.4 Features - Quick Dialing	
<b>User Programming</b> .....	User Manual, Section 3
[009] Quick Dial Number Set	

### Feature References

None

### Operation Reference

<b>Station Features and Operation</b> .....	User Manual, Section 4.3
Quick Dialing	



## Redial, Last Number

---

**Description** Every extension telephone in the system automatically saves the last telephone number dialed to a CO line and allows the extension user to dial the same number again with a simple operation.

- Conditions**
- Up to 24 digits (excluding the CO line access code) can be stored and redialed.
  - The memorized telephone number is replaced by a new one if at least one digit sent to a CO line is dialed. Dialing a CO line access code alone does not change the memorized number.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (34) Redial

**Feature References** None

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Redial, Last Number

## Redial, Saved Number

---

**Description** Allows the PT user to save a telephone number of the current call and redial the number afterwards. The PT user can store it during a call on a CO line. The saved number can be redialed repeatedly until another number is stored.

**Conditions**

- Up to 24 digits (not including the CO line access code) can be stored and redialed.
- **SAVE button**  
If the SAVE button is not provided on a PT, it can be assigned to a flexible (CO, DSS, PF) button by Station, User or System Programming.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.4.2 Line - Extension Line  
    — Flexible CO Key Assignment  
    — Flexible PF Key Assignment  
4.4.3 Line - DSS Console  
    — Flexible DSS Key Assignment  
    — Flexible PF Key Assignment  
**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment  
**Station Programming** .....User Manual, Section 2  
Flexible Button Assignment – SAVE Button

**Feature References** Button, Flexible

**Operation References** **Station Features and Operation** .....User Manual, Section 4.3  
Redial, Saved Number

## Released Link Operation

---

### Description

When Released Link Operation is enabled, an extension user will be automatically released from a call (extension, outside) after transferring it to the destination, if the destination extension is idle. This feature simplifies the transfer operation by eliminating the need for going on-hook or pressing the RELEASE button after transferring the call.

This feature is convenient for extension users, such as Operators, who handle a large volume of calls.

### Conditions

- **Class of Service**  
Class of Service programming determines the extension that can perform this feature.
- Released Link Operation functions when transferring a call to the ordinary extensions or floating extensions (extension group, phantom extensions).
- If the destination party is busy, Camp-on Transfer is set by going on-hook.
- The SLT extension user cannot establish a conference call, if "Released Link Operation" is enabled by System Programming.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.3 System - Class of Service  
— Released Link Operation

### Feature References

None

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Released Link Operation

## Remote Station Feature Control

---

### Description

Allows both the Manager and the Operators to set and cancel the following features for other extensions.

#### **Remote Station Lock**

Used to lock other extensions so that no one can make an outside call or an intercom call (except an operator call) from those extensions.

#### **Caller ID Log Lock Clear**

Used to clear the Caller ID Log Lock Code set by an extension user.

This is convenient when an extension user cannot remember his or her own lock code.

#### **LCS (Live Call Screening) Password Clear**

Used to clear the password for LCS feature set by an extension user. This is convenient when an extension user cannot remember his or her own password.

#### **Remote DND (Do Not Disturb)**

Used to set or cancel Do Not Disturb feature for other extensions.

#### **Timed Reminder, Remote**

Used to set, cancel and confirm the Timed Reminder feature for other extensions.

#### **Remote FWD (Call Forwarding) Cancel-Once**

Used to cancel the Call Forwarding feature set on an extension temporarily.

### Conditions

None

### Programming References

**Station Programming**.....User Manual, Section 2  
Remote Station Lock Control  
Caller ID Log Lock Clear  
LCS (Live Call Screening) Password Clear

### Feature References

CALL FORWARDING FEATURES	Caller ID Service
Do Not Disturb (DND)	Electronic Station Lockout
Live Call Screening (LCS)	Manager Extension
Timed Reminder (Wake-Up Call)	

<b>Operation References</b>	<b>Operator/Manager Service Features</b> .....User Manual, Section 4.4
	Call Log Lock Control, Incoming
	Live Call Screening Password Control
	Remote DND (Do Not Disturb) Control
	Remote FWD (Call Forwarding) Cancel - Once
	Remote Station Lock Control
	Timed Reminder, Remote (Wake-Up Call)

---

## Remote Station Lock Control

---

**Description** Allows the Manager and the Operators to lock other extensions remotely, that is, from their own extensions. Locked extensions cannot be used for making calls, either outside calls or intercom calls (except calls to the Operators and the emergency calls) depending on the setting.

**Conditions**

- **Electronic Station Lockout Override**  
“Remote Station Lock Control” overrides “Electronic Station Lockout.” If Station Lockout has already been set by the extension user and Remote Station Lock is set by the Manager or an Operator, canceling the lock is only possible by the Manager or an Operator.

### Programming References

**Station Programming** .....User Manual, Section 2  
Remote Station Lock Control

**Feature References**      Electronic Station Lockout                      Manager Extension

**Operation References**      **Operator/Manager Service Features** .....User Manual, Section 4.4  
Remote Station Lock Control

## Ringling, Delayed

---

**Description** The extension can be set to ring immediately, delayed ringing, or no ringing.

- Conditions**
- **DIL 1:N Call**  
When a DIL 1:N call (an outside call directed to multiple extensions) comes in, all destination extensions ring immediately by default. This setting can be changed to delayed ringing or no ringing on each member of the DIL 1:N Group basis.
  - **<ICM type PT>**  
At an ICM type PT, this feature does not apply to DISA or DIL 1:1 calls.
  - **<DN type PT>**  
Line Ringing Selection is assignable on a DN button (PDN, SDN) basis. However, if Direct In Lines (DIL) 1:N is established, Line Ringing Selection is determined by DIL 1:N incoming call group setting.  
“PDN / SDN Button Delayed Ringing Assignment” does not function for a call which comes in on a Ring Group extension or Phantom extension.
  - **Answering a no-ringing call**  
If delayed ringing or no ringing is assigned to an extension, the extension can answer an incoming call during no ring or the delay time by pressing the flashing button.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.3.4 Group - DIL 1:N Group
  - Ringing Type
- 4.4.2 Line - Extension Line
  - Flexible CO Key Assignment
- User Programming** .....User Manual, Section 3
- [005] Flexible CO Button Assignment
- Station Programming** .....User Manual, Section 2
- PDN/SDN Key delayed ringing assignment

**Feature References** Direct In Lines (DIL)

**Operation References** Not applicable.

## Ringling, Discriminating

---

**Description** Allows the extension user to identify the incoming call by the ringing pattern (See Section 6.1 “Tone / Ring Tone” in the Installation Manual).

- Conditions**
- **Call Ringing Priority**  
When there are multiple incoming calls and the extension goes from off-hook to on-hook, the calls ring according to the following priority:
    - <1> Consultation Hold Recall
    - <2> An incoming call from a line in which the Prime Line Preference – Incoming function has been set (PT only)
    - <3> Call Waiting
    - <4> Incoming calls; Hold Recall; Transfer Recall; Unattended Conference Recall
    - <5> Timed Reminder
    - <6> Automatic callback
  - **Prime Line Preference-Incoming**  
When multiple calls are ringing simultaneously at a PT on which “Prime Line Preference - Incoming” feature is assigned, the extension user can answer the call on the prime line simply by going off-hook.
  - **Ringling Tone Type Selection**  
The DPT user can select a desired ringling tone type for CO buttons.

### Programming References

**Station Programming**.....User Manual, Section 2  
Ringling Tone Selection for CO Buttons

**Feature References** Ringling Tone Selection

**Operation References** Not applicable.



## Ringling Tone Selection

---

**Description** Allows the DPT user to select one of eight ringer frequencies for each line access button (ICM, CO, DN). This is useful to distinguish the type of incoming calls by ringing.

**Conditions** None

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.4.2 Line - Extension Line  
    — Flexible CO Key Assignment  
4.4.3 Line - DSS Console  
    — Flexible DSS Key Assignment  
**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment  
**Station Programming** .....User Manual, Section 2  
Flexible Button Assignment  
Ringling Tone Selection for CO Buttons  
Ringling Tone Selection for INTERCOM Button

**Feature References** None

**Operation References** Not applicable.

## Ringling Transfer

---

### Description

If the Extension 100 has an SDN button which corresponds with the PDN button of the Extension 200 (PDN owner), the Extension 100 can transfer the call on the SDN button to the Extension 200 with a simple operation. This is called "Ringling Transfer."

### Conditions

- **SDN button**  
SDN button can be assigned to a flexible CO button on a DN type PT by Station, User or System Programming.
- **FWD/DND Override**  
The call transferred by this feature overrides FWD (Call Forwarding)/DND (Do Not Disturb) feature assigned on the PDN owner extension.
- A call made by this feature rings the destination PDN button immediately even if delayed ringing or no ring has been set on that PDN button. Refer to "PDN/SDN Button Delayed Ringing Assignment" in Section 2 of the User Manual.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 Line - Extension Line  
— Flexible CO Key Assignment

**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment

**Station Programming**.....User Manual, Section 2  
Flexible Button Assignment — Secondary Directory Number (SDN) Button

### Feature References

None

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Ringling Transfer

## Secret Dialing

---

**Description** Used to conceal all or part of a registered telephone number that normally appears on the display.  
Secret Dialing applies to the following features:

- **One-Touch Dialing**
- **System Speed Dialing**
- **Station Speed Dialing** (Special Display Features)

When a display PT user makes a call using a telephone number with Secret Dialing, all or part of the number does not appear on the display.

- Conditions**
- CO line access code must be placed before placing ‘s’ or ‘[’.
  - One or more parts of a telephone number can be concealed.
  - The concealed part will be printed out by SMDR.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.5.1 Features - System Speed Dialing  
**Station Programming** .....User Manual, Section 2  
Flexible Button Assignment – One-Touch Dialing Button

**Feature References** One-Touch Dialing SPECIAL DISPLAY FEATURES  
System Speed Dialing — Call Directory - Station Speed Dialing

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Secret Dialing

## SPECIAL DISPLAY FEATURES — SUMMARY

With the display telephone, KX-T7235, KX-T7431, KX-T7433 or KX-T7436, the extension user can easily access several features.

The display telephones have the ability to perform the following features.

Feature	KX-T7235	KX-T7431	KX-T7433	KX-T7436
Call Directory	✓	✓	✓	✓
Extension Dialing	✓	✓	✓	✓
Station Speed Dialing	✓	✓	✓	✓
System Speed Dialing	✓	✓	✓	✓
Call Forwarding / Do Not Disturb	✓			✓
Call Log, Outgoing	✓			✓
System Feature Access Menu	✓	✓	✓	✓

“✓” indicates the feature is available.

## Special Display Features

---

### Call Directory — Extension Dialing

---

**Description** Provides a display of extension names. This is convenient to make an extension call just by name. The extension user can call another extension simply by pressing the Function button associated with the name.

**Conditions**

- Extension name can be programmed either by User or System Programming.
- **Tenant Service**  
If Tenant Service is employed, only the extension names within the same tenant are displayed.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.4.2 Line - Extension Line  
— Name

**User Programming** .....User Manual, Section 3  
[004] Extension Name Set

**Feature References** None

**Operation References** **Special Display Features** .....User Manual, Section 4.5  
Call Directory — Extension Dialing

## Special Display Features

---

### Call Directory — Station Speed Dialing

---

**Description** A list of the names and telephone numbers stored in One-Touch Dialing is displayed. This allows the extension user to make a One-Touch call by knowing just the name.

**Conditions**

- It is necessary to program One-Touch Dialing Numbers and Names into one of the 10 Function buttons (F1 through F10).
- **Initial Display Selection**  
Initial display of Station Speed Dialing display can be number or name. An extension user can choose either by Station or System Programming.

#### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.7 System - System Option  
— (10) Station Speed Dialing Initial Display  
**Station Programming**.....User Manual, Section 2  
Station Speed Dialing Number / Name Assignment

**Feature References** One-Touch Dialing

**Operation References** **Special Display Features**.....User Manual, Section 4.5  
Call Directory — Station Speed Dialing

## Special Display Features

---

### Call Directory — System Speed Dialing

---

**Description** A list of the names stored in System Speed Dialing is displayed. This allows the extension user to dial by name without having to know the telephone number. All the user needs to do is to press the Function button associated with the desired name.

- Conditions**
- System Speed Dialing numbers and names can be programmed either by User or System Programming.
  - If a name is not stored for a number, it is not displayed and cannot be called with this feature.
  - **Tenant Service**  
If Tenant Service is employed, System Speed Dialing numbers and names being displayed is limited within the same tenant.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.5.1 Features - System Speed Dialing  
— Tenant No.  
— Name  
— Number

**User Programming** .....User Manual, Section 3  
[001] System Speed Dialing Number Set  
[002] System Speed Dialing Name Set

**Feature References** System Speed Dialing

**Operation References** **Special Display Features** .....User Manual, Section 4.5  
Call Directory — System Speed Dialing

## Special Display Features

---

### Call Forwarding / Do Not Disturb

---

**Description** Allows the KX-T7436 and KX-T7235 users to set or cancel the Call Forwarding and Do Not Disturb (DND) features using the display messages after pressing the FWD/DND button.

**Conditions** None

**Programming References**  
No programming required.

**Feature References** Call Forwarding Do Not Disturb (DND)

**Operation References** **Special Display Features**.....User Manual, Section 4.5  
KX-T7235/KX-T7436 Display Features - Call Forwarding / Do Not Disturb



## Special Display Features

---

### Call Log, Outgoing

---

**Description** Provides a display of the last five outside telephone numbers (up to 16 digits for each) dialed at the extension. This allows the extension user to redial the number by pressing the Function button associated with the telephone number.

This is an extended version of “Last Number Redial.”

**Conditions**

- If the Call Log is full when a new outside call is made, the oldest telephone number is overwritten by a new one.

### Programming References

No programming required.

**Feature References** None

**Operation References** **Special Display Features**.....User Manual, Section 4.5  
**Call Log, Outgoing**

## Special Display Features

### System Feature Access Menu

**Description** This feature provides a display of the system features available at any time and allows the extension user to have access to the desired features.

- The features available are:

Absent Message Capability	Electronic Station Lockout
Automatic Callback Busy (Camp-On) Cancel	Executive Busy Override Deny
Call Forwarding (set / cancel)	External Modem Control
Call Log, Incoming	Live Call Screening (LCS), Password Set
Call Log Incoming, Log Lock	Log-In / Log-Out
Call Park	Message Waiting
Call Pickup, access / deny	Paging, access / answer / deny
Call Waiting	Pickup Dialing (Hot Line)
Data Line Security	Station Program Clear
Do Not Disturb (set / cancel)	Timed Reminder (Wake-Up Call)
Door Opener	Walking COS
Doorphone Call	

- In addition to the features above, the Manager extension can execute the following features

Background Music (BGM) – External	Timed Reminder, Remote (Wake-Up Call)
Outgoing Message (OGM), Record / Playback	Trunk Busy-out Setting
Remote DND (Do Not Disturb)	Trunk Route Control
Remote FWD (Call Forwarding) Cancel-Once	UCD Monitor Mode

**Conditions** None

### Programming References

No programming required.

**Feature References** None

**Operation References** **Special Display Features** .....User Manual, Section 4.5  
KX-T7235 Display Features — System Feature Access Menu  
KX-T7431 / KX-T7433 / KX-T7436 Display Features — System Feature Access Menu

## STATION HUNTING-SUMMARY

### **Description**

If a called extension is busy, Station Hunting redirects the incoming call to an idle extension within the same Extension Group. Idle extensions are automatically searched for according to the pre-determined hunting type.

