

Electronic Key Telephone Systems

S_e/VI_e INSTALLATION AND MAINTENANCE MANUAL

RELEASE 2

TOSHIBA AMERICA INFORMATION SYSTEMS, INC. Telecommunication Systems Division



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RELEASE 2

TOSHIBA AMERICA INFORMATION SYSTEMS, INC. Telecommunication Systems Division

Strata Se & VIe

RELEASE 2 GENERAL DESCRIPTION

Strata Se/6e Tech Assist Code: TS-1293-ALS

Please note: Release 1 PROGRAM RECORD FORMS are located in rear of manual

Tek Tips

• 80

MAKC & MODCL: Toshiba Strata IVe (6e)

On the Strata 6e the way to tell the differance between the software is to look at the EPROM chips. The release 1 is marked VCCU-1 and the release 2 is marked VCCU-5.

The STRATA $S_{\rm e}/{\rm Vl}_{\rm e}$ electronic key telephone systems are registered in accordance with the provisions of Part 68 of the Federal Communications Commission's Rules and Regulations.

FCC REQUIREMENTS

Means of Connection

The Federal Communications Commission (FCC) has established rules which permit the STRATA S_{Θ}/VI_{Θ} electronic key telephone systems to be connected directly to the telephone network. A locally provided jack is used for this connection—jacks for this type of customer-provided equipment will not be provided on party lines or coin lines.

Incidence of Harm

If a STRATA $S_{\rm e}/VI_{\rm e}$ system is malfunctioning, it may also be disrupting the telephone network. The system should be disconnected until the problem can be determined and repaired. If this is not done, the telephone company may temporarily disconnect service.

Service or Repair

For service or repair, contact your local Toshiba telecommunications distributor. To obtain the nearest Toshiba telecommunications distributor in your area, call Toshiba America Information Systems. Telecommunication Systems Division in Irvine, CA (714) 583-3700.

Telephone Network Compatibility

The telephone company may make changes in its facilities. equipment. operations and procedures. If such changes affect the compatibility or use of the STRATA_e system, the telephone company will notify you in advance to give you an opportunity to maintain uninterrupted service.

Notification of Telephone Company

Before connecting a STRATA_e system to the telephone network, the telephone company may request the following:

- 1) Your telephone number.
- 2) FCC registration number:
 - STRATA_e may be configured as a Key or Hybrid telephone system. The appropriate configuration for your system is dependent upon your operation of the system.
 - If the operation of your system is only manual selection of outgoing lines, it may be registered as a Key telephone system.
 - If you operation requires automatic selection of outgoing lines; such as dial access. Least Cost Routing, Pooled Line Buttons, etc., the system must be registered as a Hybrid telephone system. In addition to the above, certain features (Off-premises Lines, Off-premises Extensions, etc.) may also required Hybrid telephone system registration in some areas.
 - If you are unsure of your type of operation and/or the appropriate FCC registration number, contact your local Toshiba telecommunications distributor for assistance.

STRATA S_e:

Key system: BF 287N-n1491-KF-E Hybrid system: BF 287N-19911-MF-E STRATA VI_e:

Key system: BF 287N-71465-KF-E Hybrid system: BF 287N-19899-MF-E

3) Ringer equivalence number: 0.5B

- The ringer equivalence number (REN) is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your number is called. In most areas, but not all, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to ascertain the maximum REN for your calling area.
- 4) USOC jack required: RJ-25C or RJ-11C

Items 2, 3, and 4 are also indicated on the equipment label.

You must notify the telephone company upon final disconnection of your equipment.

RADIO FREQUENCY INTERFERENCE

Warning: This equipment generates and uses radio frequency energy and if not installed and used in strict accordance with the manufacturer's instruction manual, may cause interference to radio and television reception. The equipment has been type-tested and found to comply with the limits for a Class B computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, correct the interference by one or more of the following measures:

- Reorient the receiving antenna.
- Reorient the telephone equipment with respect to the receiver.
- Move the telephone equipment away from the receiver.
- Plug the key service unit's power cord into a different AC outlet so that the KSU and receiver are on different circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet helpful (prepared by the Federal Communications Commission): How To Identify and Resolve Radio—TV Interference Problems. This booklet is available from the U.S. Government Printing Office. Washington, D.C. 20402. Stock No. 004-000-00345-4.

This system is listed with Underwriters Laboratory.



IMPORTANT NOTICE --- MUSIC-ON-HOLD

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TOSHIBA SYSTEM PRACTICES ELECTRONIC KEY TELEPHONE SYSTEMS

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FIGURE 1—PERIPHERAL EQUIPMENT

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1 GENERAL

Summary Description

STRATA S_e and VI_e are advanced electronic key telephone systems designed to function in a variety of situations. Both systems are electrically compatible with the public telephone network and can also be applied in a "behind" PBX, CENTREX, or IA2 environment.

Figure 1 shows all the basic electronic key system features, including CENTREX (CTX) capabilities, and the impressive package of optional features provided by these two systems. These features offer, among others, enhanced connectivity with stand-alone voice mail products, off-hook call announce (OCA), SMDR, remote administration/maintenance, and 32-character alphanumeric Liquid Crystal Display read-outs. Wherever a CO line interface is indicated in the following text, it can be a CO/CTX and/or PBX line.

Very similar in design, both systems are based on stored-program control, custom LSI circuitry, solid-state, space-division switching and reduced station cabling, and are housed in single cabinets.

System differences are restricted to the capacities of the key service units. STRATA S_{Θ} has a maximum capacity of three incoming lines and eight stations, while STRATA VI_{Θ} will accommodate up to six incoming lines with a maximum of 16 stations. Both systems have two intercom paths as a standard feature, with two additional paths available on the VIe as an optional feature.

Utilizing specially designed electronic telephones (each of which is connected to the system via industry-standard 2- or 3-pair cabling and equipped with a push-button dial pad), solid-state electronics within the key service unit translate signals from the station dial pad into either DTMF or rotary-dial signals, as required by the Central Office. If the system is to be equipped with off-hook call announce 3-pair cabling and modular cords must be used.

Maintenance

Maintenance procedures are based on quickly

locating and replacing defective plug-in units. keeping service disruption to a minimum. In addition, remote administration/maintenance is also an available option for both systems.

2 PHYSICAL DESCRIPTIONS

Key Service Units

Designed for wall mounting, each key service unit is housed in a single metal and plastic cabinet (Figure 2) with the following dimensions:

STRATA Se

Height: 16.5" (420 mm) Width: 12.0" (306 mm) Depth: 2.67" (67 mm) Weight: 9.25 lbs. (4.2 kg

STRATA VIe

Height: 21.25" (540 mm) Width: 12.9" (330 mm) Depth: 2.75" (70 mm) Weight: 15.63 lbs. (7.1 kg)



FIGURE 2—STRATS S_{e} and VI_{e} CABINETS

The STRATA S_e key service unit (Figure 3) is factory-equipped with two printed circuit boards (PCBs) and a power supply. The main PCB (SMAU) and power supply are secured to the cabinet base;

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the processor PCB (SCCU) is attached to the SMAU with four screws, and is connected to it via four 10-pin connectors. These PCBs' dimensions are:

Main Board (SMAU): 12.5 x 9.5" (318 x 241 mm) Controller (SCCU): 7.9 x 3.4" (201 x 86 mm)

The STRATA VI_{e} key service unit (Figure 4) is factory-equipped with two PCBs and a power supply. The main PCB (VMAU) and power supply are secured to the cabinet base; the processor PCB (VCCU) is attached to the VMAU with four screws, and is connected to it via four 10-pin connectors. These PCBs' dimensions are:

> Main Board (VMAU): 9.8 x 15.3" (248 x 390 mm) Controller (VCCU): 6.0 x 6.5" (152 x 165 mm)

Each key service unit will accommodate up to eight optional printed circuit boards. The various dimensions and designations of these are:

Station Interface (SSTU): 4.1 x 4.6" (105 x 117 mm) OCA Interface (SVCU): 3.4 x 1.6" (86 x 41 mm) External Page Interface (SEPU): 4.3 x 3.0" (108 x 76 mm) Music-on-hold Interface (SMOU): 2.2 x 1.1" (57 x 29 mm)





Remote Administration/Maintenance (SDTU): 5.0 x 2.8" (128 x 70 mm) S_e CO Interface (SCOU): 4.1 x 4.6" (105 x 117 mm) S_e Power Fail Unit (SPFU): 4.3 x 3.0" (108 x 76 mm) S_e SMDR Interface (STMU): 5.0 x 3.0" (128 x 76 mm) Vl_e CO Interface (VCOU): 5.7 x 10.6" (146 x 269 mm)

Peripheral Equipment

Several optional expansion modules are available to accommodate additional STRATA_e features: Station Message Detail Recording (HSMB), 1A2 Interface (HCNB), Auxiliary Device Interface (HIOB), Off-premises Line (HOLB) and Off-premises Extension (HOXB). The two types of modules are identical in external appearance (Figure 5).

An HDCB, needed to support up to three door phones (Figure 6), is available, with two per system being the maximum. An external ring generator/ power supply (MRGU) that can be used with the HOXB is also available (Figure 7). An external amplified speaker (HESB) can either be used to amplify the ringing bell of a telephone or as a paging speaker (Figure 8). When used in conjunction with the door phone unit, the HESB provides a talkback paging speaker capability.

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FIGURE 5—EXPANSION MODULES



FIGURE 6-DOOR PHONE

Electronic Telephones

Four different 6500-series electronic telephones may be used in either system (see Figures 9, 10 and 11). The phones are enclosed in a stylish, impact-resistant, charcoal gray case with a matte finish, and blend easily into a progressive office environment.

All 6500-series electronic telephones have the same dimensions:

Height: 3.6" (92 mm) Width: 7.0" (178 mm) Length: 9.0" (229 mm)

10-button Electronic Telephone (Figure 9): The 6510 model is available in two variations; as a speakerphone or with handsfree answerback



FIGURE 7—MRGU



FIGURE 8—HESB

capability on intercom lines.

20-button Electronic Telephone (Figure 10): The 6520 model is available with handsfree-answerback capability on intercom lines.

20-button Liquid Crystal Display Electronic Telephone (Figure 11): The 6520SD is available only as a speakerphone unit with a 32character, alphanumeric liquid crystal display (LCD) field. Numerous LCD features include:

- Alphanumeric Messaging
 - · Busy Station Messaging
 - Called Station Messaging
 - Calling Station Messaging
 - Group Station Messaging
- Busy Lamp Field (BLF) Indication

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FIGURE 9—10-button ELECTRONIC TELEPHONE



FIGURE 10—20-button ELECTRONIC TELEPHONE

- CO Line Identification
- Speed Dial Memo
- Timed Reminders

System software allows the customer to assign feature buttons on all electronic telephones in a completely flexible manner.

Electronic Telephone Upgrade Options: All electronic telephones may be upgraded with Offhook Call Announce, Loud Ringing Bell and Headset capability.

• Off-hook Call Announce Upgrade: Each electronic telephone may be upgraded to receive intercom calls when the handset is off-hook by installing an Off-hook Call Announce upgrade assembly.



FIGURE 11—20-button LIQUID CRYSTAL DISPLAY ELECTRONIC TELEPHONE

NOTE:

Only those telephones programmed to receive OCA announcements need the OCA upgrade.

The assembly consists of two PCBs, the HVSU and the HVSI, which install inside the telephone base with plug-in connectors.

• Loud Ringing Bell/Headset Upgrade: Each electronic telephone may also be upgraded to provide a loud ringing bell interface and a modular headset interface. To accomplish this, an upgrade assembly consisting of a small PCB (HHEU) installs on the main PCB. inside the telephone, with a plug-in connector.

An External Speaker (HESB) is directly connected to the upgraded phone. When the phone rings, the HESB sounds a loud tone that mimics the phone's ring. See Peripheral Equipment.

Most standard headsets plug into the HHEU jack and are compatible with the electronic telephone.

An electronic telephone may use all available upgrade options simultaneously. For example, the same station may be upgraded with OCA, a Loud Ringing Bell and a headset.

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More Electronic Telephone Standard Features: All electronic telephones may be wall mounted without additional equipment. They are also hearing aid-compatible.

Each electronic telephone also features a standard modular handset cord, and is connected to the system with a 2-pair modular line cord. Various upgrade options, such as the Off-hook Call Announce and Loud Ringing Bell upgrade assemblies, require the telephone to be connected to the system with special wiring. (A 3-pair modular line cord is required for Off-hook Call Announce, and a custom external speaker cable is required for the Loud Ringing Bell.)

3 ELECTRICAL CHARACTERISTICS

General

The key service unit operates from an internal power supply, which connects to a standard 3-wire, 117 VAC, 60-Hz, grounded wall outlet.

Loss of AC power will cause operational failure of the system. System memory, however, is protected from loss due to power failure with a memory backup battery. Full system reserve power is available as an option.

NOTE:

The memory backup battery is designed to maintain full memory protection for approximately one year with no external power source applied.

The electrical characteristics of the system are summarized in Table A.

4 FEATURES and SERVICES

The features and services of these electronic key telephone systems are summarized in Tables B and C, which list the standard and optional features, respectively.

TABLE A SUMMARY OF ELECTRICAL CHARACTERISTICS

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Loop Limits Station Door Phone Control Unit (HDCB)-to-KSU Door Phone/Monitor Station-to-HDCB HOXB-to-Station HOLB-, HSMB-, HCNB-, HOXB-to-KSU HIOB-to-KSU HIOB-to-Peripheral	1,000' (305 M), 24 AWG cable, 2 pair (3-pair wit OCA) 1,000' (305 M), 24 AWG cable, 2 pair 1.000' (305 M), 24 AWG cable, 1-pair 500 ohms (including telephone), 48 VDC, 1-pair 17' (5.2 M), 24 AWG cable, number of pair as required 650' (200 M), 24 AWG cable, 2-pair 300 Ω maximum, including peripheral resistance, 1-pair
Ringing Tones	
CO Line (idle station)	600/800 Hz, modulated by 16 Hz, 1 second on-3 sec-
CO Line (busy station)	2,400 Hz, modulated by 10 Hz, 1 second on-3 seconds off
HIOB Station (Intercom)	20 Hz, 150V P-P, 1 second on-3 seconds off
HIOB Station (CO call)	20 Hz, 150V P-P, 1/4 second on-1/4 second off-1/4
Intercom Line	600 Hz, 1 second on-3 seconds off
Door Phone A & C Tones Door Phone B Tone	870 Hz, 1 second/710 Hz, 2-1/2 seconds (5 rings) 870 Hz, 1/2 second/710 Hz, 2-1/2 seconds (5 rings)
Busy Override Tone	2,400 Hz, 1 second on-3 seconds off
Dial Tone (Intercom)	400 Hz, continuous
Ringback Tone	400 Hz, 1 second on-3 seconds off
Busy Tone	400 Hz, 1/4 second on-1/4 second off
Do Not Disturb Tone	400 Hz, 1/8 second on-1/8 second off
Voice Page Warning Tone	600 Hz, 1 second on only (via electronic telephone speaker)
Off-hook Call Announce Warning Tone	600 Hz. 1-second on only (via electronic telephone speaker)
Executive Override Warning Tone	600 Hz, 1/2 second on only (via handset)
Hold Recall Tone	2.400 Hz, modulated by 10 Hz, 1 second on-1 second off
Dialing	Pushbutton; system-generated DTMF or dial pulse
Primary Power HPSU 6120 (S _e) HPSU 7120 (VI _e)	117 VAC, 60 Hz 40 watts 100 watts
Environmental Specifications Operating Temperature Operating Humidity	32 ~ 122°F (0 ~ 50°C) 20 ~ 80% relative humidity without condensation

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TABLE B STANDARD FEATURES

SYSTEM

- All Call Voice Page
- Alternate Point Answer
- Automatic Dialing-System
- Automatic Hold Recall
- Automatic Release from Hold
- CO Line Call Pickup Groups (VI_e only)
- Conferencing (non-amplified)
- CTX/PBX Compatible
- CTX Ringing Repeat
- Delayed Ringing
- Distinctive Ringing
- DTMF and Dial Pulse CO Line Compatible
- DTMF Signal Time (80/160 ms)
- Dual FCC Registration
- External Page Interface
- Flexible Intercom Numbering
- Flexible Button Assignment
- Flexible Line Ringing Assignment
- Forced Account Code
- Group Paging
- Least Cost Routing (VI_e only)
- Automatic Callback (Intercom)
- Automatic Dialing Buttons
- Automatic Dialing-Station
- Automatic Off-hook Selection
- Busy Override
- Call Forward
- Call Pickup
- Call Transfer with Camp-on
- CO/CTX/PBX Feature Buttons
- Directed Call Pickup
- Direct Station Selection (DSS) Buttons
- Distinctive LED Indications
- Incoming Call
 - In-use
 - On-hold
- Do Not Disturb
- Do Not Disturb Override
- DP/MF Mode Change (TONE Button)
- Exclusive Hold
- Executive Override (Break-in)
- Flash Button (CTX/PBX Transfer or CO Dial Tone Recall)
- Handsfree Answerback

- Live System Programming
- Message Waiting
- MF Signal Time (160/80 ms)
- Multiple Simultaneous Handsfree Intercom Paths
- Music-on-Hold Interface
- Night Ringing Answer Code
- Night Ringing Over External Page (VI_e only)
- Night Transfer
- Non-blocking Dialing
- Outgoing Call Restriction
- Privacy/Non-privacy
- Relay Service (VI_B only)
- Station Hunting
- Toll Restriction (6-digit)
- Toll Restriction Override by System Automatic Dialing
- Trunk-to-Trunk Connection
- Voice or Tone Signaling
- Wall Mountable Key Service Unit

STATION

- Liquid Crystal Display Features
 - Alphanumeric Messaging
 - Busy Station Messaging
 - Called Station Messaging
 - Calling Station Messaging
 - Remote Station Messaging
 - · Busy Lamp Field (BLF) Indications
 - CO Line Identification
 - Speed Dial Memo
 - Timed Reminders
- Microphone Cut-off Button
- Modular Handset and Line Cords
- On-hook Dialing
- Privacy Button
- Privacy Override
- Private CO Lines
- Pushbutton Dialing
- Remote Retrieval of Held Calls
- Repeat Last Number Dialed
- Ringing Line Preference
- Saved Number Redial
- Toll Restriction Override Code
- Trunk Queuing

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TABLE C OPTIONAL FEATURES

- 1A2 Key System Interface (HCNB)
- Amplified Conference
- Auxiliary Device Interface (HIOB)
 - Call Forward to Voice Mailbox
 - Message Waiting Indication
 - Voice Mail Control
- Background Music with Station Control
- Door Phone/Monitor Station
 - Alarm Button
 - Door Lock Button
- Electronic Telephones
 - 10-button Handsfree Answerback or speakerphone
 - 20-button Handsfree Answerback

- 20-button Liquid Crystal Display
- External Amplified Speaker (HESB)
 - Amplified Speaker
 - Loud Ringing Bell
 - Talkback Amplified Speaker
- External Page Amplifier
- Music-on-Hold Source
- Off-hook Call Announce
- Off-premises Extension
 MRGU
- Off-premises Line
- Remote Administration/Maintenance
- Station Message Detail Recording (SMDR)
- System Battery Backup



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FIGURE 13—FUNCTIONAL BLOCK DIAGRAM

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5 SYSTEM OPERATION

General

A system (Figure 12) consists of a key service unit (VI_e HKSU is shown), power supply, up to 16 stations*, HIOB, HDCB, HCNB, HOLB, HSMB and HOXB optional modules, and a maximum of six door phones. The door phone control unit(s) (HDCB) occupy one or two station location(s). All connections between the key service unit and the telephones are made via a customer-provided main distribution frame. Using modular line cord(s), the CO lines are then connected between the left side panel and the locally provided RJ-25C (up to two each) or RJ-11C (up to six each) jacks. An external tuner (or equivalent) is required if the Music-on-Hold/Back-ground Music feature is utilized.

*Some optional features reduce maximum station capacities (see Optional Features).

Functional block diagrams of both key service units are shown in Figure 13. Each consists of CO and station interfaces on the main PCB, including a solid-state, space-division matrix and the central control equipment (SCCU/VCCU). Optional interfacing equipment includes additional station connections (SSTU), off-hook call announce (SVCU), remote maintenance (SDTU), off-premises line (HOLB), station message detail record (HSMB/ STMU*), 1A2 interface (HCNB), auxiliary device interface (HIOB), door phone controller (HDCB) and door phone/monitor station, external page



FIGURE 15-STRATA VIe KEY SERVICE UNIT

amplifier (SEPU), internal music-on-hold source (SMOU), and power failure (SPFU*) PCBs are also shown.

*STRATA Se only

The system is entirely under the control of a single-chip microprocessor, located (along with the system program and data memories) on the SCCU/VCCUPCB (STRATAS_e/VI_e, respectively), which mounts on the SMAU/VMAU, respectively.

Connections between the station voice lines and the CO lines are via the switching matrix provided on the SMAU/VMAU PCB (STRATA S_e /VI_e, respectively). The SMAU/VMAU also provides a similar matrix for intercom connection, background music, paging connections and the distribution of various system tones (dial, busy, etc.).

6 SYSTEM CONFIGURATION

Key Service Unit

The STRATA S_e key service unit arrangement illustrated in Figure 14 shows the locations of the various printed circuit boards and optional equipment.

The STRATA VI_e key service unit arrangement illustrated in Figure 15 shows the locations of the various printed circuit boards and optional equipment.

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NOTE:

The optional modules are used only when required. All internal boards connect to the main PCB (in some cases, they also attach to the key service unit's side panel).

Complete with all available options, both key service units utilize up to eight printed circuit boards internally (as shown in Figures 14 and 15) and various option modules. The names and functions are as follows:

- **SMAU/VMAU**: The main printed circuit board of the key service unit consists of the following three functions:
 - a) Station Interface: An interface between the key service unit and up to four stations (S_{Θ}) or up to eight stations (VI_{Θ}), which includes the solid-state, space-division matrix used for voice connections between the stations and the CO/PBX lines. Two-pair wiring is required for each station; one pair carrying voice and other pair carrying control data to and from the station:
 - b) **CO Interface**: An interface between the key service unit and the public telephone network or PBX for up to two lines (S_e) or up to three lines (VI_e). Ring detection, hold and dial outpulsing for these lines are performed by this board. Depending upon local CO requirements, each incoming line can be separately connected and programmed to provide DTMF or rotary-dial outpulsing.
 - c) **Tone**: Performs a number of miscellaneous system functions:
 - General system tones
 - Provides the switching matrix for the delivery of tones for both paging and intercom connections.
- **SCCU/VCCU**: All system control functions are performed by the single-chip microprocessor on this printed circuit board. The system program stored in ROM, RAM for system operations, and the RAM for system data storage are also located on this circuit board. A battery on this board protects system memory should a power failure occur.
- SCOU/VCOJ: An optional interface between the SMAU/VMAU and one/three additional CO

line(s). Depending upon local CO requirements. the SCOU/VCOU is programmed to provide DTMF or rotary-dial outpulsing. The SCOU serves one CO line; the VCOU serves up to three CO lines, and both serve up to three offpremises lines.

- **SSTU**: An optional interface between the key service unit and stations $18 \sim 25$ (stations $14 \sim 17$ on $S_{\rm e}$). Each SSTU PCB serves up to four stations. Two-pair wiring is required for each station; one pair carrying voice and the other pair carrying control data to and from the station.
- **SMOU**: An optional music-on-hold source that provides electronic synthesized music. A choice of two musical tunes are available, selected via a switch on this board. The SMOU is connected to the SMAU/VMAU via an 8-pin connector.
- **SEPU**: An optional 3-watt amplifier for external paging, using a customer-supplied 8-ohm speaker (connected to the SMAU/VMAU via a 10-pin connector).
- SVCU: The Off-hook Call Announce interface that mounts on the main printed circuit board of the key service unit to provide OCA access. One SVCU is required for every eight stations requiring OCA. (Adds two intercom lines in VI_e.)
- **SDTU**: Provides Remote Administration/Maintenance access via its built-in 300/1200 bps modem. One SDTU per system is required for Remote Administration/Maintenance.
- **STMU**: Required for connection to an HSMB to provide SMDR for a STRATA S_{Θ} key service unit.
- HPSU 6120/7120: Each system's required voltages are provided by one of these factoryinstalled power supplies. The HPSU connects to a standard 3-wire, 117 VAC, 60-Hz, grounded wall outlet. with a permissible AC input voltage range of 90 ~ 130 VAC.
- **HPFB**: An optional battery backup unit that is available for the HPSU 6120 (S_e). With the optional battery backup assembly installed, all functions of the system will continue to operate

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for approximately two to three hours after a loss of normal electrical power. Calls will not be disconnected during switch-over to or from battery power.

HPBU-7: An optional battery backup unit for the HPSU 7120 (VI_a). It is a printed circuit board that mounts inside the power supply housing and is connected to the recommended battery pack (which is customer-supplied, consisting of two 12 VDC, maintenance-free, automobile-type batteries-80 amp/hour maximum rating). With the optional battery backup assembly installed, all functions of the system will continue to operate for several hours (the actual time period is in direct ratio to the type and size of batteries selected) after a loss of normal electrical power. Calls will not be disconnected during switchover to or from battery power. The HPBU-7 also provides a charge to the battery pack during normal operations.

Option Modules

- **HOLB**: An off-premises line module that allows the bridging of a CO line, which appears in the system, with a conventional telephone; supervision is provided. Each HOLB provides three circuits, all three of which may be directed to an answering machine (or similar device) attached to the HUNT connector.
- **HDCB**: An optional module (two per system maximum) connected to the key service unit at station 13 and/or 14 (station 11 and/or 12 on S_{\odot}) that allows up to three (each HDCB) door phone/monitor stations (MDFBs) to ring pre-selected stations. The HDCB has three outputs (A, B, C), which are modular connectors for the three MDFBs. Outputs B and C may be used for the Door Lock feature. An alarm monitor can be used at station 11/13C only.
- **HOXB**: An external module that serves as an interface between the key service unit and conventional, standard telephones or off-premises extension (OPX) lines. Each HOXB PCB serves two extensions; S_e supports two HOXBs, VI_e supports four. An HOXB will operate with either DTMF or rotary-dial telephones. One auxiliary

ring generator/power supply (MRGU) is required for use with up to three HOXBs.

- **HSMB**: Serves as an interface between the key service unit and a printer or storage device used for the SMDR feature. The module is equipped with an RS-232C interface and connects to the left side panel via one supplied 8-wire modular connector (one HSMB per system). (S_e also requires an STMU PCB.)
- **HCNB**: Provides an interface between a 1A2 key system and the CO lines appearing therein to a STRATA_e system. One HCNB is required for every three lines where detail appearances are desired. Also, A-lead control, lamp signal detection and dial outpulsing are performed by this module (see Figure 16).



FIGURE 16 1A2 INTERFACE FUNCTIONAL BLOCK DIAGRAM

HIOB: Provides one circuit to interface with external devices such as voice mail port, answering machine, standard telephone, modem, etc. Up to eight HIOBs (four in S_e) may be installed in a system. A 24 VDC power supply, which connects to the unit via a 7' cord and plugs into a 117 VAC, 60 Hz outlet, is included with each HIOB. Each HIOB is connected to a proprietary station port, reducing station capacity accordingly.

Station Equipment

The principal components of the electronic

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telephone are: handset, dial pad, speaker, microphone, two volume controls, four fixed feature buttons, an **INT** button, and 9 or 19 flexible CO/ feature buttons, LED indicators are provided for all buttons except **HOLD** and **CONF**. See Figures 9, 10 and 11.

A 20-button Liquid Crystal Display electronic telephone (Figure 11) with speakerphone may be located at any or all of the stations. The 32character alphanumeric display provides many capabilities—an accurate clock/calendar in its idle state; and elapsed time, dialed number, calling station and CO line are just a few of the features available. For additional explanations of the features listed below, see Liquid Crystal Display.

- Alphanumeric Messaging
 - Busy Station Messaging
 - Called Station Messaging
 - Calling Station Messaging
 - Remote Station Messaging
- Busy Lamp Field (BLF) Indication
- CO Line Identification
- Speed Dial Memo
- Timed Reminders

All phones are easily converted for wall mounting, feature modular handset cords, are equipped with a second modular connector for headset connection, and are connected to the system via modular line cords.

The optional door phone/monitor station (Figure 6) allows distinctive ringing to preselected station(s). When a station dials an individual door phone, a circuit providing monitoring capabilities on the intercom is established. This option requires station 13 and/or 14 (station 11 and/or 12 in STRATA S_e) to be replaced by a door phone control unit (HDCB) and up to six door phone units (MDFBs)—three each HDCB. One door phone/monitor (only station 13C for VI_e ; 11C for S_e) can be replaced by a nalarm control circuit on station 13/11 HDCB and one by a door lock control circuit on all HDCBs.

An external amplified speaker (HESB) may be connected in any one of the following three applications:

• Loud Ringing Bell: Allows you to amplify the tone of a paging/ringing signal without using

other manufacturer's equipment. Three-pair wiring is required for this application.

- Amplified Speaker: Allows you to use the HESB as a paging speaker, reducing the need for other manufacturer's paging equipment.
- Talkback Amplified Speaker: Allows you to provide a talkback speaker in areas where a telephone is not needed. For talkback operation, connect the HESB to the door phone unit (MDFB), which is used as a microphone; however, the push-button is inoperative.

The HESB is a 6" 3-watt speaker with an amplifier that is built into an attractive speaker box (Figure 8). A +12 VDC power supply (HACU-120), which connects to the back panel via an 8' cord, is included with each HESB.

Installation

The key service unit is configured for wall mounting only.

All external devices are connected to the key service unit via connectors and terminals on the side panels, as follows:

- a) CO lines are connected to the key service unit right side panel via separate (one for each line) single-pair modular cords or a single 3-pair modular cord (S_e); or two 3-pair or six singlepair modular cords (VI_e).
- b) The station connection points are extended from the key service unit to the main distribution frame using 3-pair modular line cords. The individual telephones are connected to the main distribution frame using 3-pair station cables.
- c) A screw-terminal barrier strip is mounted on the left-hand side of the key service unit to provide attachment points for the music-on-hold source input. relay service (VI_e only) and external page output).
- d) Two (only one for S_{Θ}) modular connectors are also provided on the left side panel for two (only one for S_{Θ}) optional off-premises line modules (HOLBs).

The power supply is mounted inside the key service unit. In STRATA S_e a connector is provided on the left side panel for optional system reserve power (HPFB). In STRATA VI_e an optional battery

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backup printed circuit board is available for the power supply.

Maintenance

Faults in the system are repaired by replacing any faulty component (printed circuit board, subassembly, telephone, etc.) and returning it to the manufacturer for repair.

In addition, remote administration/maintenance allows the system to interface via an SDTU (builtin modem) with a remote location. This reduces the cost of routine data base changes by eliminating the need of a technician to be on-site for each software change.

7 FEATURES and OPERATION

General

This section contains brief descriptions of the features listed earlier in Tables B and C and some associated operating instructions. For more detailed instructions, see the User Guide or Quick Reference Guide.

Standard Features

System

- All Call Voice Page: Dialing a 2-digit access code permits a station user to page via all idle telephone speakers simultaneously. The system can also be programmed to include the External Page feature in an All Call Page.
- Alternate Point Answer: CO calls can be answered from any station that shares common CO line appearances.
- Automatic Dialing-System: Allows up to 40 numbers to be stored in the system memory. After selecting an outgoing line, any station user can cause one of the stored numbers to be outpulsed by dialing the proper access code.
- Automatic Hold Recall: A CO line placed on hold by any station will recall that station after a programmable period of time. A different time

period can be selected for each station.

Automatic Release from Hold: The system automatically releases held CO lines if disconnect signal is received from the Central Office.

CO Line Call Pickup Groups: In STRATA VI_e only, this feature, using a dial code or the **CPU** button, allows CO line calls to be picked up from another station. Two Call Pickup Groups can be defined in programming and buttons (**CPU1** and **CPU2**) can be assigned to phones for each group.

Conferencing: The system will conference two CO lines and up to three stations (the CO lines must be conferenced first), or a maximum of four stations and one CO line. See Amplified Conference.

CTX/PBX Compatible: System features, such as Toll Restriction and Automatic Dialing, are compatible with CTX/PBX operation.

CTX Ringing Repeat: To facilitate the use of special calling/callback features on CO/CTX/ PBX lines, the system will ring the called station with the same on/off cadence that is received from the outside line.

- **Delayed Ringing:** A 12- or 24-second ring delay may be programmed for each station to permit alternate answering. The delayed ring is provided for each line selectively by each station.
- **Distinctive Ringing**: CO and intercom calls are distinguished by different ringing tones.
- **DTMF and Dial Pulse CO Line Compatible**: The system will interface with either DTMF or rotarydial pulse CO lines on a line-by-line basis as determined by system programming.
- **Dual FCC Registration**: Either system may be configured as a key or hybrid telephone system, with separate FCC registration numbers for each type. The appropriate configuration for the system is dependent upon its operation. See FCC requirements on the General End User Information page in the front of this document for more detail.

- External Page Interface: A 600-ohm connection point is provided for a customer-provided external amplifier/speaker. An SEPU PCB (see External Amplified Speaker and External Page Amplifier) is mounted in the key service unit when a customer-provided external speaker only is used; the output impedance is 8 ohms. This page circuit can be accessed as part of the All Call Voice Page feature.
- Flexible Intercom Numbering: A station intercom number can be flexibly programmed up to any 4digit number. It is, therefore, possible to match a station's intercom and CTX line extension number.
- Flexible Button Assignment: Allows each phone to be programmed for the optimum use of its CO or feature buttons.
- Flexible Line Ringing Assignment: A programmable ring or no ring option is provided for each line selectively by each station.
- Forced Account Code: Requires selected station(s) to dial an account code prior to dialing a number. Station users can also voluntarily enter an account code on any CO line call. The account code is recorded with call details on the SMDR report.
- **Group Paging:** Special 2-digit access codes (81, 82. 83 or 84) permit voice paging to one of four zones. Zone assignment is via software and is totally flexible. Paging is via the speakers of idle telephones.
- Least Cost Routing: Enables the customer to decide over which trunks outgoing voice and data calls will be routed. This can greatly reduce the cost of long distance calling. Three classes of LCR can be programmed to give priority routes to the users who need them (VI_a only).
- **Live System Programming**: Live system programming is accomplished without service interruption to other station users by placing the system in the special programming mode and inputting data via station 17 (station 13 in S_{Θ}) or Remote Administration/Maintenance. Station 17

(13) is the only station that is "down" if it is used for on-site programming. See Remote Administration/Maintenance.

- Message Waiting: Any station (including the designated Message Center) can set a Message Waiting LED at any station with the Message Waiting LED of that station. The called station cancels the LED by lifting the handset or depressing the MW/FL button. See Flash Button and Liquid Crystal Display Features.
- MF Signal Time (160/80 ms): The standard MF dial signal time is 80 milliseconds, but it may be extended to 160 milliseconds, if required by the Central Office or to activate remote equipment.
- Multiple Simultaneous Handsfree Intercom Paths: Two intercom paths are standard in the systems. Both intercom lines are able to carry handsfree conversations simultaneously. (STRATA VI_e may be increased to four paths optionally.)
- **Music-on-Hold Interface**: An interface is included for a customer-provided music source. CO lines placed on hold will be connected to this source. In addition, this music may also be broadcast from electronic telephone speakers and external page when the background music programming options are selected.
- Night Ringing Answer Code: A night ringing call may be answered from any station via a dial code.
- Night Ringing Over External Page: As a programmable option, while the night mode is active, a system-generated ring tone will be transmitted via the external speaker whenever any line rings (Vl_e only).
- Night Transfer: On a programmable optional basis, the system can function with two or three ringing patterns. If three patterns are selected, they are designated DAY, DAY 2, and NIGHT. If the twopattern mode is selected. DAY and NIGHT designations are used. In both cases, the ringing modes are selected with the NT button on station 10.

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- **Non-blocking Dialing**: Dialing is permitted on all CO lines simultaneously.
- **Outgoing Call Restriction**: Any station can be selectively restricted from originating calls on any or all CO lines. However, the station may still receive calls on the restricted line(s).
- **Privacy/Non-privacy**: A private system prevents other stations from accessing the intercom or CO lines that are already in use. A non-private system provides conferencing on the CO and intercom lines.
- **Relay Service**: In STRATA VI_e only, the VMAU is equipped with two relays that provide the following signals for external equipment:
 - a) External page: The relay is activated whenever the external page circuit is accessed, a dry "make" contact is provided for control of background music on external page. This is required only when an external page amplifier is used.
 - b) Night Relay Service: The relay will provide a dry "make" contact at the NR terminals on the left side panel. A strap option on the VMAU allows the NR relay to function in one of two modes:
 - 1) **Answering Machine Control**: If the strap remains intact, the relay is operated continuously when the system is in night service (intended for indirect control of an answering machine).
 - 2) **Night Bell Control**: If the strap is cut, the relay pulses at a 1-second on/3-seconds off rate whenever the system is in Night Transfer mode and an incoming call is ringing the system (intended for indirect control of an external night bell).
- Station Hunting: Hunting always starts with called station number and ends with the last station number in the prearranged group; however, the call is completed to the first idle number. The hunting sequence can be either consecutive or nonconsecutive.
- **Toll Restriction (6-digit)**: Selectively programmed on a station class of service basis. The system performs toll restriction by analyzing the first six

or three digits (area/office code) dialed. Simple restriction by rejecting the numbers **0** and **1** can be programmed on a per-station basis, if desired.

- **Toll Restriction Override by System Automatic Dialing:** A programmable system feature that permits numbers stored by the Automatic Dialing-System feature to be called by toll-restricted stations.
- Trunk-to-Trunk Connection: Allows the system to set up a line-to-line connection (tandem switching), leaving the controlling station free to make other calls. A maximum of two (simultaneous) trunk-to-trunk circuit paths can be established.
- Voice or Tone Signaling: A programmable system feature that optionally selects either tone ringing or voice page as the primary method of intercom call signaling. The calling station, however, may choose the alternate method by dialing following the station number.
- Wall Mountable Key Service Unit: The key service unit is designated for wall mounting only.

Station

- Automatic Callback (Intercom): Permits a station user who encounters a busy station on intercom to request a callback by depressing the dedicated button. The system then monitors the called station and signals the caller when that station becomes idle.
- Automatic Dialing Buttons: This feature can be used with a telephone that includes AD buttons in its programmed assignments.
 - a) An outside telephone number or station number can be stored at each AD button.
 - b) A number stored in memory can be sent over a CO line by depressing the appropriate AD button after accessing the CO line (or an intercom line after pressing the INT button).

NOTE:

Each AD button is counted as one of the 40 possible stored numbers available to each station.

- Automatic Dialing-Station: Each station can store a private list of up to 40 telephone numbers. The Pause and Flash functions may also be stored when necessary.
- Automatic Off-hook Selection: Allows CO line, CO group or intercom access by merely lifting the handset; depressing a CO/Intercom button is not required.
- **Busy Override**: After calling a busy station and receiving a busy tone, the caller can dial **2** and cause a tone burst to be sounded via the called station's speaker.
- **Call Forward**: Allows *all calls* to a station to be routed to another station. The activating station may be used to originate calls while this feature is active.
- **Call Pickup**: Enables a station to pick up calls ringing at other stations or an external page by going off-hook and dialing an access code. Call Pickup (CPU) buttons can be assigned to stations to automatically pick up calls.
- **Call Transfer with Camp-on**: Allows the transfer of an outside call to a station that is either idle or busy.
- CO/CTX/PBX Feature Buttons: Station Automatic Dialing buttons can be used to store access codes, plus any flashes or pauses necessary for feature access in the host switching system. These are fixed feature buttons and can only be changed by station 10. Every fixed button assigned to the station reduces the number of D buttons.
- **Directed Call Pickup**: *All calls* ringing at another station can be answered from any station by that station going off-hook and dialing the ringing station's number.
- **Direct Station Selection (DSS) Buttons**: By depressing an assigned button, a station user causes the selected station to ring.

Distinctive LED Indications:

• Incoming Call: A distinctive flash appears .

on the respective LED at the station that is being called.

- In-use: A distinctive flash rate shows the line presently in use at a give station. Other stations see a steadily illuminated LED for that line.
- **On-hold**: The station user is shown a distinctive LED flash to indicate a line placed on hold at that station. All other stations see the usual on-hold flash.
- **Do Not Disturb**: This feature is activated and deactivated by alternate depressions of the **DND** button. A station calling a station that is in the DND mode will receive a fast busy tone.
- **Do Not Disturb Override**: After reaching a DND station, that station may be advised that a call is waiting by dialing **2**. A tone signal will be heard at the DND station.
- **DP/MF Mode Change (TONE Button)**: Allows a station to change between DP and MF modes . via the **TONE** button, as required.
- **Exclusive Hold**: Depressing the **HOLD** button twice holds that call securely for the station that placed it on hold.
- Executive Override (Break-in): A station programmed for this feature will override the automatic privacy feature and enter any existing conversation within the system. A warning tone, however, is inserted before the overriding station is actually connected. After reaching a busy station, dial a 3 to override.
- Flash Button (CTX/PBX Transfer or CO Dial Tone Recall): Ten- and 20-button electronic telephones can be equipped with a Message Waiting/Flash (MW/FL) button which, when operated while connected to an incoming line, causes a timed "flash" to be transmitted to that line. The timing of the flash can be programmed to signal a CTX/PBX for feature operation or can be long enough to cause a disconnect and dial tone recall on a CO line. See Message Waiting.
- Handsfree Answerback: All electronic telephones are equipped for handsfree answerback on voiceannounced intercom calls as a standard feature.