There are two hunting types available as follows:

#### **Circular hunting:**

The extensions are searched in numerical order of the extension port physical numbers in a circular way until an idle one is found. (See “Extension Group-Station Hunting Group (Circular)” in this Features Guide).

#### **Termination hunting:**

The extensions are searched in numerical order of the extension port physical numbers in a linear way until reaching the extension with the highest physical number port in the group. (See “Extension Group-Station Hunting Group (Terminate)” in this Features Guide).

One of the hunting types is selected for each extension group.

## Station Message Detail Recording (SMDR)

### Description

Station Message Detail Recording (SMDR) automatically records detailed call information for CO calls. A printer connected to SIO #2 port of RS-232C on the basic shelf can be used to print incoming and outgoing CO calls. To print the call records, use the program “SMDR,” which allows you to print out the following records:

- Record all outgoing CO calls or outgoing toll calls.
- Record all incoming CO calls.

### Examples of a printed call record:

#### <Pattern A>\* (default)

Date	Time	T	Ext	CO	Dial Number	Ring	Duration	Acct code	CC
02/02/99	03:01PM	1	E1001	T10101	1234567890123456789		00:00'14	1234567890	
02/02/99	03:13PM	1	E1001	T10101	<INCOMING>				RC
02/02/99	03:13PM	1	E1001	T10101	<INCOMING>	0'12			AN
02/02/99	03:13PM	1	E1001	T10101	<INCOMING>	0'12	00:00'11		
•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

The SMDR is printed with the above format when “Type-A” is selected as Output Type by System Programming.

#### <Pattern B>\*

Date	Time	T	Ext	CO	Dial Number	Duration	Acct code	CC
02/15/99	06:42PM	1	E1009	T10801	123456789012345678901234	00:01'24	1234567890	
02/16/99	01:29PM	1	E1001	T10101	<INCOMING>			RC
02/16/99	01:29PM	1	E1001	T10101	<INCOMING>			AN
02/16/99	01:29PM	1	E1001	T10101	<INCOMING>	00:00'10		
•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•
(1)	(2)	(3)	(4)	(5)	(6)	(8)	(9)	(10)

The SMDR is printed with the above format when “Type-B” is selected as Output Type by System Programming.

\*The difference between <Pattern A> and <Pattern B>

- Ring : Printed in Pattern A only, not in Pattern B.
- Dial Number : Up to 19 digits number is printed for Outgoing call in Pattern A.  
Up to 24 digits number is printed for Outgoing call in Pattern B.

### Example of SMDR printout format:

#### Explanation

- (1) Date : shows the date of the call as Month / Day / Year.
- (2) Time : shows the end time of a call as Hour / Minute / AM or PM.
- (3) T : Tenant No. (1-8)
- (4) Ext : shows the extension number, floating number, etc., which was engaged in the call.
- (5) CO : shows the CO line number used for making or receiving the call.
- (6) Dial Number
  - Outgoing call:** shows the other party's telephone number. Valid digits are 0 through 9, \*, #, P (if PAUSE button is pressed), "=" (if a host PBX access code is entered) or "-" (if registered in a memory dialing number).
  - Received call:** shows <INCOMING>. If a Caller ID is assigned to the other party, it shows <I>, number or name.
- (7) Ring : shows the ring duration of the incoming call in Minutes / Seconds.
- (8) Duration : shows the duration of the call in Hours / Minutes / Seconds.
- (9) Acct code (Account Code): shows the account code appended to the call.
- (10) CC (Condition Code): shows call handling type with the following codes:
  - TR** : Transfer
  - FW** : Call Forwarding to Trunk
  - D0** : Non Security Trunk Access by a DISA caller
  - NN** : DISA User Code No. (NN=01-32)
  - RM** : Remote access to a modem
  - RC** : Received an incoming call
  - AN** : Answered an incoming call
  - NA** : Not answered an incoming call
  - OR** : COS Override

## Conditions

- When programmed for outgoing toll calls only, printing occurs only for calls which start with the numbers stored in any Denied Code Table from levels 2 to 6. In the ARS mode, the phone number modified by the ARS procedure will be printed out by SMDR whether it is registered in the Denied Code Table or not.
- The KX-TD500 System can store up to 200 call information data. If more than 200 calls are originated or received, the oldest data is overwritten by the newest one.
- It is possible to select whether SMDR prints out the caller's number or caller's name by System Programming.
- It is possible to select whether or not the SMDR prints out received incoming calls (RC) and answered incoming calls (AN) information by System Programming.
- SMDR data is not deleted when you reset the system.
- If FLASH is manually sent out during a call, the call record is printed and a new record is started.

## Connection References

**Installation** .....Installation Manual, Section 2  
2.8.4 Personal Computer/Printer

## Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.4 System - System Timer 1/2  
— Call Duration Count Start Time (0-60 s)  
4.10.2 Maintenance - SMDR  
— SMDR Connection  
— Output Type  
— Print out Error Information  
— Format  
Page Length  
Skip Perforation  
— Duration Log  
Outgoing Calls  
Incoming Calls  
— Priority of Caller ID information  
— Print out DID subscriber number  
— Print out Incoming Call Start "RC" and Incoming Call Answer "AN" information  
— Print out No Answer of Timed Reminder information  
— Print out Account Code  
— Print out LOGIN/LOGOUT  
4.10.4 Maintenance - System Parameters  
— Serial Interface Port  
4.10.5 Maintenance - System Time  
— System Time

**Feature References** None

**Operation References** Not applicable.

## Station Program Clear

### Description

Allows the extension user to cancel the following functions assigned to his/her extension with a single operation.

(a) <b>Absent Message Capability</b> (The message set on the extension)
(b) <b>Automatic Callback Busy</b>
(c) <b>Background Music</b> that has been turned on
(d) <b>Call Forwarding, Do Not Disturb (DND)</b>
(e) <b>Call Log, Incoming</b>
(f) <b>Call Pickup Deny</b>
(g) <b>Call Waiting (BSS, OHCA, Whisper OHCA)</b>
(h) <b>Data Line Security mode</b>
(i) <b>Executive Busy Override Deny</b>
(j) <b>Log-out</b>
(k) <b>Message Waiting</b> (All the messages that have been left by other extension users)
(l) <b>Paging Deny</b>
(m) <b>Paralleled Telephone enabled</b>
(n) <b>Pickup Dialing</b> (The stored telephone number will be removed.)
(o) <b>Timed Reminder</b>
(p) <b>Walking Station</b>

### Conditions

None

### Programming References

**System Programming** .....Installation Manual, Section 4  
 4.2.2 System - Numbering Plan  
 — (39) Station Program Clear

### Feature References

None

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
 Station Program Clear

## Station Programming

---

### Description

Allows the PT user to customize the extension to his/her needs. The following are the programming items available:

#### **For both APT and DPT:**

- Call Waiting Tone Type Assignment
- Flexible Button Assignment
- Full One-Touch Dialing Assignment
- Intercom Alert Assignment
- Preferred Line Assignment – Incoming / Outgoing
- Station Programming Data Default Set
- Live Call Screening Mode Set

#### **For DPT only:**

- Handset / Headset Selection
- Ringing Tone Selection for Line Access Buttons

#### **For display PT only:**

- Bilingual Display Selection
- Initial Display Selection
- Self-Extension Number Confirmation

#### **For display DPT only:**

- Station Speed Dialing Number / Name Assignment

#### **For the Manager's or Operator's extension PT only:**

- Control of Call Log Incoming, Log Lock
- Live Call Screening Password Control
- Remote Station Lock Control

Detailed information and programming instructions are described in Section 2, Station Programming (User Manual).

### Conditions

- During Station Programming, the PT is treated as a busy extension.

### Programming References

**Station Programming**.....User Manual,Section 2  
**Operator/Manager Service Features**.....User Manual, Section 4.4  
Control of Call Log Incoming, Log Lock  
Live Call Screening Password Control  
Remote Station Lock Control

### Feature References

None

### Operation References

Not applicable.



## Station Programming Data Default Set

---

**Description** Allows the PT user to return all the following items programmed on the telephone to default setting.

<b>Programming Items</b>	<b>Default</b>
Bilingual Display Selection	English
Call Waiting Tone Type Assignment	Tone 1
Full One-Touch Dialing Assignment	On
Handset / Headset Selection	Handset
Initial Display Selection	Caller ID
Intercom Alert Assignment	Tone Call
Live Call Screening Mode Set	Hands-free
Preferred Line Assignment – Incoming	Ringing Line
Preferred Line Assignment – Outgoing	Intercom Line

Station Programming is used to set or cancel these items at individual telephones.

**Conditions** None

### Programming References

**Station Programming**.....User Manual, Section 2  
Station Programming Data Default Set

**Feature References** Station Programming

**Operation References** Not applicable.

## Station Speed Dialing

---

**Description** Allows the extension user to store frequently dialed numbers (up to 16 digits) in order to place a call with abbreviated dialing for personal use. Up to 10 station speed dialing numbers appended with 1-digit station speed dialing code (0-9), can be stored in each telephone.

- Conditions**
- Station Speed Dialing numbers and names can be assigned by Station or System Programming. Station Speed Dialing name assignment is available for KX-T7235, KX-T7431, KX-T7433 and KX-T7436 only.
  - Station Speed Dialing can be followed by manual dialing to supplement the dialed digits.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
    — (21) Speed Dialing-Station  
    — (22) Speed Dialing-Station Programming  
**Station Programming**.....User Manual, Section 2  
Station Speed Dialing Number / Name Assignment

**Feature References** None

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Station Speed Dialing

## System Data Default Set

---

<b>Description</b>	This system permits re-initialization of system-programmed data. Starting up the KX-TD500 system with default values can be done using the Operation Switch (MODE) on the CPU card (see Section 2.10.2 “CPU Rotary-Switch Features” in the Installation Manual).
<b>Conditions</b>	<ul style="list-style-type: none"><li>• The default setting for each programming item is listed in Section 6.2, “Default Values” in the Installation Manual.</li></ul>
<b>Programming References</b>	No programming required.
<b>Feature References</b>	None
<b>Operation References</b>	<b>Installation</b> .....Installation Manual, Section 2 2.10.2 CPU Rotary-Switch Features

## System Programming and Diagnosis with Personal Computer

---

### Description

The KX-TD500 system can be programmed and administered using a Personal Computer (PC). The Installation Manual is required to perform PC Programming. There are two programming methods:

#### **On-Site Programming**

By connecting a PC to your system, System Programming and maintenance can be performed locally.

There are two ways available to perform the above:

#### **(Method 1.) Using the EIA (RS-232C) port**

Connect the PC to the EIA (RS-232C) port provided. The Basic Shelf is provided with RS-232C Ports. RS-232C Port 1 (PROG) is used for System Programming, diagnostics and external system database storage (Save/Load) functions, and Port 2 (SMDR) for Station Message Detailed Recording (SMDR) only.

#### **(Method 2.) Using an internal modem**

Install the optional Remote Card — RMT card (KX-T96196), ERMT card (KX-TD50197). Connect an extension port to the modem. Assign the FDN of the modem in System Programming. Dial this number from the PC.

#### **Remote Programming**

You can perform System Programming and maintenance from a remote site using a PC. Install the Remote Card and assign the Remote FDN by System Programming.

Starting system administration from a remote location can be done by using one of the following ways:

#### **[Call Transfer]**

- Call an extension (probably the Operator) from a remote location and request a transfer to the modem.

#### **[DISA]**

- Dial the “FDN of the modem” using the DISA feature.

#### **[DIL 1:1]**

- Assign the “FDN of the modem” as the destination of the DIL 1:1 feature.

#### **[DID]**

- Program DID feature so that the incoming telephone number is converted to the “FDN of the modem.”

#### **[TIE Lines]**

- Dial the “FDN of the modem.”
- Dial the TIE line access code, the PBX code and the “FDN of the modem.”

### **(Method 3.) Using an external modem**

Refer to “External Modem Control” on page 140 of the Features Guide and on page 4-100 of the User Manual.

For more information and programming instructions, refer to the Installation Manual.

### **Conditions**

- **One Time One Access**  
Access to System Programming is allowed only one device at a time.
- **System Password**  
To access system administration, a valid password must be entered. The password is factory-programmed and can be changed.
- System administration can be performed on-line except for the procedures of the diagnosis.

**Connection References** **Installation** .....Installation Manual, Section 2  
2.6.3 RMT Card (KX-T96196)  
2.6.4 ERMT Card (KX-TD50197)

### **Programming References**

**System Programming** .....Installation Manual, Section 4  
4.10.1 Maintenance - External Modem  
4.10.4 Maintenance - System Parameters  
— Password  
System Programming  
— Serial Interface Port  
PROG (Port 1)

**Feature References** External Modem Control

**Operation References** Not applicable.

## System Speed Dialing

---

**Description** The KX-TD500 system provides up to 1000/tenant, 2000/System abbreviated speed dial numbers (24-digit long for each) available to all extension users.

- Conditions**
- System Speed Dialing numbers and names can be programmed either by User or System Programming.
  - **Toll Restriction Override for System Speed Dialing**  
Overriding Toll Restriction for System Speed Dialing can be activated or deactivated per tenant by System Programming.
  - **Tenant Service**  
If “Tenant Service” is employed, up to 2000 Speed Dialing codes can be shared among each tenant under the condition of up to 1000 codes per tenant.
  - **<For PT users>**  
Speed Dialing, One-Touch Dialing, manual dialing, Last Number Redial and Saved Number Redial can be used in combinations.
  - **<For SLT users>**  
If a stored feature number includes “\*” or “#,” rotary or pulse SLTs cannot use it.

### Programming References

- System Programming** .....Installation Manual, Section 4
  - 4.2.1 System - Tenant
    - System Speed Dialing Entries Max.
    - System Speed Dial TRS Level Override
  - 4.2.2 System - Numbering Plan
    - (20) Speed Dialing-System
  - 4.5.1 Features - System Speed Dialing
    - Name
    - Number
- User Programming** .....User Manual, Section 3
  - [001] System Speed Dialing Number Set
  - [002] System Speed Dialing Name Set

**Feature References** Toll Restriction Override for System Speed Dialing

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
System Speed Dialing

## Tenant Service

---

### Description

The KX-TD500 System can be shared with up to **eight tenants**. When tenant service is utilized, each tenant can use the system resource differently and independently from other tenants. This enables the configuration of more than two systems which, in each case, are suited to different tenants.

Some system resources can be used in common and some can be divided among tenants.

#### **Common Resources:**

- (a) Absent Messages
- (b) AGC (Automatic Gain Control)
- (c) ARS Table
- (d) COS (Class of Service)
- (e) DID Dial Registration Table
- (f) Emergency Number
- (g) Music Sources (MUS1, 2 on TSW card)
- (h) Numbering Plan
- (i) Phantom Extension
- (j) Quick Dialing
- (k) Remote Administration
- (l) SMDR (Station Message Detail Recording)
- (m) System Administration Terminal
- (n) Toll Restriction Tables

#### **Resources which can be divided:**

- (a) Account Code
- (b) Call Park Area
- (c) Caller ID Registration Table
- (d) Day/Night Mode Switching Time
- (e) Doorphone
- (f) Extension Group
- (g) External Pager
- (h) OGM (Outgoing Message) Group
- (i) Station Paging Group
- (j) System Speed Dialing
- (k) Trunk Group

### Conditions

- The following features do not work between extensions if they do not belong to the same tenant.
  - Call Forwarding
  - Executive Busy Override - Extension / Barge-in
  - Message Waiting
  - Privacy Release

**[Note]:**

These restrictions apply even if "Inter-tenant Calling" is enabled between two tenants.

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.1 System - Tenant
- 4.3.1 Group - Trunk Group
  - Tenant
- 4.3.2 Group - Extension Group
  - Tenant No.
- 4.3.3 Group - Paging Group
- 4.3.5 Group - OGM Group
  - Tenant No.
- 4.4.4 Line - Doorphone
  - Tenant No.
- 4.4.5 Line - External Paging
  - Tenant No.
- 4.5.1 Features - System Speed Dialing
  - Tenant No.
- 4.5.5 Features - Account Code
  - Tenant No.
- 4.5.11 Features - Caller ID Registration
  - Tenant No.

**Feature References**      None

**Operation References**    Not applicable.



## TIE LINES – SUMMARY

---

### Description

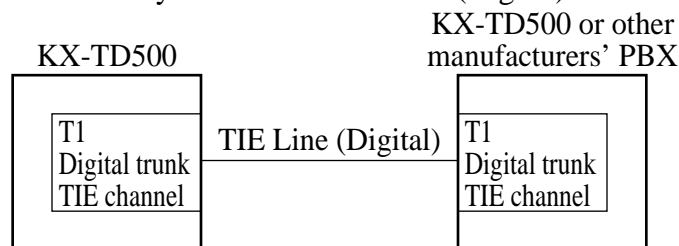
A TIE line is a privately leased communication line between two or more PBXs, which provides effective communications between company members at different locations.

TIE lines can be used to call through KX-TD500 to reach another switching system (PBX or CO). By utilizing the TIE lines, the KX-TD500 can support not only communications with the public network but with other locations of the company in the private network of which your KX-TD500 can be a part.

To make a call to a person at a distant company location, an extension user must first obtain the appropriate TIE line to that person's PBX, and then dial the extension number only or a location number plus extension number.

### A Network of TIE Lines

Interfaced by a TIE channel of T-1 (Digital)



Hardware Requirements: T-1 Digital Trunk card (KX-T96187)

### Numbering Plan:

Extension users can make a call over the TIE Line Network to other extension users in a distant location by one of the following two ways: (See "Calling from TIE to TIE")

1. Extension Number only

2. Location Number (PBX Code) + Extension Number

+  +

or

## Routing Procedure 1: TIE Routing Table

Provides for the routing of calls over the TIE Line Network.

Up to 36 routing patterns can be programmed in this table.

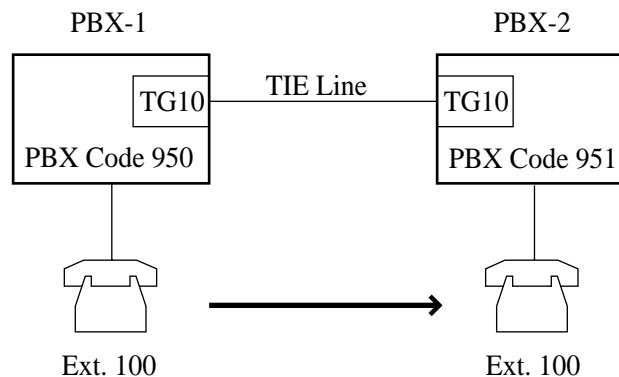
This table is referenced by the system to identify the trunk route, when an extension user made a TIE call by dialing the feature number for “TIE Line Access” or other PBX extension number. A routing pattern appropriate for each call is decided by the first 3 digits (except TIE Line Access code) of the dialed number.

- Routing Table Override

If a TIE call is made by pressing a CO button, this table is not referenced by the system and the call is routed over the specified TIE line directly.

### (Programming Example)

#### A Network of TIE Lines



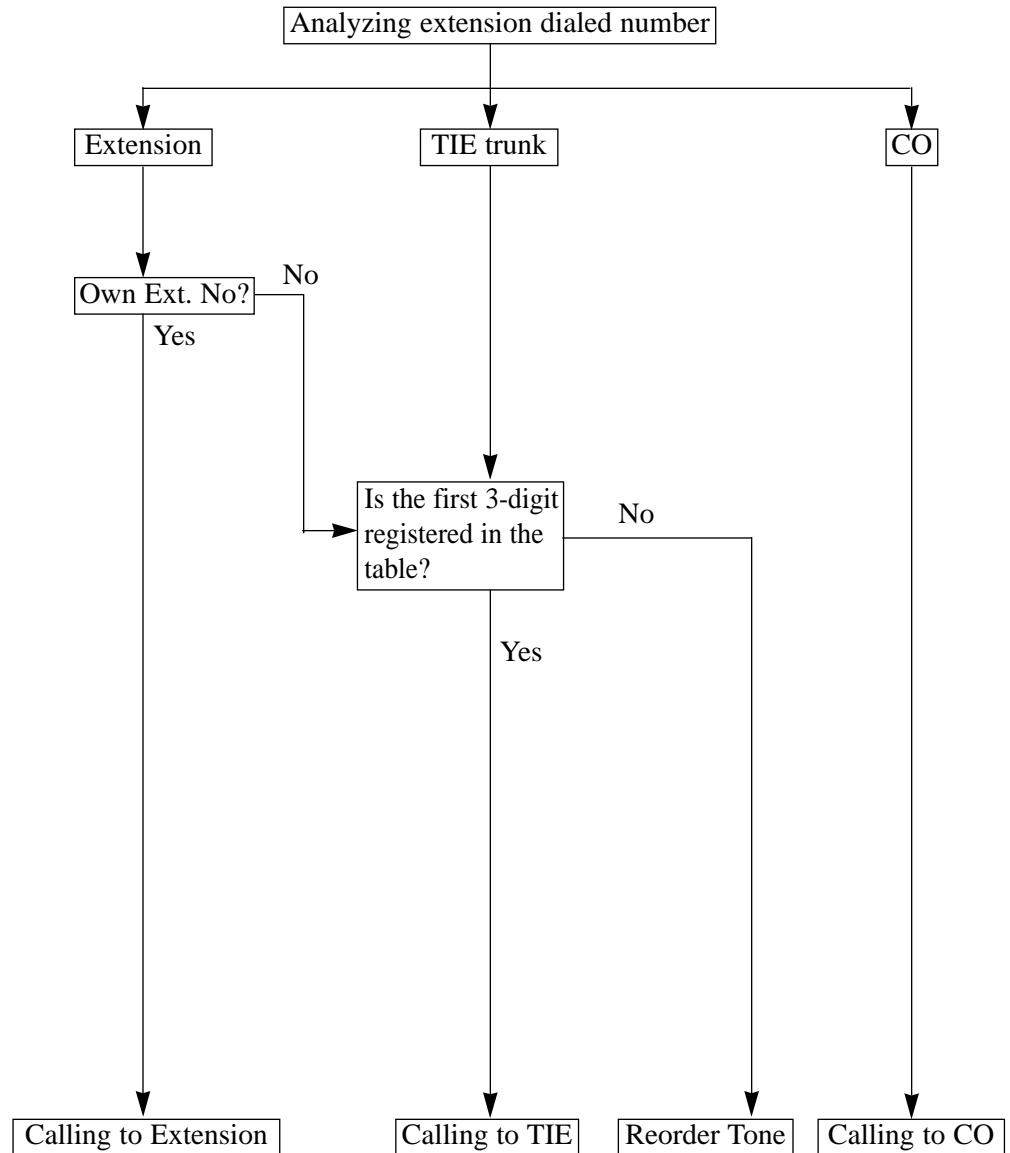
TIE Routing Table

No.	Leading Digit	Remove Digit(s)	Additional Dial	Trunk Group No.				
				01	02	03	04	05
01	951	0		10				
02								
:								

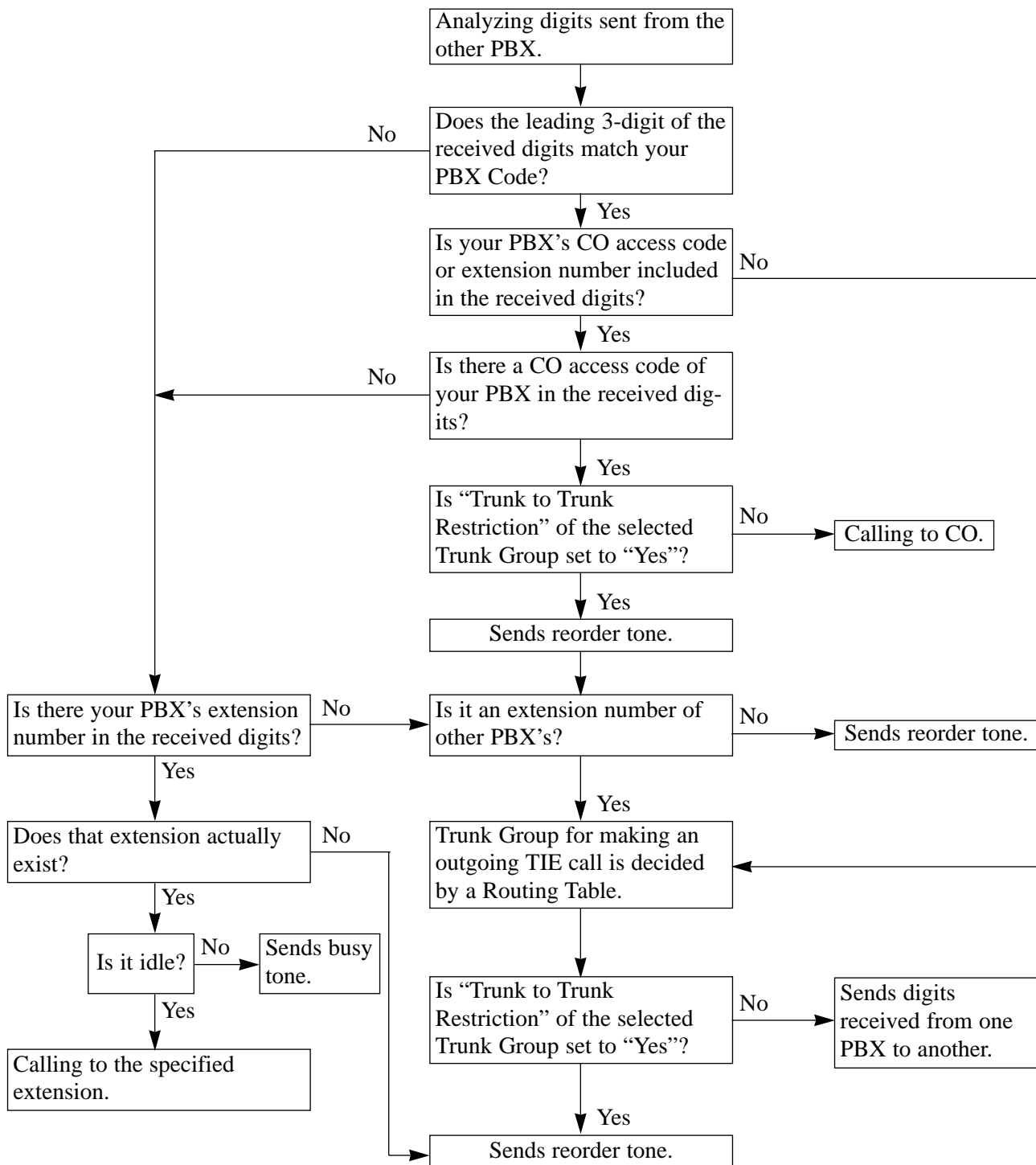
When “(TIE Line Access Code) + 951 + 100” is dialed by an extension user, the routing pattern for this call is decided by “951.” Then the call is routed over TG10.

## Routing Procedure 2: Routing Flow Chart (1)

When a call is made by an extension user in your PBX



## Routing Procedure 3: Routing Flow Chart (2)



## Programming References

**System Programming** .....Installation Manual, Section 4

### <Basic Programming>

Always required to make use of TIE lines regardless of the type of applications.

4.1.1 Configuration - Slot Assignment

4.1.5 Configuration - T1 Port Assignment

— Channel Type

— Group No.

4.4.1 Line - Trunk Line

— Group No.

— DID/TIE

Delete Digits

Insert Dial

### <Timer Programming>

4.2.4 System - System Timer

— TIE Inter Digit Time (3-30 s)

### <Application Programming>

Programming items required vary depending on the type of application. Refer to the following features for further information about each application programming.

- Calling from TIE to TIE
- Calling from TIE to CO
- Calling from CO to TIE
- Alternate Routing

**Feature References** None

**Operation References** Not applicable.

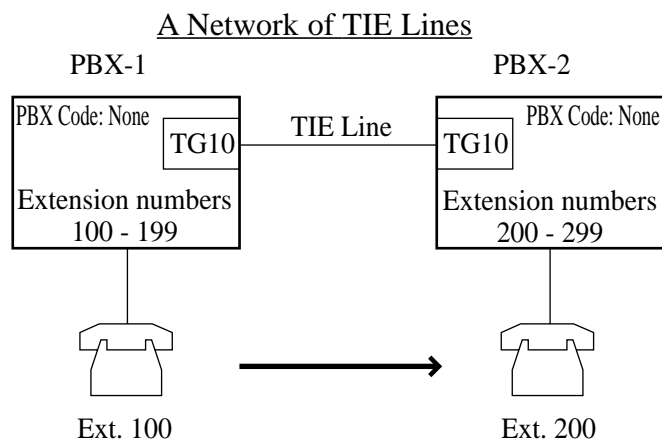
## TIE LINES — Calling from TIE to TIE

### Description

TIE calls among several different company locations can be done by dialing a 3 or 4-digit extension number only, or by dialing a location number (PBX Code) and an extension number.

#### (1) Extension Number only

Extension users can make a call via TIE line to other extension users in other PBXs within a private network simply by dialing a 3 or 4-digit extension number.



#### Call Flow

1. Ext.100 dials 200.
2. Ext.100 is connected to Ext.200 of PBX-2.

#### Programming example:

To make up the TIE Line Network above, the following System Programming is required at PBX-1 and -2 respectively.

- PBX-1
- 4.2.2 System - Numbering Plan
    - (01) 1st Hundred Block Extension : 1
    - (77) Other PBX 01 : 2
  - 4.8.1 Private Network - TIE Routing Table

No.	Leading Digit	Remove Digit(s)	Additional Dial	Trunk Group No.				
				01	02	03	04	05
01	2XX	0		10				

- PBX-2
- 4.2.2 System - Numbering Plan
    - (01) 1st Hundred Block Extension : 2
    - (77) Other PBX 01 : 1
  - 4.8.1 Private Network - TIE Routing Table

No.	Leading Digit	Remove Digit(s)	Additional Dial	Trunk Group No.				
				01	02	03	04	05
01	1XX	0		10				

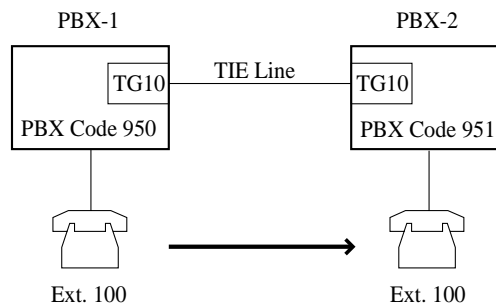
## Programming References

- System Programming .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (76) TIE Line Access
  - (77)-(92) Other PBX Access 01-16
- 4.8.1 Private Network - TIE Routing Table

### (2) Location Number (PBX code) and Extension Number

Extension users can make a call to other extension users in other PBXs within a TIE Line Network by dialing a location number (PBX Code) and an extension number. Each PBX in the same TIE Line Network can have its unique flexible extension numbering plan.