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- Liquid Crystal Display Features: The following features are standard, but require an optional Liquid Crystal Display telephone to operate.
 - a) Alphanumeric Messaging: Allows system and personal messages to be displayed on the 32-character Liquid Crystal Display. There are 40 system messages of up to 32 characters in length for use by all LCD telephones and controlled by station 10. In addition, a limited number of stations (four in S_e, six in Vl_e) have 10 personal messages available plus the system messages for the following features:
 - Busy Station Messaging: When reaching a busy LCD station, a message can be sent to that station (an audible tone will also be heard). The two stations may respond with LCD messages back and forth during conversation, creating an interactive silent messaging conversation.
 - Called Station Messaging: Your station number and a message indication may be sent to another LCD station. When the called station responds, the station will receive the 32-character message.
 - Calling Station Messaging: A message displayed on your LCD phone will be automatically displayed on the calling station's LCD when dialed.
 - Remote Station Messaging: Allows any station to set a Called Station Message for another station, the recipient to be a station or group of stations.
 - b) Busy Lamp Field (BLF) Indications: The Liquid Crystal Display can be used to indicate the on-/off-hook status of all telephones in the system. BLF status is displayed up to the maximum number of stations for each system.
 - c) **CO Line Identification**: Allows each CO line to be identified with a 16-character name. All LCD phones using that line will display the name instead of the CO line number.
 - d) **Speed Dial Memo**: Each LCD telephone user may program a 16-character name for each of their 40 personal speed dial numbers. The memo pad of names and numbers (including system names and numbers) may be scrolled to select the appropriate party.

Depressing a CO line button will cause the displayed number to be dialed automatically. Limited to four stations on S_e and six stations on Vl_e .

- e) **Timed Reminders**: Allows five separate messages to be set at each LCD telephone. These messages will be displayed at the appropriate times (hour and minute) set by the station user. The messages can be repeated on a daily basis or displayed just once.
- Microphone Cut-off Buttons: Electronic telephones may be programmed with an MCO button, allowing the microphone to be turned ON/ OFF while a station is in the idle state (controls Handsfree Answerback).
- **Modular Handset and Line Cords**: All electronic telephones are equipped with modular handset and line cords, and are also equipped with an additional modular headset jack.
- **On-hook Dialing**: The system allows you to dialyour calls with the handset still on-hook. Call progress can be heard via the telephone speaker; no need to pick up the handset until your party answers.
- **Privacy Button**: Allows privacy or non-privacy to be selected (via the **PRV** button) on CO lines.
- Privacy Override: A station programmed for this feature can enter any existing CO line conversation if the station is equipped with that **CO** line button. An initial warning tone is given, but no subsequent tones are provided. A maximum of two stations can be programmed for this feature.
- **Private CO Lines**: Restrictions may be programmed into the system so that selected CO line(s) will appear only on selected station(s).
- **Pushbutton Dialing**: All electronic telephones are equipped with pushbutton dial pads.
- **Remote Retrieval of Held Calls**: Calls that have been placed on hold by a station can be retrieved by a different station with the Call Pickup feature.

Repeat Last Number Dialed: The last number

dialed by each station is always stored by the system and will be dialed automatically whenever the station user accesses a CO line and depresses the or **RDL** button. See Saved Number Redial.

- **Ringing Line Preference**: A line ringing a station can be answered by lifting the handset or depressing the **SPKR** button. The ringing line will be automatically selected.
- Saved Number Redial: A programmable button that saves a dialed number for redial at a later time. May be used at any time and is exclusive of the Repeat Last Number Dialed feature.
- **Toll Restriction Override Code**: Two special codes may be defined to override toll restriction from any station.
- **Trunk Queuing**: Provides a means for station users to be "stacked" in a waiting queue for a busy outgoing trunk group by using the Automatic Callback feature. The station will then be signalled when a trunk in the group becomes available. As a programmable option, the system may be equipped with one trunk group (dial 9) or eight trunk groups (dial 91 ~ 98).

Optional Features

- 1A2 Key System Interface (HCNB): Utilizing an optional line interface printed circuit board, both systems can be connected to CO/CTX/PBX lines through 1A2-type key telephone systems. The system will detect lamp lead status and supply A-lead control.
- Amplified Conference: In some applications, it may be necessary to amplify the CO line used in a multi-CO line conference. A customer-provided amplifier can be connected to the system for this purpose. Reduces the system capacity by two stations.
- Auxiliary Device Interface (HIOB): Allows system interaction with customer-provided auxiliary devices such as standard telephones, recording/dictating machines, modems and voice mail equipment. The unit contains both a DTMF tone generatc: and receiver for use with auxiliary

devices. The following features are available through the voice mail interface.

- Call Forward to Voice Mailbox: Allows a station user to call forward to a voice mailbox location. The system will ring the voice mail system and forward the digits of the desired mailbox once answered.
- Message Waiting Indication: Allows the voice mail system to dial a special access code to set message waiting at the station when the voice mail system is the message center.
- Voice Mail Control: Allows the station user to control the voice mail equipment using the dial pad, as DTMF signals are received by the voice mail equipment.

Background Music with Station Control: Music from the music-on-hold source can (at the station user's option) be heard via the telephone's speaker. The same music may also be broadcast via the external page interface if an external speaker is installed.

- **Door Phone/Monitor Station**: Allows door phone units(s) to distinctively ring pre-selected stations. A station dialing to an individual door phone unit provides monitoring capabilities on the intercom.
 - Alarm Button: Turns off the alarm signal set in the system by a customer-suppled alarm system. The alarm signal is activated by a closure at the HDCB door phone C (station 13 on VI_e, 11 on S_e) output from a customersupplied alarm system. The alarm signal will be heard from all idle stations until the ALRM button is depressed at station 10.
 - Door Lock Button: Activates a dry contact relay closure for indirect control of a door lock or other devices. When the DRLK button is depressed, the HDCB door phone B output will close for a period of 3 or 6 seconds (programmable).

Electronic Telephones:

• 10-button Handsfree Answerback or Speakerphone: A basic telephone available in two variations; with handsfree answerback on intercom calls or as a full speakerphone. This phone can be assigned to any

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station, and is equipped with an intercom button and nine flexible buttons that may be assigned as CO line appearances or feature access.

- 20-button Handsfree Answerback: A 20button telephone with handsfree answerback, and is equipped with an Intercom button and 19 flexible buttons that are assigned as CO line appearances or feature access.
- 20-button Liquid Crystal Display: This 20button telephone features a 32-character, alphanumeric display, with handsfree answerback and full speakerphone capability, calling station identification, and the same button flexibility as the 20-button telephone. See Liquid Crystal Display Features.

External Amplified Speaker: An external amplified speaker (HESB) may be connected in any of the following three applications:

- Amplified Speaker: Allows the HESB to be used as a paging speaker.
- Loud Ringing Bell: Allows the tone of an electronic telephone ring to be amplified.
- Talkback Amplified Speaker: Provides a talkback speaker (via an MDFB) where a telephone is not needed.

NOTE:

If an HESB is installed, an external amplifier (SEPU PCB) is not necessary.

- **External Page Amplifier**: This external page 3watt amplifier (SEPU PCB) allows access to a customer-provided external 8-ohm speaker for paging.
- **Music-on-Hold Source**: When installed, this electronic music source (SMOU PCB) eliminates the need for a customer-provided external music source and provides electronic-generated music to CO lines placed on hold.
- Off-hook Call Announce: Allows a station user to call and speak to an off-hook, busy electronic telephone through the speaker. The called station user can reply via the telephone's microphone without interrupting the existing conversation. If the called station is currently in use via the speakerphone/handsfree, the caller will

receive a busy signal. Feature is activated automatically or by dial access (2) on a station-bystation basis.

- Off-premises Extension: Installing an HOXB allows the system to interface with conventional, standard telephones or off-premises circuits. The HOXB serves two extensions and replaces two stations in the system. (Maximum: two per S_{e} /four per VI_e.)
 - MRGU: An auxiliary ringing/power supply for the HOXB, one supports up to three HOXBs.
- Off-premises Line: Installing an HOLB allows the bridging of a CO/PBX line that appears in the system with a conventional telephone (or other device, such as a modem). During Night Service, all incoming calls on an HOLB's three circuits may be directed to an answering machine (or similar device) connected to the hunt connection. This option is set in programming.
- Remote Administration/Maintenance: This feature is provided by the SDTU via its built-in 300/ 1200 bps modem. One SDTU per system is required for Remote Administration/Maintenance.
- Station Message Detail Recording (SMDR): Adding an HSMB to a system allows data to be collected for each outgoing and incoming CO line call. This data is output to a printer or recording device via the RS-232C interface located on the HSMB (which is externally mounted). Account codes will be included in the call details (see Forced Account Codes).

System Battery Backup:

- a) In STRATA S_{e} , an HPFB can be plugged into the HPSU to provide automatic switching to standby battery power. During normal power conditions, the batteries are kept fully charged by the power supply. The HPFB includes batteries and the charging unit.
- b) In STRATA VI_e, an HPBU can be installed in the power supply to provide automatic switching to standby battery power (provided by customer). During normal power conditions, the batteries are kept fully charged by the power supply.

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TOSHIBA SYSTEM PRACTICES ELECTRONIC KEY TELEPHONE SYSTEM

INSTALLATION INSTRUCTIONS SECTION 500-036-200 - **JANUARY 1988**

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FOSHIBA SYSTEM PRACTICES ELECTRONIC KEY TELEPHONE SYSTEM

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01 GENERAL

This section describes the installation res necessary to ensure proper operabe STRATA S_e & VI_e systems. Installacedures for the two systems vary only on to size; all other factors are the same.

02 PACKING

Inspection

When a system is received, examine all s and carefully note any visible damage. amage is found, bring it to the attention delivery carrier and make the proper

Check the number of cartons and the of the shipment against the purchase id packing slip. If it is determined that ons are missing, contact your delivery mediately. If it is determined that any ent within a carton is missing, contact shiba supplier immediately.

After unpacking (prior to beginning the or spect all equipment for damage. mage is detected, contact your delivery mmediately. If possible, retain all the packing material.

CAUTION! handling (installing, removing, exametc.) a printed circuit board, do not



IRE 1-SCCU/VCCU BATTERY STRAP

touch the back (soldered) side or the pin connector. Always hold a PCB by its edge.

02.04 When packing or storing a SCCU (or VCCU), ensure the following:

 Do not use plastic or any type of conductive material for packing a SCCU (or VCCU). Use plain paper.

CAUTION!

Conductive packing material may cause the internal backup battery to discharge and damage the PCB.

02.05 Whenever storing or shipping, always ensure that the battery strap is in the **OFF** position (Figure 1). The SMAU/VMAU is a "host" board for the SCCU/VCCU (which is required) and they are shipped as an assembled unit.

NOTE:

Always make sure the battery strap on the SCCU/VCCU is in the ON position prior to instalation. If not, the SET LED on the HKSU cannot operate.

03 HKSU REQUIREMENTS

03.00 Cabling Considerations

03.01 The HKSU must be located so that all stations are within 1,000 cable feet (305 M) of it. Acceptable cable is 22 or 24 AWG inside telephone station cable, jacketed but not shielded, having two or more twisted wire pairs (three pair required for off-hook call announce).

03.10 Environmental Factors

03.11 Sufficient ventilation should exist to allow dissipation of heat generated by the power supply and HKSU.

03.12 Humidity at the HKSU location should be within $20 \sim 80\%$ without condensation, and the temperature should be relatively constant within a range of $32 \sim 122^{\circ}$ F ($0 \sim 50^{\circ}$ C). Exposure to dust and airborne chemicals should also be minimized.

03.20 Power Requirements

03.21 Power for the HKSU (both $S_e \& VI_e$) is provided by the power supply (HPSU), which in turn requires power from a grounded 117 VAC outlet. The outlet should be separately fused (dedicated) and rated at 15 amps

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03.30 Main Distribution Frame Requirements

03.31 To determine the Main Distribution Frame (MDF) space requirements, refer to the following paragraphs:

- Mounting the HKSU: Paragraph 04.00
- Station Wiring: Paragraph 06.00
- CO Line Connections: Paragraph 06.20
- Installation of Options (External): Paragraph
 09
- HKSU Connections: Paragraph 10

04 HKSU INSTALLATION

04.00 Mounting the HKSU

 Remove both side covers from the HKSU (Figure 2) by pressing in on the two small ribbed sections on each side cover to free the holders.





- Hold the HKSU against the wall in its planned location and mark the screw locations through the centers of the two keyholes on the upper sides of the HKSU (Figure 3).
- Lay the HKSU aside for the moment and start two screws into the wall at the marked locations. Use 1¼" panhead wood screws and stop when they have penetrated to half their depth.
- 4) Hang the HKSU on the two screws and start





two additional screws in the lower two holes (Figure 3). Tighten all four screws.

- Knockouts are provided on top and bottom of the side covers to permit cables to enter the HKSU. Remove the appropriate knockouts.
- 6) Reinstall the side covers.

04.10 Power Supply Installation

04.11 The power supplies used with both systems are very similar in appearance but provide different current levels:

- $S_e = HPSU 6120$
- VIe = HPSU 7120

04.12 The system requires 24 VDC, which is provided by the internal, factory-installed power supply (HPSU 6120/7120). The HPSU requires 117 VAC, 60 Hz, with a permissible AC input voltage range of 90 \sim 130 VAC.

04.13 In both systems, the HKSU is shipped with the power supply installed. Use the following procedures if it becomes necessary to remove or replace a power supply:

STRATA Se:

1) Turn the system **OFF** and **unplug** the power cord.

- Remove the power supply cable connector at P7 in the upper left of the SMAU PCB. (It may be necessary to remove the SEPU PCB before doing this.)
- Remove the ground straps on the right and left side panels of the HKSU as well as the two screws at the top corners of the power supply.
- 4) Pull the top of the power supply forward and lift the power supply out of the HKSU.
- 5) Test the power supply using the procedure in Paragraph **04.14**.
- 6) Install the new power supply in the HKSU.
- 7) Replace the screws and ground straps removed in step 3.
- Reconnect the power supply cable connector to P7 on the SMAU PCB. (Reinstall the SEPU PCB if it was removed.)
- 9) Plug the power cord in and turn the system **ON**.

STRATA VIe:

- 1) Turn the system **OFF** and **unplug** the power cord.
- 2) Remove the power supply cable connector from **P1** in the top center of the VMAU PCB.
- Remove the ground straps on the right and left side panels of the HKSU as well as the two screws at the top corners of the power supply.
- 4) Pull the top of the power supply forward and lift the power supply out of the HKSU.
- 5) Test the power supply using the procedure in Paragraph **04.14**.
- 6) Install the new power supply in the HKSU.
- 7) Replace the screws and ground straps removed in step 3.
- 8) Reconnect the power supply cable connector at **P1** on the VMAU PCB.
- 9) Plug the power cord in and turn the system ON.

04.14 If power supply problems are suspected or if a new power supply is being installed, the

following voltage check should be performed:

STRATA Se:

- 1) Turn the power supply **OFF** and disconnect the system power cord.
- 2) Remove the HKSU front cover.
- Disconnect the power supply cable connector at P7 in the upper left corner of the SMAU PCB.
- 4) Reconnect the power cord and turn the power **ON**.
- 5) Using a voltmeter, check the power supply output voltages at the power supply cable connector (**P7**) per the diagram below:
- 6) Verify that the voltages fall within the following ranges:

Nominal	Range
+24	+23 ~ +29
+12	+10.8 ~ +13.2
+5	+4.75 ~ +5.25

- If the voltages are correct, go to step 8. If not, replace the power supply and recheck voltages.
- 8) Turn OFF the power.
- 9) Connect the power supply cable connector back to **P7** on the SMAU PCB.
- 10) Reinstall the HKSU cover, and turn the power back **ON**.

STRATA VIe:

- 1) Turn **OFF** the power and **unplug** the power cord from facility power.
- 2) Remove the front cover from the HKSU.
- Disconnect the power supply cable connector P1 at the top center of the VMAU PCB (just below the power supply).
- 4) Reconnect the power cord and turn the power **ON**.
- 5) Using a voltmeter, check the power supply output voltages at the power supply cable connector (**P1**) per the diagram below:
- 6) Verify that the voltages fall within the following ranges:

Nominal	Range	
+24	+23 ~ +29	
+12	+10.8 ~ +13.2	
+5	+4.75 ~ +5.25	

voltages are correct, go to step 8. If not, ace the power supply and recheck volt-

OFF the power.

to **P1** on the VMAU PCB.

nstall the HKSU cover, and turn the ver back **ON**.

Optional power backup units are availboth systems: HPFB

HPBU-7

4 Se:

^B is a separate unit that connects to the panel of the HKSU via a 2-wire connecure 4).

to three HPFB modules may be coned together in parallel to extend the er backup time. With the optional battery up assembly installed, the system will nue to operate after a facilities power re. The actual time period depends on system configuration/application and per of battery backup modules used.



IGURE 4—HPFB INSTALLATION

STRATA VIe:

The HPBU-7 is a PCB that mounts inside the power supply housing (Figure 5) and is connected to the female 3-prong connector inside the power supply's case. Secure the HPBU with the two provided screws.

 The HPBU is then connected via the terminal block to the recommended battery pack (which is customer-supplied, consisting of two 12 VDC, maintenance-free, automobiletype batteries—80 amp/hour maximum rating). With the battery backup assembly installed, all functions of the system will continue to operate for several hours after a facilities power failure (the actual time period is in direct ratio to the type and size of batteries selected).



FIGURE 5—HPBU INSTALLATION

04.16 When installing or removing the HPBU, perform the following:

WARNING!

When installing the HPBU-7 in the power supply, care must be taken against accidental shorts that may injure the installer or damage the power supply.

- 1) Turn **OFF** the power and **unplug** the system power cord.
- 2) Remove the front cover from the HKSU.
- Remove the metal plate on the left side of the power supply case (two screws).
- 4) Connect the 4-wire connector extending from the rear of the HPBU-7 inside the power supply case as shown in Figure 5.
- 5) Mount the HPBU-7 with the two screws removed in step 3.
- 6) Connect the positive terminal on one battery to the negative terminal of the other battery (in series).
- 7) Connect the free negative battery terminal to the negative terminal on the HPBU-7.
- 8) Connect the free positive battery terminal to the positive terminal on the HPBU-7.

04.20 System Ground Check

04.21 Both Toshiba telephone systems require a solid earth ground. Failure to provide such a ground may lead to confusing trouble symptoms in the system and, in extreme cases, circuit board failure. In most installations (within the continental United States), the ground provided by the "third wire ground" at the commercial power outlet will be satisfactory for all system requirements. However, in a small percentage of installations, this ground may be installed incorrectly. Therefore, prior to installing a system, the third wire ground must be tested for continuity by either measuring the resistance between the third prong terminal (earth ground) and a metal cold water pipe, or by using a commercially available earth ground indicator. If neither procedure is possible, then the following test procedures should be performed.

WARNING!

Hazardous voltage is exposed during the following test. Use great care when working with AC powerline voltage.

- 1) Obtain a suitable voltmeter and set it for a possible reading of up to 250 VAC.
- 2) Connect the meter probes between the two main AC voltage points on the wall outlet. The reading obtained should be $90 \sim 130$ VAC.
- Move one of the meter probes to the third prong terminal (GND). Either the same reading or a reading of 0 volts should be obtained.
- 4) If the reading is OV, leave one probe on the GND terminal and move the other probe to

the second voltage terminal. If a reading of OV is obtained on both voltage terminals, the outlet **is not** properly grounded. Omit steps 5 through 7 and proceed directly to step 8.

- 5) If a reading of OV on one terminal and a reading of 90 ~ 130 VAC on the other terminal is not obtained, the outlet is not properly grounded. Omit steps 6 and 7 and proceed directly to step 8.
- 6) If a reading of OV on one terminal and a reading of 90 \sim 130 VAC on the other terminal is obtained, remove both probes from the outlet.
- 7) Set the meter on the "OHMS/Rx1" scale, place one probe on the GND terminal and the other probe on the terminal that produced a reading of OV. A reading of less than 1 ohm should be obtained. If a reading of more than 1 ohm is obtained, the outlet is not adequately grounded.
- If the above tests show the outlet is improperly grounded, that condition should be corrected by a qualified electrician (per Article 250 of the National Electrical Code) before the system is connected.

05 PRINTED CIRCUIT BOARD INSTALLATION

05.00 General

05.01 Complete with all available options, both systems utilize up to ten (S_e) or eight (VI_e) printed circuit boards internally and various option modules. The names and functions are as follows

05.02 The SMAU/VMAU and SCCU/VCCU are factory-installed in the HKSU.

05.03 If any optional PCBs (SSTU, SEPU, STMU, SMOU, SPFU, SVCU, SDTU or SCOU/VCOU) are required, refer to Figure 6 and remove the HKSU cover as follows:

- Remove both side covers by pressing in on the two small ribbed sections on each cover to free the holders.
- 2) Remove three screws from each side of the HKSU per Figure 6.
- 3) Lift the HKSU cover off.

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05.10 Factory-Installed PCBs

05.11 SMAU/VMAU: The main printed circuit board of the key service unit consists of the following three functions:

- a) Station Interface: An interface between the key service unit and up to four stations (S_e) or up to eight stations (VI_e), which includes the solid-state, space-division matrix used for voice connections between the stations and the CO/PBX lines. Two-pair wiring is required for each station; one pair carrying voice and the other pair carrying control data to and from the station.
- b) CO Interface: An interface between the key service unit and the public telephone network or PBX for up to two lines (S_e) or up to three lines (VI_e). Ring detection, hold and dial outpulsing for these lines are performed by this board. Depending upon local CO requirements, each incoming line can be separately connected and programmed to provide DTMF or rotary-dial outpulsing.
- c) **Tone:** Performs a number of miscellaneous system functions:
 - Generates system tones.
 - Provides the switching matrix for the de-

livery of tones for both paging and intercom connections.

05.12 SCCU/VCCU: All system control functions are performed by the single-chip micro-processor on this printed circuit board. The system program stored in ROM, RAM for system operation, and the RAM for system data storage are also located on this circuit board. A battery on this board protects system memory should a power occur.

05.13 See Figure 1 and verify that the battery strap on the SCCU/VCCU is in the on position.

05.14 The SMAU/VMAU and SCCU/VCCU PCBs are factory-installed in the HKSU. If repair of either PCB is necessary, the HKSU should be replaced and returned to your supplier.

05.20 SCOU/VCOU

05.21 An optional interface between the SMAU/VMAU and one/three additional CO line(s). Depending upon local CO requirements, the SCOU/VCOU is programmed to provide DTMF or rotary-dial outpulsing. The SCOU serves one CO line; the VCOU serves up to three CO lines, and both serve up to three off-premises lines.



FIGURE 7—SCOU and SPFU LOCATIONS

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STRATA Se:

05.22 The SCOU PCB mounts on four 10-pin connectors at the bottom of the SMAU PCB into **P10**, **P11**, **P12** and **P13** connectors (Figure 7). Secure the SCOU PCB to the right side panel with the two provided screws.

STRATA VIe:

05.23 The VCOU PCB mounts on four 10-pin connectors and one plastic standoff at the bottom of the VMAU PCB (Figure 8). Install the VCOU's three 10-pin connectors into the VMAU's P6, P7 and P8 connectors. Secure the VCOU to the left and the right side panels with two provided screws on each side.



FIGURE 8-VCOU LOCATION

05.30 SPFU (Se only)

05.31 An optional PCB with relays to connect the CO lines to three standard telephones if a power failure occurs.

05.32 Install into the connector marked **SPFU** at the bottom of the SMAU PCB (Figure 7).

05.40 SSTU

05.41 An optional interface between the key service unit and stations $14 \sim 17$ (stations 18 ~ 25 on STRATA VI_e). Each SSTU PCB serves up to four stations. Two- or three-pair wiring is required for each station; one pair carrying voice and the other pair carrying control data to and from the station (the third pair is required for OCA).

STRATA Se:

05.42 For adding stations $14 \sim 17$, refer to Figure 9, and insert the three SSTU 10-pin connec-

tors into P14, P15 and P16 connectors on the SMAU PCB. Secure the SSTU PCB to the right side panel with the two provided screws. Route the provided jumper cable from the SSTU P19 connector to the P19 connector on the SMAU to provide crosspoints for stations $14 \sim 17$.

NOTE:

Jumper cable is necessary only when OCA is equipped.





STRATA VIe:

05.43 For adding stations $18 \sim 21$, refer to Figure 10, and insert the three SSTU 10-pin connectors into **P9**, **P10** and **P11** connectors on the VMAU PCB. Secure the SSTU PCB to the right side panel with the two provided screws. (For stations $22 \sim 25$, insert the three 10-pin connectors on another SSTU into **P12**, **P13** and **P14** connectors on the VMAU PCB. Secure the SSTU PCB to the right side panel with the two provided screws.)

- a) Route the provided jumper cable from the SSTU P19 connector to the P21connector on the VMAU to provide crosspoints for stations $18 \sim 21$.
- b) Route the provided jumper cable from the SSTU P19 connector to the P23 connector on the VMAU to provide crosspoints for stations $22 \sim 25$.

NOTE:

Jumper cable is necessary only when OCA is equipped.



FIGURE 10—VIe SSTU and SVCU LOCATIONS

05.50 SMOU

05.51 An optional music-on-hold source that provides electronic synthesized music. One or two musical tunes are available, selected via a switch on this board. The SMOU is connected to the SMAU/VMAU via a 7-pin connector.

STRATA Se:

05.52 Install the SMOU PCB into connector **P6** on the upper center of the SMAU PCB (Figure 11).

STRATA VIe:

05.53 Install the SMOU PCB into connector **P16** on the upper center of the VMAU PCB (Figure 11).

05.60 SEPU

05.61 An optional 3-watt amplifier for external paging, using a customer-supplied 8-ohm speaker (connected to the SMAU/VMAU via a 10-pin connector).

STRATA Se:

05.62 Install the SEPU into connector **P5** on the SMAU PCB (Figure 11). Slide the SEPU's corner hole over the white, plastic standoff support. Secure the SEPU to the left side panel with two screws.



FIGURE	11-	-Se/Vle	SEPU	and	SMOU	LOCATIONS
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STRATA VIe:

05.63 Install the SEPU into connector **P15** on the VMAU PCB (Figure 11). Slide the SEPU's corner hole over the white, plastic standoff support. Secure the SEPU to the left side panel with two screws.

05.70 SVCU

05.71 The Off-hook Call Announce interface that mounts on the main PCB of the key service unit to provide OCA access. One SVCU is required for every eight stations requiring OCA. (Adds two intercom lines and two OCA paths in STRATA VIe.)

STRATA Se:

05.72 Insert connector **P1** on the SVCU into the **P20** connector on the SMAU (Figure 9).

STRATA VIe:

- a) To provide OCA to stations $10 \sim 17$, refer to Figure 10, and insert connector **P1** on the SVCU into the **P25** connector on the VMAU.
- b) To provide OCA to stations $18 \sim 25$, insert connector P1 on the SVCU into the P26 connector on the VMAU.

05.80 SDTU

05.81 Provides Remote Administration/Main-

tenance access via its built-in 300/1200 bps modem. One SDTU per system is required for Remote Administration/Maintenance.

STRATA Se:

05.82 Insert connectors **P1** and **P2** on the SDTU into the **P8** and **P9** connectors on the SCCU (Figure 12). Route the provided jumper cable from the SDTU **P3** connector to the **P22** connector on the SMAU.





STRATA VIe:

05.83 Insert connectors **P1** and **P2** on the SDTU into the **P8** and **P9** connectors on the VCCU (Figure 12). Route the provided jumper cable from the SDTU **P3** connector to the **P29** connector on the VMAU.

05.90 STMU (STRATA Se only)

05.91 Required for connection to an HSMB to provide SMDR for a STRATA Se HKSU.

05.92 Refer to Figure 13, and insert connectors **P4** and **P5** on the STMU into the **P4** and **P5** connectors on the SCCU. Route the provided jumper cable from the STMU **P23** connector to the **P23** connector on the SMAU.



FIGURE 13—STMU LOCATION

06 BASIC CABLING REQUIREMENTS

06.00 Station Wiring

06.01 Intercom codes (station numbers) are assigned permanently to specific cable appearances in the system. Make sure the station cables are connected to the proper terminals.

06.02 Using the industry-standard color code sequence, terminate the individual 2- or 3-pair station cables consecutively on the MDF (3-pair cabling required for OCA). Connect the HKSU cable pairs to the station cable pairs.

WARNING!

When installing station cable, do not run parallel to and within 3' of an AC power line. Such power lines should be crossed at right angles (90°) only.

06.03 At the station locations, terminate the station cable in a conventional 4- or 6-conductor modular station connector to accommodate the modular line cord from the EKT. The standard modular EKT cord length is 7', while the maximum allowed length is 25'. Figure 14 shows the EKT wiring arrangement.

06.04 Various manufacturers of modular station blocks have employed different color codes to indicate the sequence of pairs in their blocks. However, the color code most commonly used is shown in Figure 15. Verify the configuration

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FIGURE 14-EKT WIRING

of your modular blocks before connecting the station cables.

NOTE:

White and blue (T3 & R3) are used for OCA voice pair on station line connectors.





06.10 CO Line Connection

06.11 The CO/PBX lines are connected to the system via 6-wire modular line cords (no longer than 25') that are connected directly to the HKSU's right side panel (Figure16)—CO1 modular connector on S_e ; 1-3 and 4-6 modular connectors on M_e . The opposite end of each cord



FIGURE 16— S_e/VI_e HKSU RIGHT SIDE PANEL then terminates directly into a locally provided RJ-25C jack (Figure 15).

06.12 The CO/PBX lines may also be connected via 2-wire modular line cords to connectors CO1, CO2, and CO3 (S_e) or connectors 1-3, 4-6, 2, 3, 5 and 6 (VI_e) on the right side panel (Figure 16). The opposite end of each cord then terminates directly into a locally provided RJ-11C jack (Figure 15).

07 SYSTEM POWER-UP INITIALIZE

07.00 General

07.01 A list of standard system data assignments (stored in ROM) can be entered at any time by performing the initialize sequence outlined below. The system must be initialized when it is first installed or whenever the SCCU/VCCU PCB is changed. This will allow the system to be tested and any faults to be corrected before time is spent on programming.

NOTE:

Do not *initialize if using a preprogrammed, battery-protected SCCU/VCCU.*

07.02 Refer to Figure 17 and verify that the battery on the SCCU/VCCU is connected to ensure that data changes entered after initialization will not be lost due to power failure.

NOTE:

The SET LED will not function if the SCCU/ VCCU battery is not connected.



FIGURE 17—SCCU/VCCU BATTERY STRAP

07.03 To initialize STRATA S_e system data memory, refer to Figure 18, temporarily connect a 20-key EKT to station 13, and perform the following:



FIGURE 18-Se/VIe INITIALIZING SWITCHES

- 1) Place the system power switch in the **ON** position.
- 2) Depress the SET switch and allow it to lock.
 - SET LED goes on.
 - Station 13: LED 19 goes on.
- 3) Depress the SPKR key on station 13.
 - Station 13: SPKR LED goes on.

- 4) Dial 🛛 🖉 🖸 on the dial pad.
- 5) Depress the O1 and O3 keys on station 13.
 The corresponding LEDs go on.
- 6) Depress the HOLD key on station 13.
 Station 13: All LEDs (except SPKR and MIC) begin blinking.
- 7) Depress and release the SET switch again.
 - SET LED goes off.
 - Station 13: LEDs go off.
- 8) Cycle the power switch OFF and ON.

07.04 To initialize STRATA VI_e system data memory, refer to Figure 18, temporarily connect a 20-key EKT to station 17, and perform the following:

- 1) Place the system power switch (**POW**) in the **ON** position.
- 2) Depress the **INT** switch on the left side panel, and hold it in.
- 3) Depress the SET switch and allow it to lock.
 SET LED goes on.
 - Station 17: All LEDs except SPKR and MIC flash continuously.
- 4) Depress and release the SET switch again.
 SET LED goes off.
 - Station 17: All LEDs go off.
- 5) Release the INT switch.
- 6) Cycle the power switch OFF and ON.
- 07.10 Clearing Automatic Dialing

07.11 The Automatic Dialing memory contains random numbers when the system is powered up initially. Therefore, it is necessary to clear the memory to prevent meaningless numbers from being dialed.

IMPORTANT!

Station 13/17 may be equipped with either a 10- or a 20-key EKT. Prior to performing the procedure that follows (if a 10-key is to be used), refer to Paragraph 02.20/Figure 1, Programming Procedures, Section 500-036-300, for instructions on using a 10-key EKT for programming.

07.12 To clear the Automatic Dialing (-System and -Station) memory (up to 40 numbers), proceed as follows:

- Lock in the SET switch.
 Station 13/17: LED 19 lights steadily.
- 2) To clear station automatic dialing, depress the SPKR key and dial
 - SPKR LED flashes continuously.
 - Depress keys 01 05 09 18.
 - Depress the HOLD key.
- 3) To clear system automatic dialing, depress the SPKR key and dial # 3.
 - SPKR LED flashes continuously.
 - Depress keys 03 07 11 15.
 - Depress the HOLD key.
- 4) Release the SET switch.
 - The SET LED and LED 19 on station 13/17 go off.

07.20 Alphanumeric Messaging Initialization

NOTE:

There are 40 messages available in system memory (60 \sim 99), and 10 available at each station (10 \sim 19).

07.21 To initialize system alphanumeric messages, follow these procedures:

- 1) Lock in the SET switch.
 - Station 13/17: LED 19 lights steadily.
- 2) To clear codes 60 ~ 99, depress the SPKR key and dial # 2.
 - SPKR LED flashes continuously.
 - Depress keys 00 04 08 12.
 - Depress the **HOLD** key.

07.22 To initialize station alphanumeric messages, follow these procedures:

- 1) Lock in the SET switch.
 - Station 13/17: LED 19 lights steadily.
- 2) To clear codes 10 ~ 19, depress the SPKR key and dial # 5.
 - SPKR LED flashes continuously.
 - Depress keys 01 05 09 13.
 - Depress the **HOLD** key.

NOTE:

System messages can only be programmed or changed at station 10. When the system is initialized, five messages are automatically stored in memory:

60: OUT TO LUNCH

61: IN A MEETING

- 62: CALL
- 63: BACK AT
- 64: RETURN ON

07.30 Timer Reminder Messaging Initialization

07.31 To clear Timer Reminder messages, follow these procedures:

- 1) Lock in the SET switch.
 - Station 13/17: LED 19 lights steadily.
- 2) To clear timer codes, depress the SPKR key and dial
 - SPKR LED flashes continuously.
 - Depress keys 03 07 11 15.
 - Depress the HOLD key.

07.40 System Real-Time Clock/Calendar Adjustment

07.41 The following procedures detail how to set the date, time and day in the system.

NOTE: This operation is possible from station 10 only.

- 1) Handset on-hook.
- 2) To set date:
 - a) Dial # 51 (or RDL REP 51).
 - b) Dial in date (year/month/day) in the format YYMMDD. Enter a leading 0 for singledigit month and day.
 - c) Depress the 🖩 (or RDL) key.
- 3) To set time:
 - a) Dial # 5 2 (or RDL REP 5 2).
 - b) Dial in time (hour/minute/second) in 24-hour clock format HHMMSS. Enter a leading 0 for single digit.
 - c) Depress the 🖩 (or RDL) key.
- 4) To set day:
 - a) Dial # * 5 3 (or RDL REP 5 3).
 - b) Dial in the day (1 represents Sunday, 2 Monday, etc., through 7 for Saturday).
 - c) Depress the 🛛 (or RDL) key.

08 EKT INFORMATION

08.00 General

08.01 Eight different electronic key telephones (EKTs) may be used in the system. See the *General Description* for complete descriptions of the EKTs.

08.02 All EKTs share the same dimensions: Height: 3.7" (94 mm) Width: 7.1" (180 mm) Depth: 9.5" (241 mm)

08.03 All EKTs feature modular handset cords and are connected to the system via 4-conductor modular line cords. With the exception of the single-line EKT, all EKTs are also equipped with an additional modular headset connector. In addition, each EKT model may be used at any or all stations.

08.10 HVSU Installation

08.11 All Toshiba EKTs may originate Offhook Call Announce (OCA) calls via intercom dialing, transfer/conference dialing, or Direct Station Selection. There are no special requirements to enable EKTS to originate OCA calls.

08.12 However, EKTs which are able to receive OCA calls:

- Must be equipped with an HVSU PCB.
- Must be equipped with a 3-pair modular cord.

08.13 Follow the instructions below to install an HVSU.

- 1) Loosen the four screws holding the bottom cover of the EKT and remove the cover.
- 2) Remove the HVSU label from the HVSU and attach it to the EKT label.

NOTE:

This step is very important so that an equipped EKT may be easily identified.

- 3) Plug the HVSU into the **P5** connector on the bottom of the EKT main board (Figure 19).
- 4) Reinstall the EKT bottom cover and tighten the four screws.

08.20 EKT Wall Mounting

08.21 All EKTs are mounted in the same manner, and they may be mounted on a wall or any other flat, vertical surface to which the base can be secured. When selecting the mounting site, consider the EKT's weight and the additional stresses to which the mounting will be subjected.

08.22 Mounting screws or mollies, appropriate for the surface on which the telephone is to be secured, must be provided by the installer.



FIGURE 19—HVSU LOCATION

08.23 Locking tabs secure the EKT's base. The direction in which the base, is attached to the EKT determines whether it is used as a desk unit or wall unit (it is factory-configured as a desk unit). To wall-mount an EKT, perform the following steps:

 Disengage the locking tabs by pushing downward on the base (Figure 20), and then rotate the base 180° and insert it into the lower four locking slots.



FIGURE 20—REMOVING EKT BASE

- 2) Route the line cord through the notch in the bottom of the EKT.
- Secure the unit to the desired wall site. (Use dimensions shown in Figure 21 to position the unit.)



FIGURE 21—EKT MOUNTING HOLES

4) Route the tail cord through the holes in the base and secure the EKT (Figure 22).



FIGURE 22-EKT WIRE ROUTING

5) To reposition the handset handger, insert a piece of wire (such as a paper clip, etc.) into

the cutout just above the hanger (Figure 23), disengage the hanger's locking tabs, and slide the hanger out. Rotate the hanger 180° and reinsert it. Note that the hanger mates, with the notch in the handset.



FIGURE 23—HANDSET HANGER

08.24 An optional 13' handset cord is available from your Toshiba supplier, and it is suggested that this cord be used when wall mounting an EKT.

08.30 EKT Connections

08.31 Connect the appropriate length line cord to the modular connector, route the cord to the EKT and connect to the EKT modular jack. Test the EKT per Paragraph **08.50**.

08.40 Carbon Handset Installation

08.41 All 6000-series EKTs are factoryequipped with dynamic handsets. If a carbon handset is desired, an EKT modification is necessary. With the exception of the single-line EKT, the following modification is applicable to all 6000-series EKTs:

- 1) Remove the four screws holding the base cover, and remove the base cover.
- 2) On the exposed PCB, cut jumpers marked "CARBON" (see Figure 24).

NOTE:

Figure 24 shows the locations of the carbon resistors for both handsfree answerback (HFU) and speakerphone (SPF) EKTs.

3) Reinstall the base cover and its four screws.

•••





 Replace the dynamic handset with the carbon handset.

08.50 EKT Functional Check

08.51 In order to verify basic system functions, and confirm the proper functioning of the EKT itself, perform the following test procedures at each station. Begin with the lowest numbered station, and continue through all stations.

08.52 With handset on-hook:

- a) Depress the INT key.
 - INT LED: In-use flash.
 - SPKR LED: on steady.
 - MIC LED: on steady.
 - Listen for intercom dial tone via EKT speaker.
- b) Adjust speaker volume with the lower control on the right side of the EKT.
- c) Depress the **CO1** key.
 - CO1 LED: In-use flash.
 - SPKR & MIC LEDs: on steady.
 - Listen for CO/PBX dial tone via the EKT speaker.
- d) Dial any digit ($\mathbf{2} \sim \mathbf{3}$) on the dial pad and dial tone stops.
- e) Depress the MW/FL key.
 - Listen for circuit break followed by dial tone after approximately 2 seconds.
- f) Continue to depress each **CO** key in order on every EKT; the following should occur:
 - CO LED: In-use flash.

- SPKR & MIC LEDs: on steady.
- Listen for CO/PBX dial tone via the EKT speaker.

NOTE:

If no CO/PBX facility is connected to a **CO** key, dial tone cannot be heard but the LED is still functional.

- g) When CO testing is complete on each EKT, continue the EKT test by depressing the SPKR key.
 - SPKR & MIC LEDs: off.
 - EKT speaker off.
- h) Depress the **DND** key.
 - DND LED: on.
- i) Depress the DND key.
 - DND LED: off.
- j) Depress the CO1 key.
 - CO1 LED: In-use flash.
 - SPKR & MIC LEDs: on steady.
 - Listen for CO/PBX dial tone via the EKT speaker.
- k) Depress the HOLD key.
 - CO1 LED: On-hold flash.
 - Speaker off (no dial tone).
 - SPKR & MIC LEDs: off.
- I) Depress the CO1 key.
 - CO1 LED: In-use flash.
 - SPKR & MIC LEDs: on steady.
 - Listen for CO/PBX dial tone via the EKT speaker.
- m) Depress the CONF key.
 - CO1 LED: Conference call flash rate.
 - Dial tone continues.
- n) Depress the CO1 and SPKR keys.
 - CO1 LED: off.
 - SPKR & MIC LEDs: off.
 - Dial tone: off.
- o) Call the EKT that is being tested from another station.
 - Called station's INT LED: Incoming Call flash.
 - Listen for the caller's voice via the called EKT's speaker after the single tone signal.
- p) Dial 1 at calling station.
 - Tone signalling heard via the called station's speaker.

- q) Adjust tone signalling volume with upper control on the right side of the EKT.
- r) Depress the INT key.
 - INT LED: In-use flash.
 - SPKR & MIC LEDs: on steady.
 - Listen for intercom dial tone via the EKT speaker.
- s) Lift handset.
 - SPKR & MIC LEDs: off.
 - Speaker off.
 - Listen for dial tone via handset receiver.
- t) Call another station and talk into the handset transmitter.
 - Verify that your voice can be heard via the called EKT's speaker.
- u) Hold down the **SPKR** key, and set the handset back on-hook.
 - INT LED: In-use flash.
 - SPKR & MIC LEDs: on steady.
- v) Tap the EKT microphone and verify that the sound can be heard via the called EKT's speaker.
- w) Depress the MIC key while tapping the microphone and verify that the sound cannot be heard via called the EKT's speaker.
 - MIC LED: off while MIC key is depressed.

x) Depress the SPKR key.

- INT LED: off.
 - SPKR & MIC LEDs: off.

NOTE:

Continue this portion of the EKT testing for any stations equipped with OCA. If the system has no OCA stations, continue to Paragraph **08.53**.

- y) Busy-out an OCA-equipped station.
- z) Call that station from another EKT.
- aa) After receiving busy tone, dial 2.

NOTE:

If the system is programmed for automatic OCA, it is not necessary to dial 2---step bb) is in effect immediately after dialing the busy station.

bb) The called station receives a tone burst through its speaker, after which a speech path exists between the two stations. **08.53** This completes the station functional check for the EKTs; repeat the procedure for all EKTs in the system.

09

INSTALLATION OF OPTIONS (External)

09.00 Off-hook Call Announce

09.01 General: Off-hook "Call Announce (OCA) allows a station user, while in conversation via the handset (off-hook), to receive intercom calls through the EKT's speaker. The user may also reply via the EKT's microphone as long as the telephone remains off-hook. The feature is activated automatically or by dial access (2) on a programmable station-by-station basis (see Figure 25).

NOTE:

If the station user is involved in a handsfree conversation (on-hook), the caller receives a busy signal.

09.02 Programming: Verify the proper programming via **Programs 01** and **5XX** in *Programming Procedures*, Section **500-036-300** (LED 00 in **Program 01** must be set to voice first for OCA to function).

09.03 Hardware Requirements: Ensure the HKSU has part number 605 (S_e) or 705 (VI_e), and install:

- SVCU PCB per Paragraph 05.70.
- Jumper cables on SSTU PCB per Paragraphs 05.40 and 05.70.

09.04 EKT Requirements: Any Toshiba EKT, off-premises extension or HIOB station may *orig*inate an OCA call in a STRATA_e **Release 2** system, as there are no special hardware requirements. But OCA calls may be *received* by EKTs meeting the following criteria only:

- 6XX5 series
- Connected with 3-pair wiring
- Equipped with HVSU PCB.

09.05 To Test OCA: Connect three stations (station A is equipped for OCA), and conduct the following:

- 1) Go off hook with station A and make an intercom call to station B, verify the speech path.
- 2) Use station C to call station A via the intercom:



FIGURE 25-OFF-HOOK CALL ANNOUNCE FUNCTIONAL BLOCK DIAGRAM

- If in automatic mode*: Station A receives a single tone burst (an OCA speech path exists between stations A and C via the EKT's speaker and microphone—verify).
- If in dial 2 mode: Station C receives busy tone, then dials 2 to establish an OCA speech path between stations A and C verify.

***Program 5XX** LED 12 determines the mode of the originating station.

09.10 HCNB

09.11 General: Provides 1A2 Interface for the system.Each HCNB supports three CO/1A2 interface line circuits. The HCNB provides line supervision between the HKSU and the 1A2 equipment. The maximum distance between these units is determined by the 1A2 Interface line circuit specifications. To install, follow the procedures listed below:

- 1) Connect tip/ring, lamp and A lead connections per Figure 26.
- Using the provided 4-pair modular cord, connect the HKSU to the HCNB.

- Connect the MDF to the modular blocks with 24 AWG wire.
- 4) Connect the supplied field ground wire.

NOTE:

Connecting the jumper wires W1 and W9 is not necessary.

09.12 Programming: Verify the correct programming for 1A2 interface via **Program 0#7**.

09.13 To Test 1A2 Interface: Conduct the following test on each incoming line:

- 1) Depress each **CO** line key on an EKT.
 - Verify that the corresponding lamp lights on a 1A2 telephone.
- 2) Make a test call from the EKT.
 - Verify that the call may be monitored at the 1A2 telephone.
- 3) Repeat steps 1 and 2 at the 1A2 telephone.
- 4) Place each CO line (one at a time) on hold at an EKT.
 - Verify that the CO appearance on the 1A2 telephone is on hold.

5) Repeat step 4 at the 1A2 telephone, and all appropriate telephones in both systems.

NOTE:

Exclusive hold is a function of each system (i.e., if a station places a line on exclusive hold, but the 1A2 system does not provide this feature, the line may be picked up by any 1A2 telephone (and vice versa).

09.20 HIOB

09.21 General: Provides a circuit interface with the system for external devices such as a voice mail machine, answering machine, standard telephone*, modem, etc. (see Figure 27). The HIOB circuit includes a DTMF generator, DTMF receiver, ring generator, answer detector and voice circuit (DTMF signal time from HIOB to device is fixed at 160 ms). Table A indicates available station lines and system capacities.

*Least Cost Routing and Toll Restriction apply to standard telephones.

TABLE A-HIOB CAPACITY					
SYSTEM	Q'TY	STATIONS			
Se	4	14 ~ 17			
Vle	8	18 ~ 25			



FIGURE 27—HIOB FUNCTIONAL BLOCK DIAGRAM



FIGURE 26—HCNB CONNECTIONS

O9.22 Wall Mounting: Mount the HIOB on a flat surface with the four provided screws. The dimensions are $4.6 \times 6.8''$ (117 x 172 mm). Using the HIOB as a template, mark the four screw locations, create "starter" holes and secure the module.

09.23 Cabling: Each HIOB is connected to a station line via 2-pair 24 AWG wiring (Figure 28). It is connected to the peripheral device via single- or 2-pair (only the tip and ring are used) wiring. The maximum distance between the HKSU and the HIOB is 650' (200 M). The loop limit between the HIOB and the device is 300 ohms (including the resistance of the device).

09.24 Power and Ground: To complete the HIOB installation, refer to Figure 28, and perform the following:

- 1) Connect the provided 24 V converter to the HIOB and plug it into a 120 VAC outlet.
- 2) Connect a ground wire to the installation site's common ground and to **FG** on the HIOB.

09.25 Programming: Verify the proper programming via several selections in **Program 3#XX** in *Programming Procedures*, Section **500-036-300**.

09.26 Option Switches: There are two switches (Figure 29) on the HIOB that may have to be set.

 SW1 selects DTMF tones or dial pulse to be received from the peripheral device. Set SW1, if necessary (factory-set to MF), to DP or MF (DP = dial pulse, MF = DTMF).



FIGURE 28-HIOB WIRING DIAGRAM



FIGURE 29—HIOB SWITCHES

2) SW3 selects the ringing pattern sent to the peripheral device from the HIOB. Set SW3, if necessary (factory-set to 1/3), to 1/2 or 1/3 (1/2 = 1 second on, 2 seconds off; 1/3 = 1 second on, 3 seconds off).

09.27 To Test each HIOB: Connect a standard telephone to the "TEL" input of the HIOB, and perform the following:

- 1) Using an operational EKT, call the HIOB's station number.
 - Standard telephone rings.
- 2) Answer the ringing telephone and check for speech path.
 - Hang up.
- 3) Call the EKT's station number with the standard telephone.
 - EKT rings.
- 4) Answer the ringing telephone and check for speech path.

• Hang up.

NOTE:

This procedure ensures that the HIOB connections and circuits are functioning (see Figure 27). If the peripheral device is a voice mail unit or similar device, more detailed testing is required. Since this testing varies between devices, verify the device's functions per the manufacturer's documentation.

09.28 Voice Mail Application: Stations may be programmed to automatically send digits (via

the HIOB) to a voice mail device to step callers through voice mail prompts directly to the station's mail box. There are two cases where these digits will be sent. In each case, a different digit string may be programmed (16 digits maximum). The two cases are:

- Call Forward to Voice Mail: Calls are forwarded to the voice mail box. When calls are answered, digits are sent from the called station via the HIOB. To program this case: From the station that is to send the digits:
 - Dial III 5 6 (LCD displays # * 5 6 ID code set)
 - Dial the digits and pauses (MW/FI key) required (LCD displays the digits/pauses pause = two digits)
 - Depress the key to store data (will remain in memory until changed by the same procedure).
- Message Retrieve from Voice Mail: Voice mail sets the station's message waiting light. When a station calls the voice mail to retrieve messages (by depressing the NT and MWFL keys), voice mail answers and digits are sent from the calling station to the device via the HIOB. To program this case: From the station that is to send the digits:
 - Dial ##57 (LCD displays #* 5 7 ID code set)
 - Dial the digits and pauses (MW/FL key) required (LCD displays the digits/pauses pause = two digits)
 - Depress the key to store data (will remain in memory until changed by the same procedure).

NOTE:

LED 07, **Program 3#XX** (XX = HIOB station line), must be ON for this feature to operate.

09.29 Voice Mail Device Programming: To set or cancel the Message Waiting light on a station, the voice mail device must have the capability of sending digits (codes) to the STRATA system.

- To cause the MW/FL LED on an EKT to flash, the voice mail device must:
 - Go off-hook (receive dial tone from HIOB).
 - Send digits 8 6 X X (XX = EKT station number).
 - Go on-hook.

- To cancel the MW/FL LED, the voice mail device must:
 - Go off-hook (receive dial tone from HIOB).
 - Send digits 8 7 X X (XX = EKT station number).
 - Go on-hook.

09.30 HOXB

09.31 General: Serves as an interface between the key service unit and conventional, standard telephones or off-premises extension (OPX) lines. Each HOXB serves two extensions, replacing two station assignments, and will operate with either DTMF or rotary-dial telephones. An MRGU (a ring generator and -48 VDC power supply) is required with each three HOXBs.

- Se: Two HOXB modules may be installed; using stations 14 \sim 17.
- VI_e: Four HOXB modules; using stations 18 \sim 25.

NOTE:

LCR will function (VI_e only) when a 2500type telephone is attached to the HOXB.

09.32 Wall Mounting: An HOXB may be mounted on any vertical surface.

- 1) Locate the two mounting holes on the lefthand side.
- Remove the module's right side cover to expose the two righthand mounting holes.
- Properly position the module adjacent to the HKSU with regards to wiring needs.
- Secure the module to the mounting surface with provided screws.

09.33 Option Switches: Remove the cover of the HOXB and locate the two operational mode straps on the HOXU PCB (mounted to the HOXB base). As shown in Figure 30, the straps are located in the center of the PCB (SW1



FIGURE 30—HOXB CONNECTION STRAPS

controls the operation of OPX telephone #1; SW2 controls OPX telephone #2). Set each switch to DP for dial pulse or MF for DTMF tone output, as required. After setting the straps, reinstall the cover and secure it to the base. The MF position does not allow Toll Restriction for the OPX station.





FIGURE 31—HOXB WIRING

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types of wiring arrangements are necessary for off-premises extension/conventional, standard telephone (OPX) connections: HOXB-to-HKSU, HOXB-to-MRGU and HOXB-to-conventional, standard telephones.

NOTE:

OPXs are paired even/odd to the HOXB (Se = 14/15 & 16/17; VI_e = 18/19, 20/21, 22/23 & 24/25).

- HOXB-to-HKSU connections are made via single wires from the MDF station block to the HOXB terminal strip (TB3) voice and control data terminals. The first four wires are crossconnected with a station's voice and data circuits. A station voice-only connection for each HOXB is required if a second OPX circuit is desired for that HOXB.
- HOXB-to-MRGU connections are made from the MRGU output terminal strip to the HOXB terminal strip (TB1).
 - a) Connect the 80 VAC, 25 Hz output on the MRGU to the BELL input on HOXB.
 - b) Connect the -48 VDC and 0 V battery terminals on both units, observing the correct polarity (see Figure 31).
 - c) Connect FG from MRGU to FG on HOXB.
 - d) Must connect FG on HOXB to HKSU.

IMPORTANT FCC INFORMATION: The HOXB and MRGU are FCC registered with a facility interface code of OL13A. If an alternate DC supply/ring generator is to be used, contact your supplier for details.

3) HOXB-to-conventional, standard telephone connections are made from the telephone to the HOXB terminal strip (TB2) with industrystandard 2-, 4- or 6-wire cable. An RJ-11C jack for each OPX telephone is required at the HOXB. Run two single wires from the jack to the appropriate terminals on TB2.

NOTE:

The HOXB requires a negative DC voltage; therefore, the main HKSU power cannot be used (it is +24 volts).

09.35 Programming: Verify the proper programming via selections in **Programs 0#2** and **3#XX** in *Programming Procedures*, Section **500-036-300**.

09.36 To Test: Perform the following procedures at each Off-Premises Extension/Conven-

tional Telephone (OPX) location:

- a) Lift the OPX handset and listen for intercom dial tone.
- b) Dial the number of another station.
 - Dial tone stops when first digit is dialed.
 - Ringing or voice paging can be heard at the called station.
- c) Lift the handset at the called station.• Ringing stops.
- d) Verify that a 2-way voice connection exists between the OPX and the called station.
- e) Go on-hook at both stations.
- f) Lift the OPX handset and listen for intercom dial tone.
- g) Dial CO line access code.
 - Listen for CO dial tone.
 - An idle line, from the group defined by **Program 09** (or $91 \sim 98$), is seized.
- h) Dial a test call.
 - Verify that a 2-way voice connection is established.
- i) Flash the hookswitch on the OPX and listen for intercom dial tone.
- j) Dial the number of another station.
 - Dial tone stops when first digit is dialed.
 Ringing or voice page can be heard at the called station.
- k) Lift the handset at the called station.Ringing stops.
- I) Verify that a 2-way voice connection exists between the OPX and the called station.
- m) Flash the hookswitch on the OPX.
- n) Verify that a 3-way conference is established.
- o) Go on-hook at the OPX.
- p) Verify that the CO line and called station are connected.
- q) Go on-hook at the called station.

09.40 HDCB

09.41 General: Provides Door Phone/Monitor Stations, Door Lock and Alarm features. To equip the system with up to six Door Phone/

> •• •

Monitor Stations and/or the Door Lock and Alarm features, install one or two HDCB external modules. The A, B and C modular connections provide the following functions:

- 11/13A & 12/14A: Door phones
- 11/13B & 12/14B: Door phones or door lock contacts.
- 11/13C & 12/14C: Door phones or alarm* detect.

*Alarm detect is available on door phone 11/13C only, and the alarm reset key may be assigned only to station 10.

09.42 Wall Mount: An HDCB may be mounted on a wall only. Perform the following:

- 1) Locate the two mounting holes on the righthand side.
- 2) Remove the module's left side cover to expose the two left-hand mounting holes.
- Properly position the module adjacent to the HKSU with regards to wiring needs (17' maximum).
- 4) Secure the module to the mounting surface with the provided screws.

09.43 Option Switches: Remove the HDCB cover and locate (per Figure 32) **SW2** and **SW1** in the upper left corner (**SW1** controls output C; **SW2** controls output B).



FIGURE 32—HDCB CONNECTION STRAPS

 On the HDCB connected to station 11/13 only, when SW1 is in the DOOR position, output C connects to a door phone/monitor station. When strapped in the ALM position, output C will detect a closure across its two leads (a short) and provide an alarm signal to all idlestations. The signal may be turned off with an ALRM key on station 10 only.

2) When SW2 is in the DOOR position, output B connects to a door phone/monitor station. When strapped in the LOCK position, output B will provide a dry contact closure for indirect control of a door lock or other device. The closure will be for a period of 3 or 6 seconds (programmable) when an EKT's door lock (DRLK) key is depressed.

09.44 Cabling: The door phone control unit (HDCB) is connected to the HKSU at EKT 11/13 and/or 12/14 (program-controlled). Each door phone/monitor station (MDFB) is connected to the HDCB via a 2-wire modular connector at the HDCB and a split ring connector at the MDFB using screw terminals 1 and 2 (L1 and L2 are not used). Figure 33 shows the HDCB and MDFB wiring arrangement.

NOTE:

When using output B for the Door Lock feature, an appropriate modular connector must be used to interface the HDCB to the door lock devices.



FIGURE 33—HDCB/MDFB CONNECTION

09.45 Programming: The following programs must be set for door phone, door lock and/or alarm operation:

- Door phone assignments: Program 0#1
- Door lock key assignments: Program 4#XX (codes 71 ~ 74)

- Station 10 alarm reset (ALRM) key: Program 4#XX (code "*"—lowest AD key) and Program 03 (LED 10 on)
- Door phone/EKT ringing assignment: Program 9#XX
- First digit in station number may be changed via **Program** ***X**# (Flexible Numbering).

NOTE:

The door phone station numbers (used to call the door phones via the intercom) are as follows:

• HDCB on station 11/13 only:

Door Phone	Station No.	LCD Display
11/13A	66	1A
11/13B	67	1B
11/13C	68	1C

• HDCB on stations 11/13 ~ 12/14:

13A	661	1A
13B	662	1B
13C	663	1C
14A	664	2A
14B	665	2B
14C	666	2C

09.46 To Test: After installing and programming the door phone units, perform the following test at each door phone to confirm their proper functioning:

1) Depress the door phone button.

- Preselected station(s) will ring five times.
- The INT LED on the called station(s) will flash at the incoming call rate.

2) Depress the door phone button again.

- Station(s) will ring.
- 3) Lift the handset at a ringing station.
 - Verify voice-page and talkback through the door phone speaker.
 - Hang up.
- 4) On any station, call the desired door phone's access code (see the above note).
 - Verify voice-page and talkback through the door phone speaker (there is no warning tone when accessing the door phone).
 - Hang up.

09.50 HOLB

09.51 General: An off-premises line module that allows the bridging of a CO line, which ap-

pears in the system, with a conventional telephone; supervision is provided. Each HOLB provides three circuits, all three of which may be directed to an answering machine (or similar device) attached to the HUNT connector. (Requires an HPLU PCB instead of an HCOU for each HOLB module desired.)

09.52 Wall Mount: An HOLB may be mounted on a wall only. Perform the following:

- 1) Locate the two mounting holes on the righthand side.
- 2) Remove the module's left side cover to expose the two left-hand mounting holes.
- 3) Position the module adjacent to the HKSU with regards to wiring needs (17' maximum).
- 4) Secure the module to the mounting surface with the provided screws.

NOTE:

Internal HOLB strapping is not required.

09.53 Cabling: When using the HOLB unit, the CO lines are connected to the CO1, CO2, CO3 connectors (**J2**, **J3**, and **J4**) on the HOLB unit (Figure 34). Then, a 6-wire cable from the CO1, 2, 3 OUT (**J1**) connector on the HOLB is connected to the CO1-3 modular connector on the right side panel of the HKSU. Connect the provided 8-wire modular cable from the HOLB 1-3 connector (on the HKSU left side panel) to the HOLB unit. Connect the provided green ground wire between TB1 (**FG**) on the HOLB and the HKSU. (A similar procedure is followed if a second HOLB unit is to be connected to the HOLB 4-6 connector.)

09.54 Telephone Cabling: TEL1 (J6), TEL2 (J7) and TEL3 (J8) connectors on the HOLB connect to standard telephones or other tip-andring devices that serve as off-premises lines (see Figure 39). The HUNT (J9) connector connects to a standard telephone, answering machine or other device to which OPL calls hunt.

09.55 Programming: See **Program 0#9**, OPL Hunting.

09.56 To Test: Perform the following procedures on each OPL/CO line pair:

a) Lift the OPL telephone handset and listen for CO dial tone.

• :

- *If OPL hunting is programmed for the line being tested, the call always rings OPL station #1 if it is idle.
- k) Lift OPL telephone's handset to answer call.
 - Ringing stops.
 - EKT LED(s) light steadily.
 - Verify that a 2way voice connection is established.
- I) Depress OPL CO key on an EKT.
 - Verify that privacy feature prevents access.
- m) Go on-hook at the OPL telephone.
- n) Make another incoming call to the OPL CO
- o) Answer the call using an EKT.
 - Verify that a 2-way voice connection is established.
- p) Lift the OPL telephone handset.
 - Verify that a 3-way voice connection is established.
- q) Go on-hook at both stations.

09.60 HSMB

line.

09.61 General: Serves as an interface between the key service unit and a printer or storage device used for the SMDR feature. The module (one per system) is equipped with an RS-232C interface for the printer connection and connects to the HKSU via two supplied 8-wire modular cords.

09.62 Wall Mount: An HSMB may be mounted to any vertical surface.

- 1) Locate the two mounting holes on the lefthand side.
- Remove the module's right side cover to expose the two right-hand mounting holes.



- h) Lift the OPL telephone handset.
 - Verify that a 3-way voice connection is established.
- i) Go on-hook at both stations.
- j) Make an incoming call to the OPL CO line.
 - Appropriate EKT LED(s) flash.
 - Appropriate EKT(s) ring.
 - OPL tolephone rings.*

- c) Dial a test call from the OPL telephone.
 - Verify that a 2-way voice connection is established.

b) Verify that the corresponding CO line LED

- d) Depress the corresponding line key on an EKT.
 - Verify that privacy feature prevents access.
- e) Go on-hook at OPL telephone.

lights on the system EKTs.

- f) Depress the OPL CO line key on an EKT and listen for CO dial tone.
- g) Dial a test call from the EKT.
 - Verify that a 2-way voice connection is established.



FIGURE 34—HOLB WIRING

- 3) Properly position the module adjacent to the HKSU with regards to wiring needs.
- 4) Secure the module to the mounting surface with the provided screws.

09.63 Cabling: The HSMB must be installed within 17' of the HKSU (a 7' cord is provided with the module), and connected by an 8-wire modular cable. Connect the modular cable from **J1** (CONT) on the HSMB to the **CONT** connector on the HKSU. The RS-232C printer connector is installed at **J3** on the HSMB. Connect **FG** on the HSMB and the HKSU. Figure 35 shows the detailed connections for the printers listed above. Verify that the RS-232C output cable is connected to the PCB with the proper pinout connections (A or B). Printer types known to be compatible with these systems are:

Texas Instruments Model 743/745 OKI Data Model 82A

NOTE:

The female RS-232C cable may be 50' maximum.



FIGURE 35—HSMB/PRINTER CABLING

09.64 Option Switches: Remove the HSMB cover and locate the various straps and

switches (Figure 36) and perform the following:



FIGURE 36—HSMB STRAPS and SWITCHES

- Locate the SW8 battery strap, and connect the memory backup battery. To connect the battery, install the strapping plug so that it bridges the center pin with the pin labeled ON.
- Select the data output speed using the SW7 strap. The speed may be set at 300 or 1200 bps by installing the strapping plug so that it bridges the center pin with the pin labeled 300 or 1200.
- 3) Two other switches (SW4 and SW5) located on the HSMB are normally set at position A. In position B, the HSMB can accommodate other printer types. See Table B to determine the RS-232C pin connections for positions A and B.

TABLE B						
RS-232C	(Female)	PIN	CONNECTIONS			

Po	sition A	Position B			
3	RD	2	RD		
20	DTR	3	STATUS		
6	DSR	6	DSR		
7	SG	7	SG		
8	CD	8	CD		

4) The SMDR feature prints out records of both incoming and outgoing calls or only outgoing calls. This option is selected by the SW6 strap. Installing the strapping plug so that it bridges the center pin with the terminal labeled OFF causes both incoming and out-

•

 \mathfrak{g} ing calls to be recorded. Bridging the centre pin with the terminal labeled **ON** causes only outgoing calls to be recorded.

 Data output is in 7-bit ASCII code with one start bit, one parity bit (even parity) and one stop bit.

19.65 Clock/Calendar Information: One of the functions of the HSMB is to provide a calendar and clock for showing time, date and duation of recorded calls. This clock and calendar must be set when the system is first placed into service. The HSMB automatically adjusts for 30and 28-day months and leap year. It is equipped with three buttons and two LED displays (Figure 37). Looking from top to bottom; the functions of the buttons are as follows:





- **STR:** Writes data into memory once it is properly displayed.
- **MOD:** Selects items to be adjusted. Multiple depressions of the **MOD** button cause item numbers to be displayed sequentially by LED 1. The possible displays are:
 - Off
 - 1 = year
 - 2 = month
 - 3 = day
 - hour
 - b = minute
 - 6 = start

- INC: Selects the data (hour, minute, day, etc.) for the item number selected by the MOD button and displayed by LED 1. LED 2 displays data selected by the INC button.
 - Depressing the INC button once increments data by 1.
 - Depressing and holding the INC button causes data to increase continuously until the INC button is released.

09.66 To Set Clock and Calendar:

- 1) Verify that the battery is connected on the HSMB (Figure 36).
- 2) Depress the MOD button once.
 - LED 1 displays 1 (year).
 - LED 2 displays current data.
- Use the INC button to correct data in LED 2 display.
- 4) Depress the MOD button once.
 - LED 1 displays 2 (month).
 - LED 2 displays current data.
- 5) Use the **INC** button to correct data in LED 2 display.
- 6) Depress the MOD button once.
 - LED 1 displays 3 (day).
 - LED 2 displays current data.
- 7) Use the **INC** button to correct data in LED 2 display.
- 8) Depress the MOD button once.
 - LED 1 displays 4 (hour).
 - LED 2 displays current data.
- Use the INC button to correct data in LED 2 display.
- 10) Depress the MOD button once.
 - LED 1 displays 5 (minute).
 - LED 2 displays current data.
- 11) Use the **INC** button to correct data in LED 2 display.
- 12) Depress the MOD button once.
 - LED 1 displays 6 (start).
 - LED 2 has no display.
- 13) Slide the STR button to ON and then back to OFF.
 - LEDs go off.
 - Data is transferred to working memory and time keeping starts.

NOTE:

If LED 1 is changed to OFF before STR is operated, existing data will not be changed, regardless of adjustments made in previous steps.

09.67 To Test: Verify the proper functioning of the SMDR feature:

- a) Connect the printer to the HSMB.
- b) Set data speed and select type of calls to be recorded per Paragraph **09.64**.
- c) Make an outgoing call from any EKT.
- d) Enter an account code as follows:
 - Dial the access code (§ 5 0).
 - Dial the account code (6 digits).
- e) Hang up after the call has been active for at least 10 seconds (calls of less than 10 seconds duration are not recorded).
 - The call record is output to the printer in the format shown in Figure 38.
- f) Take the printer "off-line" (DTR signal "off").
- g) Make an outgoing call.
- h) Hang up after the call has been active for at least 10 seconds.
 - Call record is not output.

01

02

04

εø

07

MM/DD/YY

10

14

18

15

19

HH:MM

HH:MM

HH:MM

HH:MM

HH:MM

00:30:51

00:02:39

00:01;37

00:04:51

00:02:25

- i) Put the printer "on-line" (DTR signal "on").
 Call record is output.
- j) Make an incoming call to the system and delay answering it for several rings.
- k) Answer the call.
- I) Enter an account code as in step d.
- m) Hang up.
 Call record is output to the printer in the format shown in Figure 39.

09.70 HMDB Installation

09.71 General: An integrated modem unit which allows simultaneous voice/data switching to be controlled via an associated EKT. The HMDB is installed in place of the standard EKT base, and includes an RS-232C connector for a computer or other data device. Each HMDB will reduce the system's station capacity by one.

09.72 Optional Switches: The HMDB's data transmission speed may be set for either CCITT or Bell specifications at 300 bps (full duplex) or 1200 bps (half duplex). See Figure 40 and make selections prior to installation using **SW2**.

09.73 Cabling: The modem phone is connected to a station line as shown in Figure 41.

7305000	
8531212	123456
12135551212	654321
18002436161	
2731750	

FIGURE 38—SMDR PRINTOUT EXAMPLE (Outgoing Call)

MM/DD/YY

01	10	HH:MM	00:01;13	00;02
ð2	14	HH:MM	00:02:30	00:04
03	11	HH:MM	00:03;36	00;10

654321

FIGURE 39—SMDR PRINTOUT EXAMPLE (Incoming Call)



FIGURE 40—HMDB EXTERNAL SWITCHES



FIGURE 41—HMDB WIRING



FIGURE 42—HMDB INSTALLATION

NOTE:

There are no internal connections between the modem and the associated EKT.

09.74 Installation: To install the HMDB on the bottom of an EKT, refer to Figure 42, and perform the following:

- 1) Remove the standard EKT base.
- 2) Insert the HMDB's front tabs into the matching holes in the bottom of the EKT.
- 3) Press the HMDB's rear tabs into the match
 - ing holes in the EKT. Continue pressing until the HMDB snaps into place.

09.75 Programming: Verify programming via **Programs 4#XX** and **3#XX**, *Programming Procedures*, Section **500-036-300**. Three keys must be programmed on the associated station. These keys control the modem phone operation.

- Modem (MODM) Key: Transfers calls from the EKT's INT or GO keys to the modem phone. It is also used to disconnect modem calls. The modem LED is on whenever the modem is in use.
- Answer/Call (ANS/C) Key: Selects the modem mode (answer or originate call); the mode switches each time the key is depressed (LED = answer/on; originate/off).

• Manual/Auto (MA/M) Key: Selects the modem mode (manual or auto answer); the mode switches each time the key is depressed (LED = auto/on; manual/off).

09.76 Terminal/Computer (PC) Installation:

1) Connect the RS-232C cable (50' maximum) to the HMDB's DB-25 female connector.

RS-232C Pin-outs

Pin No.	Name	Pin No.	Name
2	TD	7	SG
3	RD	8	CD
4	RTS	20	DTR
5	CTS	22	CI
6	DSR	*5	

- 2) Connect the other end to a serial communications port on the PC (or the EIA RS-232C connector on the terminal).
- 3) A communication software package (such as Crosstalk, etc.) should be installed in the PC.
- If necessary, set the following parameters on the PC/terminal to match the device with which the PC/terminal will be communicating.
 - Parity
 - Word length
 - Stop bits
 - Baud rate
 - Full/half duplex

O9.77 Modem Phone (HMDB) Test: After installing and programming the PC/terminal, HMDB, and associated station, perfrom the following test:

- Originate Modem Call Test: Calls may be originated from the station's intercom or CO line and then transferred to the modem line.
 - a) Set the ANS/C key to the call mode (LED off).
 - b) Set the MA/M key to the manual mode (LED off).
 - c) Call another modem/device set via the CO or intercom line.
 - d) Depress the **MODM** key when modem tone is received from the other end.
 - e) Place the local terminal on-line—it displays "COMMUNICATIONS" or "CON-NECTED" when the connection becomes successful (see Note 1). At this point, communications is possible between the terminal and the remote device.
 - f) Depress the **MODM** key to disconnect the call.
- Auto Answer Call Test: The modem may be set to auto answer calls directed to CO lines programmed to ring the HMDB or intercom calls directed to the modem line (not the associated station line).
 - a) Set the local terminal to on-line.
 - b) Using the **ANS/C** key, set to answer mode (LED on).
 - c) Using the MA/M key, set to auto mode (LED on).
 - d) Call the HMDB from another modem/ terminal set-up.
 - e) When the call rings in, the MODM LED turns on and the terminal displays "COM-

MUNICATIONS" or "CONNECTED" (see Note 1). At this point, communications is possible between the terminal and the remote device.

- f) Depress the **MODM** key to disconnect the call.
- 3) HMDB Loop-back Test: This test is required only when the Originate or Auto Answer tests are not successful. Note: Detach the HMDB from the EKT.
 - a) Verify the PC/terminal is installed as instructed in Paragraph **09.76**.
 - b) Verify that the HMDB is installed per Paragraph 09.73.
 - c) Select TEST with SW1 (see Figure 43).
 - d) Set the terminal to on-line.
 - e) Characters input via the keyboard should display on the CRT or print at the terminal (see Note 3).
 - f) IMPORTANT: Set SW1 back to NORMAL (see step c)

NOTES:

- 1. If the local terminal is blank or displays "NO CARRIER", make sure the terminal and remote device parameters match (per terminal set-up earlier in Paragraph 09.76. Also, check programming and perform the loop-back test outline herein.
- 2. Verify that the CO line is programmed to ring the HMDB port in one ringing assignment program (81XX ~ 89XX).
- 3. If this test is not successful, verify the installation and programming procedures in this section.



FIGURE 43—HMDB INTERNAL SWITCHES

-

TABLE C-VR2 SETTINGS



dB	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
2	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
4	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
8	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

NOTES:

- 1. VR1 is factory-adjusted, please do not alter setting.
- 2. VR2 is used to set the HMDB's transmission level in 1dB increments (0 ~ -15dB). It is shipped with VR2 set for the normally required -15dB. See Table C for VR2 settings.

09.80 Amplified Conference

09.81 General: Two Amplified Conference connections may be installed in the system, which requires a customer-supplied two-way

amplifier. The Lorain VFR 5050 (R-TEC Systems) is known to be compatible.

09.82 Cabling: Refer to Figure 44 and the amplifier's installation procedures from the manufacturer and connect each amplifier between the voice leads (T and R) of stations 16/17 (S_e only) and 18/19 & 24/25 (VI_e only).

09.83 Programming: Ensure that these stations have been programmed for Amplified Conference via **Program 02**, *Programming Proce*dures, Section **500-036-300**.

09.84 To Test: The amplifier is automatically connected once the conference is established. Amplification exists between any two outside CO lines used as well as between the second CO line selected and the station (no amplification between the first CO line and the station). If Trunk-to-Trunk connections are allowed in the system (**Program 02**), the CO line-to-CO line connection will be amplified. There are two Amplified Conference connections available that are established on a first-come/first-served basis only.

09.90 HESB

09.91 General: An external amplified speaker (HESB) may be connected in any one of the following three applications:



FIGURE 44—AMPLIFIED CONFERENCE FUNCTIONAL BLOCK DIAGRAM

- Loud Ringing Bell—Allows you to amplify the tone of an EKT ring (except the singleline EKT).
- Amplified Speaker—Allows you to use the HESB as a paging speaker.
- Talkback Amplified Speaker—Allows you to provide a talkback speaker where an EKT is not needed.

09.92 Power Requirements: The HESB is a 6" 3-watt speaker with an amplifier that is built into a wooden speaker box. A +12 VDC power supply (HACU-120), which connects to the back panel via an 8' cord, is shipped with each HESB.

09.93 Cabling—Loud Ringing Bell Application: Refer to Figure 45 and make the following connections between the back of the HESB and the second modular jack on the left side of the EKT:





1) Connect two "SPEAKER ONLY" jumpers (TB1):

Terminal 6 to 7. Terminal 5 to 8.

- 2) Connect "EKT" jumper (TB2): Terminal 4 to 5.
- Refer to Figure 51 and connect "VOICE" and "EKT CONT" (TB1). Connect terminals 1 ~ 4, respectively, to the indicated pins on the EKT modular connector:

Terminal 1 to pin 1 Terminal 2 to pin 6 Terminal 3 to pin 3 Terminal 4 to pin 4

NOTE:

These connections can be made to the "VO-ICE" modular connector (instead of TB1), as shown in Figure 46.



FIGURE 46—MODULAR-TO-TERMINAL STRIP INTERNAL CONNECTIONS

- 4) Connect the HACU-120 power supply to TB2 (+12V to terminal 1 and 0V to terminal 2).
- 5) Connect the male and female ends of the HACU-120.
- 6) Connect the HACU-120 to a 117 VAC, 60 Hz power source.

To Test:

- 1) Make a CO or station call to the station with the HESB.
 - Ringing will be heard over the HESB.
- 2) Adjust the volume control on the HESB to the desired level.
- If you hear ringing at the station (but not at the HESB) make the following check:
 - a) Using a voltmeter, measure across terminals 1 and 2 of TB1.
 - With the "plus lead" on terminal 1, the

reading should be approximately $4.5 \sim 5.0$ volts DC.

NOTE:

Ringing stops once the call is manually answered. There will be **NO** voltage potential across terminals 1 and 2.

b) If voltage does not appear across terminals 1 and 2 during ringing, check that the EKT wire connections have been made correctly (see Figure 46). (The wires to terminals 1 and 2 may be reversed.)

09.94 Cabling—Amplified Speaker Application: Refer to Figure 45 and make the following connections on the back of the HESB:

- 1) Connect "KSU" jumper (TB1): Terminal 1 to 2.
- 2) Connect two "SPEAKER ONLY" jumpers (TB1):

Terminal 6 to 7. Terminal 5 to 8.

- 3) Connect two "KSU" jumpers (TB2): Terminal 3 to 4. Terminal 5 to 6.
- 4) Connect the voice output from the external speaker or paging circuit on the system to terminals 3 and 4 on TB1 ("VOICE").
- 5) Connect the HACU-120 power supply to TB2 (+12V to terminal 1 and OV to terminal 2).
- 6) Connect the male and female ends of the HACU-120.

7 Connect the HACU-120 to a 117 VAC, 60 Hz power source.

To Test:

- Make an external page.
 You will hear your voice over the HESB.
- 2) Adjust the volume control to the desired level on the back of the HESB.

09.95 Cabling—Talkback Amplified Speaker Application: Refer to Figure 45 and make the following connections on the back of the HESB:

- 1) Connect "KSU" jumper (TB1): Terminal 1 to 2.
- 2) Connect-two "KSU" jumpers (TB2):

Terminal 3 to 4. Terminal 5 to 6.

 Connect "Door Phone" (TB1)—connect the following terminals to the indicated pins on the door phone unit (MDFB);

> Terminal 9 to pin 1 Terminal 10 to pin 2 Terminal 8 to pin L1 Terminal 7 to pin L2

NOTE:

These connections can be made to the "DOOR PHONE" modular connector (instead of TB1), as shown in Figure 45.

4) Connect terminals 3 and 4, on TB1 ("VO-ICE"), to the 600-ohm terminals.

NOTE:

Set the 8/600-ohm switch to the 600-ohm position on the system.

- 5) Connect the HACU-120 power supply to TB2 (+12V to terminal 1 and OV to terminal 2).
- 6) Connect the male and female ends of the HACU-120.
- 7) Connect the HACU-120 to a 117 VAC, 60 Hz power source.

To Test:

- 1) Make an external page.
- 2) Verify that your voice is heard over the HESB.
- Verify that someone speaking into the door phone unit (MDFB) can be heard at the paging station.

10 EQUIPMENT CONNECTIONS

10.00 Wiring Connections

10.01 All connections to miscellaneous equipment are made via the terminal strip mounted on the left side panel as shown in Figure 47.

10.10 MOH/BGM Source

10.11 Music-on-Hold requires either the SMOU PCB, which generates electronic melodies, or a customer-provided external music source, such as an FM radio. If the SMOU is used, it must be installed per Paragraph **05.50**.

10.12 If an external music source is used for



47—TERMINAL STRIP

ts output leads must be con-OH terminals on the HKSU.

ne MOH volume with the **MOH** n the HKSU. Maximum volume rnal circuits in order to comply ions. See Paragraph **10.70** for ne setting sequence.

Ind music is provided via the s music-on-hold. Either the ternal source may be used.