#### A Network of TIE Lines



## Call Flow

1. Ext.100 of PBX-1 dials 77-951-100.
2. Ext.100 of PBX-1 is connected to Ext.100 of PBX-2.

### Programming example:

To make up the TIE Line Network above, the following System Programming is required at PBX-1 and -2 respectively.

- |       |  |
|-------|--|
| PBX-1 | <ul style="list-style-type: none"><li>• 4.2.2 System - Numbering Plan<ul style="list-style-type: none"><li>— (76) TIE Line Access :77</li></ul></li><li>• 4.8.1 Private Network - TIE Routing Table<ul style="list-style-type: none"><li>— PBX Code :950</li></ul></li></ul> |
|-------|--|

No.	Leading Digit	Remove Digit(s)	Additional Dial	Trunk Group No.				
				01	02	03	04	05
01 02 :	951	0		10				

- PBX-2
- 4.2.2 System - Numbering Plan
    - (76) TIE Line Access :77
  - 4.8.1 Private Network - TIE Routing Table
    - PBX Code :951

No.	Leading Digit	Remove Digit(s)	Additional Dial	Trunk Group No.				
				01	02	03	04	05
01 02 :	950	0		10				

## Programming References

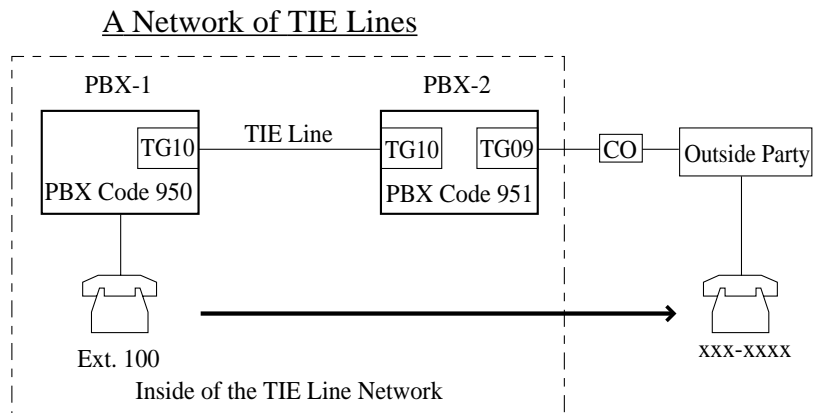
- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (76) TIE Line Access
- 4.2.6 System - Trunk to Trunk Restriction
- 4.4.1 Line - Trunk Line
  - DID/TIE
  - Delete Digits
  - Insert Dial
- 4.8.1 Private Network - TIE Routing Table
  - PBX Code
  - Leading Digit
  - Remove Digit(s)
  - Additional Dial
  - Trunk Group No.



## TIE LINES — Calling from TIE to CO

### Description

TIE Lines can be used to minimize the cost of calls to a distant location outside of the TIE Line Network. A long distance call from one location may be a local call from another location. This fact should be considered before making a long distance call. If the destination of the long distance call is outside of the TIE Line Network, extension users first call to a distant PBX via TIE Line and then can make a local CO call to the final destination through that PBX.



### Call Flow

1. Ext.100 dials 77-951-9 or 801 through 848 (TIE Line Access Code + PBX Code + CO Access Code).
2. Ext.100 may be required to enter a “DISA/TIE User Code” depending on the System Programming\*.
3. Ext.100 hears dial tone from an idle CO line of PBX-2.
4. Ext.100 dials xxx-xxxx (phone number of the outside party).

\* Step 2 is required when “TIE-CO Security Mode” is set to “Yes” at PBX-2.

### Programming example:

To make up the TIE Line Network above, the following System Programming is required at PBX-1 and -2 respectively.

- PBX-1 • 4.8.1 Private Network - TIE Routing Table  
— PBX Code

No.	Leading Digit	Remove Digit(s)	Additional Dial	Trunk Group No.				
				01	02	03	04	05
01	951	0		10				
02								
:								

- PBX-2
- 4.2.6 System - Trunk to Trunk Restriction
  - 4.4.1 Line - Trunk Line
    - TIE-CO Security Mode
  - 4.8.1 Private Network - TIE Routing Table
    - PBX Code

No.	Leading Digit	Remove Digit(s)	Additional Dial	Trunk Group No.				
				01	02	03	04	05
01	951	0		10				
02								
:								

## Conditions

- **Trunk to Trunk Restriction**  
Used to allow or restrict trunk-to-trunk path connection.  
To permit the TIE caller to make a CO call via TD500 System, the Trunk Group used for this purpose should be allowed to relay the call by System Programming.
- **DISA/TIE User Code**  
Used to allow certain extension users “Calling from TIE to CO.”  
If “TIE-CO Security Mode” of the Trunk Group is set to “Yes,” an extension user must enter a valid DISA/TIE User Code before “Calling from TIE to CO.”
- “Calling from TIE to CO” is available only when your system employs PBX Code (Location number) method for making/receiving TIE calls.

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.6 System - Trunk to Trunk Restriction
- 4.4.1 Line - Trunk Line
  - DID/TIE
  - Delete Digits
  - Insert Dial
  - TIE-CO Security Mode
- 4.5.8 Features - DISA/TIE User Code
- 4.8.1 Private Network - TIE Routing Table
  - PBX Code

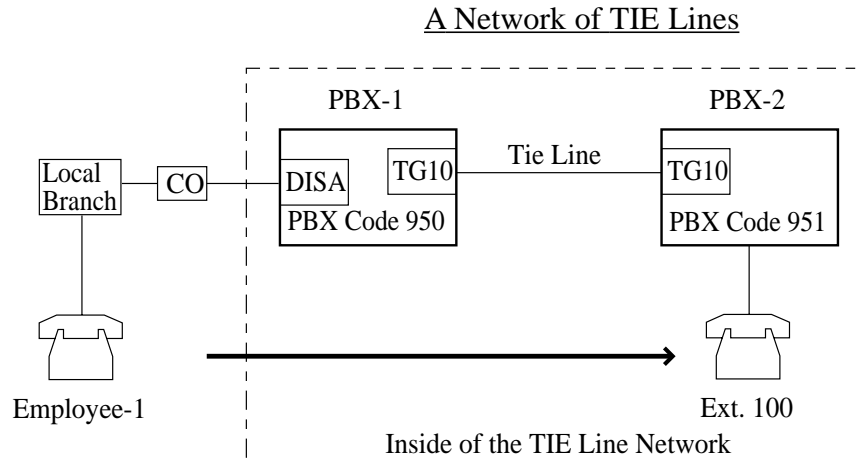
## Feature References

- Call Forwarding - to CO/TIE
- Call Transfer, Screened - to TIE
- Call Transfer, Unscreened - to TIE

## TIE LINES — Calling from CO to TIE

### Description

TIE lines are usually used to link two or more distant locations where high volume calling traffic exists. However, a person at a location outside of the TIE Line Network can also use it by first making a CO call via public network to the nearest point of TIE Line Network for the purpose of saving the toll call charge.



### Call Flow

1. Employee-1 at a local branch makes a CO call to PBX-1 via DISA.
2. Employee-1 dials “77” (TIE Line Access Code).
3. After hearing dial tone, Employee-1 dials 951-100.
4. Employee-1 at a local branch will be connected to Ext.100 of PBX-2.

### Programming example:

To make up the TIE Line Network above, the following System Programming is required at PBX-1 and -2 respectively.

- PBX-1
- 4.2.6 System - Trunk to Trunk Restriction
  - 4.8.1 Private Network - TIE Routing Table  
— PBX Code :950

No.	Leading Digit	Remove Digit(s)	Additional Dial	Trunk Group No.				
				01	02	03	04	05
01	951	0		10				
02								
:								

# Features Guide

# T

- PBX-2      • 4.8.1 Private Network - TIE Routing Table  
 — PBX Code : 951

No.	Leading Digit	Remove Digit(s)	Additional Dial	Trunk Group No.				
				01	02	03	04	05
01	951	0		10				
02								
:								

## Conditions

- **Trunk to Trunk Restriction**  
 Used to allow or restrict trunk-to-trunk path connection.  
 To permit the TIE caller to make a CO call via the TD500 System, the Trunk Group used for this purpose should be allowed to relay the call by System Programming.

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.6 System - Trunk to Trunk Restriction
- 4.4.1 Line - Trunk Line
  - DID/TIE
  - Delete Digits
  - Insert Dial
- 4.8.1 Private Network - TIE Routing Table
  - PBX Code

## Feature References

- Call Forwarding - to CO/TIE
- Call Transfer, Screened - to TIE
- Call Transfer, Unscreened - to TIE

## TIE LINES — Alternate Routing

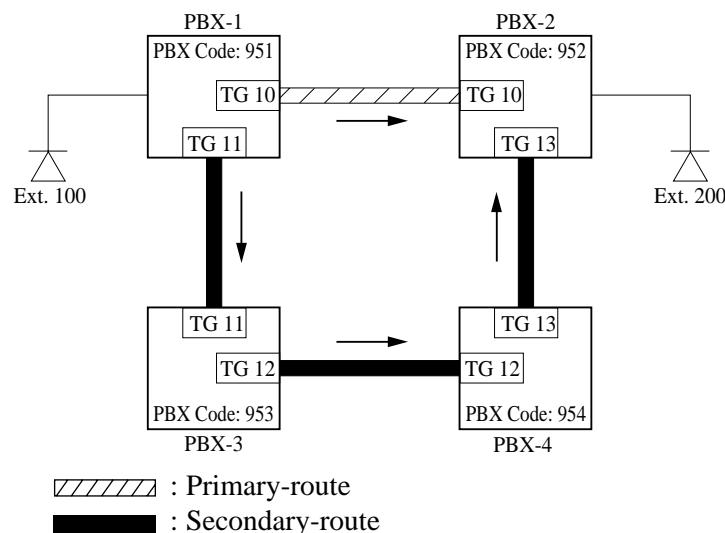
### Description

When more than two PBXs at different locations are interconnected with a network of TIE Lines, your KX-TD500 works as an intermediate switching office to other PBXs in the network by relaying TIE calls from one PBX to another.

A problem of telephone switching is that blocking sometimes occurs on the network, and a call cannot be switched as required because all the lines on a given route are occupied or unavailable. By utilizing this relay function, several alternative routes can be set up beforehand in addition to the primary-route. This permits TIE calls to be routed from “A to B” or “A through C to B” and so on. If the primary-route is poor because of equipment failure or congestion, KX-TD500 bypasses it and selects the secondary-route. On receipt of a TIE call, KX-TD500 analyzes it to determine the destination to which the call must be sent or the route by which the calls will be sent, and then transmit it.

Alternate Routing makes a TIE Line network more flexible in adapting to peaks of traffic and it provides a variety of different routing plans.

A Network of TIE Lines



### Call Flow

1. Ext.100 dials “77+952+200”.
2. When “952” is found in the table, TG10 (Hunt Sequence 01 for “952”) is selected automatically.
  - If TG10 is not available, TG11(Hunt Sequence 02) will be selected. In this case, the call is sent to PBX-2 via PBX-3 and -4. The treatment of the call is decided by Routing Table of PBX-3 and then PBX-4.
3. The call is sent to PBX-2.

**Programming example:**

To realize the call flow mentioned in the previous page, the following System Programming is required at PBX-1, -3, and -4 respectively.

- PBX-1 • 4.8.1 Private Network - TIE Routing Table  
— PBX Code : 951

No.	Leading Digit	Remove Digit(s)	Additional Dial	Trunk Group No.				
				01	02	03	04	05
01 02 :	952	0		10	11			

- 4.2.6 System - Trunk to Trunk Restriction

- PBX-3 • 4.8.1 Private Network - TIE Routing Table  
— PBX Code : 953

No.	Leading Digit	Remove Digit(s)	Additional Dial	Trunk Group No.				
				01	02	03	04	05
01 02 :	952	0		12				

- 4.2.6 System - Trunk to Trunk Restriction

- PBX-4 • 4.8.1 Private Network - TIE Routing Table  
— PBX Code : 954

No.	Leading Digit	Remove Digit(s)	Additional Dial	Trunk Group No.				
				01	02	03	04	05
01 02 :	952	0		13				

- 4.2.6 System - Trunk to Trunk Restriction

[Note]

If you want to restrict “call relay from PBX-1 to PBX-2 via PBX-3,” set TG11 to “Yes” at PBX-3 using Trunk to Trunk Restriction Programming.

## Programming References

- System Programming .....Installation Manual, Section 4
- 4.2.6 System - Trunk to Trunk Restriction
- 4.4.1 Line - Trunk Line
  - DID/TIE
  - Delete Digits
  - Insert Dial
- 4.8.1 Private Network - TIE Routing Table

## Time-Out, Variable

---

### Description

Provides timers to control various features or functions.  
The following timers are programmable:

#### System Data

	Range
(1) Hold Recall Time	0 - 240 s
(2) Transfer Recall Time	0 - 48 rings
(3) Pickup Dial Waiting Time	1 - 5 s
(4) Call Duration Count Start Time	0 - 60 s
(5) First Digit Time	5 - 120 s
(6) Inter Digit Time	1 - 30 s
(7) Intercept Time	3 - 48 rings
(8) Call Forwarding - No Answer Time	1 - 12 rings
(9) Extension to CO line Call Duration Time	1 - 64 min
(10) CO to CO Line Call Duration Time	1 - 64 min
(11) Door Opener Timer	0 - 10 s
(12) Timed Reminder Ringing Time	30 - 240 s
(13) Call Parking Recall Time	0 - 1800 s
(14) TIE Inter Digit Time	3 - 30 s
(15) DISA Prolong Time	0 - 7 min
(16) DISA Delayed Answer Time	0 - 6 rings
(17) DISA Automated Attendant Time	1 - 5 s
(18) DISA IRNA Time	5 - 240 s
(19) Intercept Time after OGM	0/5 s

#### Trunk Group Data

	Range
(1) Disconnecting Time	0.5 / 1.5 / 2.0 / 4.0 / 12.0 s
(2) Pause Time	1.5 / 2.5 / 3.5 / 4.5 s
(3) Flash Time	None / 80 / 300 / 600 / 900 / 1200 ms

#### Extension Group Data

	Range
(1) Overflow Setting - Timer (for Operator)	0 - 60 min

#### DIL 1:N Group Data

	Range
(1) Ringing Type	Immediate / Delay-1 Ring / Delay- 3 Rings / Delay-6 Rings / No Ring

**Trunk Data**

- (1) CPC Detection Time (Outgoing)
- (2) CPC Detection Time (Incoming)
- (3) Wink Signal Time-out

**Range**

None / 6.5 / 2 - 75 u 8 ms  
Same as “(Outgoing)”  
None / 1 - 127 u 64 ms

**Extension Data****(Flexible CO Key - PDN / SDN)**

- (1) Delay Ring

**Range**

Immediate / 1 Ring / 3  
Rings / 6 Rings / No Ring

**Programming References**

- System Programming** .....Installation Manual, Section 4
- 4.2.4 System - System Timer
- 4.3.1 Group - Trunk Group
- 4.4.1 Line - Trunk Line
- 4.4.2 Line - Extension Line

**Feature References**

None

**Operation References**

Not applicable.



## Timed Reminder (Wake-Up Call)

---

### Description

Each telephone can be set to generate an alarm tone at a preset time as a reminder. When this feature is set, an alarm tone will ring for 30 seconds (default) at the programmed time.

#### **Wake-up call**

If a voice message is recorded beforehand, a wake-up message is heard instead of an alarm tone when an extension user goes off-hook.

This feature can be activated only once or everyday at a specified time.

### Conditions

- **System Time**  
Be sure that the system clock is working correctly.  
System Time can be programmed either by User or System Programming.
- Setting a new time clears the preset time.
- **Timed Reminder Ringing Time**  
The alarm continues for a specific period of time (default: 30 seconds). This period of time can be changed by System Programming.
- **Hardware Requirements for a wake-up call**  
To utilize a wake-up call, DISA card (KX-T96191) is required.
- **OGM Recording**  
To utilize a wake-up call, set OGM Type of an OGM Group to “Wake-up.” OGM Recording can be done only by the Manager or an Operator.
- **What if a wake-up message is not recorded?**  
An alarm tone is heard instead of a wake-up message.
- The number of extension users who can set this feature is not limited. However, the number of extension users who can hear the wake-up message at a time is limited to a maximum of 56 per DISA card. If the 57th or later extension user goes off-hook to hear the wake-up message, he or she will hear the alarm tone instead of the wake-up message.
- **Station Message Detail Recording (SMDR)**  
SMDR automatically records the detailed Timed Reminder information (date, time, extension number, start/no answer). It is programmable to be printed out when the Timed Reminder starts and the alarm is not answered.
- To stop the alarm, lift the handset or, with a PT, press any button.

### Connection References

**Installation** .....Installation Manual, Section 2  
2.6.1 DISA Card (KX-T96191)

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (49) Timed Reminder Confirm/ Set/ Cancel  
4.2.4 System - System Timer (2/2)  
— Timed Reminder Ringing Time (30-240 s)

- 4.3.5 Group - OGM Group
  - OGM Type
- 4.10.2 Maintenance - SMDR
  - Print out No Answer of Timed Reminder information
- 4.10.5 Maintenance - System Time
  - System Time
- User Programming** .....User Manual, Section 3  
[000] Date and Time Set

**Feature References**      Outgoing Message (OGM)                      Timed Reminder, Remote (Wake-Up Call)

**Operation References**      **Station Features and Operation**.....User Manual, Section 4.3  
Timed Reminder (Wake-Up Call)

## Timed Reminder, Remote (Wake-Up Call)

- Description** Allows the Manager extension and the Operators to remotely set, cancel and confirm the wake-up call for an extension.
- Conditions**
- Only the latest time setting is valid at the extension whether it was set by the extension user (Timed Reminder) or by the Manager or an Operator (Timed Reminder, Remote).
  - **Station Message Detail Recording (SMDR)**  
SMDR automatically records the detailed Timed Reminder information (date, time, extension number, start/no answer). It is programmable by System Programming to be printed out when the Timed Reminder starts and the alarm is not answered. Refer to “Station Message Detail Recording (SMDR)” for further information.
- Connection References**
- Installation** .....Installation Manual, Section 2  
2.6.1 DISA Card (KX-T96191)
- Programming References**
- System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (57) Timed Reminder, Remote  
4.2.4 System - System Timer (2/2)  
— Timed Reminder Ringing Time (30-240 s)  
4.3.5 Group - OGM Group  
— OGM Type  
4.10.2 Maintenance - SMDR  
— Print out No Answer of Timed Reminder information  
4.10.5 Maintenance - System Time  
— System Time
- User Programming** .....User Manual, Section 3  
[000] Date and Time Set
- Feature References**      Outgoing Message (OGM)      Timed Reminder (Wake-Up Call)
- Operation References**      **Operator/Manager Service Features** .....User Manual, Section 4.4  
Outgoing Message (OGM) Record / Playback  
Timed Reminder, Remote (Wake-Up Call)

## Toll Restriction

---

### Description

Toll Restriction is a system programmable feature that, in conjunction with the assigned Class of Service, can prohibit certain extension users from placing unauthorized toll calls.

Every extension is programmed to belong to one of **96 Classes of Service**. Each Class of Service is programmed to have a toll restriction level for day mode and night mode respectively.

There are **eight toll restriction levels** available. Toll restriction level 1 is the highest level and the level 8 is the lowest. That is, level 1 allows all toll calls and levels 7 and 8 disallow all toll calls. Levels 2 through 6 are used to restrict calls by combining pre-programmed deny and excepted code tables.

### TRS Deny Code Tables

An outgoing CO call made by an extension user with a toll restriction level between 2 and 6 is first checked against the selected TRS Deny Code Tables. If the leading digits of the dialed number (not including the CO line access code) are not found in the table, the call is made. **System Programming, Toll Restriction - TRS Deny** is used to make up a TRS Deny Code Table for Levels 2 through 6 respectively.

Complete every table by storing numbers that are to be prohibited. These numbers are defined as deny codes. Up to 400 deny codes (max.10 digits for each) can be stored for TRS Levels 2 through 6.

### TRS Exception Code Tables

These tables are used to override a programmed deny code. A call denied by the selected TRS Deny Code Tables is checked against the selected TRS Exception Code Tables, and if a match is found, the call is made.

**System Programming, Toll Restriction - TRS Exception** is used to make up a TRS Exception Code Table for Levels 2 through 6. Complete every table by storing numbers that are exceptions to the TRS deny codes. These numbers are defined as exception codes. Up to 200 exception codes (max.10 digits for each) can be stored for TRS Levels 2 through 6.

Applicable TRS Deny and TRS Exception Code Tables depend on the assigned toll restriction level of an extension as follows:

	<b>TRS Deny Code Tables</b>	<b>TRS Exception Code Tables</b>
Level 1	None	None
Level 2	Table for Level 2	Tables for Levels 2 through 6
Level 3	Tables for Levels 2 and 3	Tables for Levels 3 through 6
Level 4	Tables for Levels 2 to 4	Tables for Levels 4 through 6
Level 5	Tables for Levels 2 to 5	Tables for Levels 5 through 6
Level 6	Tables for Levels 2 to 6	Tables for Level 6
Level 7	None	None
Level 8	None	None

**[Explanation]**

Level 1: Level 1:allows all calls.

Level 2: denies codes stored in the TRS Deny Code Table for Level 2 except the codes stored in TRS Exception Code Tables for Levels 2 through 6.

Level 3: denies codes stored in the TRS Deny Code Tables for Levels 2 and 3 except the codes stored in TRS Exception Code Tables for Levels 3 through 6.

Level 4: denies codes stored in the TRS Deny Code Tables for Levels 2 through 4 except the codes stored in TRS Exception Code Tables for Levels 4 through 6.

Level 5: denies codes stored in the TRS Deny Code Tables for Levels 2 through 5 except the codes stored in TRS Exception Code Tables for Levels 5 and 6.

Level 6: denies codes stored in the TRS Deny Code Tables for Levels 2 through 6 except the codes stored in TRS Exception Code Table for Level 6.

Level 7: Allows intercom calls only. Available only if COS “Call From TRS Level 7 Extension” is enabled.

Level 8: Allows operator calls only.

## Example of Toll Restriction programming

Here is an example to explain the procedures for Toll Restriction programming.

### 1. Determining the application

Determine the dialing numbers that should be denied for levels 2 through 6. (Levels 1, 7 and 8 are fixed and do not require programming.)

[ Entry Example]

Level	TRS Deny Code	TRS Exception Code
2	011	None
3	011 976 1XXX976	None
4	011 976 1XXX976 0	None
5	011 976 1XXX976 0 411 1XXX555	None
6	011 976 1XXX976 0 411 1XXX555 1 X0 X1	911 1911 800 1800

Note: "X" substitutes a digit.

### 2. System Programming (See Installation Manual)

(1) Section 4.2.3 System - Class of Service, "TRS Level, Day/ Night"  
Assign a toll restriction level to each Class of Service (COS).

[Example]

COS	Level (Day)	Level (Night)
1	1	6
2	2	6
:	:	:
8	8	8

### (2) Section 4.6.1 Toll Restriction - TRS Deny Code

Depending on the application, enter the TRS Deny codes in the associated tables. Numeric characters and the wild card character “X” can be used.

Level-2 TRS Deny Code Table	
Location	Code
001	011
:	
:	
400	

Level-3 TRS Deny Code Table	
Location	Code
001	976
002	1XXX976
:	
400	

Level-4 TRS Deny Code Table	
Location	Code
001	0
:	
:	
400	

Level-5 TRS Deny Code Table	
Location	Code
001	411
002	1XXX555
:	
400	

Level-6 TRS Deny Code Table	
Location	Code
001	1
002	X0
003	X1
:	
400	

### (3) Section 4.6.2 Toll Restriction - TRS Exception Code

Depending on the application, enter the exception codes in the associated tables. Numeric characters and the wild card character “X” can be used.

Level-6 TRS Exception Code Table	
Location	Code
001	911
002	1911
003	800
004	1800
:	
200	

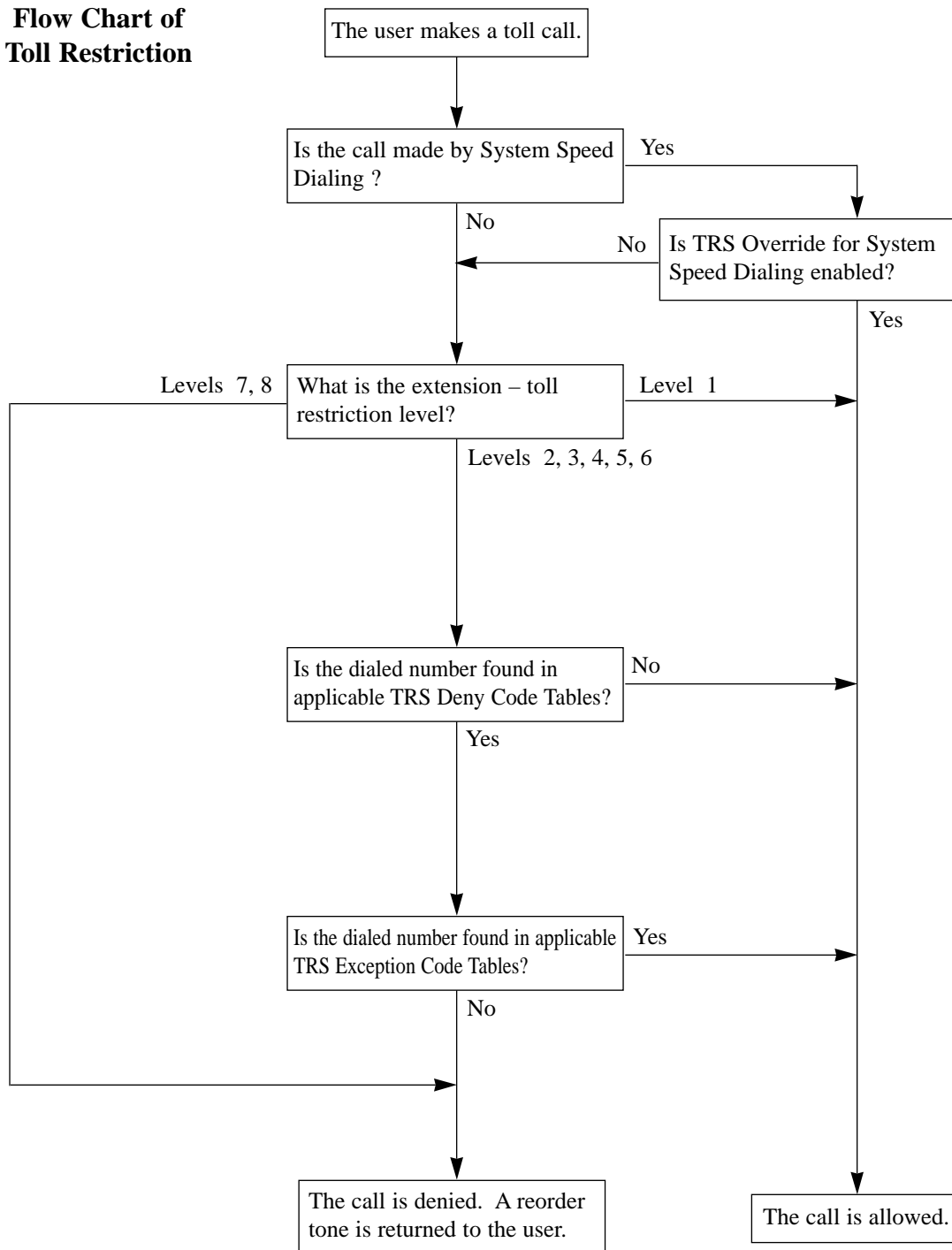
#### [Explanation]

If the extension user’s Toll Restriction Level is 6;

a) The extension user cannot make a call whose toll call number is “201,” because the number whose second digit “0” is one of the TRS Deny Codes for Level 6.

b) The extension user can make a call whose toll call number is “800.” Though the number whose second digit “0” is one of the TRS Deny Codes for Level 6, the number “800” is one of the TRS Exception Codes for Level 6. The Exception Codes override the Deny Codes.

## Flow Chart of Toll Restriction





## Conditions

- Toll restriction checks are applied to the following:
  - (1) Automatic Route Selection (ARS)
  - (2) Account Code Entry
  - (3) Idle Trunk Dial Access
  - (4) Individual Trunk Group Dial Access
  - (5) Individual Trunk Access
  - (6) Special Carrier Access
  - (7) System Speed Dialing
- **Emergency Numbers**  
The Emergency numbers such as Police or Fire Department should be stored in System Program (Section 4.5.3 “Features - Emergency Dial Code” in the Installation Manual) so that they are excepted from toll restriction.
- If a stored Host PBX access code or a stored carrier code is found in the dialed number, a toll restriction check starts for the succeeding telephone number.
- **Toll Restriction Override for System Speed Dialing**  
This feature can be activated or deactivated per tenant.
- **Checking Dial \*, # by Toll Restriction**  
It is programmable whether the “\*” or “#” dialed by an extension user is to be checked or not in Toll Restriction procedure. This is useful to prevent unauthorized calls which could be possible through certain Central Offices’ exchange system.

## Programming References

- System Programming** .....Installation Manual, Section 4
  - 4.2.1 System - Tenant
    - System Speed Dial TRS Level Override
  - 4.2.3 System - Class of Service
    - TRS Level, Day/Night
    - Call from TRS Level 7 Extension
  - 4.2.4 System - System Timer (1/2)
    - First Digit Time (5-120 s)
    - Inter Digit Time (1-30 s)
  - 4.2.7 System - System Option
    - (7) Checking dial \*, # by toll restriction
  - 4.4.2 Line - Extension Line
    - COS No.
  - 4.5.3 Features - Emergency Dial Code
  - 4.5.6 Features - Special Carrier Code
  - 4.6.1 Toll Restriction - TRS Deny Code
  - 4.6.2 Toll Restriction - TRS Exception Code

## Feature References

- |  |   |
|--|---|
| Toll Restriction for Special Carrier Access        | Toll Restriction Override by Account Code Entry |
| Toll Restriction Override for System Speed Dialing |   |

## Operation References

Not applicable.

## Toll Restriction for Special Carrier Access

**Description** If your system has access to multiple telephone companies, access to a specific company requires a carrier access code preceding the telephone number. Toll Restriction on these calls is activated by storing the carrier codes (maximum 100). If a stored carrier code is found in the dialed number, a toll restriction check starts for the succeeding telephone number.

**Conditions**

- **Automatic Pause Insertion**  
A carrier access code is followed by Automatic Pause Insertion. It is possible to select the pause time by System Programming.