Paging Connections

m provides access to an exterir. This speaker is also used for
The single output connection
EXP or 600 terminals on the ie used in one of three ways:

sustomer-provided speaker diternal 3-watt amplifier located PCB.

watts are required, an exterrovided amplifier can be conate the external speaker (600

ability is required, a customerack amplifier/speaker can be **0** terminal).



FIGURE 48—IMPEDANCE SWITCH

10.30 Direct External Speaker Connection

10.31 The exact number of speakers that may be connected to the 8-ohm, 3-watt output is dependent on the type of speaker used, conductor resistance, and desired volume.

10.32 The 8-ohm output impedance must be selected with switch **SW2** on the HKSU (Figure 48). The switch must be on the side labeled **8**.

10.33 Connect the external speaker to the two 8/600 terminals on the left side panel terminal strip.

10.34 Adjust the speaker volume with the **EX.SP** volume control on the left side panel.

10.40 External Amplifier

10.41 If more power is required than the SEPU amplifier can deliver, a customer-provided external amplifier may be connected to the 8/600 terminals on the left side panel (connect external speakers to the external amplifier).

10.42 Determine which output impedance is most suitable for the amplifier being used, and make the selection with **SW2**.

10.43 If 8-ohm impedance is chosen, the **EX.SP** volume control may be used to control input level to the external amplifier. If 600-ohm impedance is chosen, the level is fixed and input

must be controlled by the external amplifier. See Paragraph **10.70** for the correct volume setting sequence.

10.50 Talkback Amplifier

10.51 A customer-provided talkback amplifier/ speaker may be connected to the external page (8/600) terminals on the left side panel.

10.52 For talkback operation, **SW2** must be set at "600". The SEPU amplifier is not used for the 600-ohm mode in order to permit a 2-way voice path.

10.53 The **EX.SP** volume control on the left side panel does not function in the 600-ohm mode.

10.60 Background Music

10.61 BGM uses the music-on-hold program source that is connected to the MOH input terminals on the left side panel of the internal MOH source (SMOU). It is broadcast through all EKT speakers (under the individual control of each station user) and will be heard if the SPKF key is operated with the handset on-hook and no line selected.

10.62 As a programmable option, the BGM from the MOH source can be heard via the external speaker (see Section **500-036-300**, *Programming Procedures*).

10.63 BGM is automatically pre-empted when a page or ringing signal must be output from an EKT speaker or the external speaker.

10.64 Overall system BGM volume is set with the **BGM** volume control on the left side panel of the HKSU (see Paragraph **10.70** for the correct volume setting sequence). The volume at individual stations is set with the lower volume control on the right-hand side of the EKTs.

10.65 If a separate BGM source is connected via an external amplifier on the external page, it can be heard from the external amplifier/ speaker only. If required, the system can provide a dry contact control signal for muting the external BGM when a page is in progress.

10.66 To provide external BGM control, connect the BR terminals on the left side panel of the HKSU to the control terminals (mute, MIC switch, etc.) on the amplifier (see Figure 49).





10.70 Volume Setting Sequence

10.71 Refer to Figure 50 and adjust the volume for MOH, BGM and External Page in the sequence outlined in Paragraph **08.92**.



FIGURE 50—VOLUME SETTING CONTROLS

10.72 Adjust the MOH level first using the following procedure:

- 1) Set the **MOH** volume control to its lowest level (counterclockwise).
- 2) Lift the handset on one station and call another station using two CO/PBX lines.
- 3) At the called station, put the incoming call on hold, and listen on the handset (not the speaker) of the calling EKT.
- 4) Using the volume control on the MOH source, adjust MOH to the most comfortable level without distortion.
- 5) If a higher level is needed than can be provided by the MOH source, turn the **MOH** volume control slowly clockwise to achieve the most comfortable level without distortion.

- 6) Release the connection between the two CO lines.
- No further changes should be made using the MOH control or the MOH source volume control.

10.73 If an external speaker is to be used in the system, adjust the external page and BGM levels as follows:

- Adjustments should be made while an actual external page test is in progress. Adjust the voice volume to a comfortable level. The procedure varies depending on the paging system configuration and the setting of the 8/600-ohm switch (SW2):
 - a) 8-ohm with no external amplifier—adjust output level using the **EX.SP** volume control on the left side panel.
 - b) 8-ohm with external amplifier—adjust output level using the EX.SP volume control along with the controls on the external amplifier.
 - c) 600-ohm—the volume level is fixed in this mode; adjustments must be made using the external amplifier controls.
- 2) If background music is to be heard over the external speaker:
 - a) Adjust voice page level per above procedures.
 - b) With music playing over the speaker, adjust the volume to a comfortable level using only the BGM control on the left side panel of the HKSU. Do not tamper with the EX.SP control, external amplifier or MOH adjustments.
 - c) If background music is connected directly to the external amplifier instead of through the system, all adjustments must be made on the external amplifier.

10.74 If no external speaker is to be used in the system, adjust the BGM level as follows:

1) Using an EKT in speakerphone mode, make a call on a CO line, and adjust the EKT speaker volume to a comfortable level.

NOTE:

This should be done in an area that has background noise that is about average for that particular installation.

2) Using the SPKE key, disconnect the CO call and activate BGM at the EKT.

3) Using only the **BGM** volume control, adjust the BGM to a comfortable level. Do not use the EKT volume control.

10.80 Night Relay Service (Vle only)

10.81 As an option, a dry contact can be provided for the purpose of controlling an external loud ringing bell (or similar device) or an answering machine when the system is in the "NITE" mode.

10.82 To provide this service, connect the external device to the **NR** contacts on the left side panel (see Figure 51).



FIGURE 51—RELAY CONTACTS

IMPORTANT!

The NR and BR relay contacts are rated at 24 VDC/1 amp and are not intended to operate high power devices directly. If the power required for the device being controlled exceeds the contact ratings, an external slave relay must be used.

10.83 The **W3** strap option on the VMAU (see Figure 52) allows the NR relay to function in one of two modes:

- Answering Machine Control—if the W1 strap remains intact, the relay is operated continuously when the system is in Night Service. This mode is intended for indirect control of an answering machine.
- 2) Night Bell Control—if the W3 strap is cut, the relay pulses at a 1-second on, 3-seconds off rate when the system is in Night Service and an incoming call is ringing the system. The mode is intended to be used for indirect control of an external night bell.





Strata Se & Vle

Release 2 PROGRAMMING PROCEDURES

Strata Se/Vle

PROGRAMMING PROCEDURES

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PROGRAMMING PROCEDURES SECTION 500-036-300 JANUARY 1988

TOSHIBA SYSTEM PRACTICES ELECTRONIC KEY TELEPHONE SYSTEM

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01 INTRODUCTION

01.00 General

01.01 Data governing overall system operation and feature execution for both systems are stored in read-only memory (ROM) and cannot be altered in the field. However, the data controlling operation of the various options, both system and station, are stored in random-access memory (RAM) and can easily be changed according to individual installation requirements.

01.02 All options are controlled by selections made in the system data tables. An initialization process is provided for verifying predetermined system assignments. The installer can then proceed with any necessary changes.

01.03 All system data changes indicated in this section are made via station 13/17 (as the input/output device), which may be equipped with either a 10-key or a 20-key EKT (although a 20-key LCD EKT is strongly recommended). Whenever the system is placed in the programming mode, the keys on station 13/17 are used to enter data while its LEDs display the current data. While station 13/17 is in the programming mode, the system may still be used in the usual fashion.

01.04 Internal battery power is provided to prevent loss of system data memory in the event of a power failure.

NOTE:

Whenever a system is installed for the first time or the SMAU/VMAU is changed, the system must be initialized. See Paragraph 04.00. Tech Inifo Inc. Call (810) 754 3111 395-2888

01.05 Remote and on-site programming procedures via a terminal are covered in Remote Administration/Maintenance, Section **500-236-600**, of this manual.

02 PROGRAMMING INFORMATION

02.00 General

02.01 A system must be in the programming mode before system data can be verified or altered. With the exception of station 13/17, normal system functions are not suspended while in the programming mode.

02.02 To aid in programming this system, an overlay has been provided with the installation documentation. Place the programming overlay

over the designation strip of the 20-key EKT at station 13/17. This insures that the key/LEDs are correctly identified and matched with the information given in this section.

02.03 When the system is in the programming mode, station 13/17 is used to enter the system data in one of two ways:

IMPORTANT!

Station 13/17 may be equipped with either a 10-key or a 20-key EKT (a 20-key LCD EKT is strongly recommended). However, in all tables and procedures that follow, the overlay key designation (for a 20-key) is given.

- In the majority of programs (Type 1), the various keys are used to change "bits" of system data. The LEDs associated with keys 00 ~ 19 show their status before and after key depression. Each key/LED has a different meaning, depending upon the program number being used.
- In Type 2 programs, the dial pad is used to enter data. In this case, the system, using LEDs $OO \sim 19$, verifies the entered data by displaying it in binary format. An LCD EKT also displays the data, if equipped.

02.04 The programming mode is activated by locking in the **SET** switch on the HKSU and then depressing the **SEKE** key on station 13/17. After the station has been activated, a program number is dialed on the station dial pad, and the system responds as follows:

- **Type 1 programs:** Station 13/17 LEDs display the existing data in these categories.
- Type 2 programs: LED 10 on station 13/17 flashes continuously. Actual data can be reviewed without alteration by multiple depressions of the key.

02.05 Data can be altered while it is being displayed. To input new data via station 13/17, perform the following:

- Type 1 programs: The state of an LED is altered by depressing its associated key. Depressing the key while the LED is "on" will turn it off and vice versa.
- Type 2 programs: Data is entered via the dial pad. The LEDs display the data in binary format. An LCD EKT also displays the data.

02.06 Once the desired data is entered and displayed, it is written into memory by depressing the **HOLD** key on station 13/17.

- System and CO line options are written into temporary storage when the **HOLD** key is depressed. After **all** changes in these categories have been made, transfer the data into working memory per Paragraph **02.06**.
- Station option data (with the exception of CO line access assignments) are written into the main data memory; therefore, all changes are effective immediately after the **FOLD** key is depressed. However, it is recommended that the data transfer procedures per Paragraph **02.06** be utilized for added programming protection.

02.07 Data may be secured in working memory in one of two ways:

- If the system is not in service, release the SET switch on the HKSU, and cycle (rock) the system power switch OFF. Note: all calls are dropped when this occurs.
- 2) If the system is in service and calls should not be dropped, depress the following keys, in the order given here, on station 13/17:
 SPKE 3 3 00 01 02 05 03 09 12 18 [TOLD. This code secures the data in working memory without cancelling any calls. Release the SET switch to exit programming mode.

02.10 Multiple Station Programming

02.11 Programs 3XX through **9#XX** are used to select options for individual stations (where XX represents the station number of the station being programmed). To save time, it is possible to program *all* stations or groups of stations simultaneously.

02.12 Multiple station programming is accomplished by substituting a special group code for the station number part of the program number (XX). The codes are:

1 1: All stations

- 1. Stations 10 ~ 17*
- 2: Stations 18 ~ 25*

*STRATA VIe only

02.13 When the multiple station group code is entered, the LEDs display existing data as follows:

Steady LED: Data is the same for all stations in the dialed group.

Flashing LED: Data is selected for at least one, but not all stations in that group.

02.14 The state of an LED is altered by depressing its associated key. LEDs that are flashing can be cycled through three states (flashing, on, off) by multiple key depressions. Other LEDs cycle between on and off states only. Select data as follows:

- LED ON: Selects LED "ON" for all the stations in the group.
- LED OFF: Selects LED "OFF" for all the stations in the group.
- LED flash: No change to any station in the group.

02.15 Once the proper data is selected, depress the **HOLD** key in the usual manner to write it into memory.

02.20 Programming With 10-key EKT

02.21 If station 13/17 is equipped with a 10-key EKT, the system must be so informed by setting LED 07 to "ON" in **Program 01**. This change is effective immediately after the **HOLD** key is depressed, making it easy to switch between EKTs.

02.22 Once the system recognizes a 10-key EKT, the handset hookswitch can be used as a shift signal to make the 10-key LEDs compatible with the 20-key programming format.

PROGRAMMING MODE							
NORMAL MODE	HANDSET ON-HOOK	HANDSET OFF-HOOK					
MW/FL	MW/FL						
DND	DND	AC					
AD4	AD4	17					
AD3	AD3	16					
AD2	AD2	15					
AD1	AD1	14					
CO3	CO3	13					
CO2	CO2	12					
CO1	C01	11					
INT	INT	10					

FIGURE 1-10-key EKT FORMAT

-

02.23 As shown in Figure 1, when in the programming mode, the key/LEDs represent $00 \sim 09$ when the handset is on-hook and $10 \sim 19$ when it's off-hook. It is possible to switch back and forth an unlimited number of times without disturbing the data.

NOTE:

This procedure is for programming purposes only! For normal operation, the station 13/ 17 EKT is set per **Program 4XX**.

03 PREPARATION

03.00 General

03.01 Before system data can be programmed, option selections must be made and then indicated on the System Record Sheet (see Appendix 1). The record sheet, one of which accompanies each HKSU, serves as a programming guide and installation record.

03.02 Programming options are grouped according to the three categories listed below, with several program numbers associated with each category. A different program number is used for each option or group of options being selected.

03.10 Programming Options

03.11 System Assignments

- 01: System Assignments (Basic)
- 0#1: Door Phone Selection
- 02: System Assignments (Options)
- 0#2: Account Code Digit Length Selection
 - **03:** System Assignments (Options)
- 04: CO Line Outpulsing Selection
- #4: CO Line Identification
- 05: Automatic Recall From Hold Timing
- 0#5: Camp-on Timeout
- 06: Automatic Release On Hold (AROH) Enable
- 0#6: Trunk-to-Trunk Connection Enable
- 07: Automatic Release On Hold Timing
- 0#7: 1A2 Interface
- 08: CO Line Groups
- 0#8: Night Ringing Over External Page* 09: Single CO Line (Dial 9) Group Selection
- **09X:** CO Line (Dial 91 ~ 98) Group Assignments
- 0#9: Off-Premises Line Hunting
- 190: PBX Backup

19X: PBX Access Codes

*STRATA VIe only

03.12 Toll Restriction Assignments

- 100: Toll Restriction System Parameters
- 101: Toll Restriction Disable
- 102: Forced Account Code Check
- 103: Equal Access #1
- **104:** OCC Authorization Code Length #1
- 105: Equal Access #2
- 106: OCC Authorization Code Length #2
- 108: Toll Restriction Override Code #1
- 109: Toll Restriction Override Code #2
- 1X0: Toll Restriction Class Parameters
- 1XY: Toll Restriction Class—Area Code Entry
- 1XZ: Toll Restriction Class—Office Code Entry
- 2XY: Toll Restriction Area/Office Code Exception Table
- 1X1: Toll Restriction Class Area/Office Code Exception Table Selection

03.13 Least Cost Routing (LCR) Assignments*

*STRATA VI_e only

- 1#00: LCR Home Area Code
- 1#0X: LCR Special Codes
- 1#06: LCR Parameters
- 1#07X: Select Long Distance Information Route
- 1#08X: Select Local Call Route
- 1#09: Dial Zero (0) Timeout
- 1#XY: LCR Area Code Table
- 1#X8Y: LCR Route Definition
- 1#X50 ~
 - 53: Start Time A Schedule
- 1#X60~
- 63: Start Time B Schedule 1#X70 ~
- 73: Start Time C Schedule
- **1#9XY:** Modified Digits Table
- 2#XY: LCR Area/Office Code Exception Table

03.14 Station Assignments

3XX:	Station	CO	Line	Access

- 3#XX: HOXB, HMDB, HTIB and HIOB Module Enable
- 4XX: Station Type Assignment
- 4#XX: Station Flexible Key Assignments

Station Class of Service #1
Station Class of Service #2
Station Toll Restriction/LCR Classifi
cation
Station-to-Station Hunting
Station Outgoing Call Restriction
CO Ringing Assignments-DAY
CO Ringing Assignments-DAY 2
CO Ringing Assignments-NIGHT
Door Phone Ringing Assignments
Flexible Access Code Numbering
Flexible Intercom Numbering
Speed Dial (Optional)

03.15 The System Record Sheet is used to record the assignment of features for each program. For Type 1 programs, an "X" placed in the record indicates that the associated LED should be turned on (lit) during the programming process. For Type 2 programs, the actual data is recorded.

03.16 Make the system option selections per the following instructions, and record the various choices in the System Record Sheet. Use Tables 5 through 62 for detailed programming instructions.

03.20 System Assignments:

01 Program—System Assignments (Basic)

Fifteen options are selected with this program, using the various keys to change the status of their respective LEDs. For the options selected, mark an X as indicated.

- Transfer Privacy—mark an X next to 17 if privacy is to be in effect on a transferred call. Leave blank if Alternate Point Answer of a transferred call is to be permitted.
- Automatic Dialing Override Toll Restriction- —mark an X next to 16 if System Automatic Dialing (addresses 60 ~ 99) is to override Toll Restriction. Leave blank if Toll Restriction is to remain in effect.
- 3) CO Line Groups—mark an X next to 15 if eight CO line groups (dial 91 \sim 98) are required. Leave blank if one group (dial 9) is sufficient.
- 4) Two CO Line Conferencing-mark an X next

to 14 to inhibit two CO line conferencing. Leave blank if two CO line conferencing is to be permitted.

- 5) Least Cost Routing Access—mark an X next to 13 if Least Cost Routing will be used. Leave blank if LCR not used. (STRATA VIe only.)
- 6) DP Make Ratio—mark an X_next to 12 if a 33% make/break timing ratio is required. Leave blank if 40% (usual setting) is sufficient.
- 7) DTMF Signal Time—mark an X next to 11 if 160 ms DTMF signal time is required. Leave blank if signal time is to remain 80 ms.
- 8) Non-Privacy/Privacy—mark an X next to 09 if the system is to be non-private. Leave blank if the system is to be private.
- 9) Station 13/17 10/20-key EKT—mark an X next to 07 if station 13/17 is equipped with a 10-key EKT for programming purposes. Leave blank if a 20-key EKT is used.
- Incoming Call Abandon Timeout—mark an X next to 06 if the system should wait for 8 seconds after the last ring to consider an incoming call abandoned. Leave blank if 6 seconds are sufficient.
- 11) Pause Timing (After Flash)—mark an X next to 05 if a 3-second pause (for dial tone delay) is required after a flash. Leave blank if a 1 ½-second pause is sufficient.
- 12) Pause After Flash—mark an X next to 04 if the system is to insert a pause (defined by 05, this program) between a flash and an automatically dialed number. Leave blank if a pause is not required.
- 13) Pause Timing (MW/FL or PAU key)—mark an X next to 03 if a 3-second pause (for dial tone delay) is required. Leave blank if a 1 ½-second pause is sufficient.
- 14) Flash Timing—mark an X next to O2 if the line-open interval produced by the MW/FL key is to be ½-second. Leave blank if the 2-second open interval is required.
- 15) Tone First—mark an X next to 00 if intercom calls require tone ringing. Leave blank if they are to have one tone ring than voice announce.

Note:

If the system is to have the Off-hook Call Announce feature, leave 00 blank for voice announce.

0#1 Program—Door Phone Selection

Ten options are selected with this program using the various keys to change the status of their respective LEDs. For the options selected, mark an X as indicated.

- Door Lock Timeout—mark an X next to 17 if the door lock is to operate for 6 seconds. Leave blank if 3 seconds are sufficient.
- 2) Door Phone 12/14B Door Lock—mark an X next to 08 if door phone 12/14B is to be a door lock output. Leave blank if it is to be a door phone.
- Door Phone 12/14C Busy—mark an X next to 07 if the system is to busy-out door phone 12/14C. Leave blank if it is not to show busy.
- Door Phone 12/14B Busy—mark an X next to 06 if the system is to busy-out door phone 12/14B. Leave blank if it is not to show busy.
- 5) Station 12/14 Door Phone/EKT—mark an X next to 05 if station 14 is to be a door phone output. Leave blank if an EKT is to be used at this station.
- 7) Door Phone 11/13B Door Lock—mark an X next to 03 if door phone 11/13B is to be a door lock output. Leave blank if it is to be a door phone.
- B) Door Phone 11/13C Busy—mark an X next to 02 if the system is to busy-out door phone 11/13C. Leave blank if it is not to show busy.
- Door Phone 11/13B Busy—mark an X next to 01 if the system is to busy-out door phone 11/13B. Leave blank if it is not to show busy.
- 10) Station 11/13 Door Phone/EKT—mark an X next to 00 if station 13 is to be a door phone output. Leave blank if an EKT is to be used at this station.

NOTES:

1. Door Lock keys are assigned to stations in

Program 4#XX, Codes (71~ 74).

2. An Alarm (Reset) key is available on station 10 only. The Alarm key mode must be programmed as the first D key (on station 10) in Program 4#XX, Code (*); LED 10 must be on in Program 03.

02 Program-System Assignments (Options)

Seven options are selected with this program using the various keys to change the status of their respective LEDs. For the options selected, mark an X as indicated.

- Trunk-to-Trunk Conference—mark an X next to 13 and/or 12 depending upon how many trunk-to-trunk conferences are to be allowed
- Amplified Conference—mark an X next to 11 and/or 10 if system is to have up to two Amplified Conference circuits. Leave blank if system will not have Amplified Conference. (NOTE: Only 11 for Se.)

NOTE:

Requires customer-supplied amplifier—also used for amplified trunk-to-trunk connections.

- ACB Warning Tone—mark an X next to 06 if the destination station is to hear a warning tone when an automatic callback is initiated.
- LCD Timer—mark an X next to 04 if the Dialed Number display on the LCD EKTs is on for 1 minute before changing to Elapsed Time. Leave blank if 15 seconds are sufficient.
- 5) Night Ringing Over External Page—mark an X next to 02 if Night Ringing Over External Page is required. Leave blank if no ringing is to be heard over External Page. Note: Program 0#8 selects individual COs to ring (VI_e only).
- 6) Background Music (BGM) Over External Page —mark an X next to 01 if BGM is to be heard over the External Page circuit. Leave blank if BGM is not to be heard over the External Page circuit.
- 7) External Page with All Call Page—mark an X next to 00 if the External Page circuit is to be included in an All Call Page. Leave blank if All Call Page is not to be heard over the External Page circuit.

)#2 Program—Account Code Digit Length Seection

This program has two sections. The first deines the number of digits required in an account code (Forced Account Code feature). Enter he number of digits to be used (4 \sim 15). The second section sets SDTU modem speed and reneat ringing.

-) Repeat Ringing—mark an X next to 17 if repeat ringing is required. Leave blank if standard ringing is required.
- Modem Speed—mark an X next to 15 if the modem speed required is 1200 bps. Leave blank if 300 bps is required.
- Binary Numbers—mark an X next to 00, 01, 02, 03 and/or 04 to indicate the binary number of the account code length.

)3 Program—System Assignments (Options)

Seven options are selected with this proram, using the various keys to change the staus of their respective LEDs. For the options seected, mark an X as indicated.

-) Station 10 ALRM Key—mark an X next to 10 if the AD1 key on station 10 is to be an ALRM key. Leave blank if AD1 key is required.
- Station 10 DND Key—mark an X next to 09 if the DND key on station 10 is to be a DND key. Leave blank if a NT key is required.
- 3) Ringing Modes—mark an X next to 08 if three ringing modes (DAY, DAY 2, NIGHT) are used. Leave blank if two ringing modes (DAY, NIGHT) are required.
- +) CO Line Groups—mark an X next to 07 if CO Line Groups feature is allowed.
- i) Message Center-Station 12—mark an X next to 04 if station 12 is to be the Message Center.
- Message Center-Station 11—mark an X next to 03 if station 11 is to be the Message Center.
- Message Center-Station 10—mark an X next to 02 if station 10 is to be the Message Center.

NOTES:

1. Only one station (10, 11 or 12) may be a Message Center; however, if more than one station is chosen as a Message Center, the lowest numbered station will be registered.

2. AD keys are assigned in Program 4#XX.

04 Program—CO Line Outpulsing Selection

Selects DTMF tone (MF) or rotary-dial pulse (DP) outpulsing.

 Mark an X next to the appropriate key/LED if DP is required. Leave blank if MF is required.

#4 Program—CO Line Identification

Assigns names to the CO lines for use at stations with LCD-equipped EKTs. Up to 16 characters may be used.

• Enter the required name(s) in the boxes next to the appropriate CO line(s).

05 Program—Automatic Recall from Hold Timing

Sets the timing for the Automatic Recall from Hold feature. (Used only if LEDs 10, 11 and 12 are OFF in **Program 5#XX**.)

- If recall is desired, select a time period of 16
 ~ 160 seconds and mark an X next to the
 appropriate key/LED in the System Record
 Sheet. The times are not accumulative—only
 one key/LED can be selected.
- 2) If no recall is required, mark an X next to 00.

0#5 Program—Camp-on Timeout

Sets the timing for the originating station to be recalled by a CO line that was camped on to a busy station and remains unanswered.

 Select a period of time (16 ~ 64 seconds) and mark an X next to the appropriate key/ LED on the System Record Sheet. The times are not accumulative—only one key/LED can be selected.

06 Program—Automatic Release on Hold Enable

Selects whether or not the Automatic Release on Hold (AROH) feature is to function on a given CO line. This feature will also release trunk-to-trunk connections if enabled in **Programs 02** and **0#6**.

• Mark an X next to each CO line that requires AROH.

NOTE:

If AROH is available, the CO will automatically drop the lines when the outside party hangs up. However, if AROH is not available, the person who sets up the Trunk-to-Trunk Connection must occasionally monitor the call and disconnect the CO lines when the two parties hang up.

0#6 Program—Trunk-to-Trunk Connection Enable

Selects the CO lines to be used for trunk-to-trunk connections.

• Mark an X next to CO lines to be used for trunk-to-trunk connections.

07 Program—Automatic Release on Hold Timing

Selects Cross Bar (XB) or ESS timing for the AROH time required for the CO to open line to enable call to be released from hold—XB greater than 95ms; ESS greater than 450ms. (Has no meaning if AROH was rejected in **Program 06**.)

 Mark an X next to each CO line that requires XB timing; leave blank if ESS timing is reguired.

0#7 Program—1A2 Interface

 Mark an X next to the CO lines to be bridged with the 1A2 system. Leave blank if they will not be bridged with the 1A2 system.

08 Program—CO Line Pickup Groups

Informs the system of the CO lines that are assigned to each group.

• Mark an X next to each CO line that is to belong to Group #2.

0#8 Program—Night Ringing Over External Page*

*STRATA VIe only

Selects whether or not a CO line rings over external page. (Has no meaning if LED 02 was not ON in **Program 02**.)

• Mark an X next to the CO lines that **ring** over external page.

09 Program—Single CO Line (Dial 9) Group Selection

Informs the system of the CO lines that

should be considered for selection when a station dials **3**. (Used only if LED 15 in **Program 01** is OFF.)

• Mark an X next to each CO line that is to be included in the "Dial 9" group.

09X Program—CO Line (Dial 91 \sim 98) Group Assignments

Informs the system of the CO lines that should be considered for selection when a station dials **9 1**, **9 2**, **9 3**, **9 7**, **9 5**, **9 7** or **9 8**. (Used only if LED 15 in **Program 01** is ON.)

• Mark an X next to each CO line/trunk group assignment.

0#9 Program—Off-Premises Line Hunting

Selects which CO lines ring the device connected to the "HUNT" output on the HOLB option module. The "TEL" output always rings.

- 1) With no Off-Premises Line Hunting (LED off):
 - Call comes into CO1: TEL1 and hunt ring.
 - Call comes into CO2: TEL2 rings, no hunt.
 - Call comes into CO3: TEL3 rings, no hunt.

NOTE:

NIGHT mode has no effect whenever LED is off.

- 2) Off-Premises Line Hunting (LED on), CO1:
 - TEL1 rings (DAY mode): No hunt.
 - TEL1 rings (NIGHT mode): Hunt rings.
 - TEL2 or 3 rings (DAY mode): No hunt.
 - TEL2 or 3 rings (NIGHT mode): Hunt rings.

190 Program—PBX Backup

Assigns CO lines to behind-PBX operation. The system recognizes PBX access codes on selected lines.

• Mark an X next to each CO key/LED that is to be **connected** to a PBX station line.

19X Program—PBX Access Codes

Assigns codes that are used to access CO lines connected to a PBX as determined in **Program 190**. The system recognizes the access codes and reacts appropriately for Toll Restriction, Automatic Dialing and Repeat Last Number Dialed.

• Enter the actual one- or two-digit access codes (maximum: 8).

NOTE:

If the access code is a single digit, enter "*" in the second column. If all combinations following a particular first digit are to be considered access codes (e.g., 91, 92, 93, etc.), enter "D" (D = key 18 on station 13/17) in the second column.

03.30 Toll Restriction Assignments

100 Program—Toll Restriction System Parameters

An entry in this program is required only if 3- or 6-digit toll restriction is desired. Informs the system of the dialing plan in the system home area code. Three types of dialing plans are available. Mark an X next to the LED that indicates the dialing plan area of the installation location.

02*: 1 + AC + NXX (long-distance dialing outside home area code)

NXX (toll dialing within home area code)

01: 1 + AC + NXX (long-distance dialing outside home area code)

1 + NXX (toll dialing within home area code)

00: AC + NXX (long-distance dialing outside home area code)

1 + NXX (toll dialing within home area code)

AC = Area Code
NXX = Office Code
N = 2
$$\sim$$
 9
X = 0 \sim 9

*This dialing plan is required when the dialing plan area code has interchangeable codes (NXX). There are office codes that follow the area code format due to the unavailability of standard office codes.

NOTE: LEDs 03 & 04 are not used.

101 Program—Toll Restriction Disable

Assigns Toll Restriction to CO lines.

• Mark an X next to each CO line to which Toll Restriction will not apply.

102 Program—Forced Account Code Check

This program applies forced account code to CO lines. Stations accessing these lines are then forced to enter account codes. See **Pro**-

gram 5#XX, LED 14. (Note: Has no meaning if stations are not selected for Forced Account Code in Program 5#XX.)

 Mark an X next to the CO lines that are to force an account code for the stations selected in Program 5#XX.

NOTE:

Program 0#2 defines the number of digits in the account code.

103 Program—Equal Access (10XXX) or Other Common Carrier (OCC) #1

Informs the system of the first 5-digit code (Equal Access or OCC) that is ignored for Toll Restriction purposes.

• Enter the actual Equal Access or OCC digits to be recognized and ignored.

104 Program—OCC Authorization Code Length #1

Informs the system of the number of digits in the first OCC Authorization Code. These digits are also ignored for Toll Restriction purposes when an outgoing call is placed over an OCC.

• Enter the number of digits in the authorization code.

105 Program—Equal Access (10XXX) or Other Common Carrier (OCC) #2

Informs the system of the second 5-digit code (Equal Access or OCC) that is ignored for Toll Restriction purposes.

• Enter the actual Equal Access or OCC digits to be recognized and ignored.

106 Program—OCC Authorization Code Length #2

Informs the system of the number of digits in the second OCC Authorization Code. These digits are also ignored for Toll Restriction purposes when an outgoing call is made over an OCC.

• Enter the number of digits in the authorization code.

NOTES (these notes are appropriate for Programs $103 \sim 106$:

 Enter the equal access code or Other Common Carrier directory number (5 digits: 10XXX, X = 0 ~ 9).

- 2. Enter the number of digits in the OCC Authorization Code (00 \sim 99).
- 3. Caution: Do not program more digits than required because toll restriction may be defeated.

108 Program—Toll Restriction Override Code #1

Registers the first of two codes that override toll restriction on outgoing calls.

• Enter the four digits of the first toll restriction override code.

109 Program—Toll Restriction Override Code #2

Registers the second of two codes that override toll restriction on outgoing calls.

• Enter the four digits of the second toll restriction override code.

1X0 Program—Toll Restriction Class Parameters (X = 1 \sim 4)

This program defines parameters for each class of toll restriction (X = 1 \sim 4). There are four classes of toll restriction available on a station-by-station basis. (See **Program 6XX** to select the station class of toll restriction.) This program is required only if 3- or 6-digit toll restriction is desired.

- Mark an X next to the LED for each parameter of each toll restriction class used.
 - **02:** All restricted area codes plus the office code of 555 are allowed, including out-of-area directory assistance calls (e.g., 213 + 555 + 1212).
 - **01**: Overseas operator or unassisted overseas calls are to be restricted (01/011).
 - **00:** Operator or operator-assisted calls are used to be restricted (0).

1XY Program—Toll Restriction Class Area Code Entry (X = Class 1 \sim 4) [Y = allow (2), deny (3) or display (4)]

This program defines the area codes allowed or denied for each toll restriction class. This program is required only if 3- or 6-digit toll restriction is desired. Each class area code table can be defined as an allow (2) or deny (3) table. Initialized data allows all area codes for each class. All allowed area codes can be displayed (4) for each class. For Toll Restriction Class 1, enter all allowed area codes in the upper section of the record sheet and all denied area codes in the lower section. Make additional copies of the record sheet for Toll Restriction -Classes 2, 3 and 4.

1XZ Program—Toll Restriction Class Office Code Entry (X = Class $1 \sim 4$) [Z = allow (6), deny (7) or display (8)]

This program defines the office codes allowed or denied for each toll restriction class within the home area code. Entry to this program is required only if 3- or 6-digit toll restriction is desired. Each class office code table can be defined as an allow (6) or deny (7) table. Initialized data allows all office codes in the home area code for each class. All allowed office codes can be displayed (8) for each class. See the detailed programming chart for office code entry procedures.

2XY Program—Toll Restriction Area/Office Code Exception Table

Entry to this program is required only if 6-digit (area/office code) toll restriction is desired. There are eight area/office code exception tables available that are defined by X (1 \sim 8). Each table may have one area code and up to 800 office codes entered. The area code is entered when Y = 1 for each table, while office codes are added (Y = 2) or deleted (Y = 3) for each table. All office codes in the table are displayed when Y = 4. Each area/office exception table selected with Program 1X1 will be an exception (opposite) to the allow (Program 1X2) or deny (Program 1X3) area code table for each toll restriction class. See the detailed programming chart for area code and office code entry procedures. The examples below are provided for additional information.

- 1) Normal restriction for stations in Class 1 (allow all office codes within an area code).
 - Program 1XY is programmed to allow (112) area code 213. Class 1 stations are allowed to dial all office codes in area code 213.
- Area/office code exception (allow all office codes within an area code except one) for stations in Class 1.
 - Program 1XY remains the same (112).
 - Program 1X1 has area/office code exception Table 1 (INT) selected (111).

• Program 2XY (211 and 212) are programmed for area code 213 (212) and office code 635 also (211). Class 1 stations are allowed to dial all office codes in area code 213 except 635.

1X1 Program—Toll Restriction Class Area/ Office Code Exception Table Selection (X = Class $1 \sim 4$)

Entry to this program is required only if 6-digit (area/office code) toll restriction is desired. There are eight area/office code exception tables available. These exception tables are shared by all four classes of toll restriction. Each class may use any one or all exception code tables. When an exception code table is selected for a toll restriction class, the dialed area code and office code in that table will be an exception to the normal restriction of that area code. See the examples following **Program 2XY**.

 Mark an X next to the LED of each area/ office code exception table (1 ~ 8/00 ~ 07) to be selected for each toll restriction class.

03.40 Least Cost Routing Assignments*

*STRATA VIe only

1#00 Program—Home Area Code

• Enter the system's 3-digit home area code.

1#0X Program—LCR Special Codes (X = 1 \sim 5)

Five special codes may be entered.

• Enter each individual special code. Example: 911

1#06 Program—LCR Parameters (WNT, DT, LDI)

- Mark an X next to 02 if a warning tone is required when the most expensive route is selected by the LCR software. Leave blank if not required.
- Mark an X next to 01 if dial tone is required after dialing the access code. Leave blank if not required.
- 3) Mark an X next to 00 if long distance route information (555) will be allowed. Leave blank if not allowed.

1#07X Program—Select Long Distance Information Route (X = 1 \sim 8)

• Enter the route table number (1 \sim 8) that the

system must use for long distance information calls (refer to **Program 1#X50**).

1#08X Program—Select Local Call Route (X = $1 \sim 8$)

 Enter the route table number (1 ~ 8) that the system must use for local calls.

1#09 Program—Dlal "0" Timeout

Selects the timeout between 0 and the telephone number during dialing.

1) Mark an X next to O3 for 10 seconds delay.

- 2) Mark an X next to 02 for 8 seconds delay.
- 3) Mark an X next to 01 for 6 seconds delay.
- 4) Mark an X next to 00 for 4 seconds delay. *NOTE:*

Only one choice is allowed.

1#XY Program—Area Code Table (X = Route Table 1 \sim 8) [Y = Set(2), Delete (3) or Display (4)]

This program defines the area codes to add or delete for each route table.

- 1) Enter all area codes to be added to Table X.
- All area codes may be displayed with Y = 4. To step through the codes, depress the key repeatedly.

1#X8Y Program—LCR Route Definition (X = Route Table 1 \sim 8) (Y = Route Definition 1 4)

Enter 2-digit number. The first digit is is a trunk group 1 ~ 8 (refer to Programs 091 ~ 098). The second digit is the number of the modified digit table to be assigned to this program.

$1\#X50 \sim 53$ Program—LCR Route Table, Start Time A Schedule

This program will define the following areas:

- Route Table Number
- Start Time
- Priority Class
- Route Definition
- 1) Enter the 4-digit start time (24-hour clock) for each route table (**Program 1#X50**).

NOTE:

Start Time "B" is the stop time for "A"

"t $T' \rightarrow "C"$ is the stop time for "B" "t $i \neq "A"$ is the stop time for "C"

elect the priority class required (**Programs** X51 \sim 53). Enter the route group mbers (1 \sim 4) required (refer to **Program** 8XY).

TE:

table is to be used 24 hours a day, the redule B Start Time must be the same as redule A Start Time.

$0 \sim 63$ Program—LCR Route Table, Time B Schedule

bis program will define the stop time for aously selected start time and/or the start for another period.

te procedure is the same as in Program $$X50 \sim 53$$.

$0 \sim 73$ Program—LCR Route Table, Time C Schedule

ie information and procedure are the same **Program 1#X50** \sim 53.

Y gram—Modified Digits Table (X = fied Digits Table $1 \sim 6$) [Y = Delete Digits Add Digits (1)]

lete digits = 0 \sim 10. Add digits = 0 \sim 22.

TES:

The quantity of digits that will be deleted from the digits dialed (deletion starts with the first digit).

A maximum of 22 digits may be added to the digits dialed via these tables. Pauses may also be inserted between digits added by depressing the appropriate keys '00 \sim 08) when the pause is required (a pause is counted as two digits).

Enter pauses in 2-second increments: 2 ~ 16.

ter the modified digits in the appropriate ples.

' Program—LCR Area/Office Code Exon Table (X = Area/Office Code Excep-Table 1 \sim 8) [Y = Route Table Number Area Code (1), Office Code Allowed (2), a Code Delete (3), Office Code Display

his table defines the route table that office

codes in a specified area code will use.

- 1) Enter Area/Office Code Table number (1 \sim 8).
- 2) Enter the Route Table number required (1 ~ 8).
- 3) Enter the Area Code required.
- 4) Enter the Office Codes allowed.
- 5) Enter the Office Codes deleted.
- 6) Allowed Office Codes may be displayed.

03.50 Station Assignments

3XX Program—Station CO Line Access

The ability of an individual station to access any of the CO lines is determined by selections made using this program. A station denied access to a CO line by this program does not have key or LED functions for that CO line and cannot seize that line by dialing an access code.

 Selections must be repeated for all stationsmark an X next to each CO key/LED that is to be accessed by the station in question.

3#XX Program—HOXB, HMDB and HIOB Module Enable

Seven choices are enabled by this program.

- 1) Mark an X next to 07 if voice mail is connected to the HIOB. Leave blank if voice mail is not connected.
- Mark an X next to 06 if the telephone or device connected to the HIOB is to use DTMF dialing. Leave blank if dialing is to be from rotary device (telephone).
- 3) Mark an X next to 04 if this station is to be a modem phone (HMDB). Leave blank if not equipped.
- 4) Mark an X next to 03 if this station is to be an HIOB module. Leave blank if not equipped.
- 5) Mark an X next to 02 if the unused OPX station is to show busy. Leave blank if it is not to show busy.
- 6) Mark an X next to 01 if an HOXB is connected to the station. Leave blank if the station is not equipped with an HOXB.

 Mark an X next to 00 if the telephone or device connected to the HIOB is to have privacy. Leave blank if privacy is not required.

4XX Program—Station Type Assignment

NOTE:

When programming, always do Program 4XX before Program 4#XX. If Program 4XX is programmed after 4#XX, the stations' flexible key assignments will be reset to the default data.

Informs the system of the EKT type being used at each station and the order of CO line appearance. The selections listed below are separated into two sections, S_e first and VI_e second, and must be repeated for each station. In all cases, mark an X where required.

*STRATA Se only—see Figure 2.

- Mark an X next to 09 if the CO lines are to be assigned from top to bottom (descending order). If 09 is left blank, CO lines are assigned bottom to top (ascending order).
- Mark Xs next to 05 and 01 if keystrip pattern D is desired.
- Mark Xs next to 06 and 01 if keystrip pattern C is desired.
- 4) Mark Xs next to 06 and 00 if keystrip pattern B is desired.
- 5) Mark Xs next to 05 and 00 if keystrip pattern A is desired.
- Mark an X next to O3 if a single-line EKT (with or without MW LED) is equipped.
- Mark an X next to 01 if a 10-key EKT or single line with MW LED is equipped.
- Mark an X next to 00 if a 20-key EKT is equipped.

NOTE:

The upper ten keys in keystrips A, B may be programmed for other features.

*STRATA VI_e only—see Figure 3.

- 1) Mark an X next to 11 if you want the first CO line number to be CO4 (location depends on the selection at O9).
- Mark an X next to 10 if you want the first CO line number to be CO1 (location depends on the selection at 09).

- 3) Mark an X next to 09 if the CO lines are to be assigned from top to bottom (descending order). If 09 is left blank, CO lines are assigned bottom to top (ascending order).
- 4) Mark an X next to 07 if 20-key pattern C is desired.
- 5) Mark an X next to 06 if 20-key pattern B is desired.
- 6) Mark an X next to 05 if 20-key pattern A is desired.
- Mark an X next to O3 if a single-line EKT is equipped.
- Mark an X next to 01 if a 10-key EKT is equipped.
- 9) Mark an X next to 00 if a 20-key EKT is equipped.

	Α			В		
	MW/FL	—		MW/FL	AD	
	DND	AC		DND	AD	
	AD4	17			AD	
	AD3	16			AD	
	AD2	15			AD	
	AD1	14	l		AD	
	CO3	13		CO3	AD	
	CO2	12		CO2	AD	
	CO1	11		CO1	AD	
	INT	10		INT	AD	
	С			D	l	
	MW/FL	BLF		MW/FL	BLF	
	DND	BLF		DND	BLF	
	_	BLF		AD4	BLF	
	-	BLF		AD3	BLF	
	-	BLF		AD2	BLF	
		BLF		AD1	BLF	
	CO3	BLF		CO3	BLF	
	CO2	BLF		CO2	BLF	
	CO1	BLF		CO1	BLF	
-	INT	BLF		INT	BLF	

FIGURE 2-Se EKT KEY PATTERNS

4#XX Program—Station Flexible Key Assignments

NOTE: Do this after Program 4XX.

Any key (except INT) may be assigned a feature code (Figure 4). All assigned feature codes have priority over Program 4XX assignments. For each key on every station, write in the name or code for each feature to be assigned.

NOTES:

- A feature (code) may be assigned to one key only, except for Automatic Dialing (AD) keys. A feature will be rejected if you try to enter it at another key once its code has been entered. Rejected assignments will default to AD keys.
- 2. A locked ND key is assigned to a system auto-dial location (60 ~ 99). DSS key is assigned to a specific station. A modem key is assigned to the station associated with a modem phone. The modem phone's assignment is station XX.
- 3. Example program sequence: 4# XX Key Code Station 4# 10 02 # 13 (Assigns key 02 on station 10 to DSS 13 and assigns LED 02 on station 10 as station 13's busy lamp.)

5XX Program—Station Class of Service #1

Fifteen options are selected with this pro-

CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
01	CO1	79	Modem Ans/Call	93	PRV
02	CO2	80	Modem Key	94	ACB
03	CO3	81	MSG	95	PAU
04	CO4	82	CPU2	96	RDL
05	CO5	83	CPU1	97	REP
06	CO6	84	CPU	98	DND
*	AD Key	85	SAVE	99	MW/FL
71	DP1 (Door Lock)	87	CFD	#YY	DSS/BLF
72	DP2 (Door Lock)	88	MCO	*ZZ	Locked AD Key
78	Modem MM/MA	90	TONE		

FIGURE 4—FLEXIBLE KEY ASSIGNMENTS

	20-key
	REP
	RDL
	PAU
	AD7
-	AD6
	AD5
	AD4
	AD3
10.1	AD2
10-key	AD1
MW/FL	MW/FL
DND	DND
ACB	ACB
CO6	CO6
CO5	CO5
CO4	CO4
CO3	CO3
CO2	CO2
CO1	CO1
INT	INT

FIGURE 3-VIe EKT KEY PATTERNS

In. Ins the system of the features that are gned to the flexible keys at each station.

•

gram, using the various keys to change the status of their respective LEDs. The selections listed below must be repeated for each station. In all cases, mark an X where required.

1) Privacy Override—mark an X next to 17 if the station is allowed the Privacy Override feature. Allows an override (break-in) when a CO key is depressed with the CO LED on steady. Both parties can hear an override tone.

NOTE:

A maximum of two stations are permitted to use the Privacy Override feature. If more than two are programmed, only the two lowest numbered stations are allowed to use this feature; the others are ignored.

- 2) DND Override—mark an X next to 16 if the station is allowed the DND Override feature.
- Executive Override (Dial 3)—mark an X next to 15 for stations that are allowed the Executive Override feature. (No limit to the number of stations.)
- Off-hook Call Announce—mark an X next to 13 if off-hook call announce is to be enabled. Leave blank if it will not be enabled.
- 5) Off-Hook Call Announce Dial 2—mark an X next to 12 if dialing 2 is required for off-hook call announce. Leave blank if off-hook call announce is automatic.

NOTE:

LED 12 applies to the station originating OCA and LED 13 applies to the station receiving OCA.

- 6) Group Page 4—mark an X next to 09 if the station is included in Group Page 4.
- 7) Group Page 3—mark an X next to 08 if the station is included in Group Page 3.
- 8) Group Page 2—mark an X next to 07 if the station is included in Group Page 2.
- 9) Group Page 1—mark an X next to 06 if the station is included in Group Page 1.
- 10) All Call Page —mark an X next to 05 if the station is included in an All Call Page.
- Warning Tone Disabled—mark an X next to O4 if no warning tone will be heard when dialing this station. Leave blank if a warning

tone will be heard at the called station.

- 12) Handsfree Answerback Disabled—mark an X next to 03 if Handsfree Answerback is to be disabled at the station. Leave blank if it is not to be disabled (see MCO key feature).
- 13) MIC ON—mark an X next to 02 if the microphone and LED is to be ON at the start of a call. LED 01 (MIC key lock) must be on for this feature to function. Leave blank if the microphone on the EKT is to be OFF.
- 14) MIC Key Lock—mark an X next to 01 if the MIC key is to be operated in the push-on/ push-off mode. Leave blank if momentary operation is required.
- 15) Speakerphone Enabled—mark an X next to 00 if the station is allowed to use the Speakerphone feature.

5#XX Program—Station Class of Service #2

Fourteen additional Class of Service features are selected with this program, using the various keys to change the status of their respective LEDs. The selections listed below must be repeated for each station. In all cases, mark an X where required.

- 6000 LCD/2000 LCD—mark an X next to 17 if an alphanumeric (6000-series) LCD EKT is used. Leave blank if using a nonalphanumeric (2000-series) LCD EKT.
- Station-to-Station Message Waiting with LCD Display—mark an X next to 16 if the station is allowed the Station-to-Station Message Waiting with LCD feature.
- Speed Dial Memo-mark an X next to 15 if this station is allowed Speed Dial Memo. Leave blank if not allowed.

NOTE:

This feature is limited to 16 stations. The system initializes with this feature on stations $10 \sim 25$.

- Forced Account Code—mark an X next to 14 if this station is required to use an account code on CO lines programmed to forced account codes (see Program 102).
- 5) Toll Restriction Override Code—mark an X next to 13 if this station is allowed to change the Toll Restriction Override code. Leave

blank if not allowed. (See Toll Restriction Access Code.)

6) Hold Recall Time—referring to Table 1, mark an X next to the combination of 12, 11 and 10 that corresponds to the recall time desired for each station. If all locations are left blank, the timing for that station will default to that set in **Program 05**.

TABLE 1 HOLD RECALL TIME CODE

KEY/LED	16 sec.	32 sec.	48 sec.	64 sec.	96 sec.	128 sec.	160 sec.
12				х	Х	Х	х
11		Х	X			Х	Х
10	X		Х		X		Х

- 7) Mark an X next to 07 if automatic off-hook selection is to be CO line Group 94 (defaults to 9 if Single CO Line Group was selected in **Program 01**).
- 8) Mark an X next to 06 if automatic off-hook selection is to be CO line Group 93 (defaults to 9 if Single CO Line Group was selected in Program 01).
- 9) Mark an X next to 05 if automatic off-hook selection is to be CO line Group 92 (defaults to 9 if Single CO Line Group was selected in **Program 01**).
- 10) Mark an X next to 04 if automatic off-hook selection is to be CO line Group 91 (defaults to 9 is Single CO Line Group was selected in **Program 01**).

*NOTE:

If a line in a group is ringing on a station, that line will be selected.

- 11) Mark an X next to 03 if automatic off-hook selection is to be the CO line assigned to the 01 position.
- 12) Mark an X next to 02 if automatic off-hook selection is to be INT.
- Ringing Line Preference—mark an X next to O1 if the station is allowed the Ringing Line Preference feature.
- 14) Automatic Dialing Allowed—mark an X next to 00 if the station is allowed the Automatic Dialing feature.

6XX Program—Station Toll Restriction Classification/LCR Priority Selection

Defines Toll Restriction and Least Cost Routing Priority Selection for individual stations. Selections must be made for each station, as follows:

- Mark an X next to 12 if this station is assigned Least Cost Routing Class 3. (This allows LCR to choose the routes in class 3 only—STRATA VIe only.)
- Mark an X next to 11 if this station is assigned Least Cost Routing Class 2. (This allows LCR to choose the routes in classes 2 and 3—STRATA VIe only.)
- Mark an X next to 10 if this station is assigned Least Cost Routing Class 1. (This allows LCR to choose which of the three classes has the best route—STRATA VI_e only.)
- 4) Digit Free/Restrict—mark an X next to 07 if this station is not restricted as to the number of digits that may be dialed. Leave blank if digit restriction is in effect.

NOTE:

If digit restriction is in effect, the station will be allowed to dial the number of digits allowed by its toll restriction, and **NO** additional digits.

- 5) Mark an X next to 06 if Toll Restriction Class 4 is in effect at this station.
- Mark an X next to 05 if Toll Restriction Class
 3 is in effect at this station.
- 7) Mark an X next to 04 if Toll Restriction Class 2 is in effect at this station.
- 8) Mark an X next to 03 if Toll Restriction Class 1 is in effect at this station.

NOTE:

Programs 100, 1X1, 1XY, 1XZ and **2XY** define and modify Toll Restriction classes and operation.

9) Mark an X next to O2 if this station will be restricted from dialing **1** or **1** as the first or second digit. This entry overrides any Toll Restriction Class assigned to this station.

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- 10) Mark an X next to 01 if the station will be allowed to dial 1 + 7-digit number. This entry overrides any Toll Restriction Class assigned to this station.
- Mark an X next to 00 if this station will not be restricted. This entry overrides all other Toll Restriction programming.

i#XX Program—Station-to-Station Hunting

Defines the station hunt destination if the alled station is busy.

• Enter the station number of the hunt destination next to the station number called.

'XX Program—Station Outgoing Call Restricion

Restricts a station from outgoing access to ny number of CO lines, but leaves it free to nswer these lines when they are ringing or on old. Selections must be made for each station.

• Mark an X next to the CO line that is to have restricted access by each station.

$1XX \sim 83XX$ Programs—CO Ringing signments-DAY

Selects which CO lines ring at a given staon when the system is in the DAY mode. Mark n X next to each CO line that is to ring at the ation during the DAY mode.

- Program 81XX selects immediate ringing.
- Program 82XX selects 12-second delayed ringing.
- Program 83XX selects 24-second delayed ringing.

4XX ~ 86XX Programs—CO Ringing ssignments-DAY 2

Selects which CO lines ring at a given staon when the system is in the DAY 2 mode. ark an X next to each CO line that is to ring the station during the DAY 2 mode.

- Program 84XX selects immediate ringing.
- Program 85XX selects 12-second delayed ringing.
- Program 86XX selects 24-second delayed ringing.

7XX ~ 89XX Programs—CO Ringing ssignments-NIGHT

Selects which CO lines ring at a given stand when the system is in the NIGHT mode.

Mark an X next to each CO line that is to ring at the station during the NIGHT mode.

- Program 87XX selects immediate ringing.
- Program 88XX selects 12-second delayed ringing.
- **Program 89XX** selects 24-second delayed ringing.

NOTE:

If a CO line is to have the call forward-feature, it must be programmed to ring on **one station only** per ringing assignment program.

9#XX Program—Door Phone Ringing Assignments

Selects which door phones ring at a given station. Selections must be made for each station.

- Mark an X next to 05 if the door phone connected to door phone control box output 12/14C is to ring this station. Leave blank if the door phone will not ring this station.
- Mark an X next to 04 if the door phone connected to door phone control box output 12/14B is to ring this station. Leave blank if the door phone will not ring this station.
- Mark an X next to O3 if the door phone connected to door phone control box output 12/14A is to ring this station. Leave blank if the door phone will not ring this station.
- 4) Mark an X next to O2 if the door phone connected to door phone control box output 11/13C is to ring this station. Leave blank if the door phone will not ring this station.
- 5) Mark an X next to O1 if the door phone connected to door phone control box output 11/13B is to ring this station. Leave blank if the door phone will not ring this station.
- 6) Mark an X next to 00 if the door phone connected to door phone control box output 11/13A is to ring this station. Leave blank if the door phone will not ring this station.

*X# Program—Flexible Access Code Numbering

Allows the first digit of the following access codes to be changed to be compatible with a flexible numbering plan:

-

• CO Line Dial Selection-7XX

- Paging—80 ~ 89
- Trunk Group—9, 91 ~ 98
- Least Cost Routing-9
- Door Phone/Monitor Station—66 ~ 68, 661
 ~ 673

Enter the new *first* digit of the access code to be changed as desired. Ensure there are no numbering plan conflicts for proper operation.

Example:

*XX Program—Flexible Intercom Numbering

Changes the system intercom number (2-digit) to a new intercom number (1 \sim 4 digits). Enter the new intercom number in the New Intercom Number column next to the system in-

tercom number to be changed. Ensure there are no numbering plan conflicts for proper operation.

Example:

Entering **1025002** changes station 12's intercom number to 5012.

#1XX*YY Program—Optional Programming

Using the system record sheets, record each speed dial number to be programmed in the system and station automatic dialing locations.

NOTES:

- 1. Use one record sheet per station, so make enough copies to cover every station in the system.
- 2. Stations may program their individual auto dial numbers, while only station 10 can program system auto dial numbers.

Table	Title	Program	Page
3	System Data Printout Selection Codes		25
4	Speed Dial Memory Printout Selection Codes		25
5	System Assignments (Basic)	01	31
6	Door Phone Selection	0#1	32
7	System Assignments (Options)	02	33
8	Account Code Digit Length and TIE Line/OPX Selection	0#2	34
9	System Assignments (Options)	03	35
10	CO Line Outpulsing Selection	04	36
11	CO Line Identification	# 4	37
12	Automatic Recall From Hold Timing	05	38
13	Camp-on Timeout	0#5	39
14	AROH Enable	06	40
15	Trunk-to-Trunk Connection Enable	0# 6	41
16	AROH Timing	07	42
17	1A2 Interface	0#7	43
18	CO Line Call Pickup Selection	08	44
19	Night Ringing Over External Page	0#8	45
20	Single CO Line (Dial 9) Group Selection	09	46
21	CO Line (Dial 91 \sim 98) Group Assignments	09X	47
22	Off-Premises Line Hunting	0#9	48
23	PBX Backup	190	49
24	PBX Access Codes	19X	50
25	Toll Restriction System Parameters	100	51
26	Toll Restriction Disable	101	52
27	Forced Account Code Check	102	53
28	Other Common Carrier (OCC) or Equal Access #1 & #2	103/105	54
29	OCC Authorization Codes #1 & #2	104/106	55
30	Toll Restriction Override Code #1 & #2	108/109	56
31	Toll Restriction Class Parameters	1X0	57
32	Toll Restriction Class Area Code Entry	1XY	58

TABLE LIST

TABLE LIST (continued)

Table	Title	Program	Page
33	Toll Restriction Class Office Code Entry	1XZ	`5 9
34	Toll Restriction Area/Office Code Exception Table	2XY	60
35	Toll Restriction Class Area/Office Code Exception Table Se-		
	lection	1X1 ,	61
36	Least Cost Routing Home Area Code	1#00	62
37	Least Cost Routing Special Codes	1#0X	63
38	Least Cost Routing Parameters	1#06~	64
39	Select Long Distance Information Route	1#07X	65
40	Select Local Call Route	1#08X [·]	66
41	Dial Zero (0) Timeout	1#09	67
42	Least Cost Routing Area Code Table	1#XY	68
43	Least Cost Routing Route Definition	1#X8Y	69
44	Start Time A Schedule	1#X50 \sim	
		53	70
45	Start Time B Schedule	1#X60 \sim	
		63	71
46	Start Time C Schedule	1#X70 ~	
		73	72
47	Modified Digits Table	1#9XY	73
48	LCR Area/Office Code Exception Table	2#XY	74
49	Station CO Line Access	3XX	75
50	HOXB, HMDB and HIOB Module Enable	3#XX	76
51	Station Type Assignment	4XX	77
52	Station Flexible Key Assignments	4 # XX	78
53	Station Class of Service #1	5XX	79
54	Station Class of Service #2	5#XX	80
55	Station Toll Restriction/LCR Classification	6XX	81
56	Station-to-Station Hunting	6#XX	82
57	Station Outgoing Call Restriction	7XX	83
58	CO Ringing Assignments—DAY/DAY 2/NIGHT	81XX ~	
		89XX	84
59	Door Phone Ringing Assignments	9#XX	85
60	Hexible Access Code Numbering	* X #	86
61	Hexible Intercom Numbering	*XX	87
62	Optional Programming	#1XX*YY	88

04 PROGRAMMING PROCEDURES

04.00 Initialization

04.01 A list of standard system data assignments (stored in ROM) can be entered any time by initializing the system. The system must be initialized when it is first installed or whenever the SMAU/VMAU is changed. This allows the system to be tested and any faults corrected before time is spent on programming. Standard data assignments are listed in Table 2 in Paragraph **04.10**. (However, if a system is initialized after user-programmed data has been stored, all user data will be lost.)

04.02 To initialize the system data memory, temporaryly connect a 20-key EKT to the MDF at station 13/17 and perform the following:

- 04.03 STRATA Se:
- 1) Place the system power switch in the **ON** position.
- 2) Depress the SET switch and allow it to lock.

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- SET LED goes on.
- Station 13: LED 19 goes on.
- 3) Depress the SPKR key on station 13.
 Station 13: SPKR LED goes on.
- 4) Dial f 🕻 🖸 on the dial pad.

- 5) Depress the O1 and O3 keys on station 13.The corresponding LEDs go on.
- 6) Depress the HOLD key on station 13.
 - Station 13: All LEDs (except SPKR and MIC) begin blinking.
- 7) Depress and release the SET switch again.
 - SET LED goes off.
 - Station 13: LEDs go off.
- 8) Cycle the power switch OFF and ON.
- 04.04 STRATA VIe:

NOTE:

Verify that the battery on the VMAU is connected to ensure that data entered after system initialization is not lost due to power failure. (The SET LED cannot function if the battery is not connected.)

- 1) Place the system power switch in the **ON** position.
- 2) Depress the INT switch on the HKSU, and hold it in.
- 3) Depress the SET switch and allow it to lock.
 - SET LED goes on.
 - Station 17: All LEDs (except SPKR & MIC) blink continuously.
- 4) Depress and release the SET switch again.
 SET LED goes off.
 - Station 17: LEDs go off.
- 5) Release the INT switch.
- 6) Cycle the power switch OFF and ON.

04.10 Clearing Automatic Dialing

04.11 The Automatic Dialing memory contains random numbers when the system is powered up initially. The memory, therefore, must be cleared to prevent meaningless numbers from being dialed.

IMPORTANT!

Station 13/17 may be equipped with either a 10- or a 20-key EKT. Prior to performing the procedure that follows, refer to Paragraph 02.10 for instructions on using a 10-key EKT for programming.

04.12 To clear the Automatic Dialing (-System and -Station) memory (up to 40 numbers), proceed as for ows:

- Lock in the SET switch.
 Station 13/17: LED 19 lights steadily.
- To clear station 10 ~ 33, depress the SPKR key and dial
 [■]
 [■]
 - SPKR LED flashes continuously.
 - Depress keys 01 05 09 13.
 - Depress the **HOLD** key.
- 3) To clear station 34 ~ 57, depress the SPKR key and dial # 2.
 - SPKR LED flashes continuously.
 - Depress keys 02 06 10 14.
 - Depress the **HOLD** key.
- 4) To clear station 58 ~ 65 and system speed dial, depress the SPKR key and dial **B** 3.
 - SPKR LED flashes continuously.
 - Depress keys 03 07 11 15.
 - Depress the **HOLD** key.
- 5) Release the SET switch.
 - The SET LED and LED 19 on station 13/17 go off.

04.20 Alphanumeric Messaging Initialization

NOTE:

There are 40 messages available in system memory (60 \sim 99), and 10 available at each station (10 \sim 19).

04.21 To initialize system alphanumeric messages, follow these procedures:

- 1) Lock in the SET switch.
 - Station 13/17: LED 19 lights steadily.
- 2) To clear codes 60 ~ 99, depress the SPKR key and dial # 2.
 - SPKR LED flashes continuously.
 - Depress keys 00 04 08 12.
 - Depress the HOLD key.

04.22 To initialize station alphanumeric messages, follow these procedures:

- 1) Lock in the SET switch.
 - Station 13/17: LED 19 lights steadily.
- 2) To clear codes 10 \sim 19, depress the SPKR key and dial **E** 5.
 - SPKR LED flashes continuously.
 - Depress keys 01 05 09 13.
 - Depress the **HOLD** key.

NOTE:

System messages can only be programmed

or changed at station 10. When the system is initialized, five messages are automatically stored in memory:

- 60: OUT TO LUNCH
- 61: IN A MEETING
- 62: CALL
- 63: BACK AT
- 64: RETURN ON

04.30 Timer Reminder Messaging Initialization

04.31 To clear Timer Reminder messages, follow these procedures:

- 1) Lock in the SET switch.
 - Station 13/17: LED 19 lights steadily.
- 2) To clear timer codes, depress the SPKR key and dial **1 7**.
 - SPKR LED flashes continuously.
 - Depress keys 03 07 11 15.
 - Depress the HOLD key.

04.40 System Real-Time Clock/Calendar Adjustment

04.41 The following procedures detail how to set the date, time and day in the system.

NOTE:

This operation is possible from station 10 only.

- 1) Handset on-hook.
- 2) To set date:
 - a) Dial 🗰 5 1 (or RDL REP 5 1).
 - b) Dial in date (year/month/day) in the format YYMMDD. Enter a leading 0 for singledigit month and day.
 - c) Depress the 🖩 (or RDL) key.

- 3) To set time:
 - a) Dial # 52 (or RDL REP 52).
 - b) Dial in time (hour/minute/second) in 24-hour clock format HHMMSS. Enter a leading 0 for single digit.
 - c) Depress the 🖩 (or RDL) key.
- 4) To set day:
 - a) Dial # 53 (or RDL REP 53).
 - b) Dial in the day (1 représents Sunday, 2 Monday, etc., through 2 for Saturday).
 c) Deprese the 1 (or Saturday).
 - c) Depress the II (or RDL) key.

04.50 System Data Entry

04.51 System data is entered via station 13/17 while the system is in the programming mode.

04.52 The system is placed in the programming mode and data is entered as follows:

- 1) Depress the **SET** switch on the HKSU and allow it to lock.
 - SET LED lights.
 - 19 LED on station 13/17 goes on.
- Refer to the System Record Sheet (Appendix 1) for data to be entered and/or changes that must be made.
- 3) Select the required program number.
- Refer to the proper programming table for detailed procedures for using each different program.

NOTE:

Each program should be accomplished sequentially until all necessary changes are made.

TABLE 2

INITIALIZED DATA

SYSTEM ASSIGNMENTS

	01 Program	
System	Assignments	(Basic)

Alternate Point Answer of Transferred CO Line = Allowed

System Speed Dial Override of Toll Restriction = Not allowed

CO Line Groups = 1 (dial 9)

Two CO Line Conferencing = Allowed DP Make Ratio = 40% MF Signal Time = 80 ms Privacy/Non-Privacy = Privacy Station 13/17 = 20-key EKT Incoming Call Abandon = 6 seconds Pause Timing After Flash = 1.5 seconds Pause After Flash = None Pause Timing After PBX Access Code = 1.5 seconds Flash Key Timing = 2 seconds Intercom Signalling = Voice first

TABLE 2—INITIALIZED DATA (continued)

0#1 Program Door Phone Selection

None Selected

02 Program System Assignments (Options)

Tandem Switching = Not selected Stations 18/19 Amplified Conference = No Amplified Conference ACB Warning Tone = No tone Display Dialed Number Timeout = 15 seconds Night Ringing* = Excluded from External Page Background Music = Excluded from External Page External Page = Not included in All Call Page

*STRATA VIe only

0#2 Program Account Code Digit Length Selection

Repeat Ring = Normal Modem Speed = 300 bps

03 Program System Assignments (Options)

Station 10 Alarm Key = AD1 Station 10 DND/NT (Night) Key = NT key Ringing Modes = 2 CO Line Groups* = Not equipped Message Center—Station 12 = Not equipped Message Center—Station 11 = Not equipped Message Center—Station 10 = Equipped

*STRATA VIe only

04 Program CO Line Outpulsing Selection

DTMF = Equipped

#4 Program CO Line Identification

None

100 Program Toll Restriction

System Parameters (Dialing Plan) AC + NNX 1 + O/C Selected

> 101 Program Toll Restriction Disable

No Restriction = All CO lines

05 Program Automatic Recall From Hold Timing

32 Seconds

0#5 Program -Camp-on Timeout

32 Seconds

06 Program Automatic Release On Hold Enable

Disabled = All CO lines

0#6 Program CO Tandem Switching

CO Tandem Switching = Disable

07 Program Automatic Release On Hold Timing

ESS Timing = All CO lines

0#7 Program 1A2 Interface

Not Assigned

09, 09X Program CO Line Group Selection

Dial 9 Group = All CO lines Dial 91 Group = All CO lines

> 0#9 Program Off-Premises Line Hunting

No Hunting Assigned

190 Program PBX Backup

CO Operation = All CO lines unassigned

19X Program PBX Access Codes

No Codes Assigned TOLL RESTRICTION ASSIGNMENTS

> 102 Program Forced Account Code Check

No Check = All CO lines

103 Program

OCC or Equal Access #1

Blank

TABLE 2—INITIALIZED DATA (continued)

104 Program OCC Authorization Code #1

Blank

105 Program OCC or Equal Access #2

Blank

106 Program OCC Authorization Code #2

Blank

108 Program Toll Restriction Override Code #1

Blank

109 Program Toll Restriction Override Code #2

Blank

1X0 Program Toll Restriction Class Parameters

01 or 011 = Allowed

LEAST COST ROUTING ASSIGNMENTS

(STRATA VIe only)

1#00 Program LCR Home Area Code

Blank

1#0X Program LCR Special Codes

Blank

1#06 Program LCR Parameters

Blank

1#07X Program Select Long Distance Information Route Table

Table Chosen = 8

1#08X Program Select Local Call Route

Table Chosen = 8

1#09 Program Dial Zero (0) Timeout

6 Seconds

0 + = AllowedAC + 555 = Not allowed

> 1XY Program TR Class Area Code Entry

All Area Codes Allowed

1XZ Program.~ TR Class Office Code Entry

All Area Codes Allowed

2XY Program Toll Restriction Area/Office Code Exception Table

Blank

1X1 Program—Toll Restriction Class Area/Office Code Exception Table Selection

None Selected

1#XY Program LCR Area Code Table

Blank

1#X8Y Program LCR Select Trunk Group

Route Table = 1 Route Group = 1

 $1\#X50 \sim 53$ Program Start Time A Schedule

Blank

1#X60 ~ 63 Program Start Time B Schedule

Blank

 $1\#X70 \sim 73$ Program Start Time C Schedule

Blank

1#9XY Program Modified Digits Table

•

Table Chosen = P1

TABLE 2—INITIALIZED DATA (continued)

2#XY Program Area/Office Code Route Table

Chosen = 8

STATION ASSIGNMENTS

3XX Program Station CO Line Access 3 Allowed = All lines, all stations

3#XX Program (B, HMDB and HIOB Module Enable

> 4XX Program Station Type Assignment

/ Assigned* = All stations
Start = All stations Keystrip "A" As|** = All stations

ITA VI_e only ATA S_e only

4#XX Program Station Flexible Key Assignment Iment = Basic keystrip

5XX Program Station Class of Service #1 y Override = Not allowed, all stations Override = Not allowed, all stations tive Override= Not allowed, all stations = Disable Connection = Automatic Page 4 = Not included Page 3 = Not included Page 2 = Not included Page 1 = Not included Il Page = Allowed, all stations Monitor = Warning tone, all stations free Answerback = Not allowed, all sta-

N/Idle Mode = OFF, all stations ley Lock = Momentary, all stations erphone = Allowed, all stations

5#XX Program Station Class of Service #2

LCD/2000 LCD = 6000 LCD n-to-Station Message Waiting with LCD = ed, all stations ss Memo Memory = Enable I A unt Code = Not required, all stations estruction Override Code = Not allowed, all IS Hold Recall Time = Per **Program 05** Automatic Off-Hook Selection = No selection, all stations Ringing Line Preference = Selected, all stations. Automatic Dialing = Allowed, all stations

6XX Program Station Toll Restriction Classification

No Restrictions = All stations

6#XX Program Station-to-Station Hunting

No Selection = All stations

7XX Program Station Outgoing Call Restrictions

No Restrictions = All stations

81XX ~ 83XX Program CO Ringing Assignments-DAY

All Lines Ring Station 10

 $84XX \sim 86XX \ Program \\ CO \ Ringing \ Assignments-DAY \ 2 \\ \label{eq:assignment}$

No CO Ringing Assigned

87XX ~ 89XX Program CO Ringing Assignments-NIGHT

All Lines Ring Station 11

9#XX Program Door Phone Ringing Assignments

Blank

*X# Program Flexible Access Code Numbering

Access Code = System

*XX Program Flexible Intercom Numbering

Blank

#1XX*YY Program Optional Programming

Blank

05 SYSTEM DATA PRINTOUT

05.00 System Data Printout Via SMDR

05.01 If the system is equipped with Station Message Detail Recording (SMDR), it is possible to obtain a printout of the system data and speed dialing memory via a printer that is connected to the SMDR output port (HSMB module).

05.02 The data should be printed during a low traffic period since this procedure interferes with normal SMDR output. Any call records generated during a printout will be lost.

05.03 Commands to print system data are entered by station 17 while it is in the programming mode. It is possible to print out all or parts of the system data and speed dial memory. The possible choices are:

System Data:

- All data
- Programs $0XX \sim 0\#XX$
- Programs 1XX
- Program 2XY
- Program 3XX
- Program 4XX
- Program 4#XX
- Program 5XX
- Program 5#XX
- Program 6XX
- Program 6#XX
- Program 7XX
- Programs 81XX ~ 89XX
- Program 9#XX
- Program *XX

Speed Dial Memory:

- All data
- System list
- Any individual station list
- 05.04 To request a printout.
- 1) Depress the SET switch on the HKSU.
 - SET LED goes on.
 - Station 13/17 LED 19 goes on.
- 2) Depress the SPKR key on station 13/17.
 - SPKR LED goes on.
- 3) Dial 🛙 🗰
 - The SPKR LED begins to flash.
- 4) LEDs 00 \sim 08 switch on and off in response

to operation of the associated keys. Refer to Tables 3 and 4 and set the appropriate LEDs to the proper pattern for the printout required.

- 5) Depress the HOLD key.
 - All station 13/17 LEDs (except 19) go off.
 - Printout begins (see Figures 4 ~ 9 for examples of the printout format).
- 6) Normal SMDR operation resumes when the printout is complete.
- Repeat from step 2 until all desired printouts are completed.
- 8) Release the SET switch on the HKSU.
- **05.05** To stop a printout before it is complete.
- Depress the SPKR key on station 13/17.
 SPKR LED goes on.
- 2) Dial 🗿 🗒 .
 - SPKR LED stays on.
 - LEDs 00 \sim 08 light.
- 3) Depress the appropriate keys necessary to extinguish all LEDs but the SPKR.
- 4) Depress the HOLD key.
 - SPKR LED goes off.
 - After a short delay, the printout stops.
- 5) Normal SMDR functions resume.

TABLE 3							
SYSTEM	DATA	PRINTOUT	SELECTION	CODES			

							PRC	OGRAM	NUMBER					-	
LED	01 ~ 0#9	100 	2XY	1#XY	2#XY	зхх	3#XX	4XX	4#XX	5XX	5#XX	6XX	6#XX	7XX	Print Out All
08	Х	X	Х	X	Х	Х	X	Х	Х	Х	X	Х	۰X	Х	Х
07	Х	Х	Х	X	Х	Х	X	Х	Х	Х	X	Х	X	Х	Х
06	Х	Х	Х	Х	Х	Х	X	Х	Х	Х	X	Х	X	Х	Х
05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04	0	0	0	X	Х	0	X	0	Х	0	X	0	Х	0	0
03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Х
02	0	0	0	0	0	0	0	Х	Х	Х	X	Х	X	Х	Х
01	0	0	X	0	X	X	X	0	0	0	0	Х	Х	Х	X
00	0	X	0	X	0	Х	X	0	0	Х	X	0	0	Х	X

LED on = X LED off = O

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			PROG	RAM NU	IMBER	MBER	
	LED	81XX 83XX	84XX 86XX	87XX 89XX	9#XX	*XX	
TABLE 3	08	Х	X	X	Х	Х	
SYSTEM DATA PRINTOUT SELECTION CODES	07	Х	X	X	X	Х	
(continued)	06	Х	Х	Х	X	Х	
	05	0	0	0	0	0	
	04	0	X	0	X	Х	
	03	Х	Х	Х	X	Х	
	02	0	0	0	0	0	
	01	0	0	0	0	Х	
	00	0	0	X	X	Х	

LED on = X LED off = O

TABLE 4

AUTOMATIC DIALING MEMORY PRINTOUT SELECTION CODES

AUTO DIAL LISTS (System & Stations $10 \sim 25$)

LED	SYS	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
08	X	Х	Х	X	Х	Х	X	Х	Х	Х	Х	Х	Х	Х	X	Х	Х
07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05	X	0	0	0	0	0	0	0	0	0	0	Х	Х	X	Х	Х	Х
04	Х	Х	Х	Х	Х	Х	X	Х	X	Х	Х	0	0	0	0	0	0
03	0	0	0	0	0	0	0	0	0	Х	Х	0	0	0	0	0	0
02	0	0	0	0	0	Х	X	Х	X	0	0	0	0	0	0	Х	X
01	0	0	0	X	Х	0	0	Х	X	0	0	0	0	X	X	0	0
00	0	0	Х	0	Х	0	X	0	Х	0	X	0	Х	0	X	-0.	X

¤¤	SYSTEM	I PROGI	RAMMI	NG #	≠						•	
								1:SELECT(U	_ED ON)			
		21	16	15	8	7	1INT					
0	1	000	000	0000	0000	00000	0000					
0	2	000	000	0000	0000	00000	000					
0	#2	000	000	0000	L000	00000	0110					
0	З	000	000	00010	0000	00000	0101					
0	4	000	1000	00000	0000	01110	0000					
0	5	000	000	00000	0000	00000	100					
0	#5	000	000	0000	0000	00000	010					
0	6	000	000	00000	0000	00000	000					
0	#6	000	000	00000	0000	00000	000					
0	フ	000	000	00000	0000	00000	000				۶	
0	8	000	000	00000	0000	00000	000					
0	#8	111	111	11111	111	11111	.110					
0	9	111	111	11111	111	11111	.110					
0	91	111	111	11111	.111	11111	.110					
0	92	000	000	00000	0000	00000	000					
0	93	000	000	00000	0000	00000	000					
0	94	000	000	00000	0000	00000	000					
0	#9	000	000	00000	000	00000	000					
##	END OF	PRINT		##	1							

FIGURE 4—SAMPLE PRINTOUT OF PROGRAMS 01 \sim 0#9

PROGRAMMING PROCEDURES SECTION 300-020-300 JULY 1986

> • •

##	SYSTEM	1 PROGRAMMING	##	
		21 16	15 8	7 1INT .
1	00	000000	00000000	0000001
1	01	000000	00000000	0000000
1	02	000000	00000000	0000000
		(D	ATA = DIAL N	NUMBER)
1	60	10515		
1	04	12		
1	05	10736		
1	Ø6	9		
1	Ø8	5555		
1	60	3621		
				1:SELECT(LED ON)
		21 16	15 8	7 1INT
1	10	000000	00000000	0000000
1	11	000000	00000000	0000000
1	14	000 ~ 999		
1	18	000 ~ 999		
•	-	-	•	•
•	-	•	•	•
-	•	•	•	
		21 16	1.5 8	
1	ЯЙ	000000	aaaaaaaa	00000000
-	20			
1	G 1	(U	HIH — DIAL N	וטוזטנא (
1	97 1	82		
 1	22	83		
1	94	84		
1	95 95	*A		
1	95	. U		
1	97			
1	98			
- ##	END OF	PRINT	##	
			····	

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FIGURE 5—SAMPLE PRINTOUT OF PROGRAMS 100 \sim 19X

-27-

PROGRAMMING PROCEDURES SECTION 300-020-300 JULY 1986

##	SYSTEM PR	OGRAMMI	NG ##
			(DATA = DIAL NUMBER)
2	11	212	
2	14		472 495 669 (DATA = DIAL NUMBER)
2	21	317	
2	24		628 629
-	•	-	•
•	-	-	•
-	•	•	
2 2	81 84		
 <u></u>	END OF PRI	NT	##

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##	SYSTEM	1 PROGRAMMIN	1G ##	
				1:SELECT(LED ON)
		21 16	15 8	7 1INT
Э	10	111111	11111111	1111110
Э	11	111111	11111111	11111110
Э	12	111111	11111111	1111110
Э	13	111111	11111111	11111110
Е	14	111111	11111111	11111110
Е	15	111111	11111111	11111110
Э	16	111111	11111111	11111110
Э	17	111111	11111111	1111110
Э	18	111111	11111111	11111110
З	19	111111	11111111	1111110
Э	20	111111	11111111	11111110
•	-	-	-	
•	-	-		
•	-	-		
З	65	111111	11111111	11111110
##	END OF	PRINT	##	

FIGURE 7—SAMPLE PRINTOUT OF PROGRAM 3XX (4XX \sim 9XX are identical)

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PROGRAMMING PROCEDURES SECTION 300-020-300 - JULY 1986

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##	SYSTEM	PROGRAMMING	¤¤			
						•~
4♯	10	10	20	CO10	C020	•
		09	19	CD9	CD19	
		08	18	C08	CO18	
		07	17	C07	CO17	
		06	16	C06	CO16	NOTE:
		05	15	CO5	CO15	Columns 1 and 2 give the code for the
		04	14	C04	CO14	feature assigned to each key; columns
		60	13	СОЗ	CO13	3 and 4 give the actual features
		02	12	CO2	CO12	assigned (corresponding to the codes
		01	11	CD1	CO11	in columns 1 and 2).
-	•		•	•		
-	•		•	•	-	
•	-	•	•			
4♯	65	¥	99	AD3	MW/FL	
		×	98	AD2	DND	
		×	97	AD1	REP	
		Ø6	96	C06	RDL	
		05	95	CO5	PAU	
		04	94	C04	ACB	
		60 E0	93	CO3	PRV	
		02	88	C02	MCO	
		01	87	CO1	CFD	
		00	85	INT	SAVE	
##	END OF	PRINT ##				

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FIGURE 8—SAMPLE PRINTOUT OF PROGRAM 4#XX

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##	REPERTORY D	IAL ##	
#00	*60	17147305000	,
#00	*61	19142731750	
#00	*62	12135551212	s
#00	*63	17148531212	
#00	*64	17145551212	•
#00	*65	17147305000	
#00	*66	19142731750	
#00	*67	12135551212	
#00	*68	17148531212	
#00	*69	17145551212	
#00	*70	17147305000	
#00	*71	19142731750	
#00	*72	12135551212	
#00	*73	17148531212	
#00	*74	17145551212	
#00	*75	17147305000	
#00	*76	19142731750	
#00	*77	12135551212	
#00	*78	17148531212	
#00	*79	17145551212	
#00	*80	17147305000	
#00	*81	19142731750	
#00	*82	12135551212	
#00	*83	17148531212	
#00	*84	17145551212	
#00	*85	17147305000	
#00	*86	19142731750	
#00	*87	12135551212	
#00	*88	17148531212	
#00	*89	17145551212	
#00	*90	17147305000	
#00	*91	19142731750	
#00	*92	12135551212	
#00	*93 ·	17148531212	
#00	*94	17145551212	
#00	* 95	17147305000	
#00	*96	19142731750	
#00	*97	12135551212	
#00	*98	17148531212	
#00	*99	17145551212	
# #	END OF PRINT	# #	

FIGURE 9-SAMPLE PRINTOUT OF SPEED DIAL-SYSTEM

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TABLE 5

PROGRAM 01 SYSTEM ASSIGNMENTS (BASIC)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
3) Dial 🛛 🖬 on the dial pad.	SPKR LED flashes continuously. The various LEDs indicate present data.
 4) Refer to the System Record Sheet. Using the various keys, turn their associated LEDs on or off, as required. The detailed meaning of each key/LED is shown below. NOTE: If any key/LED is not shown, it is not used. 	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.