**Programming References**

- System Programming .....Installation Manual, Section 4
- 4.3.1 Group - Trunk Group
  - Pause Time
- 4.5.6 Features - Special Carrier Code

**Feature References** Toll Restriction

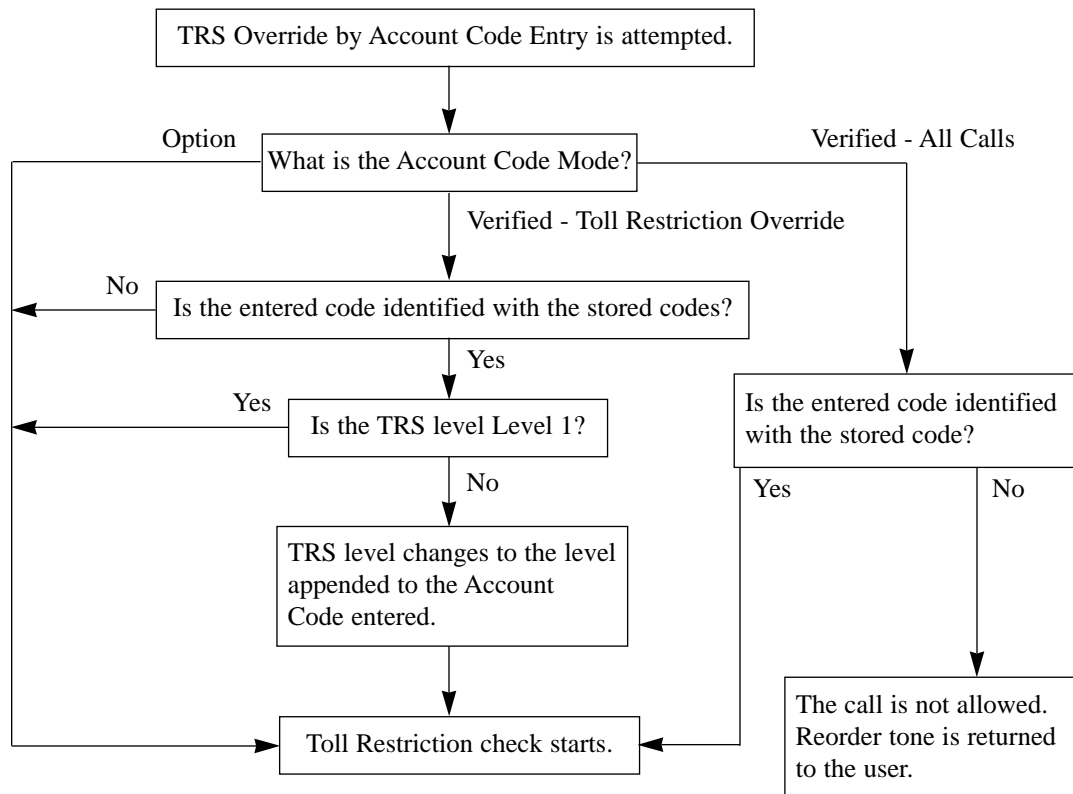
**Operation References** Not applicable.

## Toll Restriction Override by Account Code Entry

### Description

Allows the extension user to override toll restriction temporarily to make a toll call from a toll-restricted telephone. The extension user can carry out this feature by entering the appropriate account code before dialing the telephone number.

### Flow Chart of TRS Override by Account Code Entry



### Conditions

- Class of Service Programming**  
 This feature applies to the extension user whose Account Code Mode is set to “Verified-Toll Restriction Override” by Class of Service Programming.
- Toll Restriction Level for Account Code**  
 Each account code has its own toll restriction level. The toll restriction level of the extension user is changed according to the account code selected. This can be used by extension users assigned a toll restriction level from 2 through 8. Level 1 is not changed.
- Up to 1000 account codes per system/tenant can be programmed for Verified Account code operation. These are used for Toll Restriction Override.
- If the extension user does not enter any account code or enters an invalid account code, an ordinary toll restriction check is done.

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (36) Account Code
- 4.2.3 System - Class of Service
  - Account Code Mode
- 4.5.5 Features - Account Code
  - Tenant No.
  - Entry No.
  - Code
  - TRS Level

## Feature References

- Account Code Entry
- Toll Restriction

## Operation References

- Station Features and Operation**.....User Manual, Section 4.3
- Toll Restriction Override — Toll Restriction Override by Account Code Entry

## **Toll Restriction Override for System Speed Dialing**

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**Description** Allows the extension user to override Toll Restriction in System Speed Dialing. Normally, calls originated by System Speed Dialing are restricted depending on the extension's toll restriction level. Once this feature is activated, it permits extension users to make System Speed Dialing calls without restriction.

**Conditions**

- **Tenant Service**  
This feature can be activated or deactivated on a tenant basis by System Programming.

### **Programming References**

**System Programming** .....Installation Manual, Section 4  
4.2.1 System - Tenant  
— System Speed Dial TRS Level Override

**Feature References**      System Speed Dialing                      Toll Restriction

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Toll Restriction Override – Toll Restriction Override for System Speed  
Dialing

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## Traffic Measurement

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<b>Description</b>	Provides current traffic information about following items individually. You can collect and display the traffic information using the Maintenance Console PC.  <ol style="list-style-type: none"><li>1. Station</li><li>2. Trunk Group</li><li>3. Operator</li><li>4. UCD</li><li>5. OGM</li><li>6. AGC</li></ol>
<b>Conditions</b>	None
<b>Programming References</b>	None
<b>Feature References</b>	None
<b>Operation References</b>	<b>Utility</b> .....Installation Manual, Section 5 Traffic Information

## Trunk Access, Direct

---

### Description

Allows the PT user to get an idle CO line for making a call by pressing an idle CO button directly. This automatically establishes the hands-free operation mode and allows the extension user to perform On-Hook Dialing. There is no need to press the SP-PHONE button, MONITOR button nor lift the handset.

### Conditions

- The following three types of CO buttons can be programmed on an extension by Station, User or System Programming: Single-CO button, Group-CO button, and Loop-CO button.
- **Class of Service programming**  
COS (Class of Service) programming determines the trunk groups available for each extension user.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.3 System - Class of Service  
    — Trunk Group Setting  
4.4.2 Line - Extension Line  
    — Flexible CO Key Assignment  
**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment  
**Station Programming** .....User Manual, Section 2  
Flexible Button Assignment – Group-CO (G-CO) Button, Loop-CO (L-CO) Button, Single-CO (S-CO) Button

### Feature References

Button, Group-CO (G-CO)	Button, Loop-CO (L-CO)
Button, Single-CO (S-CO)	Trunk Connection Assignment – Outgoing

### Operation References

**Station Features and Operation** .....User Manual, Section 4.3  
Outward Dialing – Trunk Access, Direct

## Trunk Access, Idle

### Description

Allows the extension user to get an idle CO line for making an outside call by dialing the feature number for “Local access/ARS” (default=9). An idle CO line is automatically selected from the Trunk Groups assigned for the extension. The PT user can use the Loop-CO button instead of dialing the feature number.

### Conditions

- This feature functions when Automatic Route Selection (ARS) is not activated.
- **Class of Service programming**  
COS (Class of Service) programming determines the trunk groups available for each extension user.
- **Hunting Order**  
An idle CO line is selected from the Trunk Groups assigned to the extension. If multiple Trunk Groups are available, the Trunk Group hunting sequence is determined by System Programming.
- **Idle Line Preference — Outgoing**  
If Idle Line Preference – Outgoing is set by System Programming, the extension user can access an idle CO line simply by going off-hook.
- **<ICM type PT>**  
This feature requires a CO button (G-CO, L-CO or S-CO) assignment on a PT. Dialing the line access code selects a CO button on a PT according to the priority as follows:  
S-CO > G-CO > L-CO on a hunted Trunk Group

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.1 System - Tenant
  - Automatic Route Selection
- 4.2.2 System - Numbering Plan
  - (18) Local Access / ARS
- 4.2.3 System - Class of Service
  - Trunk Group Setting
- 4.2.5 System - Local Hunt Sequence
- 4.3.1 Group - Trunk Group
  - Line Hunting Order
- 4.4.2 Line - Extension Line
  - Flexible CO Key Assignment
  - Preferred Line - Outgoing

### Feature References

Trunk Connection Assignment – Outgoing

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Outward Dialing – Trunk Access, Idle



## Trunk Access, Individual Trunk

---

**Description** Allows the PT user to get an idle CO line for making a CO call simply by pressing an idle Single-CO button.

- Conditions**
- **Class of Service programming**  
COS (Class of Service) programming determines the trunk groups available for each extension user.
  - A Single-CO button can be assigned to a flexible CO button by Station, User or System Programming.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.3 System - Class of Service  
— Trunk Group Setting  
4.4.2 Line - Extension Line  
— Flexible CO Key Assignment  
**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment  
**Station Programming** .....User Manual, Section 2  
Flexible Button Assignment – Single-CO (S-CO) Button

**Feature References** Button, Single-CO (S-CO) Trunk Connection  
Assignment – Outgoing

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Outward Dialing – Trunk Access, Individual Trunk

## Trunk Access, Trunk Group

### Description

Allows the extension user to get an idle CO line for making a CO call by specifying a Trunk Group. An idle line is selected from the Trunk Group. To specify a Trunk Group, dial the feature number for “Trunk Group Access” (default = 8) and a desired Trunk Group number (01 through 48). A PT user can also specify a Trunk Group by pressing a Group-CO button.

### Conditions

- **Class of Service programming**  
COS (Class of Service) programming determines the trunk groups available for each extension user.
- **Line Hunting Order**  
An idle CO line in a trunk group is selected in one of the following three line hunting orders.  
(1) Normal (default)   (2) Reversal   (3) Sequential  
Refer to “Trunk Group” in this manual for further information.
- If a “Group-CO button is selected by Idle Line Preference – Outgoing” assignment, the user can access a Trunk Group simply by going off-hook.
- **Group-CO button**  
This button can be assigned to a flexible CO button by Station, User or System Programming.

### Programming References

<b>System Programming</b> .....	Installation Manual, Section 4
4.2.2 System - Numbering Plan	
— (19) Trunk Group Access	
4.2.3 System - Class of Service	
— Trunk Group Setting	
4.3.1 Group - Trunk Group	
— Line Hunting Order	
4.4.2 Line - Extension Line	
— Flexible CO Key Assignment	
— Preferred Line - Outgoing	
<b>User Programming</b> .....	User Manual, Section 3
[005] Flexible CO Button Assignment	
<b>Station Programming</b> .....	User Manual, Section 2
Flexible Button Assignment – Group-CO (G-CO) Button	

### Feature References

Button, Group-CO (G-CO)	Trunk Connection
Trunk Group	Assignment – Outgoing

### Operation References

<b>Station Features and Operation</b> .....	User Manual, Section 4.3
Outward Dialing – Trunk Access, Trunk Group	

## Trunk Answer From Any Station (TAFAS)

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**Description** A tone signal is emitted from the external pager when an incoming CO call is received. Any extension user can answer the call.

- Conditions**
- **Hardware Requirements**  
A user-supplied external paging device is required to utilize this feature. Up to two external pagers can be installed in the system.
  - To answer an incoming CO call ringing at an external pager, dial the feature number and TAFAS number 1 or 2. The feature number is the same as that used to answer Paging – External.
  - TAFAS can be used in the following cases:
    - a) The FDN of an external pager is assigned as the Destination of a trunk line (DIL 1:1). In this case, all incoming calls on the specified line will be signaled.
    - b) A DISA caller dials the FDN of an external pager.
    - c) The FDN of an external pager is assigned as the Intercept Routing destination. In this case incoming calls redirected to the destination will be signaled.
    - d) When a TIE call comes in.
  - **Confirmation Tone**  
A confirmation tone is sent to the extension user before being connected to the caller. Eliminating the tone is programmable.

### Connection References

**Installation** .....Installation Manual, Section 2  
2.3.8 External Pager (Paging Equipment) Connection

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (25) External Paging Answer/TAFAS Answer  
4.2.7 System - System Option  
— (9) Confirmation Tone for Call Pickup, Paging Answer, TAFAS Answer, Hold Retrieve and Call Park Retrieve  
4.4.1 Line - Trunk Line  
— Incoming Type  
— Destination, Day/Night  
4.4.5 Line - External Paging  
— Tenant No.  
— FDN

**Feature References** Floating Station

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Trunk Answer From Any Station (TAFAS)

## Trunk Busy-out

---

### Description

Allows the Manager and an Operator to busy out a CO line to prevent extension users from accessing it.

#### [The details of Trunk Busy-out feature]

There are the following two types of trunk port relay status which is set to Trunk Busy-out.

- a) Busy (Loop Relay On) : making the line busy by hardware
- b) Idle (Loop Relay Off) : making the line busy by software

The Central Office recognizes a trunk line as shown in Table 1.  
The actual behavior of the PBX is as follows:

#### 1) Idle status

- a) When the PBX user makes a call:  
The trunk line is recognized as busy and making a CO call is disabled.
- b) When the outside caller makes a call and then the Central Office gives the incoming call to PBX:  
The Central Office recognizes the PBX as idle and the call is processed. (The outside caller hears ringback tone.) However, even though the PBX receives the bell signal from the Central Office, the PBX ignores it.

#### 2) Busy status (the status of grabbing a CO line) / during a conversation

- a) When the PBX user makes a call:  
The trunk line is recognized as busy and making a CO call is disabled.
- b) When the outside caller makes a call and then the Central Office gives the incoming call to PBX:  
The Central Office recognizes the PBX as busy and the caller hears busy tone.

#### [Notes]

- The default of each card is "Idle." If it were "busy," there is a possibility that the Central Office will mistakenly believe that there is something wrong with the trunk line.
- T1 standard does not have Busy-out status (Block).  
Therefore, the default of all interfaces (Loop start CO/Ground start CO/DID/TIE) is regarded as idle status.



## Trunk Connection Assignment – Outgoing

**Description**                      Used to determine the Trunk Group which can be accessed by an extension user for making outside calls on a Class of Service basis. This feature is useful to prevent unauthorized toll calls.

**Conditions**

- When the extension user tries to make an outside call on a disallowed Trunk Group, a reorder tone is sent to indicate that the user cannot use it.
- **Night Service**  
Trunk Groups available for each Class of Service can be determined for Day and Night respectively.

### **Programming References**

**System Programming** .....Installation Manual, Section 4  
4.2.3 System - Class of Service  
    — Trunk Group Setting

**Feature References**            None

**Operation References**        Not applicable.

## Trunk Group

---

### Description

All CO lines and TIE lines in the system can be grouped into up to 48 Trunk Groups. This allows extension users to call outside parties without designating a specific CO line, since a CO line is automatically selected from the designated Trunk Group. All CO lines belonging to a Trunk Group follow the assignment determined for that Trunk Group.

### Conditions

- Each CO line can only belong to one Trunk Group.
- **Line Hunting Order**  
An idle CO line in a trunk group is selected in one of the following three line hunting orders.
  - (1) Normal (default)  
The system connects the user to an idle trunk line with the lowest trunk port physical number.
  - (2) Reverse  
The system connects the user to an idle trunk line with the highest trunk port physical number.
  - (3) Sequential  
To avoid repeated use of the same trunk line, rotation is performed in numerical order (from the lowest to the highest trunk port physical number). Busy lines are skipped, of course.
- **Tenant Service**  
If Tenant Service is employed, the affiliation of each trunk group is determined by System Programming.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (19) Trunk Group Access
- 4.2.3 System - Class of Service
  - Trunk Group Setting
- 4.2.6 System - Trunk to Trunk Restriction
- 4.3.1 Group - Trunk Group
  - Tenant
  - Intercept Destination, Day/Night
  - TRS Level, Day/Night
  - Line Hunting Order
  - Disconnecting Time
  - Pause Time
  - Pause Time before Flash signal
  - Flash Time
  - PBX Access Code
  - Cyclic Signal Detection
  - Continuous Signal Detection
  - Silence Detection

**Feature References**      None

**Operation References**    Not applicable.

## Trunk Route Control

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<b>Description</b>	Allows the Manager and the Operators to make a call using a specific trunk. They can verify the status of the specified trunk.
<b>Conditions</b>	<ul style="list-style-type: none"><li>• This feature does not override the Toll Restriction by COS or the Tenant Service.</li><li>• Redial does not work if a call has been made using this feature.</li></ul>
<b>Programming References</b>	None
<b>Feature References</b>	None
<b>Operation References</b>	<b>Operator/Manager Service Features</b> .....User Manual, Section 4.4 Trunk Route Control



## Two-Way Recording into the Voice Mail†

### Description

This is one of the DPT Integration features. Allows the PT user to record the current telephone conversation into his/her own mailbox or another extension user's mailbox.