	KEY/LED	LED ON		LED OFF	
	17	Transfer Privacy		Alternate point answer of transferred CO line	
	16	Automatic Dialing—Override Toll Restri	iction	Restricted	
	15*	CO Line Group(s)—Eight (91~98)		CO Line Group(s)-One (9)	
	14	Two CO Line Conferencing—Inhibit		Allowed	
	13	Least Cost Routing		No Least Cost Routing	
	12	DP Make Ratio-33%		40%	
	11	DTMF Signal Time—160 ms		80ms	
	09	Non-Privacy		Privacy	
	07	Station 13/17-10-key EKT		Station 13/17—20-key EKT	
	06	Incoming Call Abandon-8 seconds		6 seconds	
	05	Pause After Flash-3 seconds		1.5 second	
	04	Insert Pause After Flash		No Pause	
	03	Pause (MW/FL or PAU key)—3 seconds		1.5 second	
	02	Flash—0.5 second		2 seconds	
	00**	Tone First		Voice First	
5	 Depress the memory. 	e HOLD key to place new data in	All sta	tion 13/17 LEDs (except 19) go off.	
6	SA) Go to Ste SB) Transfer d agraph 02	p 2 in another program table or lata into working memory per Par- 2.06.	SET LI Statior New d	ED goes off. n 13/17 LED 19 goes off. lata is stored, previous data is erased.	

*If the LED 15 is off in this program, see Program 09; if LED 15 is on, see Program 09X. **Voice First is required if the system is optioned for Off-hook Call Announce.

TABLE 6

PROGRAM 0#1 DOOR PHONE SELECTION

1) Lock	in the SET s	witch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.			
2) Depr	ess the SPKR	key on station 13/17.	SPKR L	ED steady on.		
3) Dial (🛾 🛱 🖬 on the d	ial pad.	SPKR L The vai	ED flashes continuously rious LEDs indicate prese	ent data.	
4) Refer Using LEDs mear NOTE. If any	r to the Syste g the various a on or off, ning of each	em Record Sheet. keys, turn their associated as required. The detailed key/LED is shown below. not shown, it is not used.	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.			
	KEY/LED	LED ON		LED OFF	· · · · ·	
	17	Door Lock Timeout—6 seconds	3	3 seconds		
	08	Door Phone 12/14B—Door Lo	ck	Door Phone		
	07	Door Phone 12/14C—Busy-ou	ıt	No Busy Signal		
	06	Door Phone 12/14B-Busy-ou	t No Busy Signal			
	05	Station 12/14—Door Phone		,		
	04	Door Phone 11/13C—Alarm*		Door Phone		
	03	Door Phone 11/13B—Door Lo	ck	Door Phone		
	02	Door Phone 11/13C—Busy-ou	it	No Busy Signal		
	01	Door Phone 11/13B-Busy-ou	ıt	No Busy Signal		
	00	Station 11/13—Door Phone		EKT		
5) Depre mem	ess the HOLD ory.	key to place new data in	All station 13/17 LEDs (except 19) go off.			
6A) Go	to Step 2 in a	another program table				
6B) Transfer data into working memory per Par- agraph 02.06.				D goes off. 13/17 LED 19 goes off. ata is stored, previous da	ta is erased.	

*Station 13 only.

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TABLE 7

PROGRAM 02 SYSTEM ASSIGNMENTS (OPTIONS)

SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
SPKR LED steady on.
SPKR LED flashes continuously. The various LEDs indicate present data.
An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.

	KEY/LED	LED ON		LED OFF	57 -			
	13	Station 15/23—Trunk-to-trunk Con	nection	ЕКТ				
	12	Station 14/22—Trunk-to-trunk Con	ЕКТ					
	11	Stations 16/18 & 17/19—Amplifie	Not Amplified					
	10	Stations 24 & 25*—Amplified Confe	erence	Not Amplified				
	06	Automatic Callback—Warning Tone		No Warning Tone				
	04	LCD Display Dialed Number-1 min	ute	15 seconds				
	02	Night Ringing over External Page**-	-Allowed	Not Allowed				
	01	BGM over External Page—Allowed	- When	Not Allowed				
	00	External Page with All Call Page-Ir	ncluded	Not Included				
5) C n	epress the H nemory.	OLD key to place new data in	All station	13/17 LEDs (except 19) go o	ff.			
6A) Go to Step 2 in another program table								
6B) Transfer data into working memory per Par- agraph 02.06 .			SET LED g Station 13	oes off. //17 LED 19 goes off.				
			New data is stored, previous data is erased.					

* STRATA VI_e only. ****Program 0#8** selects which individual CO(s) will ring.

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TABLE 8

PROGRAM 0#2 ACCOUNT CODE DIGIT LENGTH SELECTION

1) Lock in the SET switch on the HKSU.				SET L Static Syste Norm	ED on 1 on i al f	on. 3/1 s in unc	7 L pro tion:	ED grai s ha	19 m m alt o	on. node	e. atio	n 1:	- 3/1	7.					
2) Depress the SPKR key on station 13/17.				SPKR LED steady on.															
3) Dial 🛯 🖉 on the dial pad.				SPKR LED flashes continuously. The various LEDs indicate present data.															
4) Refer to the System Record Sheet. Using the various keys, turn their associated LEDs on or off, as required. The detailed meaning of each key/LED is shown below. This program also defines the length of the SMDR account code. Enter a number from 4				If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set. For account code length, as each digit is entered, the entry is verified by LEDs as shown.															
to 1 NOTI 1. De 2. Te	to 15 via the dial pad. NOTES: 1. Depressing the key displays the data without changing it. 2. To clear existing data without entering a new number, depress the key two times.																		
	KEY/LED	LED ON							LE	D OFF									
	17	Ringing Repeat						Sta	inda	rd R	ing								
	15	HDTU Modern Speed—1200	0 bp	s				300) pp	S			_						
	04 ~ 00 Account Code Digit Length																		
L				Digit ength	4	5	6	7	8	9	10	11	12	13	14	15			
				04		<u> </u>				ļ	X	X	X	X	X	X			
		X = LED on		03					X	X	 								
		All LEDs off = no data		02	X		X	X							X	X			
			-	00		x	<u>^</u>	X		x		x		X		x			
5) Depress the HOLD key to place new data in memory.			n	All st	atio	n 1:	3/1	7 LE	EDs	(exc	cept	19)	go	off.	<u>.</u>				
6A) Go to Step 2 in another program table																			
6B) Transfer data into working memory per Par- agraph 02.06.				SET L Static New	.ED on 1 data	go∈ 3∕1 ∋is	s of 7 L stor	f. ED ed,	19 g pre	goes viou	s off s da	ata i	s er	ase	d.				

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TABLE 9

PROGRAM 03 SYSTEM ASSIGNMENTS (OPTIONS)

1) Lo	ock in the SET	switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.							
2) De	epress the SPK	key on station 13/17.	SPKR LED steady	on.						
3) Di	al 🛛 🕄 on the di	al pad.	SPKR LED flashes continuously. The various LEDs indicate present data.							
4) Re Us LE Mo <i>If a</i>	efer to the Syst sing the various Ds on or off, eaning of each <i>TE:</i> ny key/LED is	em Record Sheet. s keys, turn their associated as required. The detailed key/LED is shown below. not shown, it is not used.	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.							
	KEY/LED	LED ON		LED OFF						
	10	Station 10-ALARM key		AD1 key						
	09	Station 10-DND key		NT key						
	08	3-ring Mode		2-ring Mode						
	07	CO Line Groups—Allowed		Not Allowed						
	04	Message Center—Station 12		Not Equipped						
	03	Message Center-Station 11		Not Equipped						
	02	Message Center—Station 10		Not Equipped						
5) De me	epress the HOL emory.	key to place new data in	All station 13/17 I	EDs (except 19) go off.						
6A) (Go to Step 2 in	another program table								
6B) T a	ransfer data in Igraph 02.06 .	or to working memory per Par-	SET LED goes off. Station 13/17 LED New data is stored) 19 goes off. , previous data is erased						

*Voice First must be optioned for Off-hook Call Announce.
TABLE 10

PROGRAM 04 CO LINE OUTPULSING SELECTION

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
3) Dial 🛛 🖉 on the dial pad.	SPKR LED flashes continuously. CO LEDs indicate present data.
 4) Refer to the System Record Sheet. Each CO key/LED represents itself; depress the required keys. LED OFF = DTMF tone operation. LED ON = Dial Pulse (DP) operation. 	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
 6A) Go to Step 2 in another program table 6B) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

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TABLE 11

PROGRAM #4—CO LINE IDENTIFICATION (LCD EKT Required)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17. LCD is in program mode.
2) Depress the SPKE key on station 13/17.	SPKR LED steady on. LCD: Program No.?.
3) Dial 🛛 🖉 on the dial pad	SPKR LED flashes continuously. LCD displays program number.
 4) Refer to the System Record Sheet. Depress the required key, and enter the CO line name, as defined in the System Record Sheet, via the dial pad. a) Depress the likey to access alpha characters. b) Move the cursor to the desired position (the left edge of the display for a new message, two spaces to the right of the preprogrammed message to add information). c) Depress the key with a letter you wish to enter. Use the likey to shift from letter to letter on the key. For example: If you press li, a D will be displayed. By pressing like D is changed to E. By pressing like again, the E is changed to F. Press like again and the F changes to D. To enter spaces, press li. d) If want to enter a number, press the likey to change to numeric characters. Numbers are also entered on the dial pad. Press the likey again to return to alpha characters. e) The following special characters are set by pressing li and then pressing li to step through the available characters: Q, Z, :, -, +, /. 	Cursor appears in LCD display. LCD displays characters as they are entered.
Depress the HOLD key to place new data in memory.	All station 13/17 LEDs (except 19) go off.
 6A) Return to Step 2 in order to continue with this program or 6B) Go to Step 2 in another program table or 6C) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

PROGRAM 05 AUTOMATIC RECALL FROM HOLD TIMING

(This program is used only if LEDs 10, 11 and 12 are ALL off in Program 5#XX.)

1) Lock in the SET switch on the	HKSU.	SET LED on. Station 13/1 System is in Normal funct	7 LED 19 on. program mode. tions halt on station 13717.
2) Depress the SPKR key on statio	n 13/17.	SPKR LED st	eady on.
3) Dial 🛛 🖞 on the dial pad.		SPKR LED fla One LED ind	ashes continuously. icates present data.
 4) Refer to the System Record Sh Using the various keys, turn a LED on or off, as required. The de ing of each key/LED is shown NOTE: If any key/LED is not shown, it is 	eet. n associated etailed mean- below. <i>not used.</i>	An X on the be on. Only one LED other key will vious LED.	record sheet means the LED should) is permitted to be on, depressing an- turn that LED on and turn off the pre-
	KEY/LED	LED ON	
	07	160 seconds	
	06	128 seconds	
	05	96 seconds	£ .
	04	64 seconds	
	03	48 seconds	
	02	32 seconds	
	01	16 seconds	
	00	No Recall	
 Depress the HOLD key to place memory. 	new data in	All station 1	3/17 LEDs (except 19) go off.
6A) Go to Step 2 in another progr	am table		
6B) Transfer data into working me agraph 02.06 .	mory per Par-	SET LED goe Station 13/1 New data is	es off. 7 LED 19 goes off. stored, previous data is erased.

TABLE 13

PROGRAM 0#5 CAMP-ON TIMEOUT

1) Lock in the SET switch on the HKSU.		SET LED on. Station 13/1 System is in Normal func	7 LED 19 on. program mode.
2) Depress the SPKR key on static	n 13/17.	SPKR LED st	eady on.
3) Dial 🛛 🗰 🖥 on the dial pad.		SPKR LED fl. One LED inc	ashes continuously. licates present data.
 4) Refer to the System Record Sheet. Using the various keys, turn an associated LED on or off, as required. The detailed mean- ing of each key/LED is shown below. NOTE: If any key/LED is not shown, it is not used 		An X on the be on. Only one LE another key previous LEE Tech Info	record sheet means the LED should D is permitted to be on; depressing will turn that LED on and turn off the hnc. Call (810) $395-8888$
	KEY/LED	LED ON	
	03	64 seconds	
	02	48 seconds	* _
	01	32 seconds	
	00	16 seconds	
 Depress the HOLD key to place new data in memory. 		All station 13	3/17 LEDs (except 19) go off.
6A) Go to Step 2 in another progr	am table		
or	_		
6B) Transfer data into working me	mory per Pa-		
ragraph U2.06.		SET LED goe	s off. 7 ED 19 goes off
		New data is	stored, previous data is erased.

PROGRAM 06 AUTOMATIC RELEASE ON HOLD ENABLE

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
3) Dial 0 6 on the dial pad.	SPKR LED flashes continuously. CO LEDs indicate present data.
4) Refer to the System Record Sheet. Using the various keys, turn their associated LEDs on or off, as required. Each CO key/LED represents itself—that is, if LED 01 is on, CO1 will have AROH during normal operation. If LED 01 is off, AROH will not function on that line.	An X on the record sheet means the LED should be on (AROH enabled). If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
5) Depress the HOLD key to place new data in memory.	All station 13/17 LEDs (except 19) go off.
6A) Go to Step 2 in another program table	
6B) Transfer data into working memory per Par- agraph 02.06.	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

NOTES:

2. If Automatic Release from Hold is available, the CO will automatically drop the lines when the outside party hangs up. However, if Automatic Release from Hold is not available, the person who set up the trunk-to-trunk connection must occasionally monitor the call and disconnect the CO lines when the two parties hang up.

^{1.} This program is used to release Trunk-to-Trunk connections if enabled with Programs 02 and 0#6.

TABLE 15

PROGRAM 0#6 TRUNK-to-TRUNK CONNECTION ENABLE

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
3) Dial 🛛 🖬 🕤 on the dial pad.	SPKR LED flashes continuously. CO LEDs indicate present data.
4) Refer to the System Record Sheet. Using the various keys, turn their associated LEDs on or off, as required. Each CO key/LED represents itself—that is, if LED 01 is on, CO1 will be allowed trunk-to-trunk connection, if LED 01 is off, trunk-to-trunk connection will not be allowed on that line, etc.	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
6A) Go to Step 2 in another program table	
6B) Transfer data into working memory per Par- agraph 02.06 .	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

PROGRAM 07 AUTOMATIC RELEASE ON HOLD TIMING

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
3) Dial 🛛 🖬 on the dial pad.	SPKR LED flashes continuously. CO LEDs indicate present data.
4) Refer to the System Record Sheet. Using the appropriate keys, turn their asso- ciated LEDs on or off, as required. Each CO key/LED represents itself—that is, if LED 01 is on, CO1 will have XB (crossbar) timing for AROH. If LED 01 is off, CO1 will have ESS (electronic) timing, etc.	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
Depress the HOLD key to place new data in memory.	All station 13/17 LEDs (except 19) go off.
 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

NOTE:

This program affects only those CO lines enabled via **Program 06** (AROH should be enabled for Trunk-to-Trunk connections).

TABLE 17

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PROGRAM 0#7 AUTOMATIC RELEASE ON HOLD TIMING

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. • Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
3) Dial 🛛 🛱 🖓 on the dial pad.	SPKR LED flashes continuously. CO LEDs indicate present data.
4) Refer to the System Record Sheet. Using the appropriate keys, turn their asso- ciated LEDs on or off, as required. Each CO key/LED represents itself—that is, if LED 01 is on, CO1 is bridged with the 1A2 system. If LED 01 is off, CO1 is not bridged, etc.	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

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TABLE 18

PROGRAM 08 CO LINE CALL PICKUP SELECTION

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station*13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
3) Dial 🛛 🕄 on the dial pad.	SPKR LED flashes continuously. CO LEDs indicate present data.
4) Refer to the System Record Sheet. Using the appropriate keys, turn their asso- ciated LEDs on or off, as required. Each CO key/LED represents itself—that is, if LED 01 is on, CO1 will belong to CPU #2. If LED 01 is off, CO1 will belong to CPU #1.	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
Depress the HOLD key to place new data in memory.	All station 13/17 LEDs (except 19) go off.
6A) Go to Step 2 in another program table	
6B) Transfer data into working memory per Par- agraph 02.06.	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

NOTE:

This program will have no meaning unless Call Pickup was selected in Program 03.

TABLE 19

PROGRAM 0#8 NIGHT RINGING OVER EXTERNAL PAGE (STRATA VI_e only)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 17 LED 19 on. System is in program mode. Normal functions halt on station 17.
2) Depress the SPKR key on station 17.	SPKR LED steady on.
3) Dial 🛛 🖉 🖉 on the dial pad.	SPKR LED flashes continuously. CO LEDs indicate present data.
4) Refer to the System Record Sheet. Using the appropriate keys, turn their asso- ciated LEDs on or off, as required. Each CO key/LED represents itself—that is, if LED 01 is on, when the system is in night operation, incoming calls over that CO line will ring over the external page; if LED 01 is off, incoming calls over that CO line will not ring in night operation, etc.	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
 Depress the HOLD key to place new data in memory. 	All station 17 LEDs (except 19) go off.
6A) Go to Step 2 in another program table	
6B) Transfer data into working memory per Par- agraph 02.06 .	SET LED goes off. Station 17 LED 19 goes off. New data is stored, previous data is erased.

NOTE:

Use this program only if LED 02 is on in Program 02.

PROGRAM 09 SINGLE CO LINE (DIAL 9) GROUP SELECTION

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
3) Dial 🗓 🖸 on the dial pad.	SPKR LED flashes continuously. CO LEDs indicate present data.
4) Refer to the System Record Sheet. Using the appropriate keys, turn their asso- ciated LEDs on or off, as required. Each CO key/LED represents itself—that is, if LED 01 is on, CO1 will be included in the "Dial 9" group.	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

NOTE:

Use this program only if LED 15 is off in Program 01.

TABLE 21

PROGRAM 09X CO LINE GROUPS (DIAL 91 \sim 98) ASSIGNMENTS

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
3) Dial OSX on the dial pad. (X = 1 ~ 8 depending upon the group being defined.) Dial OS for "Dial 91" group; OS2 for "Dial 92" group, etc.	SPKR LED flashes continuously. CO LEDs indicate present data.
4) Refer to the System Record Sheet. Using the appropriate keys, turn their asso- ciated LEDs on or off, as required. Each CO key/LED represents itself—that is, if LED 01 is on, CO1 will be included in the "Dial 9X" group.	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
 6A) Return to Step 2 in order to continue with this program or 6B) Go to Step 2 in another program table or 6C) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

NOTE:

Use this program only if LED 15 is on in Program 01.

TABLE 22

PROGRAM 0#9 OFF-PREMISES LINE HUNTING

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station*13/17.
2) Depress the SPKR key on station 13/17.	SPKK LED steady on.
3) Dial 0 🖩 9 on the dial pad.	SPKR LED flashes continuously. CO LEDs indicate present data.
 4) Refer to the System Record Sheet. Using using the appropriate keys, turn their associated LEDs on or off, as required. LED OFF: (DAY and NIGHT mode) Hunt rings with LINE1/TEL1 only. LED ON (DAY mode): Hunt does not ring with any LINES/TELS. LED ON (NIGHT mode): Hunt rings with ALL LINES/TELS. 	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
6A) Go to Step 2 in another program table	
6B) Transfer data into working memory per Par- agraph 02.06.	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

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TABLE 23

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PROGRAM 190 PBX BACKUP

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
3) Dial 190 on the dial pad.	SPKR LED flashes continuously. CO LEDs indicate present data.
4) Refer to the System Record Sheet. Using the appropriate keys, turn their asso- ciated LEDs on or off, as required. Each CO key/LED represents itself—that is, if LED 01 is on, the system assumes that the CO1 line is connected to a PBX line and will cause fea- tures such as Toll Restriction and Automatic Dialing to function accordingly, etc.	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
Depress the HOLD key to place new data in memory.	All station 13/17 LEDs (except 19) go off.
6A) Go to Step 2 in another program table	
agraph 02.06.	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

TABLE 24

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PROGRAM 19X PBX ACCESS CODES

1) Lock in the SET switch on the H	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.											
2) Depress the SPKR key on station	13/1	7.	S	PKR	LED) stead	ly on				•	
3) Dial 1 2 X on the dial pad. X = 1 sponding to the access code bein med). Dial 1 2 1 (X = 1) to program code, 1 2 2 (X = 2) to program sec code, etc.	SI Va	SPKR LED flashes continuously. Various LEDs indicate present data.										
 4) Refer to the System Record Shee Using the dial pad, enter the required code (two digits must be entered 	et. ired ac).	ccess	LE LE pl	EDs (ED 1(ayed)0 ~) or	- 03 ii 11 in	ndica dicat	te da es w	ata in hich	bina digit	ry forma is being	it. dis-
 If the access code is a single u as the second digit. 	igit, ei	iter 🛛	Key	/LEI		Star	rt	1	st Di	git	2nd 🗅)igit
 If all combinations following a 	a parti	cular		11							Stea	dy
 Notes and the second second	hout digit,	char etc. numl	ngin per,	g it. T depre	he fii ss th	e 🛛 k	will a	displa vo tim	y the fir.	st		
Binary Numbers	1	2	3	4	5	6	7	8	9	0	D]
03		ļļ						X	- X	X	Х	
X = LED on 02		+	Y	<u> </u>	<u>X</u>		X				X	
All LEDs off = no data 01	X	\uparrow	X		X	+	X		X	<u>^</u>	X	
 Depress the HOLD key to place r memory. 	iew da	ata in	All	stat	ion	13/17	7 LEC)s (e)	kcept	19) ç	go off.	L
 6A) Return to Step 2 in order to conthis program or 6B) Go to Step 2 in another program or 6C) Transfer data into working memory agraph 02.06. 	SE Sta Ne	T LE ation w da	D go 13/ ta i	oes of ∕17 LE s store	f. ED 19) goe evio	es off us da	ta is	erased.			

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TABLE 25

PROGRAM 100 TOLL RESTRICTION SYSTEM PARAMETERS (DIALING PLAN)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
3) Dial 100 on the dial pad.	SPKR LED flashes continuously. An LED indicates present data.
 Refer to the System Record Sheet. Turn the associated LED on for the dialing plan of the Home Area Code. 	An X on the record sheet means the LED should be on. Only one LED may be on at one time. If the LED is already on, depressing the associated key will turn it off and vice versa.
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

TABLE 26

PROGRAM 101 TOLL RESTRICTION DISABLE

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKE key on station 13/17.	SPKR LED steady on.
3) Dial 101 on the dial pad.	SPKR LED flashes continuously. CO LEDs indicate present data.
4) Refer to the System Record Sheet. Using the appropriate keys, turn their asso- ciated LEDs on or off, as required. Each CO key/LED represents itself—that is, if LED 01 is on, toll restriction is not applied to that CO1 line; if LED 01 is off, toll restriction is applied to that CO1, etc.	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

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TABLE 27

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PROGRAM 102 FORCED ACCOUNT CODE CHECK

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
3) Dial 102 on the dial pad.	SPKR LED flashes continuously. CO LEDs indicate present data.
 4) Refer to the System Record Sheet. Using the appropriate keys, turn their LEDs on or off, as required. LED ON = Forced Account Codes are checked. Each CO key/LED represents itself—that is, if the LED 01 is on, stations calling out over CO1 will be forced to enter an ac- count code (if required by Program 5#XX). 	An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
5) Depress the HOLD key to place new data in memory.	All station 13/17 LEDs (except 19) go off.
 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

PROGRAM 103/105 OTHER COMMON CARRIER or EQUAL ACCESS #1 and #2

1) Lock in the SET switch on the HKSU.						SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.								
2) Depress	the SPKR	key on st	ation 13/	17.		SPK	r Le	D stea	ady o	n.			•	
3) Dial 1 0	3 (1 0 5) on	the dial p	oad.			SPKI LEDs	R LE s ind	D flas icate	hes o prese	conti ent d	nuou ata.	sly.		
 Refer to the System Record Sheet. This pro- gram registers the 1st & 2nd equal access (OCC) numbers used by the system. These 5-digit numbers are entered via the dial pad. 					o- ss se id.	As e LEDs	ach s as s	digit i show	s ent n bel	ered: ow.	, the	entry	is v	erified by
	Key/LED	Start	1st Dig	jit	2n	id Digi	t	3rd	Digit		4th Digit			5th Digit
	12										Steady			Steady
	11				S	Steady		Steady						
	10	Flash	Steady	<u> </u>	r	Steady Steady				Steady				
		Binary	Numbers:	1	2	3	4	5	_6	7	8	9	0	4
	Y -) EF) 07	03											-
AILE	Ds off = no (data	02				<u> </u>	+	$-\hat{\checkmark}$	+				4
			00	X	<u> </u> ^-	$\frac{1}{x}$		X		$\frac{1}{x}$		X		-
5) Depress the HOLD key to place new data in memory.						All station 13/17 LEDs (except 19) go off.						off. ased.		
6A) Go to Step 2 in another program table														
 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 					SET Stati	LED ion 1	goes 3/17	off. LED	19	goes	off.			

NOTE: **Program 105** follows the same procedure as **Program 103**. **Program 105** is used to register the second OCC number used by the system.

PROGRAM 104/106 OTHER COMMON CARRIER AUTHORIZATION CODE LENGTHS #1 and #2

1) Lock in the SET switch on th	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.												
2) Depress the SPKR key on stat	ion 13	/17.		SP	KR L	ED st	eady	on.					
3) Dial 104 (106) n the dial pac	J.			SP The	SPKR LED flashes continuously. The various LEDs indicate present data.								
4) Refer to the System Record Sheet. This program defines the lengths of the authorization codes for OCC #1 & #2. These 2-digit numbers are entered via the dial pad.				As each digit is entered, the entry is verified by LEDs as shown below.									
					Ke	y/LE	D S	tart	1st	Digit	2	2nd Diait	
				11					Steady				
						10			St	eady			
Binary Nu	mbers:	<u> </u>	2	3	4	5	0		8 V	9 - Y	V	- 	
X = LED on	03				x	X	X	X	<u> ^ </u>	<u> </u>		-1	
All LEDs off = no data	01		X	X			X	X			Х	-	
	00	X		X		Х		X		Х		1	
 Depress the HOLD key to pla memory. 	All Ne	stati w da	on 1: ta is	3/17 store	LED	s (ex eviou	cept is dat	19) ta is	go off. erased.				
6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Par-													
agraph 02.06.	iemory	PCI		SE Sta	T LEI ation	D goe 13∕1	es of 7 LE	f. ED 19) goe	s off.			

NOTE:

Program 106 follows the same procedure as Program 104. Program 106 defines the length of OCC#2 authorization code.

PROGRAM 108/109 TOLL RESTRICTION OVERRIDE CODES #1 and #2

1) Lock in the SET switch on the HKSU.						SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.								
2) Depress	the SPKR	key on st	ation 13/	17.		SPK	R LE	D ste	ady c	n.			•	
3) Dial 10	B(109)o	n the dial	pad.			SPKI LEDs	R LE s inc	D flas licate	hes prese	conti ent d	nuou ata.	sly.		
 Refer to the System Record Sheet. Enter the 4-digit Toll Restriction Override Codes via the dial pad. 						As e LEDs	ach s as	digit i show	s ent n bel	ered ow.	, the	entry	' is ve	erified by
	Key/LED	Start	1st Dig	it	2n	d Digi	t	3rd	Digit		4th Digit			
	12										Steady			
	11				S	teady		Steady						
	10	Flash	Stead	4	1 _	Steady								
		Binary	Numbers:	<u> 1</u>	2	3	4	5	6	7		9	0	
	X = I FC		03		 		~		V	V	<u> </u>	<u> </u>	X	
All LE	Ds off = no d	data	02				<u>^</u>				┢───			
			00	X	<u> ^</u> _	$\frac{1}{2}$		Y	<u>^</u>	$\frac{1}{2}$	╞			1
 5) Depress the HOLD key to place new data in memory. 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 						All s New SET Stati	tatio dat	n 13/ a is st goes	ored off.	EDs , prev	(exce /ious	pt 19 data) go is er	off. ased.

NOTE:

Program 5#XX, LED 13 enables stations to use Toll Restriction Override Codes 1 & 2.

PROGRAM 1X0 TOLL RESTRICTION CLASS PARAMETERS

1) Lock in t	he SET swi	tch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.						
2) Depress	the SPKR ke	ey on station 13/17.	SP	KR LED steady on.					
3) Dial 1 X (on the dial	pad.	SP An	KR LED flashes cor LED indicates pres	ntinuously. Jent data.				
 4) Refer to the System Record Sheet. Using the various keys, turn their associated LEDs on or off, as required. The detailed meaning of each key/LED is shown below. NOTE: If any key/LED is not shown, it is not used. 				An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.					
	KEY/LED	LED ON		LED OFF					
	02	Area code + 555 + XXXX—Allo	owed	Not Allowed					
	01	01 or 011 Overseas Restricte	ed	Allowed					
	00	0 + Restricted		Allowed					
5) Depress memory	the <mark>HOLD</mark> k	ey to place new data in	All	station 13/17 LED	s (except 19) go off.				
6A) Go to S	Step 2 in an	other program table							
6B) Transfe agraph	er data into v 02.06.	working memory per Par-	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.						

PROGRAM 1XY TOLL RESTRICTION CLASS AREA CODE ENTRY (LCD TELEPHONE REQUIRED)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17. LCD is blank.
2) Depress the SPKR key on station $13/17$.	SPKR LED steady on. LCD is blank.
 Dial 122 (Allow), 123 (Deny) or 122 (Display) as required. (X = Restriction class 1 ~ 4.) 	SPKR LED flashes continuously. LCD displays dialed number.
4) Press 🛚 key.	 X 2 = LCD is blank. X 3 = LCD is blank. X 4 = LCD displays all allowed codes.
 Enter first area code in range sequence (start). 	LCD displays code entered.
6) Depress key.*	LCD shifts left to provide space for next code.
7) Enter final area code in range sequence (stop).*	LCD displays code entered.
8) Depress 🛛 key.	LCD is blank.
 Return to Step 5 to enter additional area codes. 	
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
11A) Return to Step 2 in order to continue with this program	
11B) Go to Step 2 in another program table	
11C) Transfer data into working memory per Paragraph 02.06.	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

*Skip Steps 6 and 7 if only one area code in sequence is being entered.

TABLE 33

PROGRAM 1XZ TOLL RESTRICTION CLASS OFFICE CODE ENTRY (LCD TELEPHONE REQUIRED)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17. LCD is blank.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on. LCD is blank.
 Dial 125 (Allow), 127 (Deny) or 128 (Display) as required. (X = Restriction class 1 ~ 4.) 	SPKR LED flashes continuously. LCD displays dialed number.
4) Press 🛙 key.	1 X 6 = LCD is blank. 1 X 7 = LCD is blank. 1 X 8 = LCD displays all allowed codes.
 Enter first office code in range sequence (start). 	LCD displays code entered.
6) Depress key.*	LCD shifts left to provide space for next code.
7) Enter final office code in range sequence (stop).*	LCD displays code entered.
8) Depress 🛛 key.	LCD is blank.
 Return to Step 5 to enter additional office codes. 	
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
11A) Return to Step 2 in order to continue with this program	
11B) Go to Step 2 in another program table	
11C) Transfer data into working memory per Paragraph 02.06 .	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

*Skip Steps 6 and 7 if only one office code in sequence is being entered.

PROGRAM 2XY TOLL RESTRICTION AREA/OFFICE CODE EXCEPTION TABLE (LCD TELEPHONE REQUIRED)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17. LCD is blank.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on. LCD is blank.
3) Dial 2 ⊠ 1 (X = Table 1 ~ 8).	LCD displays dialed number, then shifts left to pro- vide space for next entry (or displays current area code).
4) Enter area code.	LCD clears and displays area code entered. Binary data is shown on LEDs $00 \sim 03$.
5) Depress the HOLD key.	LCD is blank.
6) Depress the SPKR key.	SPKR LED steady on. LCD is blank.
7) Dial 2X2 (Allow), 2X3 (Deny) or 2X4 (Display) as required. (X = Restriction class 1 ~ 8.)	SPKR LED flashes continuously. LCD displays dialed number.
8) Press 🛛 key.	2 X 2 = LCD is blank. 2 X 3 = LCD is blank. 2 X 4 = LCD displays all allowed codes.
 Enter first office code in range sequence (start). 	LCD displays code entered.
10) Depress key.*	LCD shifts left to provide space for next code.
 Enter final office code in range sequence (stop).* 	LCD displays code entered.
12) Depress 🛽 key.	LCD is blank.
13) Return to Step 5 to enter additional office codes.	
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
15A) Return to Step 2 in order to continue with this program	
15B) Go to Step 2 in another program table	
15C) Transfer data into working memory per Paragraph 02.06 .	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

*Skip Steps 10 and 11 if only one office code in sequence is being entered.

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PROGRAM 1X1 TOLL RESTRICTION CLASS AREA/OFFICE CODE EXCEPTION TABLE SELECTION

- 1) L	ock in the S	ET switch on the HKSU.	SET LED on. Station 13/17 LE System is in prog Normal functions	D 19 on. ram mode. halt on station 13/17.
2) C	epress the	SPKR key on station 13/17.	SPKR LED steady	on.
3) C 1)ial 1X1 on the \sim 4, as defined	ne dial pad. (X = Restriction class fined in Program 6XX .)	SPKR LED flashe The various LEDs	s continuously. indicate present data.
 4) Refer to the System Record Sheet. Using the various keys, turn their associated LEDs on or off, as required. The detailed meaning of each key/LED is shown below. NOTE: 		An X on the record be on. If the LED is alread key will turn it of turned off and on	rd sheet means the LED should dy on, depressing the associated ff and vice versa. LEDs may be until the desired pattern is set.	
ii ui	KEY/LED		LED OFF	
	07	Area/Office Code Table 8 Selected	Not Selected	
	06	Area/Office Code Table 7 Selected	Not Selected	
	05	Area/Office Code Table 6 Selected	Not Selected	
	04	Area/Office Code Table 5 Selected	Not Selected	
1	03	Area/Office Code Table 4 Selected	Not Selected	
	02	Area/Office Code Table 3 Selected	Not Selected	
	01	Area/Office Code Table 2 Selected	Not Selected	
	00	Area/Office Code Table 1 Selected	Not Selected	
5) [n	Depress the nemory.	HOLD key to place new data in	All station 13/17	LEDs (except 19) go off.
6A) 6B)	Return to S this program Go to Step	tep 2 in order to continue with n 2 in another program table or		
6C)	Transfer dat agraph 02 .4	ta into working memory per Par- 06 .	SET LED goes off Station 13/17 LE New data is store	D 19 goes off. d, previous data is erased.

TABLE 36 PROGRAM 1#00 LEAST COST ROUTING HOME AREA CODE ENTRY (LCD EKT REQUIRED—STRATA VI_e only)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 17 LED 19 on. System is in program mode. Normal functions halt on station-17. LCD: PROGRAM MODE
2) Depress the SPKE key on station 17.	SPKR LED steady on. LCD: PROGRAM NO.?
3) Dial 🛯 🖉 🖸 🖸 on the dial pad.	SPKR LED flashes continuously. LCD: DATA = (indicates present data)
 4) Refer to the System Record Sheet. Using the dial pad, enter the system's home area code. NOTE: To clear existing data without entering a new number, depress the key once for each digit. 	LCD: (displays code entered)
 Depress the HOLD key to place new data in memory. 	All station 17 LEDs (except 19) go off.
 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 17 LED 19 goes off. New data is stored, previous data is erased.

PROGRAM 1#0X LEAST COST ROUTING SPECIAL CODES (LCD EKT REQUIRED—STRATA VI_e only)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 17 LED 19 on. System is in program mode. Normal functions halt on station 17 LCD: PROGRAM MODE
2) Depress the SPKR key on station 17.	SPKR LED steady on. LCD: PROGRAM NO.?
3) Dial III O I on the dial pad. X = 1 ~ 5 corresponds to five different special codes that may be entered.	SPKR LED flashes continuously. LCD: DATA = (indicates present data)
 Refer to the System Record Sheet. Using the dial pad, enter the special code number. 	LCD displays code entered.
 Depress the HOLD key to place new data in memory. 	All station 17 LEDs (except 19) go off.
 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 17 LED 19 goes off. New data is stored, previous data is erased.

PROGRAM 1#06 LEAST COST ROUTING PARAMETERS (LCD EKT REQUIRED—STRATA VIe only)

SET LED on. Station 17 LED 19 on. System is in program mode. Normal functions halt on station 17. LCD: PROGRAM MODE
SPKR LED steady on. LCD: PROGRAM NO.?
SPKR LED flashes continuously. LCD: (displays program number) Various LEDs indicate present data.
LCD displays code entered.
All station 17 LEDs (except 19) go off.
SET LED goes off. Station 17 LED 19 goes off.

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TABLE 39

PROGRAM 1#07X SELECT LONG DISTANCE INFORMATION (LDI) ROUTE (LCD EKT REQUIRED—STRATA VI_e only)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 17 LED 19 on. System is in program mode. Normal functions halt on station 17. LCD: PROGRAM MODE
2) Depress the SPKR key on station 17.	SPKR LED steady on. LCD: PROGRAM NO.?
3) Dial 🛙 🖉 🖸 7 on the dial pad.	SPKR LED flashes continuously. LCD: DATA = 8
4) Refer to the System Record Sheet. Using the dial pad, enter X (X = $1 \sim 8$, corre- sponding to one of eight route table numbers).	LCD displays code entered.
 Depress the HOLD key to place new data in memory. 	All station 17 LEDs (except 19) go off.
6A) Go to Step 2 in another program table or6B) Transfer data into working memory per Par-	
agraph 02.06.	SET LED goes off. Station 17 LED 19 goes off. New data is stored, previous data is erased.

TABLE 40

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PROGRAM 1#08X SELECT LOCAL CALL ROUTE (LCD EKT REQUIRED—STRATA VIe only)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 17 LED 19 on. System is in program mode. Normal functions halt on station 17. LCD: PROGRAM MODE
2) Depress the SPKE key on station 17.	SPKR LED steady on. LCD: PROGRAM NO.?.
3) Dial 1000 on the dial pad.	SPKR LED flashes continuously. LCD: DATA = 8
4) Refer to the System Record Sheet. Using the dial pad enter X. X = $1 \sim 8$, corresponding to one of eight route table numbers.	LCD displays code entered.
Depress the HOLD key to place new data in memory.	All station 17 LEDs (except 19) go off.
 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 17 LED 19 goes off. New data is stored, previous data is erased.

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TABLE 41

PROGRAM 1#09 DIAL ZERO (0) TIMEOUT (LCD EKT REQUIRED—STRATA VI_e only)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 17 LED 19 on. System is in program mode. Normal functions halt on station 17. LCD: PROGRAM MODE
2) Depress the SPKR key on station 17.	SPKR LED steady on. LCD: PROGRAM NO.?
3) Dial 1000 on the dial pad.	SPKR LED flashes continuously. LCD: (displays dialed number) An LED indicates present data.
 4) Refer to the System Record Sheet. Using one key (00 ~ 03), turn its associated LED ON or OFF as required. <i>NOTE:</i> Only one LED may be on at a time. 	An X on the record sheet means the LED should be on. Only one LED is permitted to be on; depressing an- other key will turn that LED on and turn off the pre- vious LED.
 Depress the HOLD key to place new data in memory. 	All station 17 LEDs (except 19) go off.
 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 17 LED 19 goes off. New data is stored, previous data is erased.

PROGRAM 1#XY LEAST COST ROUTING AREA CODE TABLE (LCD TELEPHONE REQUIRED—STRATA VI_e only)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 17 LED 19 on. System is in program mode. Normal functions halt on station 17. LCD: PROGRAM MODE
2) Depress the SPKE key on station 17.	SPKR LED steady on. LCD: PROGRAM NO.?
3) Dial 1 III (Allow), 1 III (Delete) or 1 III (Display) as required. (X = Route Table 1 ~ 8.)	SPKR LED flashes continuously. LCD: (displays dialed number)
4) Press 🛙 key.	1 # X 2 LCD: DATA = 1 # X 3 LCD: DATA = 1 # X 4 LCD: (displays all allowed codes)
 5) Enter first area code in range sequence (start). 	LCD: (displays code entered)
6) Depress key.*	LCD: (shifts left to provide space for next code)
7) Enter final area code in range sequence (stop).*	LCD: (displays code entered)
8) Depress 🛛 key.	Number temporarily stored.
 Return to Step 5 to enter additional area codes. 	
 Depress the HOLD key to place new data in memory. 	All station 17 LEDs (except 19) go off.
11A) Return to Step 2 in order to continue with this program	
11B) Go to Step 2 in another program table or	
11C) Transfer data into working memory per Paragraph 02.06.	SET LED goes off. Station 17 LED 19 goes off. New data is stored, previous data is erased.

*Skip Steps 6 and 7 if only one area code in sequence is being entered.

TABLE 43

PROGRAM 1#X8Y LEAST COST ROUTE DEFINITION (LCD EKT REQUIRED—STRATA VI_e only)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 17 LED 19 on. System is in program mode. Normal functions halt on station 17. LCD: PROGRAM MODE
2) Depress the SPKR key on station 17.	SPKR LED steady on. LCD: PROGRAM NO.?.
 Dial 1 □ X 3 Y on the dial pad. X = Route Table 1 ~ 8; Y = Route Definition 1 ~ 4. 	SPKR LED flashes continuously. LCD: DATA =
 Refer to the System Record Sheet. Using the dial pad, enter the Route Definition number and Modified Digits Table number. 	LEDs 00, 01, 02 & 03 show data in binary format. LEDs 10 & 11 indicate which digits are being dis- played.
Depress the HOLD key to place new data in memory.	All station 17 LEDs (except 19) go off.
 6A) Go to Step 2 in another program table or 6B) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 17 LED 19 goes off. New data is stored, previous data is erased.

TABLE 44

PROGRAM 1#X50 ~ 53 START TIME A SCHEDULE (LCD EKT REQUIRED—STRATA VI_e only)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 17 LED 19 on. System is in program mode. Normal functions halt on station 17. LCD: PROGRAM MODE
2) Depress the SPKR key on station 17.	SPKR LED steady on. LCD: PROGRAM NO.?
3) Dial 12350 ~ 53 on the dial pad. X = Route Table 1 ~ 8.	SPKR LED flashes continuously. LCD: (displays dialed number)
4) Refer to the System Record Sheet. Enter the required data for $50 \sim 53$ via the dial pad.	LCD: (displays code entered)
 Depress the HOLD key to place new data in memory. 	All station 17 LEDs (except 19) go off.
 6A) Return to Step 2 in order to continue with this program or 6B) Go to Step 2 in another program table or 6C) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 17 LED 19 goes off. New data is stored, previous data is erased.

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PROGRAM 1#X60 ~ 63 START TIME B SCHEDULE (LCD EKT REQUIRED-STRATA VI_e only)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 17 LED 19 on. System is in program mode. Normal functions halt on station 17. LCD: PROGRAM MODE
2) Depress the SPKE key on station 17.	SPKR LED steady on. LCD: PROGRAM NO.?
3) Dial 11200 ~ 50 on the dial pad. X = Route Table 1 ~ 8.	SPKR LED flashes continuously. LCD: (displays dialed number)
4) Refer to the System Record Sheet. Enter the required data for $60 \sim 63$ via the dial pad.	LCD: (displays code entered)
 Depress the HOLD key to place new data in memory. 	All station 17 LEDs (except 19) go off.
 6A) Return to Step 2 in order to continue with this program or 6B) Go to Step 2 in another program table or 6C) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 17 LED 19 goes off. New data is stored, previous data is erased.
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TABLE 46

PROGRAM 1#X70 ~ 73 START TIME C SCHEDULE (LCD EKT REQUIRED—STRATA Vie only)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 17 LED 19 on. System is in program mode. Normal functions halt on station 1-7. LCD: PROGRAM MODE
2) Depress the SPKE key on station 17.	SPKR LED steady on. LCD: PROGRAM NO.?
3) Dial 1270 ~ 78 on the dial pad. X = Route Table 1 ~ 8.	SPKR LED flashes continuously. LCD: (displays dialed number)
4) Refer to the System Record Sheet. Enter the required data for $70 \sim 73$ via the dial pad.	LCD: (displays code entered)
Depress the HOLD key to place new data in memory.	All station 17 LEDs (except 19) go off.
 6A) Return to Step 2 in order to continue with this program or 6B) Go to Step 2 in another program table or 6C) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 17 LED 19 goes off. New data is stored, previous data is erased.

PROGRAM 1#9XY MODIFIED DIGITS TABLE (LCD EKT REQUIRED—STRATA VI_e only)

1) Lock in the SET switch on the HKSU.	SET LED or Station 17 System is i Normal fun LCD: PROG	n. LED 19 on. n program n octions halt o RAM MODE	node. on station f	 17
2) Depress the SPKR key on station 17.	SPKR LED LCD: PROG	steady on. RAM NO.?		
3) Dial 100 100 100 100 on the dial pad. X = Modified Dig- its Table 1 ~ 6, Y = (0) delete, (1) add.	SPKR LED LCD: (displa Various LEI	flashes cont ays dialed nu Ds indicate p	inuously. umber) present dat	a.
4) Refer to the System Record Sheet.	LCD: (displa	ays digits en	tered)	
A) Delete Table: Enter the quantity of digits to		KEY/LED	PAUSE	
be deleted from the dialed number.		08	16	
B) Add Table: Enter the required modified dig-		07	14	
sert pauses (see table for duration in sec-		06	12	et
onds) while adding digits, press the		05	10	
appropriate key when pause is required.		04	8	
NOTE:		03	6	
Digits may be added or deleted in the same		02	4	
Wodified Digits Table.		01	2	
 Depress the HOLD key to place new data in memory. 	All station	17 LEDs (exc	cept 19) go	o off.
6A) Return to Step 2 in order to continue with this program				
6B) Go to Step 2 in another program table				
6C) Transfer data into working memory per Par- agraph 02.06 .	SET LED go Station 17 New data is	bes off. LED 19 goes s stored, pre	s off. vious data	is erased.

PROGRAM 2#XY LEAST COST ROUTING AREA/OFFICE CODE EXCEPTION TABLE (LCD EKT REQUIRED—STRATA Vie only)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 17 LED 19 on. Normal functions halt on station 17. LCD: PROGRAM MODE
2) Depress the SPKR key on station 17.	SPKR LED steady on. LCD: PROGRAM NO.?
 Dial 2 □ X □ on the dial pad. X = Area/Office Code Table 1 ~ 8. 	SPKR LED & LED 10 flash continuously.
4) Refer to System Record Sheet. Enter Route Table number (1 \sim 8).	LCD: (displays table number)
5) Depress the HOLD key.	
6) Depress the SPKR key on station 17.	SPKR LED steady on. LCD: PROGRAM NO.?
7) Dial 2 □ X □ on the dial pad. X = Area/Office Code Table 1 ~ 8.	LCD: (displays dialed number) then DATA =
8) Enter Area Code via the dial pad.	LCD: (displays area code entered)
9) Depress the HOLD key.	
10) Depress the SPKR key.	SPKR LED steady on. LCD: PROGRAM NO.?
 Dial 2ⅢX2 (Add), 2ⅢX3 (Delete), or 2ⅢX4 (Display). X = Area/Office Code Table 1 ~ 8. 	SPKR LED flashes continuously. LCD: (displays dialed number)
12) Depress 🖩 key.	2 # X 2 LCD: DATA = 2 # X 3 LCD: DATA = 2 # X 4 LCD: (displays all currently programmed office codes)
 Enter first Area Code in range sequence (start). 	LCD: (displays code entered)
14) Depress 🖥 key.*	LCD: (shifts left to provide space for next code)
15) Enter final Area Code in range sequence (stop).*	LCD: (displays code entered)
16) Depress 🛚 key.	
17) Return to Step 10 to enter additional Area Codes.	
 Depress the HOLD key to place new data in memory. 	All station 17 LEDs (except 19) go off.
19A) Go to step 2 in another program table	
or 19B) Transfer data into working memory per Par- agraph 02.06 .	SET LED goes off. Station 17 LED 19 goes off. New data is stored, previous data is erased.

*Skip Steps 14 and 15 if only one area code in sequence is being entered.

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TABLE 49

PROGRAM 3XX STATION CO LINE ACCESS

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
 Dial IX on the dial pad (XX = the number of the station(s) to be programmed). 	SPKR LED flashes continuously. The CO LEDs indicate present data.
 4) Refer to the System Record Sheet. Using the appropriate keys, turn their associated LEDs on or off, as required. LED ON = Access allowed. Each CO key/LED represents itself—that is, if LED 01 is on, then the station being programmed (XX) is allowed access to C01, etc. 	An X on the record sheet means the LED should be on. If the LED is already on, depressing its associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
 6A) Return to Step 2 in order to continue with this program or 6B) Go to Step 2 in another program table or 6C) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 13/17 LED 19 goes off.
	New data is stored, previous data is erased.

NOTE:

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TABLE 50 PROGRAM 3#XX HOXB, HMDB and HIOB ENABLE

1) Lock in	the SET sv	vitch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.		
2) Depres	s the SPKR	key on station 13/17.	SPKR LED stead	y on	·
 Dial 3 X on the dial pad (XX = the number of the station(s) to be programmed). 			SPKR LED flashe The various LED	es continuously. s indicate present da	ata.
4) Refer to the System Record Sheet. Using the appropriate keys, turn their asso- ciated LEDs on or off, as required. The de- tailed meaning of each key/LED is shown below (if any key/LED is not shown, it is not used).			An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.		
	KEY/LED	FEATURE	LED ON	LED OFF	
	07	НІОВ	Voice Mail	Normal	
	06	HIOB Outgoing Signals	DTMF	DP	
	04	HMDB	Equipped	Not Equipped	
	03	HIOB	Equipped	Not Equipped	~
	02	OPX	Busy-out	No Busy Signal	1
	01	OPX	Equipped	Not Equipped	
	00	HIOB Circuit	Privacy	Privacy Override	
5) Depres memor	s the <mark>HOLD</mark> y.	key to place new data in	All station 13/17	7 LEDs (except 19) g	jo off.
6A) Return to Step 2 in order to continue with this program					
6B) Go to Step 2 in another program table					
6C) Trans agrap	fer data into h 02.06.	working memory per Par-	SET LED goes of Station 13/17 LI New data is store	f. ED 19 goes off. ed, previous data is	erased.

NOTE:

PROGRAM 4XX STATION TYPE ASSIGNMENT

(This program must be completed before Program 4#XX.)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
 Dial 4XX on the dial pad (XX = the number of the station(s) to be programmed). 	SPKR LED flashes continuously. The CO LEDs indicate present data.
 Refer to the System Record Sheet. Using the appropriate keys, turn their asso- ciated LEDs on or off, as required. 	An X on the record sheet means the LED should be on. If the LED is already on, depressing its associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
 6A) Return to Step 2 in order to continue with this program or 6B) Go to Step 2 in another program table or 6C) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 13/17 LED 19 goes off.
	New data is stored, previous data is erased.

NOTE:

KEY/LED	FEATURE
11	Start at CO4
10	Start at CO1
09	Top to bottom
06	Pattern B
05	Pattern A
03	Single-line EKT
01	10-key EKT
00	20-key EKT

PROGRAM 4#XX STATION FLEXIBLE KEY ASSIGNMENTS (IMPORTANT! LCD EKT HIGHLY RECOMMENDED) (Do Program 4XX for all stations before this program.)

SET LED on. Station 13/17 LED 19 on. 1) Lock in the SET switch on the HKSU. System is in program mode. Normal functions halt on station 13/17. 2) Depress the SPKR key on station 13/17. . SPKR LED steady on. 3) Dial 2010 on the dial pad (XX = the number SPKR LED flashes continuously. of the station(s) to be programmed). 4) Refer to the System Record Sheet. The feature currently assigned to the code number Depress the key to be programmed. for that key is displayed by the LCD (see table below). 5) Dial in the new feature's number. The mean-The new feature's number is displayed on the LCD ing of each feature code is shown below. (see table below). 6) Continue returning to Step 4 until all desired features for the chosen station(s) are programmed. 7) Depress the **HOLD** key to place new data in All station 13/17 LEDs (except 19) go off. memory. 8A) Return to Step 2 in order to continue with this program ... or ... 8B) Go to Step 2 in another program table ... or ... 8C) Transfer data into working memory per Pa-SET LED goes off. ragraph 02.06. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

NOTES:

1. For multiple station programming, refer to Paragraph 02.10.

2. All codes can be assigned only once per EKT. If assigned more than once, keys become AD keys. XX = Direct Station Selection (DSS) EKT distinction.

CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
_01	_CO1	79	Modem Ans/Call	93	PRV
02	CO2	80	Modem Key	94	ACB
03	<u>CO3</u>	81	MSG	95	PAU
04	CO4	82	CPU2	96	RDL
05	<u>CO5</u>	83	CPU1	97	REP
06	CO6	84	CPU	98	DND
*	AD Key	85	SAVE	99	MW/FL
71	DP1 (Door Lock)	87	CFD	#YY	DSS/BLF
72	DP2 (Door Lock)	88	MCO	*ZZ	Locked AD Key
78	Modem MM/MA	90	TONE	1	

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TABLE 53 PROGRAM 5XX STATION CLASS OF SERVICE #1

1) Lock in the SET switch on the HKSU.			SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.		
2) Depres	s the SPKR	key on station 13/17.	SPKR LED stead	y on.	
3) Dial 5	IN on the dia	l pad (XX = the number of	SPKR LED flashe	es continuously.	
the sta	tion(s) to be	programmed).	The various LED	s indicates present (data.
 Refer to the System Record Sheet. Using the appropriate keys, turn their asso- ciated LEDs on or off, as required. 		An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.		LED should e associated EDs may be attern is set.	
	KEY/LED	FEATURE	LED ON	LED OFF	
	17	Privacy Override	Allowed	Not Allowed	
	16	DND Override	Allowed	Not Allowed	
	15	Executive Override	Allowed	Not Allowed	· · -
	13	OCA Receive	Enabled	Disabled	
	12	Off-hook Call Announce	Dial 2	Automatic	
	09	Group Page 4	Included	Not Included	
	08	Group Page 3	Included	Not Included	
	07	Group Page 2	Included	Not Included	
	06	Group Page 1	Included	Not Included	
	05	All Call Page	Allowed	Not Allowed	
	04	Auto.Callback Warning Tone	Not Allowed	Allowed	
	03	Handsfree Answerback	Disabled	Enabled	
	02	MIC on at start of call	On	Off	
	01	MIC key lock	Allowed	Not Allowed	
	00	Speakerphone	Enabled	Disabled	
 Depress the HOLD key to place new data in memory. 			All station 13/1	7 LEDs (except 19) g	jo off.
6A) Return to Step 2 in order to continue with this program					
6B) Go to Step 2 in another program table					
or 6C) Transfer data into working memory per Par- agraph 02.06 .			SET LED goes of Station 13/17 L New data is stor	f. ED 19 goes off. ed, previous data is	erased.

NOTE:

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TABLE 54 PROGRAM 5#XX STATION CLASS OF SERVICE #2

1) Lock in the SET switch on the HKSU.			SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.			
2) Depress	the SPKR key on station 13/17.	SPKR L	ED steady on.	4 ^{,-}	
3) Dial 5 # X of station	on the dial pad (XX = the number (s) to be programmed).	SPKR L The var	ED flashes continu ious LEDs indicate	Jously. present data.	
4) Refer to the System Record Sheet. Using the appropriate keys, turn their asso- ciated LEDs on or off, as required. If a key/LED is not shown, it is not used.			An X on the record sheet means the LED should be on. If the LED is already on, depressing the associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set			ould ated y be set.
	KEY/LED	FEATURE		LED ON	LED OFF	
	1/	Alphanumeric LCD		Equipped	Not Equipped	
	16	Station-to-station Message Waiting w/L		Allowed	Not Allowed	
	15			Assigned	Not Assigned	
	14	Forced Account Code		Required	Not Required	
	13	Hold Restriction Override Code Change		Allowed	Not Allowed	
	12~10	Automatia Puer Padial Assass	······	<u> </u>		
	0.09	Automatic Busy Redial Access		Enable	Disabled	
	07 - 04	Automatic Off-hook Selection (94 - 91)		Enable	Disabled	
	03	Automatic Off-hook Selection (INT)		Enable	Disabled	
	02	Binging Line Preference			Disabled	
	00	Automatic Dialing		Allowed	Disabled	
┝╴				Allowed	Not Allowed	L
5) Depress 1 memory.	the HOLD key to place new data in	All stati	on 13/17 LEDs (e:	xcept 19) go off.	
6A) Return to Step 2 in order to continue with this program						
6B) Go to Step 2 in another program table						
6C) Transfer data into working memory per Par- agraph 02.06 .		SET LEI Station New da	D goes off. 13/17 LED 19 goe ta is stored, previo	es off. us data is erased.		

NOTES:

1. For multiple station programming, refer to Paragraph 02.10.

2. If a station is programmed to automatically select a trunk group (9 or 91 ~ 94), it will select the last available line in that group unless a line in that group is ringing—it will select the ringing line.

PROGRAM 6XX STATION TOLL RESTRICTION/LCR CLASSIFICATION

1) Lock in the SET switch on the HKSU.			SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.			
2) Depres	s the SPKR	key on station 13/17.	SPKR LED s	teady on.		•
 Dial IX on the dial pad (XX = the number of the station(s) to be programmed). 			SPKR LED fl An LED indi	ashes contir cates presen	nuously. t data.	
4) Refer to the System Record Sheet. Using the various keys, turn an associated LED on or off, as required. The detailed mean- ing of each key/LED is shown below.			An X on the record sheet means the LED should be on. Only one LED may be on; depressing another key will turn that LED on and turn off the previous LED.			LED should another key revious LED.
	KEY/LED	FEATURE		LED ON	LED OFF	
	12	LCR Class 3 (Vle only)	••• •••••••••••••••••••••••••••••••••••	Selected	None	
	11	LCR Class 2 (Vle only)	······································	Selected	None	
	10	LCR Class 1 (Vle only)		Selected	None	
	07	Digit-Free		Selected	None	
	06	Class 4*		Selected	None	
	05	Class 3*		Selected	None	
	04	Class 2*		Selected	None	
	03	Class 1*		Selected	None	
	02	Restrict 0 or 1 as 1st and 2nd	digit	Selected	None	
	01	Allow 1 + Office Code only		Selected	None	
	00	No Restriction		Selected		
5) Depres memor	ss the HOLD ry.	key to place new data in	All station 1	3/17 LEDs (except 19) g	jo off.
6A) Return to Step 2 in order to continue with this program						
6B) Go to Step 2 in another program table						
6C) Transfer data into working memory per Par- agraph 02.06.			SET LED goe Station 13/ New data is	es off. I 7 LED 19 g stored, prev	oes off. ious data is	erased.

*NOTES:

For multiple station programming, refer to Paragraph 02.20.
 See Toll Restriction; Programs 100, 1X1, 1XY, 1XZ, and 2XY.

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TABLE 56

PROGRAM 6#XX STATION-TO-STATION HUNTING

1) Lock in the SET switch on the HKSL	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station*13/17.	
2) Depress the SPKR key on station 13/	′17.	SPKR LED steady on.
 Dial 3 X on the dial pad (XX = the root of the station(s) to be programmed). 	number	SPKR LED flashes continuously. The various LEDs indicate present data.
 Refer to the System Record Sheet. This program defines the station hun nation. Dial the 2-digit number using pad. 	As each digit is entered, the entry is verified by LEDs as shown below.	
		Key/LEDStart1st Digit2nd Digit11Steady10FlashSteady
Binary Numbers: 03 X = LED on 02 All LEDs off = no data 01 00	1 2 	3 4 5 6 7 8 9 0 X X X X X X X X X X X X X X X X X X X X X X X X X X X X X
 Depress the HOLD key to place new memory. 	data in	All station 13/17 LEDs (except 19) go off. New data is stored, previous data is erased.
 6A) Return to Step 2 in order to continuthis program or or 6B) Go to Step 2 in another program ta or or 6C) Transfer data into working memory agraph 02.06. 	ue with able per Par-	SET LED goes off. Station 13/17 LED 19 goes off.

NOTE:

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TABLE 57

PROGRAM 7XX STATION OUTGOING CALL RESTRICTION

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
 Dial 2XX on the dial pad (XX = the number of the station(s) to be programmed). 	SPKR LED flashes continuously. CO LEDs indicate present data.
 4) Refer to the System Record Sheet. Using the appropriate keys, turn their associated LEDs on or off, as required. LED ON = Restricted outgoing calls. Each CO key/LED represents itself—that is, if LED 01 is on, then the station being programmed (XX) is restricted from outgoing calls on CO1, etc. 	An X on the record sheet means the LED should be on. If the LED is already on, depressing its associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
 6A) Return to Step 2 in order to continue with this program 6B) Go to Step 2 in another program table 6C) To feedback 	
6C) Transfer data into working memory per Par- agraph 02.06.	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

NOTE:

PROGRAM 81XX ~ 89XX CO RINGING ASSIGNMENTS (DAY/DAY2/NIGHT)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station-13/17.						
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.						
 Dial IXX on the dial pad (Y = 1 ~ 9*; XX = the number of station(s) to be programmed). 	SPKR LED flashes continuously. CO LEDs indicate present data.						
 4) Refer to the System Record Sheet. Using the appropriate keys, turn their associated LEDs on or off, as required. LED ON = Ringing assigned. Each CO key/LED represents itself—that is, if LED 01 is on, then the station being programmed (XX) is allowed access to CO1, etc. 	An X on the record sheet means the LED should be on. If the LED is already on, depressing its associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.						
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.						
 6A) Return to Step 2 in order to continue with this program or 6B) Go to Step 2 in another program table or 6C) Transfer data into working memory per Paragraph 02.06. 	SET LED goes off. Station 13/17 LED 19 goes off.						
	New data is stored, previous data is erased.						
*1 = DAY—immediate 4 = DAY 2—immediate 7 = NIGHT—immediate 2 = DAY—12-seconds delay 5 = DAY 2—12-seconds delay 8 = NIGHT—12-seconds delay 3 = DAY—24-seconds delay 6 = DAY 2—24-seconds delay 9 = NIGHT—24-seconds delay							

NOTE:

For multiple station programming, refer to Paragraph 02.10.

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TABLE 59

PROGRAM 9#XX DOOR PHONE ASSIGNMENTS

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.
2) Depress the SPKR key on station 13/17.	SPKR LED steady on.
 Dial I I X on the dial pad (XX = the number of the station(s) to be programmed). 	SPKR LED flashes continuously. CO LEDs indicate present data.
 4) Refer to the System Record Sheet. Using the appropriate keys, turn their associated LEDs on or off, as required. LED ON = Access allowed. Each CO key/LED represents itself—that is, if LED 01 is on, then the station being programmed (XX) is allowed access to CO1, etc. 	An X on the record sheet means the LED should be on. If the LED is already on, depressing its associated key will turn it off and vice versa. LEDs may be turned off and on until the desired pattern is set.
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
 6A) Return to Step 2 in order to continue with this program 6B) Go to Step 2 in another program table or 	
6C) Transfer data into working memory per Par- agraph 02.06 .	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

NOTE:

PROGRAM *X# FLEXIBLE ACCESS CODE NUMBERING

1) Lock in the SET switch on the		SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.										
2) Depress the SPKR key on station	<u>n 13/</u>	<u>17.</u>		SPK	R LED) stea	ady o	n			:	······································
 Dial X on the dial pad. (X = feature access code number) 	er).			SPK LED	R LEC s indi) flas cate	hes o prese	contir ent da	iuou ta.	isly.		
 Using the dial pad, enter the new access code. 	v digits	3 of th	ıe	As each digit is entered, the entry is verified by LEDs as shown below.								
		Key	/LEI	D	Sta	rt	1st	Digit	:]	2nd Digit		
			11							Steady		
	ļ	<u> </u>	10		Flas	sh	Steady					
Binary Nur	bers:		2	3	4	5	6	7	8	9	0	
X = (ED on	03	┝───┦		<u> </u>					<u>X</u>	<u> x</u>	<u> </u>	
All LEDs off = no data	02	┝┦			X	X	X	X				
	00	X		Ι Â		X		Ŷ		+x	<u> </u>	
5) Depress the HOLD key to place new data in memory.					tatior	n 13∕	′17 L	EDs (exc	ept 19)) go	off.
6A) Go to Step 2 in another progr	am ta	ble										
or												
6B) Transfer data into working memory per Par-				007			- 11					
ayrapri U2.U0 .				-S⊏I Stati	LEU	goes २∕17		19 ~	000	off		
				New	data	is st	ored.	prev	ious	data	is er	ased.

•

PROGRAMMING PROCEDURES SECTION 500-036-300 JANUARY 1988

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TABLE 61

PROGRAM *XX FLEXIBLE INTERCOM NUMBERING

1) Lock in the SET switch on the HKSU.						SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17.								
2) Depress	the SPKR	key on st	ation 13/	´17.		SPK	R LE	D ste	ady c	n.				
3) Dial	on the dia number).	al pad (XX	= the sys	tem i	n-	SPKR LED and LED 10 flash continuously.								
 Refer to the System Record Sheet. Enter the 4-digit Toll Restriction Override Codes via the dial pad. 					de	As each digit is entered, the entry is verified by LEDs as shown below.								
	Key/LED	Start	1st Dig	it	2n	ıd Digi	t	3rd	Digit		4th	Digit]
	12	· · · · · · · · · · · · · · · · · · ·									Steady			
	11				5	Steady		Steady						
	10	Flash	Steady	<u></u>	1	Steady								
		Binary	Numbers:	1	2	3	4	5	6	7	8	9	0	
	X = I FF) 00	03		+				<u> </u>			X	X	-
All LE	Ds off = no d	data	01		+		<u> </u>		X				<u>-</u>	
				X		$+\hat{\mathbf{x}}$		+ v	<u> </u>				X	
 Depress the HOLD key to place new data in memory. 						All station 13/17 LEDs (except 19) go off. New data is stored, previous data is erased.					off. ased.			
6A) Go to Step 2 in another program table														
6B) Transfer data into working memory per Par- agraph 02.06.					SET LED goes off. Station 13/17 LED 19 goes off.									

PROGRAM #1XX*YY AUTOMATIC DIALING PROGRAMMING FROM STATION 17 (Requires LCD EKT)

1) Lock in the SET switch on the HKSU.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station-13/17. LCD: PROGRAM MODE
2) Depress the SPKR key on station 13/17.	SPKR LED steady on. LCD: PROGRAM NO.?.
 Dial IX I on the dial pad. XX = the number of the station(s) to be pro- grammed (XX must = 10 for System Auto Dial). 	LCD: (displays dialed digits)
4) Depress the key.	LCD: (displays dialed digits)
5) Refer to the System Record Sheet. Dial YY (YY = Auto dial code: $10 \sim 49$, per- sonal; $60 \sim 99$, system).	LCD: (displays dialed digits) DATA =
 Depress the auto dial digits (insert pauses via key 16 and flashes via key 17. 	LCD: (displays dialed digits)
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off. LCD: DATA PROGRAMMED
 8A) Return to Step 2 in order to continue with this program or 8B) Go to Step 2 in another program table 	
or	
8C) Transfer data into working memory per Par- agraph 02.06 .	SET LED goes off. Station 13/17 LED 19 goes off. New data is stored, previous data is erased.

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TOSHIBA SYSTEM PRACTICES ELECTRONIC KEY TELEPHONE SYSTEM

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Strata S_e / VI_e

Release 2

FAULT FINDING PROCEDURES

STRATA S_e/VI_e

FAULT FINDING

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ILLUSTRATION LIST

FIGURE		TITLE	PAGE
1	FLOWCHART	SYMBOLS	1

01 GENERAL

01.01 This section describes the maintenance procedures used for the diagnosis of faults in this electronic key telephone system. Faults are classified and then cleared by replacing the apparatus and performing operational tests in the sequences prescribed by the fault clearing flow-charts in Paragraph **05**.

02 FAULT CLASSIFICATION

02.01 A Fault Classification Flowchart is provided to ensure that fault clearing is pursued in a logical sequence (Chart No. 1).

02.02 An assumption is made in the flowcharts that the fault was discovered and reported by an EKT user. All faults, therefore, are classified according to the way they would appear at the EKT.

02.03 Faults and associated flowcharts in Table A are organized into the following categories:

TABLE A — FLOWCHARTS				
Flowchart	Title			
1	Fault Classification			
2	Power Faults			
3	Station Faults			
4	HKSU Faults			
5	CO Line Faults			
6	MOH Faults			
7	Page/BGM Faults			
8	Door Phone Faults			
9	SMDR Faults			
10	OPX Faults			
11	OPL Faults			
12	Remote Maintenance Faults			

03 FAULT CLEARING PROCEDURES

03.01 Before attempting to clear any fault, ensure that it is in the system and not caused by associated external equipment, such as wiring, MOH source, etc.

IMPORTANT!

Many system features are assigned, enabled or disabled using software entries as described in Programming Procedures. Further, with the exception of Programs 5XX ~ 9XX, programming changes are not effective until the new data has been secured in working memory (see Paragraph 02.06 of Programming Procedures). It is important to verify that the system programming is correct and functional before troubleshooting the hardware. **03.02** In new systems, or when the SCCU/VCCU PCB has been changed, the initialization procedure must be performed before testing. The system data stored on the original SCCU/VCCU will be protected from loss by the backup battery on that PCB. Therefore, the initialization sequence *should not* be performed if the original PCB is reinstalled.

03.03 Faults in the system are cleared by replacing PCBs, EKTs or the power supply, as instructed in the flowcharts.

03.04 Five symbols are used in the flowcharts, which are identified in Figure 1.



FIGURE 1—FLOWCHART SYMBOLS

03.05 The flowcharts are sequentially arranged to permit rapid fault localization within the system. All fault clearing must begin with the Fault Classification Flowchart, which is arranged in the correct fault locating sequence.

03.06 The following precautions must be observed when handling PCBs.

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DO NOT:

- Drop a PCB.
- Stack one PCB on top of another.
- Handle a PCB without discharging any static electricity from your person by touching the grounded HKSU.
- Touch PCB contacts with your fingers.

IMPORTANT!

If the fault is not cleared by substituting a PCB, the original PCB must be reinstalled in the HKSU before trying another PCB.

04

DEFECTIVE APPARATUS RETURNS

04.01 When a defective system apparatus is shipped for repair, the apparatus must be packed in a suitable container (the original box is highly recommended), as follows:

- a) Anti-static container for the SSTU, SCOU, VCOU and SMOU PCBs.
- b) Paper container for the VCCU PCB.
- c) Plastic bags for EKTs, HKSU, etc.

04.02 NEVER WRITE ON THE APPARATUS IT-SELF! Describe the nature of the defect on an information tag. Attach the tag to the front of the unit with string (not wire) so the tag can remain attached during the testing and repair process.

04.03 If different and/or additional faults are created in the system by substituting a PCB, tag and return the substitute PCB as a defective unit.

05

FAULT IDENTIFICATION

and ELIMINATION PROCEDURES

05.01 The SCCU/VCCU PCB may contain a "soft" fault due to static electricity. If it is found defective during the fault finding procedures, attempt to clear a soft fault prior to returning the SCCU/VCCU PCB for repair. The correct procedure for this is to reinstall the SCCU/VCCU, perform the initialization procedure, and then reprogram the system as necessary to test for the fault. If the fault returns after these procedures are performed, tag the defective SCCU/VCCU PCB and return it for repair.

06 POWER SUPPLY

06.01 If a power supply fault is suspected, the power supply should be removed from the HKSU after unplugging the power cable. Using a voltmeter, check the power supply output voltages at the power supply cable connector per the diagram below:

	STRATA	۷I _e -	– HPSU	7120) (P1	co	nne	ctor	·):
RD	BLK	8RN	BLK		Ŵ	н	BLI	ĸ	GRN
+5	5VE	+12	12VE		+2	4	24	VE	FG
٠	•	٠	•	٠	•	•	•		٠
1	2	3	4	56		7	8	9	10
	STRATA	Se-	– HPSU	6120) (P7	cor	nne	ctor):
BRN +12	RD +5	BLK 5∨E	BLK 12VE		8LK 241	BLK VE	WH +2	WH 24	
٠	•	٠	٠	٠	•		F		٠
1	2	3	4	5	6	7	8	9	10

06.02 Voltages should fall within the following ranges:

Nominal	Range
+24	+23.0~29.0
+12	+10.8~13.2
+ 5	+4.75 ~ 5.25

06.03 If voltage checks indicate a power supply fault, replace the HPSU with a correctly operating unit. Refer to the *Installation* section of this manual for HPSU installation procedures.

07

STATION CABLE CONTINUITY CHECK

07.01 Voltmeter Test

07.02 The continuity of the cable run between the HKSU and the EKT is checked with a voltmeter as follows:

NOTE:

Perform the following at the locations indicated:

- 1. Modular block: Check all station cables.
- 2. MDF: Check cable from HKSU to MDF.
- 1) Disconnect the EKT.
- 2) Using a DC voltmeter, measure between the wires of the two pairs to verify the readings shown in Table B.
- 3) An improper reading indicates an open, crossed or shorted wire.

4) For the MDF-to-EKT cable, a more precise check is made using an ohmmeter.

TABLE B

STATION CABLE CONTINUITY CHECK USING VOLTMETER

FROM				TC)	VOLTAGE*
Pair	Wire	Color	Pair	Wire	Color	
1	Т	Green	2	Т	Black	24
1	R	Red	2	Т	Black	24
1	Т	Green	2	R	Yellow	24
1	R	Red	2	R	Yellow	24
1	Т	Green	1	R	Red	0
2	T	Red	2	R	Yellow	0
3	Т	White	3	R	Blue	0
3	Т	White	1	R	Red	0
3	R	Blue	1	R	Red	0
3	Т	White	1	Т	Green	0
3	R	Blue	1	Т	Green	0
3	T	White	2	Т	Black	0
3	R	Blue	2	Т	Black	0
3	Т	White	2	R	Yellow	0
3	R	Blue	2	R	Yellow	0

*Nominal voltage—within the power supply limits of $+23.2 \sim 28.2$ VDC while under AC power.

07.10 Ohmmeter Test

07.11 The continuity of the cable run between the HKSU and the EKT is checked with an ohmmeter as follows:

- 1) Disconnect the EKT.
- 2) At the MDF, remove the bridging clips.
- Using an ohmmeter, measure the resistance between all combinations of the four wires at the modular block. All measurements should exceed 1 M ohm.
- 4) At the MDF, place shorting jumper wires between the T and R of pair #1 (green-red), the T and R of pair #2 (black-yellow), and the T and R of pair #3 (blue-white).
- 5) At the modular block, measure the resistance between all wire combinations. The proper readings are shown in Table C.

TABLE C

STATION CABLE CONTINUITY CHECK USING OHMMETER

FROM			TO			RESISTANCE
Pair	Wire	Color	Pair	Wire	Color	
1	Т	Green	2	Т	Black	1M ohm
1	R	Red	2	Т	Black	1M ohm
1	Т	Green	2	R	Yellow	1M ohm
1	R	Red	2	R	Yellow	1M ohm
1	Т	Green	1	R	Red	55M ohms⁺
2	Т	Black	2	R	Yellow	55M ohms*
3	Т	White	3	R	Blue	55 ohms⁺
3	Т	White	1	R	Red	1M ohm
3	R	Blue	1	R	Red	1M ohm
3	T	White	1	Т	Green	1M ohm
3	R	Blue	1	Т	Green	1M ohm
3	Т	White	2	Т	Black	1M ohm
3	R	Blue	2	Т	Black	1M ohm
3	т	White	2	R	Yellow	1M ohm

*NOTE:

The green-red and black-yellow measurements should be within 10% of each other.

CHART NO. 1 FAULT CLASSIFICATION

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CHART NO. 1 FAULT CLASSIFICATION (cont.)

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CHART NO. 1 FAULT CLASSIFICATION (cont.)



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CHART NO. 2 POWER FAULTS (cont.)



C-

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CHART NO. 3 STATION FAULTS





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-12-

CHART NO. 7 PAGE/BGM FAULTS



-13-



CHART NO. 8 DOOR PHONE FAULTS

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CHART NO. 8

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cleared?

END

YES

assistance.

CHART NO. 8 DOOR PHONE FAULTS (cont.)

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CHART NO. 12 REMOTE MAINTENANCE FAULTS



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REMOTE ADMINISTRATION MAINTENANCE PROCEDURES

Release 2

PROGRAMMING PROCEDURES

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FIGURE

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01 USING REMOTE ADMINISTRATION/MAINTENANCE

01.01 Table A is provided as a quick reference aid in using this section.



02 GENERAL DESCRIPTION

02.01 Remote Administration/Maintenance is accomplished with a remote terminal/modem communicating over the public telephone network via a Data Terminal Unit (DTU) installed in the STRATA_e HKSU. The DTU contains a built-in modem so an external, customer-supplied, modem is not required (see Figure 1).



FIGURE 1—SDTU/HDTU CIRCUIT DIAGRAM

02.03 Remote Administration/Maintenance calls may connect to the DTU automatically via programmable CO line ringing assignments (**Programs 81XX** ~ **89XX**); or manually via the standard call transfer feature. Automatic connection allows remote programming to be accomplished after business hours without on-site assistance via night ringing assignments.

02.04 Remote Administration/Maintenance allows the following functions to be accomplished remotely:

- **Program Mode:** Provides for complete programming of all STRATA_e programs (including auto dial adds/changes).
- **Test Mode:** Provides for testing of STRATA_e CO lines and stations.
- **Data Dump Mode:** Provides a complete printout of all or individual STRATA_e customer data base programs.

Message Mode: Provides for sending, adding, or changing EKT LCD messages.

NOTE:

For STRATA XII_e/XX_e only, all the functions in the preceeding paragraph are also available via a terminal connected directly to the on-site HDTU PCB (Paragraph **05**).

02.05 There are two levels of Remote Administration/Maintenance:

Level 1: Allows access to all programs.

Level 2: Allows access to Programs 4XX ~ 9#XX, which pertain only to individual station options such as key assignments, class of service, etc.

02.06 Each Remote Administration/Maintenance level has a different programmable security code for customer data base protection. This allows customers to make certain station moves, adds, and changes in Level 2; while protecting the critical system assignments in Level 1.

03 HARDWARE REQUIREMENTS

03.01 The STRATA_e HKSU must be **Release 2**, with one of the following model numbers printed on the cabinet label:

S_e: HKSU 605 VI_e: HKSU 705 XII_e: HKSU 805 XX_e: HKSU 905

03.02 A Data Terminal Unit (DTU) must be installed; the DTUs for each STRATA_e model are as follows: HDTU: STRATA XII_e/XX_e

SDTU: STRATA Se/VIe

NOTE:

For STRATA XII_e/XX_e , the HCAU and HINU must be model 5 or above.

04 SET-UP

04.00 General

04.01 This section assumes that the system has been properly installed per the appropriate section in this manual.

04.02 The following items must be completed on-site for Remote Administration/Maintenance to be operational.

04.10 Hardware Verification

04.11 Verify the SDTU/HDTU is installed per instructions in the appropriate installation section of this manual.

NOTE:

The **SET** switch on the HDTU should be in the released (out) position.

04.20 Programming

04.21 Set the DTU bps rate to match that of the terminal via **Program 0#2** using standard STRATA_e programming procedures from station 13/17.

04.22 If Remote Administration/Maintenance calls are to connect to the DTU automatically, assign the designated CO lines to ring the DTU intercom number (69) in **Programs 81XX** ~ **89XX** as required (use standard STRATA_e programming procedures).

04.23 Program the security codes for Levels

1 and 2 from station 13/17 per Table B.

NOTE:

The security codes are initialized as "0000". These codes may also be changed via a local or remote terminal.

04.30 On-site Testing

04.31 From any working station, test the functioning of the DTU:

- Depress the INT key.
 Receive intercom dial tone
- 2) Dial 6 9.
 - Receive modem tone from the DTU after a 2-second delay.
- 3) Depress the SPKR key to release.
- 4) Make an incoming call over each CO line that is programmed to ring the DTU (station 69).
 - Receive modem tone from the DTU after a 2-second delay with each call.

TABLE B PROGRAM 001/002 SECURITY CODE ENTRY (Levels 1 and 2) (LCD EKT REQUIRED)

1) Lock in the SET switch.	SET LED on. Station 13/17 LED 19 on. System is in program mode. Normal functions halt on station 13/17. LCD: PROGRAM MODE
2) Depress the SPKR key on station 13/17.	SPKR LED steady on. LCD: PROGRAM NO.?
3) Dial 331 (032) on the dial pad.	SPKR LED flashes continuously. LCD: DATA = (indicates present data)
 4) Refer to the System Record Sheet. Using the dial pad, enter the 4-digit security code (XXXX —X = 0 ~ 9) 	LCD: (displays code entered)
 Depress the HOLD key to place new data in memory. 	All station 13/17 LEDs (except 19) go off.
6) Transfer data into working memory by de- pressing the following keys in the order given: SPKR # 7 9 00 01 04 05 08 09 12 13 HOLD .	Appropriate LEDs indicate data entered. LCD: (displays codes entered) New data is stored, previous data is erased.
7) Release the SET switch.	SET LED goes off. Station 13/17 LED 19 goes off.