#### Note:

During the recording of Two-Way telephone conversations, inform the other party that the conversation is being recorded.

### Conditions

- **Two-Way Record/Two-Way Transfer button**  
These buttons can be assigned to a flexible (CO, DSS) button by Station, User or System Programming.
- If all voice mail ports are busy, pressing the Two-Way Record button does not function and an alarm tone sounds.
- If all voice mail ports are busy, pressing the Two-Way Transfer button followed by an extension number sends an alarm tone.
- When you record Two-Way telephone conversations, you should inform the other party that the conversation is being recorded.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.4.2 Line - Extension Line  
— Flexible CO Key Assignment  
2WAY-REC (Two-way Recording)  
2WAY-TRN (Two-way Transfer)  
4.4.3 Line - DSS Console  
— Flexible DSS Key Assignment  
2WAY-REC (Two-way Recording)  
2WAY-TRN (Two-way Transfer)  
**User Programming** .....User Manual, Section 3  
[005] Flexible CO Button Assignment  
**Station Programming** .....User Manual, Section 2  
Flexible Button Assignment — Two-Way Record Button, Two-Way Transfer Button

### Feature References

VPS Integration - DPT Integration

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Two-Way Recording into Voice Mail

## T-1 Carrier

### Description

The T1 line is at the bottom of the digital transmission hierarchy. A T1 line carries 1.544 Mbps of data (Which can be voice or anything else). The T1 line contains 24 voice channels. Voice is digitized by Pulse Code Modulation.

### Conditions

- **Hardware Requirements**

T-1 trunk card (KX-T96187) and user-supplied CSU (Channel Service Unit) are required to utilize T-1 carrier with the KX-TD500 System.

- **Trunk Interface**

This card supports five different trunk interfaces to provide desired connection at minimum expense. One of the following five trunk types can be assigned to one of 24 channels of T-1 card individually according to tariffs and customer needs.

LCOT, GCOT, DID, OPX, TIE

- Up to eight T-1 cards (192 ports) can be installed in the system under the following conditions. One T-1 card occupies 24 trunk ports.

HLC+PLC+SLC+MSLC+ESLC+DLC+DHLC+OPX+DID+LCOT+GCOT+T-1	512 ports/system
HLC+PLC+SLC+MSLC+ESLC+DLC+DHLC+OPX+DID+LCOT+GCOT+T-1	192 ports/basic shelf
HLC+PLC+SLC+MSLC+ESLC+DLC+DHLC+OPX+DID+LCOT+GCOT+T-1	224 ports/expansion shelf
DID+LCOT+GCOT+T-1	192 ports/system
T-1	72 ports (3 cards)/shelf

- The T-1 card needs to be installed to free slot no.1, 5 or 9.

Physical port number for each T-1 trunk channel is as follows:

Slot No.	Channel	Port No.
1	1-24ch	X0101-X0124
5	1-24ch	X0501-X0124
9	1-24ch	X0901-X0924

X : Shelf No. (1=Basic, 2=Expansion 1, 3=Expansion 2)

- Extension Number Assignment is required when a channel of T-1 card is assigned as "OPX."
- Select the external clock mode, if your system is interfaced by T-1 interface with another exchange.

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.1.1 Configuration - Slot Assignment  
(TSW Card Configuration)
  - System Clock Status
  - Clock Configuration Mode
  - Clock Configuration Master Card No.
  - Clock Configuration Priority 1-8
- 4.1.5 Configuration - T1 Port Assignment

**Feature References**      None

**Operation References**    Not applicable.

## User Programming

---

### Description

Allows a PT user to assign or change the following System Programming items at his/her own PT.

Access No.	Title
000	System Date/Time
001	System Speed Dial Number
002	System Speed Dial Name
004	Extension Name
005	Flexible CO buttons
006	Caller ID Dial
007	Caller ID Name
008	Absent Messages
009	Quick Dial Number

### Conditions

- User Programming Password is required to perform User Programming.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.10.4 Maintenance - System Parameters  
    — Password  
        User Programming  
**User Programming** .....User Manual, Section 3

### Feature References

None

### Operation References

Not applicable.

## Volume Control – Speaker/Handset Receiver/Headset/Ringer

### Description

Allows the PT user to change the following as desired:  
 Handset receiver volume  
 Headset volume  
 Ringer volume  
 Speaker volume

### Conditions

- The control method depends on the telephone type:
  - [KX-T7400 series DPTs]**  
 — Rotate the Jog Dial in the desired direction.
  - [KX-T7200 series DPTs]**  
 — Press the volume control button (UP ^ / DOWN v ) to select a desired volume level. However the ringer volume of KX-T7220 and KX-T7250 is selected with Ringer Volume Selector (OFF / LOW / HIGH).
  - [APTs]**  
 — Slide the following levers located on the left side of the telephone.
 

Volume Control	(MIN – MAX)
Handset Headset	
Volume Selector	(NORMAL / MID / HIGH)
Ringer Volume Selector	(OFF / LOW / HIGH)

### Programming References

No programming required.

### Feature References

None

### Operation References

**Configuration**.....User Manual, Section 1.1  
 Volume Control – Handset Receiver/Headset/Ringer/Speaker

## VPS INTEGRATION – SUMMARY

### **Description**

The Voice Processing System(VPS) provides Automated Attendant and Voice Mail Services. The KX-TD500 System works well with all Panasonic KX-TVS series Voice Processing System (VPS) and it can be programmed to work with most other manufactures' VPSs that fully support Inband Integration.

However, since both the PBX and VPS are independent systems, "Integration" with the VPS is necessary to make the two systems work more closely.

Without integration, both systems will work separately without knowing the status of other system.

### **How the KX-TD500 System communicate with VPS:**

#### **(1) Inband Integration**

The KX-TD500 System sends the VPS several codes with DTMF tone via speech path. Available with not only Panasonic KX-TVS series VPSs but with most other manufactures' VPSs that fully support Inband Integration.

#### **(2) DPT Integration**

The KX-TD500 System sends the VPS the information and commands over the DPT data link. Available with Panasonic KX-TVS series VPS only.

### **Available features:**

#### **(a) VM (Voice Mail) Service Integration**

Allows the caller to leave a message in the mailbox of their destination party without knowing the mailbox number.

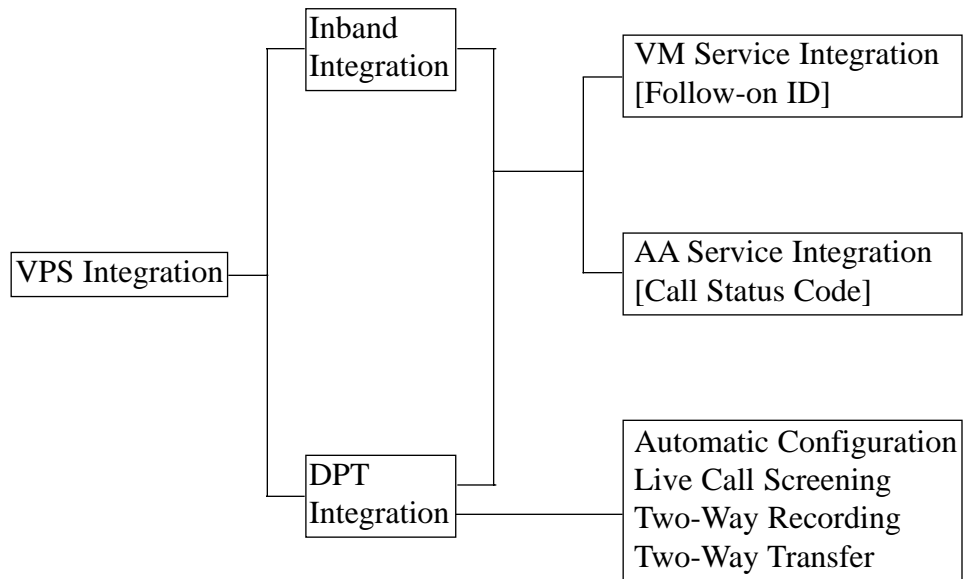
#### **(b) AA (Automated Attendant) Service Integration**

Used to improve the call handling performance of the VPS.

#### **(c) Special features for DPT Integration (DPT Integration only)**

- Auto Configuration
- Live Call Screening (LCS)
- Two-way Recording
- Two-way Transfer

## Outline sketch of VPS Integration

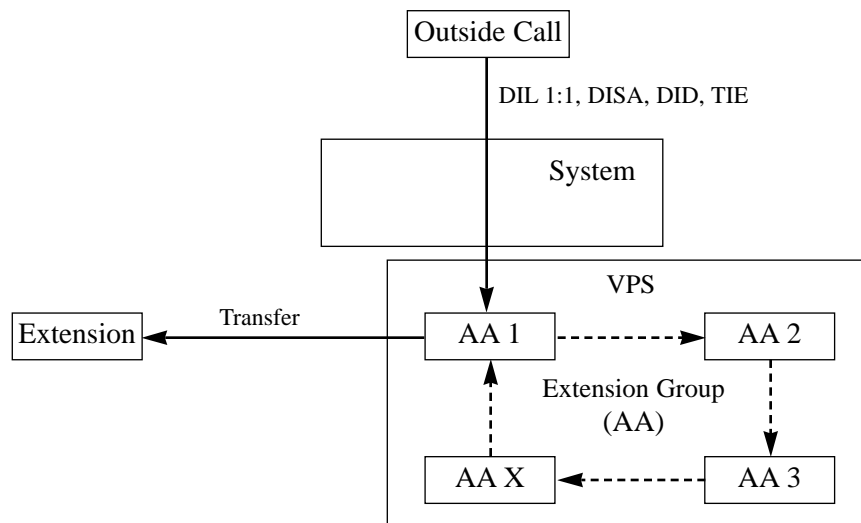


## VPS Integration — Automated Attendant (AA) Service Integration

### Description

This is one of the VPS Integration features.

With AA Service Integration, the KX-TD500 System transmits the call status code (busy, answered, ringing, disconnected, etc.) before sending the normal call progress tones to an AA extension. These codes enable the VPS to immediately recognize the current status of the call and improve its call handling performance.





Integration Code Table

<b>Code (default)</b>	<b>Call State</b>	<b>Sent to the Voice Mail Port When</b>
1	Ring-back Tone	The extension dialed is ringing.
2	Busy Tone	The extension dialed is busy.
3	Reorder Tone	An invalid extension number is dialed or the call is inadvertently connected to another Voice Mail port (also heard when no DTMF receiver is available to the Voice Mail extension).
4	DND	The extension dialed has set DND feature (Do Not Disturb).
5	Answer	The extension dialed is answered.
6	Forwarded to Voice Mail (Ringing)	The extension dialed is forwarded to Voice Mail and another Voice Mail port is able to answer. (This lets the first Voice Mail port, usually an Automated Attendant, send the call to the other Voice Mail port.)
7	Forwarded to Voice Mail (Busy)	The extension dialed is forwarded to Voice Mail and no other Voice Mail ports are available to accept the call. (This signals the Voice Mail port [usually Automated Attendant] to let the caller to leave a message.)
8	Forwarded to Ext.	The extension dialed is forwarded to another, non-Voice Mail extension.
9	Confirmation Tone	The Message Waiting Lamp On or Message Waiting Lamp Off code is dialed successfully.
#9	Disconnect	The caller disconnects. The central office must set a CPC signal to the PBX line for this signal to work for CO calls.

## Conditions

- **Start AA Service after FWD, IRNA of CO call**  
When an outside call is routed to a VM port by Call Forwarding or IRNA feature, AA Service can be activated instead of VM Service by System Programming.
- **Call from AA port to AA port**  
Prevents or allows a call originated by an AA port of VPS to another AA port.

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.1.4 Configuration - VPS (DPT) Port Assignment
- 4.3.2 Group - Extension Group
  - FDN
  - Group Type
  - Tenant No.
  - Overflow Setting
    - Destination, Day/Night
    - Overflow Time
- 4.4.2 Line - Extension Line
  - Group No.
  - COS No.
  - Mailbox No.
- 4.5.9.1 Features - VPS Integration (1/2)
  - Integration Codes
- 4.5.9.2 Features - VPS Integration (2/2)
  - Start AA service after FWD, IRNA of CO call
  - Call from AA port to AA port

## Feature References

- DPT Integration
- Inband Integration
- VPS Integration

## Operation References

Not applicable.

## VPS Integration — DPT Integration †

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### Description

This is one of the VPS Integration features. With DPT Integration, the KX-TD500 System sends the VPS the information and commands on the calling extension via DPT interfaced data link to help it work more effectively. This is available only with Panasonic KX-TVS series VPS.

Using the information and commands, the VPS can:

- (1) identify the extension number of the caller
- (2) know where the call is forwarded from and its line status
- (3) recognize what the caller wants to do.

In addition to VM Service Integration and AA Service Integration, following special features are available only with DPT Integration.

- **Auto Configuration**
- **Live Call Screening**
- **Two-Way Recording**
- **Two-Way Transfer**

### Conditions

- A maximum of eight Panasonic Voice Processing Systems can be connected to the KX-TD500 system.
- To utilize this feature, DOHCA Card (KX-TD50105) and DLC card (KX-TD50172) / DHLC card (KX-TD50170) are required.
- Only one Panasonic Voice Processing System can be connected to a DHLC/DLC card.
- The jack with the lowest physical number of the DHLC/DLC card must be connected to the VPS port with the lowest physical number.

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.1.1 Configuration - Slot Assignment
- 4.1.3 Configuration - Extension Port Assignment
  - Card No.
  - Attribute
- 4.1.4 Configuration - VPS (DPT) Port Assignment
  - TVS No.
  - VPS Card
  - Type
  - Jack No.
  - Port No.
  - Ext No.1
    - DN
    - Group No.
  - Ext No.2
    - DN
    - Group No.

- Status
- 4.3.1 Group - Trunk Group
  - Intercept Destination, Day/Night
- 4.3.2 Group - Extension Group
  - Group No.
  - FDN
  - Group Type
  - Tenant No.
  - Overflow Setting
  - Destination, Day/Night
- 4.4.1 Line - Trunk Line
  - Incoming Type
  - Destination, Day/Night
- 4.4.2 Line - Extension Line
  - Group No.
  - COS No.
  - Mailbox No.
- 4.5.9.1 Features - VPS Integration 2/2
  - Turn off control of Message Waiting Lamp
  - Extension's mailbox number

**Feature References**      VPS Integration

**Operation References**      Not applicable.

## VPS Integration — Inband Integration

---

### Description

This is one of the VPS Integration features. With Inband Integration, the KX-TD500 System sends the certain information to the VPS with DTMF tones. Inband Integration can be categorized into the following two types:

#### (a) VM Service Integration

This integration works together with Call Forwarding and IRNA features. When activated, the KX-TD500 System sends the digits of the mailbox number of the called extension with DTMF tone to the VPS before connecting the caller.

These digits are commonly known as the Follow-on ID.

As a result, the caller who does not know the mailbox number of the corresponding extension can leave a message.

#### (b) AA Service Integration

This integration works together with AA (Automated Attendant) service of the VPS. When activated, the KX-TD500 System informs the VPS of the state of the call (busy, answered, ringing, etc.) by sending a code with DTMF tone before sending the normal call progress tone (busy tone, ringback tone, etc.).

These codes enable the VPS to immediately recognize the current state of the call and improve its call handling performance.

### Conditions

- To utilize this feature, one of the following extension cards which support the SLT interface is required: DHLIC, HLC, SLC, ESLC or SLC-M

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.3.1 Group - Trunk Group
  - Intercept Destination, Day/Night
- 4.3.2 Group - Extension Group
  - FDN
  - Group Type
  - Tenant No.
  - Overflow Setting
  - Destination, Day/Night
- 4.4.1 Line - Trunk Line
  - Incoming Type
  - Destination, Day/ Night
- 4.4.2 Line - Extension Line
  - Group No.
  - COS No.
  - Mailbox No.

## 4.5.9 Features - VPS Integration 1/2

- Integration Code
- Ringback Tone
- Busy Tone
- Reorder Tone
- DND Tone
- Extension Answer
- Extension Disconnect
- Confirmation Tone
- FWD to VM Ringback Tone
- FWD to VM Busy Tone
- FWD to Extension Ringback Tone
- Voice Mail Command
- Leave Message
- Get Message
- AA Service
- VM Service

## 4.5.9.2 Features - VPS Integration 2/2

- DTMF signal duration
- Pause Timing before sending DTMF signal (Follow on ID)
- Pause Timing before sending DTMF signal (RBT, BT)
- Turn off control of Message Waiting Lamp
- Extension's mailbox number

**Feature References**      DPT Integration      VPS Integration

**Operation References**      Not applicable.

## VPS Integration — Voice Mail (VM) Service Integration

### Description

This is one of the VPS Integration features. With VM Service Integration, the KX-TD500 System connects the caller to a VM extension and sends the mailbox number (**Follow-on ID**) of the corresponding extension so that the caller can leave the message in the mailbox of the corresponding extension without knowing their mailbox number.

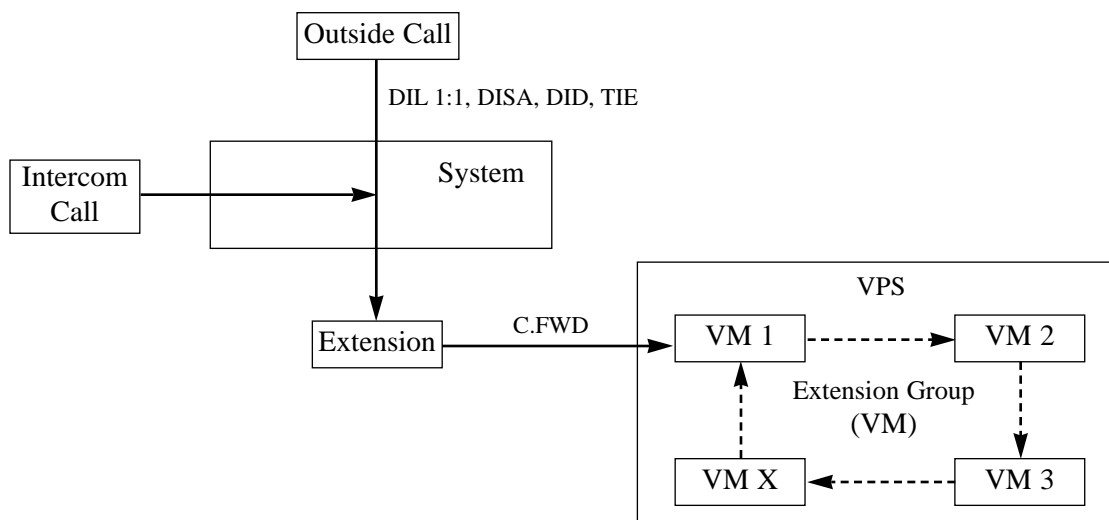
This feature applies to the following calls:

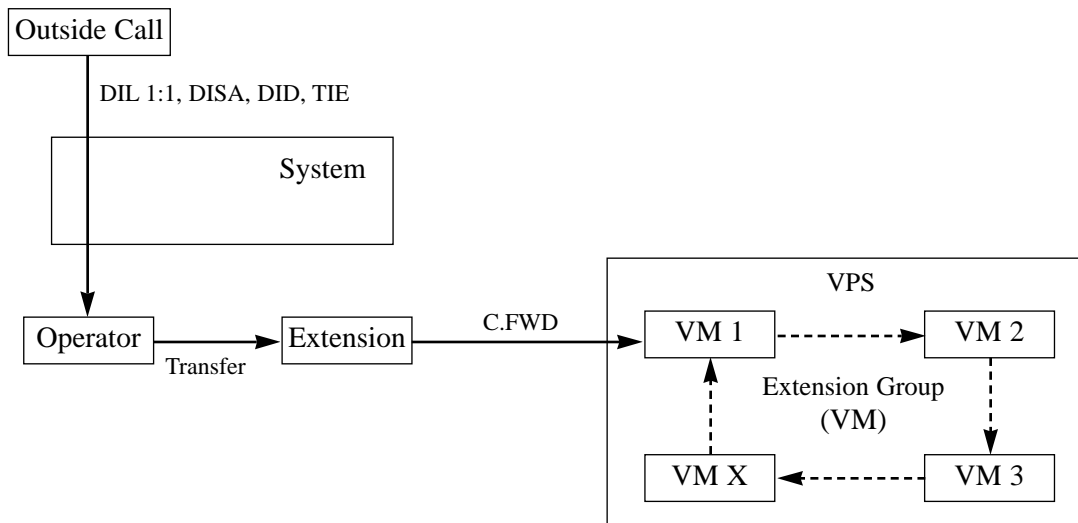
- Call Forwarding – All Calls to VM extensions
- Call Forwarding – Busy to VM extensions
- Call Forwarding – No Answer to VM extensions
- Call Forwarding – Busy/No Answer to VM extensions
- Intercept Routing No Answer (IRNA) to a VM extension
- Transfer by VM Transfer button
- Notification by Message Waiting Lamp

### System Explanation

#### (1) Call Forwarding (All Calls, Busy, No Answer, Busy/No Answer) to a VM extension

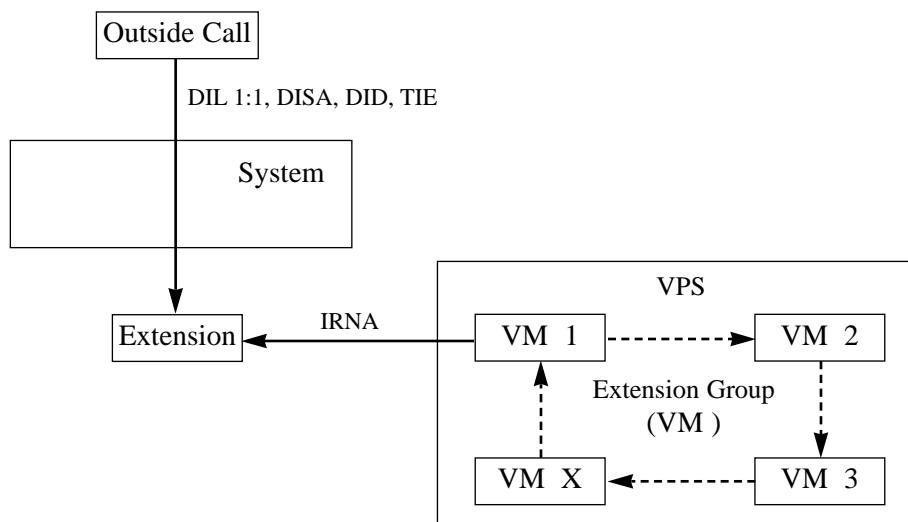
If the extension user sets Call Forwarding to a VM extension, the call directed to that extension is forwarded to a VM extension with Follow-on ID of the extension user.





## (2) Intercept Routing No Answer (IRNA) to a VM extension

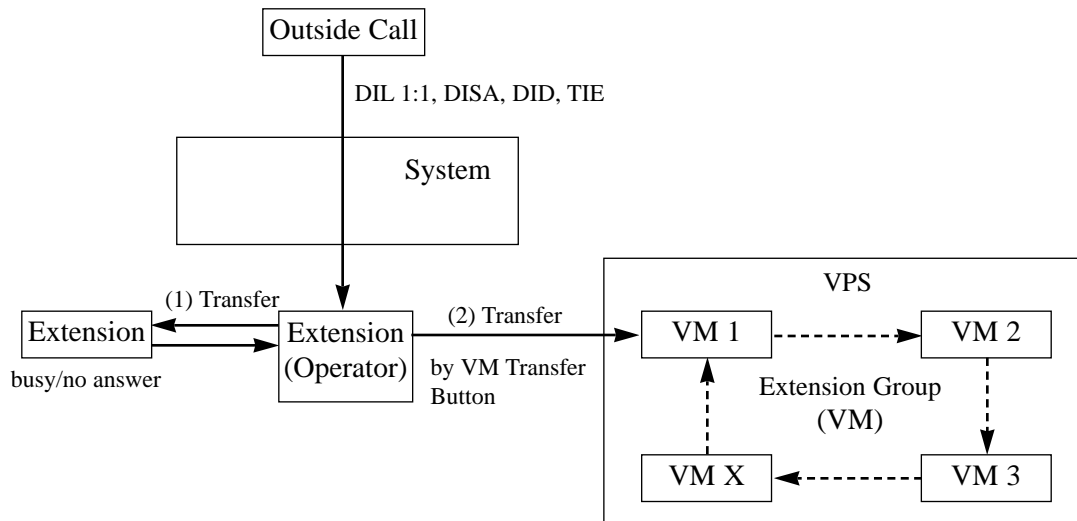
If an incoming CO call directed to a certain extension is not answered within a specified period of time (IRNA timer), the call is redirected to a VM extension with Follow-on ID of the corresponding extension.





### (3) Transfer by VM Transfer button

VM Transfer button is used to transfer a call to a VM extension with Follow-on ID of the corresponding extension so that the caller can leave the message in the mailbox of the destination extension user without knowing the mailbox number.



### (4) Notification by Message Waiting Lamp

If the caller leaves a message in a mailbox, the VPS notifies the corresponding extension user that there is a message in their mailbox by turning on the Message Waiting Lamp on their extension.

The extension user can listen to the message simply by pressing the red lit Message Waiting Lamp

## Conditions

- **IRNA of DIL 1:N calls**

If a DIL 1:N call (an outside call which comes in on multiple extensions simultaneously) is not answered within a specified period of time, the system redirects the call to the pre-determined covering extension. If a VM extension is assigned as the covering extension, the VM port automatically starts the AA (Automated Attendant) service of the VPS.
- **Mailbox Number**

The extension user's extension number is assigned as the mailbox number by default and can be changed by System Programming (Section 4.5.9 Features - VPS Integration "Extension's mailbox number" in the Installation Manual).
- **Voice Mail Transfer**

Pressing the Voice Mail Transfer button and dialing the extension number allows the extension user to transfer the call to the corresponding mailbox. In this case, Follow On ID function is available.
- **Voice Mail Transfer button**

This button can be assigned to a flexible (CO, DSS) button by Station, User or System Programming.
- **Data Line Security**

The Voice Mail extension should be set to "Data Line Security" to achieve proper recording.
- **Busy Station Signaling**

The Voice Mail extension can execute the "Busy Station Signaling (BSS)" function to the busy extension.
- **Turn off Control of Message Waiting Lamp**

Used to determine whether the System turns off the Message Waiting lamp or the VPS does when the VPS answers the callback from the message receiver.
- **Sending out Follow-on ID after FWD**

Used to determine whether to send or not the Follow-on ID after an outside call is forwarded to a VM extension.
- **Sending out Follow-on ID after IRNA**

Used to determine whether to send or not the Follow-on ID after an outside call is redirected to a VM extension by IRNA feature.

## Connection References

- Installation** .....Installation Manual, Section 2  
2.4 Extension Cards

## Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (40) Message Waiting, Set/ Cancel/ Call Back
  - (42) Call FWD/ Do Not Disturb, Set/ Cancel
- 4.3.2 Group - Extension Group
  - FDN
  - Group Type
  - Tenant No.
  - Overflow Setting
    - Destination, Day/Night
- 4.4.2 Line - Extension Line
  - Group No.
  - COS No.
  - Mailbox No.
  - Flexible CO Key Assignment
    - VTR(Voice Mail Transfer)
    - 2WAY-REC (Two-way Recording)
    - 2WAY-TRN (Two-way Transfer)
    - LCS (Live Call Screening)
    - LCS Cancel
  - LCS Settings
    - Status
    - Operation Mode
    - Recording Mode
    - LCS Password
- 4.4.3 Line - DSS Console
  - Flexible DSS Key Assignment
    - VTR(Voice Mail Transfer)
    - 2WAY-REC (Two-way Recording)
    - 2WAY-TRN (Two-way Transfer)
    - LCS (Live Call Screening)
    - LCS Cancel
- 4.5.9.1 Features - VPS Integration 1/2
  - Voice Mail Command
- 4.5.9.2 Features - VPS Integration 2/2
  - Turn off control of Message Waiting Lamp
  - Extension's mailbox number
  - Sending out Follow on ID after FWD
  - Sending out Follow on ID after IRNA
- User Programming** .....User Manual, Section 3
- [005] Flexible CO Button Assignment
- Station Programming** .....User Manual, Section 2
- Flexible Button Assignment – MESSAGE Button, Voice Mail (VM)  
Transfer Button

## Feature References

Call Forwarding – All Calls  
Call Forwarding – Busy  
Call Forwarding – Busy / No Answer  
Call Forwarding – No Answer  
Extension Group – Automated Attendant (AA) Group  
Extension Group – Voice Mail (VM) Group  
Intercept Routing

## Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Voice Mail Transfer  
VPS Integration

## Walking COS

---

**Description** Allows an extension user to make a toll call at other lower level COS extensions (toll/outward restricted) by employing his/her own higher level COS temporarily.

**Conditions** None

### Programming References

- System Programming** .....Installation Manual, Section 4
- 4.2.2 System - Numbering Plan
  - (60) Walking COS
- 4.2.3 System - Class of Service
  - TRS Level, Day/Night
  - Time Limit of Outside Calls
  - Transfer to CO
  - Digits Restriction in CO Talk Mode
  - Account Code Mode
  - Trunk Group Setting, Day/Night
- 4.4.2 Line - Extension Line
  - COS No.
- 4.10.4 Maintenance - System Parameters
  - Password
  - Walking COS

**Feature References** Class of Service (COS) Toll Restriction

**Operation References** **Station Features and Operation**.....User Manual, Section 4.3  
Walking COS

## Walking Station

---

### Description

Used to move an extension to a new location without re-programming. Extension data such as extension number, One-Touch dialing memory remain the same after the re-location of an extension.

### Conditions

- The telephone type (PT, SLT, OPX) must be the same at the source and destination.
- Walking Station is not available for the extensions connected to an HLC or DHLC card.

### Programming References

**System Programming** .....Installation Manual, Section 4  
4.2.2 System - Numbering Plan  
— (95) Walking Station

### Feature References

None

### Operation References

**Station Features and Operation**.....User Manual, Section 4.3  
Walking Station

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