NOTE:

This test checks basic programming and DTU operation, and should be completed before continuing with Remote Administration/Maintenance installation.

5) If a terminal is to be utilized on-site (XII_e/ XX_e only), refer to Paragraph **05**.

05 LOCAL TERMINAL

05.00 Requirements

05.01 The HKSU must have the HDTU card installed.

05.02 The local terminal must have an EIA RS-232 interface, communicate in ASCII code at 300 or 1200 bps, a standard typewriter-type keyboard, and display data via a CRT display or printer. A personal computer capable of emulating the described terminal may also be used (see Figure 2 and Paragraph **14**).

05.03 Operating the terminal, local or remote, is identical. The only difference is the physical connection and the method used to establish initial communications.

05.10 Set-up

05.11 Refer to Figure 2 and verify that the local terminal is connected and set-up as follows:

1) Connect the RS-232 cable to the terminal's connector and the HDTU's female RS-232 connector.

NOTE:

If a personal computer is being used, connect the cable to the serial "COM" port.

- 2) Set the terminal baud rate to match the HDTU or vice versa.
- 3) Set the terminal for "Full Duplex" operation.
- 4) Set the keyboard for "Caps Lock" on.
- 5) Set the terminal parameters to: Word length: 7 bits Stop bits: 1 Parity: Even

NOTE:

Hereafter, whenever the term "CF," is used, it means the return or enter key, depending on the keyboard being used. "SPACE"



FIGURE 2—LOCAL TERMINAL CONNECTION

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means the space bar. An empty square indicates one of several characters will appear in that location (either on the terminal's screen or in a printout).

05.20 Local Operation

05.21 Use the procedure below to establish communications between the local terminal and the HDTU so that programming may be accomplished via the terminal.

- 1) Set-up the terminal as described in Paragraph **05.10**.
- Verify that the SET switch on the HCAU is in the unlocked (out) position and the SET LED is OFF.
- 3) Depress the SET switch on the HDTU and allow it to lock (in).
- 4) Verify that the SET LED is ON.
- 5) Set the terminal to on-line.
- 6) Set "Caps Lock" on (upper case).
- 7) Depress CR key.
 - The system responds, and the terminal displays: CODE STRATA_e RELEASE:2 REVISION: X#

NOTE:

- $X = STRATA XII_e \text{ or } XX_e.$
- # = the software revision number.
- 8) Type the 4-digit security code, and depress
 - The system responds, and the terminal displays: OK
 - MODE

NOTE:

The security code can be entered any time the CODE prompt appears.

9) To continue, go to Paragraph 07.

06 REMOTE TERMINAL SITE

06.00 Requirements

06.01 Terminal: The terminal must interface with an asysncronous modem, communicate in ASCII code at 300 or 1200 bps, have a standard typewriter-type keyboard, and display data via a

CRT display or printer. A personal computer capable of emulating the described terminal may also be used (see Figure 1 and Paragraph 14).

06.02 Modem: The modem must be asysncronous, operate at 300 or 1200 bps and have an RS-232 interface to connect with a terminal or PC (as described in Paragraph **05**). It must interface with the public telephone network and be compatible with Bell 103 or 212 modem specifications.

06.10 Set-up

06.11 Refer to Figure 1 and verify that the remote terminal is connected and set-up as follows:

1) Connect the terminal and modem together with the RS-232 cable.

NOTE:

If a personal computer is being used, connect the cable to the serial "COM" port.

- Connect the modem line input to a CO/PBX line for access to the public telephone network.
- 3) Set the terminal and modem baud rate to match the HDTU or vice versa.
- 4) Set the terminal and modem for "Full Duplex" operation.
- Set the terminal parameters to: Word length: 7 bits Stop bits: 1 Parity: Even

NOTE:

Hereafter, whenever the term "CF" is used, it means the return or enter key, depending on the keyboard being used. "SPACE" means the space bar. An empty square indicates one of several characters will appear in that location (either on the terminal's screen or in a printout).

06.20 Remote Operation

06.21 Automatic connection via ringing assignments: To establish communication between the remote terminal and the DTU, call the number of the system CO line assigned to ring the DTU via the remote terminal/modem set-up:

- 1) Observe the following:
 - When the CO line rings-in, it will connect

to the DTU and the DTU will respond by returning modem tone to the remote modem.

- The remote modem will return modem tone to the DTU and communication will be established.
- When communication is established, the terminal will display something like: CONNECTED or COMMUNICATIONS (see Note).
- 2) To continue, enter the security code per Paragraph 06.30.

06.23 Manual connection via call transfer:

- 1) Using a telephone (at the remote location) that can switch to the terminal/modem, dial the number of a system CO line.
- 2) When the call is answered, request that it be transferred to station 69 (the DTU).
- After the call is transferred and communication is established with the DTU, switch the call from the telephone to the terminal/ modem.
- 4) Observe the following:
 - When the CO line is transferred, it will connect to the DTU.
 - The DTU and the remote modem will respond to each other with modem tone and communication is established.
 - When communication is established, the terminal will display: CONNECTED or COMMUNICATIONS (see Note)
- 5) To continue, enter the security code per Paragraph 06.30.

NOTE:

If the connection is not completed or communication is unsuccessful, the remote terminal will display: NO CARRIER

6) If this is the case, check that the equipment is installed per Paragraph 05.10 or 06.10 of this section and try again.

06.30 Operation

06.31 Once communication is established between the remote terminal and the DTU, follow the steps below to enter the security code and receive the MODE prompt.

- 1) Set the keyboard for "Caps Lock" on.
- 2) Depress the CR key.
 - The system responds, and the terminal displays: CODE STRATA_e RELEASE:2 REVISION: S#, VI#, or X#

NOTE:

- $S = STRATA S_{R}$
- $V = STRATA VI_{e}$
- $X = STRATA XII_e \text{ or } XX_e$
- # = the software revision number
- 3) Enter the 4-digit security code and press the CFI key.
 - The system responds, and the terminal displays: OK

MODE

4) To continue, go to Paragraph 07.

07 MODE SELECTION

07.00 Making Selection

07.01 To enter an operating mode (Program, Data Dump, Test, or Messages), establish communication with the terminal, enter the security code, and depress the **CR** key to receive the MODE prompt.

NOTE:

Refer to Paragraphs **05.10** or **06.10** to accomplish the above.

- Set the keyboard for "Caps Lock" on (the mode name must be entered in capital letters).
- 2) At the MODE prompt, enter the desired mode name (Table C).
- 3) Depress the CR key.
- 4) Verify the correct prompt return (Table C).

TABLE C-PROGRAMMING PROMPTS				
Mode Function	Mode Name	Prompt Return		
Program	PROG	Р		
Data Dump	DUMP	D		
Test	TEST	T		
Message	MESG	OK*		

*OK is only displayed once when first entering the Message Mode.

08 PROGRAM MODE

08.00 General

08.01 Data governing overall system operation and feature execution for the systems are stored in read-only memory (ROM) and cannot be altered in the field. However, the data controlling operation of the various options, both system and station, are stored in random-access memory (RAM) and can easily be changed according to individual installation requirements.

08.02 All options are controlled by selections made in the system data tables. An initialization process is provided for verifying predetermined system assignments. The installer can then proceed with any necessary changes.

08.03 Internal battery power is provided to prevent loss of system data memory in the event of a power failure.

08.10 System Record Sheets

08.11 Before system data can be programmed, the System Record Sheet which contain the customer data base must be available. (See Paragraph **03** of the appropriate programming section in this manual.)

08.20 Program Types

08.21 There are two types of programs:

Type 1: In the majority of programs (Type 1), each key/LED has a different meaning, depending on the program number being used. The status of these data is reviewed, changed, and stored in system memory using Type 1 program procedures.

The terminal displays the data in Type 1 programs as follows:

- Y = LED "ON"
- N = LED "OFF"
- U = In group programs, the LED is "ON" for at least one, but not all stations in the group.
- **Type 2:** In this type program, the information shown in the System Record Sheet indicates the data to be stored in system memory. Each program has a different meaning, and the data is reviewed, changed or stored in memory using an individual procedure for each program.

08.30 Multiple Station Programming

08.31 Programs 3XX \sim **89XX** select options for individual stations (where XX represents the station number(s) being programmed). To save time, it is possible to program all stations or groups of stations simultaneously.

08.32 Multiple station programming is accomplished by substituting a special group code for the station number part (XX) of the program.

- **00:** All stations; all systems
- 01: Stations $10 \sim 17$ 02: Stations $18 \sim 25$ VI_e, XII_e, XX_e
- **03:** Stations $26 \sim 33$ XII_e, XX_e
- **04:** Stations $34 \sim 41$
- 05: Stations 42 ~ 49
- 06: Stations 50 \sim 57 XX_e
- **07**: Stations 58 \sim 65

08.33 When the multiple station group code is entered, the terminal displays existing data as follows:

- Y or N: Data is the same for all stations in the dialed group.
- U: Data is selected for at least one, but not all stations in that group.

08.34 To store data in temporary memory and exit the current program: At any time when in the programming mode, press the **CF** key.

08.35 To store data in working memory: At the "P" prompt, enter #*9\$003333 and press the **GR** key.

IMPORTANT!

Data must be in working memory to affect system operation.

08.40 Programming Procedures

- 1) Refer to a completed System Record Sheet.
- 2) Place the terminal into the program mode per Paragraph **07**.
- Program procedures are categorized and given in the order below. Use these procedures to store System Record Sheet data in working memory.
 - a) Initialization Procedures
 - b) Type 1 Programs: Station Assignments System Assignments (Basic/Toll Restriction)

c) Type 2 Programs: Miscellaneous Program Procedures Toll Restriction Assignment Procedures Least Cost Routing (LCR) Assignment Procedures

08.50 Initialization Procedures

08.51 Use the procedure in Table D to clear data in the various memory locations as required. This data must be cleared whenever a system is installed.

08.60 Type 1 Programs

08.61 Use the procedure in Table E to enter data for the following programs.

- 01: System Assignments (Basic)
- 0#1: Door Phone Selection
- 02: System Assignments (Options)
- 0#2: Account Code Digit Length Modem/ ABR/TIE Line/OPX Selection
- 03: System Assignments (Options)
- 04: CO Line Outpulsing Selection
- **05:** Automatic Recall From Hold Timing
- 0#5: Camp-on Timeout
- 06: Automatic Release On Hold Enable
- 0#6: Trunk-to-Trunk Connection Enable
- 07: Automatic Release On Hold Timing
- 0#7: 1A2 Interface
- 08: Tenant Service Selection
- 0#8: Night Ringing Over External Page
- 09: Single CO Line (Dial 9) Group Selection
- 09X: CO Line (Dial 91 \sim 98) Group Assignments
- 0#9: Off-Premises Line Hunting
- 190: PBX Backup
- 100: Toll Restriction System Parameters
- 101: Toll Restriction Disable
- 102: Forced Account Code Check
- 3XX: Station CO Line Access
- **3#XX:** HOXB, HMDB, HTIB and HIOB Module Enable
- **4XX:** Station Type Assignment
- 5XX: Station Class of Service #1
- 5#XX: Station Class of Service #2
- 6XX: Station Toll Restriction/LCR Classification
- 7XX: Station Outgoing Call Restriction
- 81XX~83XX: CO Ringing Assignments-DAY
- 84XX~86XX: CO Ringing Assignments-DAY 2
- 87XX~89XX: CO Ringing Assignments-NIGHT 9#XX: Door Phone Ringing Assignment

08.62 The following steps outline the procedures found in Table E. Table E and those tables following can then be used as quick reference guides and not detailed step-by-step instruction sheets. The step numbers in this paragraph will' also appear in Table E.

NOTE:

Must be in Security Level 1 to perform this example.

- 1) Enter Program Mode.
- 2) Enter the program number. For example, to review or change **Program 0#2**, enter **0 2**.

NOTE:

For group program numbers, see Paragraph **08.30**.

3) Enter the Key/LED number. For example, Key/LED 00 entry is **1**.

NOTES:

- 1. Always start with the lowest number to be reviewed or changed.
- In programs dealing with CO lines, 01
 ~ 21 represent COs 01 ~ 21, respectively.
- 3. The Key/LED status (N, Y or U) is displayed when the entry is made.
- Refer to the System Record Sheet and change the Key/LED status if necessary (Y or N). For example, enter ☑.

NOTE:

In group programming, Y or N changes all stations in the selected group.

- 5) This is an optional step and is not required to save data. Entering **DEL SPACE** will review the previous Key/LED status change.
- 6) Press SPACE to advance upward to next higher Key/LED number. Continue to use SPACE to advance as needed.
- 7A) To exit a program and store data in temporary memory, press **CR**.
- 7B) Continue to return to Step 2 until all data input is completed for the program.

NOTE:

The steps and/or step numbers may or may not change depending upon the program. This is the sequence followed, however.

08.63 Type 2, Miscellaneous Program Procedures: Use the procedures in Tables $F \sim L$ to enter data for the following programs.

4#XX: Flexible Key Assignments #4: CO Line Identification

- *X#: Flexible Access Code Numbering
- *XX: Flexible Intercom Numbering
- #1XX*YY: Automatic Dialing (optional)6#XX: Station-to-Station Hunting19X: PBX Access Codes

08.64 Type 2, Toll Restriction Assignment Procedures: Use the procedures in Tables M \sim V to enter data for the following programs:

- 103: Equal Access #1
- 104: OCC Authorization Code Length #1
- 105: Equal Access #2
- **106:** OCC Authorization Code Length #2
- 108: Toll Restriction Override Code #1
- 109: Toll Restriction Override Code #2
- 1X0: Toll Restriction Class Parameters
- 1XY: Toll Restriction Class Area Code Entry
- 1XZ: Toll Restriction Class—Office Code Entry
- 2XY: Toll Restriction Area/Office Code Exception Table
- 1X1: Toll Restriction Class Area/Office Code Exception Table Selection

08.65 Type 2, Lease Cost Routing (LCR) Assignment Procedures: Use the procedures in Tables $W \sim AG$ to enter data for the following programs.

1#00: LCR Home Area Code
1#0X: LCR Special Codes
1#06: LCR Parameters
1#07X: Select Long Distance Information Route
1#08X: Select Local Call Route
1#09: Dial Zero (0) Timeout
1#XY: LCR Area Code Table
1#X8Y: LCR Route Definition
1#X8Y: LCR Route Definition
1#X50~ 53: Start Time A Schedule
1#X60~ 63: Start Time B Schedule
1#X70~ 73: Start Time C Schedule 1#9XY: Modified Digits Table 2#XY: LCR Area/Office Code Exception Table

09 DATA DUMP MODE

09.00 General

09.01 This mode allows three types of data to be displayed or output to a printer. 1) STRATA_e Programs (Customer Data Base). 2) Automatic Dialing Numbers (Personal/System). 3) LCD Messages (Personal/System).

09.02 The three procedures for the Data Dump mode are called: 1) Program Dump. 2) Automatic Dialing Dump. 3) LCD Messages Dump.

09.03 Program Dump: While in the dump mode, enter PRG and up to three characters and press **CR**. The three alphanumeric characters represent a program group or a particular program, i.e., ALL, 0, 1, 1#, 2, 2#, 3, 3#, 4, 4#, 5, 5#, 6, 6#, 7, 81, 84, 87, 9#. For a printout example, see the appropriate programming section in this manual.

NOTE:

Programs are output only in the groups indicated. To printout or review a program not included above, use Program Mode procedures.

09.04 Automatic Dialing Dump: While in the dump mode, enter "REP" and two or three characters and press **CF**. The characters represent the automatic dialing codes for either an individual station, **CF** (all stations and system data) **SMS** (system data only). For a printout example, see the appropriate programming section in this manual.

09.05 LCD Messages Dump: While in the dump mode, enter "MSG" and two or three characters and press **S**. The characters represent stored messages for either an individual station, **A I** (all stations and system data) **S N S** (system data only). For a printout example, see Figure 3.

09.06 Tables $AH \sim AJ$ provide a quick reference to the step-by-step procedures to output the appropriate data.

#00 M60 OUT TO LUNCH #00 M61 IN A MEETING #00 M62 CALL #00 M63 BACK AT #00 M64 RETURN ON #00 M65 #00 M66 #00 M68	>MODE D MSG	DUMP SYS	
#00 M69 D	#00 #00 #00 #00 #00 #00 #00 #00 #00 #00	M68 M61 M62 M63 M64 M65 M65 M66 M68 M69	OUT TO LUNCH IN A MEETING CALL BACK AT RETURN ON

FIGURE 3—SAMPLE PRINTOUT OF SYSTEM MESSAGES

10 TEST MODE

10.00 General

10.01~ The remote test mode can be used to test STRATA_e stations and CO line circuits from an off-site location.

10.02 This testing function is accomplished by accessing stations from the remote terminal, and activating various keys on the EKT to make telephone calls, set function keys, change the system time and date, etc. (see Figure 4).

IMPORTANT!

Any EKT key can be activated from the remote terminal at any time while in the Test Mode (even while the end user is using the EKT). Therefore, caution must be used to prevent service interruption or interference. The Test Mode provides status tests to check whether or not a station or CO line is in use. The status checks should always be made before performing other tests.

10.10 CO Line Testing

10.11 To test CO line transmission, two or three CO lines must be available at the remote site (see Figure 4).

10.12 CO line testing is accomplished by using all of the following three methods:

- 1) Call Station B at the remote site via the STRATA system and then place the line on hold (transmission is checked at the remote site via MOH).
- Establish a talk path between the two remote stations (B & C) via a trunk-to-trunk connection through STRATA.
- Establish a talk path between a remote station and the time or weather service via a trunk-to-trunk connection through STRATA.



FIGURE 4-TEST MODE FUNCTION DIAGRAM

10.13 The procedures in Tables AK \sim AN provide examples of the types of tests and functions that can be accomplished with the Test Mode. These procedures do not cover all the possible tests that can be performed remotely; however, by using the principles given other tests are possible.

11 MESSAGE MODE

11.00 General

11.01 This mode allows a local or remote terminal to set Called and Calling Station LCD messages for station users. The messages may be system or personal and are stored in their respective memory locations when set.

11.10 Remote Called Station Message Mode

11.11 Allows the terminal to set a Called Station Message for an originating station with the destination of the message being a station or group of stations.

11.12 When the message is set, the MW/FL LED(s) on the destination station(s) flash.

11.13 When a destination station calls the originating station, the message is displayed on the destination station's LCD.

- Mode 94: To edit and/or review a Called Station Message before setting it, use this mode. It will printout the existing message and allow additions to it (such as a time or a date) before it is set. (The message cannot be changed with this mode—just added to.)
- **Mode 96:** To add or change a Called Station Message before setting it, use this mode. It does not display the existing message, but allows a completely new message to be entered before it is set.

11.20 Remote Calling Station Message Mode

11.21 Allows the terminal to set a Calling Station Message for a station. The message will be set on the station's LCD and is automatically displayed on other stations' LCDs whenever they call that station.

Mode 95: To edit and/or review a Calling Station Message before setting it, use this mode. It will display the existing message and allow additions to it (such as a time or a date) before it is set. (The message cannot be changed with this mode—just added to.)

Mode 97: To add or change a Calling Station Message before setting it, use this mode. It does not display the existing message, but allows a completely new message to be entered before it is set.

11.22 Use the procedures in Tables AO \sim AR to set messages via Modes 94/96 and 95/97.

12 MODE EXIT

12.01 Exit the current mode per Paragraph 12.02 and select the desired mode via Paragraph 07.

12.02 To exit the PROG, DUMP, or TEST modes:

 At the P, D, or T prompt, enter: O U I G CR and observe: MODE

12.03 To exit the MESG mode:

 At anytime while in the message mode, enter: m i and observe: MODE

NOTE:

To exit the message mode, the terminal keyboard must be in lower case.

13 DISCONTINUE OPERATION

13.00 Local Terminal

13.01 Exit current operating mode via Paragraph **12** and observe that the MODE prompt is displayed on terminal.

13.02 To discontinue local terminal operation:

- 1) Depress and release (out) the **SET** switch on the HDTU.
- 2) Verify that the HDTU SET LED turns OFF.

IMPORTANT!

If this is not completed, Remote Administration/Maintenance via the HDTU will be blocked.

13.10 Remote Terminal:

13.11 Exit current operating mode via Paragraph **12** and observe that the MODE prompt is displayed on terminal.

13.12 To discontinue remote operation:

1) Take the terminal off-line.

2) Verify that the modem drops the line.

14 EQUIPMENT COMPATIBILITY

14.01 This is a list of equipment that is known

to be compatible with STRATA_e, **Release 2**, Remote Administration/Maintenance. This list does not show all of the equipment that will work, only the equipment that has been proven compatible in the field or lab.

14.02 As additional equipment is proven compatible, it will be added to an úp-dated list.

TERMINALS	MODEMS	COMPUTERS	SOFTWARE
Texas Instruments Si- lent 700 Panasonic KXD-4920	Hayes: Smartmodem 1200 Universal Data Sys- tems: Model 103J LP U.S. Robotics: Pass- word	Toshiba: T3100/20 & T1100	Crosstalk

TABLE D—INITIALIZATION PROCEDURE

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE ´
	At the >MODE prompt, enter: P R O G CR	PROG
	(See Paragraph 05 or 06 to get >MODE prompt.)	NOTE: P = Program prompt
2	To Initialize (clear) Automatic Dialing	
	Stations 10 ~ 33 Enter: 0 1 5 0 0 2 2 2 2 CR	P #*1 \$002222 P
	Stations 34 ~ 57 Enter: 2 2 2 0 0 4 4 4 CR	P #*2 \$004444 P
	Stations 58 ~ 65 and system Enter: # 2 5 0 0 8 8 8 CR	P #*3 \$008888 P
3	To Initialize (clear) Messages:	
	System (60 ~ 99) Enter: 🛛 🛛 🕄 🖸 🖓 🕄 🖓 🖓 🖓 🖓 🖓 🖓	P #*4 \$001111 P
	All personal (10 ~ 19) Enter: 355002222CR	P #*5 \$002222 P
4	To Initialize (clear) Timer Reminders	
	All stations reminders (05 ~ 09) Enter: 2750088800	P #*7 \$008888 P
5	To Store Data in Working Memory	
	At the P prompt, enter: 33330033330CR	P #*9 \$003333 DATA PROGRAMMED P

NOTE:

The spaces between characters are for clarification only. DO NOT type in spaces!

TABLE E-TYPE 1 PROGRAM PROCEDURE EXAMPLE

This procedure shows how to review and/or change Type 1 program data.

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR	PROG
2	Enter Program Number	
	Refer to the System Record Sheet and enter the desired pro- gram number.	
	Example: Program 0#2, enter: 0 🛙 2.	P 0#2
3	Enter Key/LED Number	
	Enter the desired Key/LED number.	
	Example: Key/LED 00, enter: 00.	P 0#2 00 N
4	To Change Key/LED Status	
	Refer to the System Record Sheet and change the Key/LED status, if required (Y or N).	
	Example: Enter 🛛	P 0#2 00 N Y
5	To Review Key/LED Status Change	
	Press: DEL SPACE	P 0#2 00 N Y
	NOTE:	00 Y
	This step is optional and not required to save data.	
6	To Advance To Next Key/LED	
	Press: SPACE	P 0#2 00 N Y 00 Y 01 Y
7	To Exit Program/Store Data	
	 A) To exit this program and store data in temporary memory, press GR. 	P
	 B) Continue returning to Step 2 until all Type 1 programs are completed. 	
	C) If data entries for Type 1 programs are complete, store new data in working memory. Enter: DOCOSSO 20003000000000000000000000000000000000	P #*9 \$003333 DATA PROGRAMMED P

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TABLE F

PROGRAM 4#XX—FLEXIBLE KEY ASSIGNMENTS

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter I X X (XX = the station number or group to be pro- grammed)	P 4#XX .
3	Refer to the System Record Sheet and enter the lowest key/ LED to be programmed. The existing feature code is displayed after the number is entered.	р 4#XX 🔲 🔲
4	 Enter the new feature (see the Feature Code Table). NOTE: Most feature codes are two digits; however, the three keys shown below require more digits. MODEM (80WW): WW = modem station number. DSS (#YY): YY = destination station number. LOCKED (*ZZ): ZZ = Auto Dial code. 	P 4#XX 🔲 🔲 🗍
5	Press SPACE to review the next key. Use Step 4 to enter new code, if necessary.	
6	Press GR to store data and exit this program.	Р
7	Continue returning to Step 2 until all new station key assign- ments are complete.	
8	A) Go to the next program in the Miscellaneous Assignments list	
	or	
	B) Enter: # 999003333CR to store data in working memory.	P #*9 \$003333 DATA PROGRAMMED P

CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
01	CO1	20	CO20	80	Modem Key
02	CO2	21	CO21	81	MSG
03	CO3	*	AD Key	82	CPU2
04	CO4	61	Pooled Line Group 1	_83	CPU1
05	CO5	62	Pooled Line Group 2	84	CPU
06	CO6	63	Pooled Line Group 3	85	SAVE
07	C07	64	Pooled Line Group 4		CFD
08	CO8	65	Pooled Line Group 5	88	MCO
09	CO9	66	Pooled Line Group 6	90	TONE
10	CO10	67	Pooled Line Group 7	93	PRV
11	CO11	68	Pooled Line Group 8	94	ACB
12	CO12	70	ABR	95	PAU
13	CO13	71	DP1 (Door Lock)	96	RDL
14	CQ14	72	DP2 (Door Lock)	97	REP
15	CO15	73	DP3 (Door Lock)	98	DND
16	CO16	74	DP4 (Door Lock)	99	MW/FL
17	CO17	78	Modem MM/MA	#YY	DSS/BLF
18	CO18	79	Modem Ans/Call	*ZZ	Locked AD Key
19	CO19				

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TABLE G PROGRAM #4—CO LINE IDENTIFICATION

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 🖩 💁	P #4
3	Refer to the System Record Sheet and enter the CO line number.	P #4 🔲 .
4	Enter the name to be applied to the CO line (16 characters max- imum).	
5	Press CF to store data in temporary memory and exit this pro- gram.	P
6	Continue returning to Step 2 until all data input is complete for this program.	
7	 A) Go to the next program in the Miscellaneous Assignments list or B) Enter: BESSINGESSER to store data in working memory. 	P #*9 \$003333
		DATA PROGRAMMED

TABLE H PROGRAM *X#—FLEXIBLE ACCESS CODE NUMBERING

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P r O G GR.	PROG
2	Enter X (X = existing 1st digit of feature access code).	P *X#
3	Refer to the System Record Sheet and enter the new 1st digit.	Р *X# 🗌 🗍
4	Press CR to store data in temporary memory and exit this program.	Ρ
5	Continue returning to Step 2 until all data input is complete for this program.	
6	A) Go to the next program in the Miscellaneous Assignments list	
	B) Enter: BS00333CF to store data in working memory.	P #*9 \$003333 DATA PROGRAMMED P

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TABLE I

PROGRAM *XX—FLEXIBLE INTERCOM NUMBERING

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STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE -
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 🛾 🗙 🔀 (XX = Station Number)	P *XX
3	Refer to the System Record Sheet and enter the new number.	P *XX [] [] [] [] [] [] [] [] [] [] [] [] []
4	Press CR to store data in temporary memory and exit this program.	Ρ
5	Continue returning to Step 2 until all data input is complete for this program.	
6	A) Go to the next program in the Miscellaneous Assignments list	
	or B) Enter: #195003333CR to store data in working memory.	P #*9 \$003333 DATA PROGRAMMED P

TABLE J

PROGRAM #1XX*YY—AUTOMATIC DIALING PROGRAMMING

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P F O G CR.	PROG
2	Enter XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	P #1XX *YY DDDD (after YY is entered, an N for no data or pre- vious data is displayed)
3	Refer to the System Record Sheet and enter the new data. <i>NOTE:</i> P = pause; F = flash*.	(16 max)
4	Press Ex to store data in temporary memory and exit this program.	Р
5	Continue returning to Step 2 until all data input is complete for this program.	
6	 A) Go to the next program in the Miscellaneous Assignments list B) Enter: 19950033330CR to store data in working memory. 	P #*9 \$003333 DATA PROGRAMMED P

* Flash may be programmed on the 1st digit only; or, if the 1st digit is a pause, after 1st digit.

TABLE K PROGRAM 6#XX---STATION-TO-STATION HUNTING

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 🖥 🖬 🗙 🗙 (XX = Station number).	P 6#XX 🔲 👝
3	Refer to the System Record Sheet and enter the "Hunt" desti- nation number*.	P 6#XX 🔲 🔲 .
4	Press CR to store data in temporary memory and exit this program.	Ρ
5	Continue returning to Step 2 until all data input is complete for this program.	
6	 A) Go to the next program in the Miscellaneous Assignments list or B) Enter: B23333335CR to store data in working memory. 	P #*9 \$003333 DATA PROGRAMMED P

*Press DEL SPACE to program each station to hunt to the next higher staiton, as necessary.

TABLE L

PROGRAM 19X—PBX ACCESS CODE

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O C CR.	PROG
2	Enter 13 3 X (X = 1 ~ 8)	P 19X [] (N = No data)
3	Refer to the System Record Sheet and enter the 1- or 2-digit access code.	Р 19Х 🔲 🔲
	NOTE: If the access code is one digit, enter \mathbf{N} as the second digit.	
4	Press GR to store data in temporary memory and exit this program.	Ρ
5	Continue returning to Step 2 until all data input is complete for this program.	
6	 A) Go to the next program in the Miscellaneous Assignments list or B) Enter: B 9 9 9 9 9 9 9 9 9 9	P #*9 \$003333 DATA PROGRAMMED P

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TABLE M PROGRAM 103—EQUAL ACCESS #1

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE ·
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 103	Р 103
3	Refer to the System Record Sheet and enter the first five digits of the OCC number.	P 103 0000 0000
	NOTE: Enter 🛯 for blank spaces.	
4	Press CR to store data in temporary memory and exit this program.	Р
5	 A) Go to the next program in the Toll Restriction Assignments list 	
	B) Enter: #999003333CR to store data in working memory.	P #*9 \$003333 DATA PROGRAMMED P

TABLE N PROGRAM 104—OCC AUTHORIZATION CODE #1 LENGTH

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: 🛛 🖬 🖸 🕞 🕞.	PROG
2	Enter 101.	Р 104 🔲
3	Refer to the System Record Sheet and enter the quantity of dig- its needed.	P 104 🔲 🔲
4	Press GR to store data in temporary memory and exit this program.	Р
5	 A) Go to the next program in the Toll Restriction Assignments list or B) Enter: B SOUSSE to store data in working memory. 	P #*9 \$003333 DATA PROGRAMMED P

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TABLE 0 PROGRAM 105—EQUAL ACCESS #2

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 105.	Р 105 🗆 🗆 🖾
3	Refer to the System Record Sheet and enter the first five digits of the OCC number.	P 105 00000 00000
4	Press GR to store data in temporary memory and exit this program.	Р
5	 A) Go to the next program in the Toll Restriction Assignments list or B) Enter: IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	P #*9 \$003333 DATA PROGRAMMED P

TABLE PPROGRAM 106—OCC AUTHORIZATION CODE LENGTH #2

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 106.	Р 106 🔲
3	Refer to the System Record Sheet and enter the quantity of dig- its needed.	Р 106 🔲 🔲
4	Press CR to store data in temporary memory and exit this program.	P
5	 A) Go to the next program in the Toll Restriction Assignments list or B) Enter: #999003393CF to store data in working memory. 	P #*9 \$003333 DATA PROGRAMMED P

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TABLE Q

PROGRAM 108/109—TOLL RESTRICTION OVERRIDE CODES #1 and #2

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 108 (109).	Р 108/109
3	Refer to the System Record Sheet and enter the new number.	P 108/109
4	Press CR to store data in temporary memory and exit this program.	ρ
5	 A) Go to the next program in the Toll Restriction Assignments list B) Enter: 199500333CR to store data in working memory. 	P #*9 \$003333 DATA PROGRAMMED P

NOTE:

These codes may be changed from stations enabled in **Program 5#XX** with LED 13 on. The procedure for changing override codes from a station is:

 From station:
 Dial
 Dial</

TABLE R

PROGRAM 1X0—TOLL RESTRICTION CLASS PARAMETERS

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P F O G GR.	PROG
2	Enter 1 X 0 (X = class 1 ~ 4).	P 1X0
3	Refer to the System Record Sheet and enter the lowest key/ LED to be reviewed or changed.	Р 1ХО 🔲 🗌 🕠
4	To change the key/LED status, enter $oldsymbol{\mathbb{N}}$ or $oldsymbol{\mathbb{N}}$.	Р 1ХО 🗆 🗆 🗆
5	Press SPACE to advance to the next key/LED.	
6	Use Steps 4 and 5 to review/change each key/LED as needed.	
7	Press GR to store data in temporary memory and exit this pro- gram.	Р
8	Continue returning to Step 2 until all data input is complete for this program.	
9	A) Go to the next program in the Toll Restriction Assignments list	A
	B) Enter: #1990088386R to store data in working memory.	P #*9 \$003333 DATA PROGRAMMED P

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TABLE S

4

PROGRAM 1XY-TOLL RESTRICTION CLASS/AREA CODE ENTRY

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 1 X 4 (X = class 1 ~ 4).	P 1X4
3	Press SPACE to page through and review all allowed area codes.	
4	Press CR to store data in temporary memory and exit this program.	Р
5	Enter 1 X 1 again. Y = 2 (allow) or 3 (deny) in allowing/denying access to area codes. (X = class $1 \sim 4$)	P 1XY
6	Press SPACE to allow for data entry.	ALLOW? OR DENY?
7	Refer to the System Record Sheet and enter the area code or the area code group. Single . Group	
8	Press SPACE to store data in temporary memory and allow for the next entry.	ALLOW? OR DENY?
9	Continue returning to Step 2 until all data input is complete for this program.	
10	 A) Press SPACE CF when entry is complete or or B) Go to the next program in the Toll Restriction Assignments list. or or 	P
	C) Enter: 웹별명명인인방법법법에는 to store data in working memory.	P #*9 \$003333 DATA PROGRAMMED P

TABLE T

PROGRAM 1XZ—TOLL RESTRICTION CLASS/OFFICE CODE ENTRY

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
1	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 1 X 3 (X = class 1 ~ 4).	P 1X8
3	Press SPACE to page through and review all allowed office codes.	
4	Press CR to store data in temporary memory and exit this program.	Р
5	Enter 1 XZ again. Z = 6 (allow) or 7 (deny) in allowing/denying access to area codes. (X = class $1 \sim 4$)	P 1XY
6	Press SPACE to allow for data entry.	ALLOW? OR DENY?
7	Refer to the System Record Sheet and enter the office code or the office code group. Single	
8	Press SPACE to store data in temporary memory and allow for the next entry.	ALLOW? OR DENY?
9	Continue returning to Step 2 until all data input is complete for this program.	
10	 A) Press SPACE CR when entry is complete or or B) Go to the next program in the Toll Restriction Assignments list. or or 	Ρ
	C) Enter: 2295003333CF to store data in working memory.	P #*9 \$003333 DATA PROGRAMMED P

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TABLE U

PROGRAM 2XY—TOLL RESTRICTION AREA/OFFICE CODE ENTRY

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 2 X 1 (X = Table 1 ~ 8).	P 2X1
3	Enter area code.	
4	Press CR to store data in temporary memory and exit this program.	Р
5	Enter $2 \mathbf{X} 4$ (X = Table 1 ~ 8).	P 2X4
6	Press SPACE to page through and review all allowed office codes.	P 2X4 EXCEPT
7	Press 💽 to store data in temporary memory and exit this program.	Ρ
8	Enter $2XY$. Y = 2 (allow) or 3 (delete) in allowing/deleting office codes (X = Table 1 ~ 8).	P 2XY
9	Press SPACE to allow for data entry.	EXCEPT/DELETE
10	Refer to the System Record Sheet and enter the office code or the office code group. Single	
11	Press SPACE to store data in temporary memory and allow for the next entry.	EXCEPT
12	Continue returning to Step 2 until all data input is complete for this program.	
13	A) Press SPACE CR when entry is complete	
	B) Go to the next program in the Toll Restriction Assignments list	
	C) Enter: 233330033330CR to store data in working memory.	P #*9 \$003333
		DATA PROGRAMMED P

TABLE V

PROGRAM 1X1-TOLL RESTRICTION CLASS AREA/OFFICE CODE EXCEPTION TABLE SELECTION

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: 🛛 🖬 🖸 🖨 🖙.	PROG
2	Enter 1 \mathbf{X} 1 (X = Restriction class 1 ~ 4).	P 1X1
3	Refer to the System Record Sheet and enter the key number: $\mathbf{N} \mathbf{N}$ (NN = 00 ~ 07).	P 1X1
4	Enter N or Y .	P 1X1 🔲 TABLE# 🗌 🗌
5	Press SPACE CR to step to the next key/LED if required.	<u>-</u>
6	Press CR to store data in temporary memory and exit this program.	Ρ
7	Continue returning to Step 2 until all data input is complete for this program.	
8	A) Go to the next program in the Toll Restriction Assignments list	
	B) Enter: BSODSSEC to store data in working memory.	P #*9 \$003333 DATA PROGRAMMED P

TABLE W PROGRAM 1#00—LCR HOME AREA CODE ENTRY

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 1 🗊 0 0	Р 1#00 🗆 🗆
3	Refer to the System Record Sheet and enter the system's home area code.	P 1#00 000 000
	NOTE: To clear data, enter: 🛯 🖬 🕄 .	
4	Press CR to store data in temporary memory and exit this program.	P
5	 A) Go to the next program in the Least Cost Routing Assignments list B) Enter: B SOUSSEC to store data in working memory. 	P #*9 \$003333 DATA PROGRAMMED
		P

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TABLE X

PROGRAM 1#0X-LCR SPECIAL CODES

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE Í
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 1 🛙 🛈 🗙 (X = Special codes 1 ~ 5).	
3	Refer to the System Record Sheet and enter the desired Special Code.	P 1#0X
	NOTE: If antoning a 2 digit and such as 911 anton: 393	
	i entering a 3-digit code such as 911, enter: 911 M.	
4	Press CR to store data in temporary memory and exit this program.	Ρ
5	Continue returning to Step 2 until all data input is complete for this program.	
6	 A) Go to the next program in the Least Cost Routing Assignments list or B) Enter: BSSOSSSSCR to store data in working memory. 	P #*9 \$003333 DATA PROGRAMMĚD P

TABLE Y PROGRAM 1#06—LCR PARAMETERS

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P ? O G G?	PROG
2	Enter 1 🗰 0 6 .	P 1#06
3	Refer to the System Record Sheet and enter the lowest key/ LED to be programmed.	Р 1#06 🔲 🗌
4	Enter N or Y if necessary.	Р 1#06 🔲 🗌 🗍
5	Press SPACE to display next key/LED.	
6	Continue returning to Step 4 until all data input is complete for this program.	
7	Press GR to store data in temporary memory and exit this pro- gram.	Ρ
8	 A) Go to the next program in the Least Cost Routing Assignments list B) Enter: IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	P #*9 \$003333 DATA PROGRAMMED P

TABLE Z

PROGRAM 1#07—LONG DISTANCE INFORMATION ROUTE SELECTION

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P i O G Ci.	PROG
2	Enter 1 🗰 0 7 .	P 1#07 🗋 😽
3	Refer to the System Record Sheet and enter the new Route Table number (1 \sim 8).	Р 1#07 🗌 🗌 .
4	Press En to store data in temporary memory and exit this program.	Ρ
5	 A) Go to the next program in the Least Cost Routing Assignments list Or B) Enter: ISSO SSECT to store data in working memory. 	P #*9 \$003333 DATA PROGRAMMED P

TABLE AA PROGRAM 1#08—LOCAL CALL ROUTE SELECTION

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P A O G CR.	PROG
2	Enter 1 # 0 8 .	P 1#08 🗌
3	Refer to the System Record Sheet and enter the new Route Table number (1 \sim 8).	P 1#08 🗌 🗌
4	Press En to store data in temporary memory and exit this program.	P
5	 A) Go to the next program in the Least Cost Routing Assignments list B) Enter: 1995003333CF to store data in working memory. 	P #*9 \$003333 DATA PROGRAMMED P

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TABLE AB

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PROGRAM 1#09-DIAL ZERO TIMEOUT

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE .
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 1 # 0 9.	P 1#09 *
3	Refer to the System Record Sheet and enter the lowest key/ LED to be programmed.	Р 1#09 🔲 🗌
4	Enter N or Y if necessary.	Р 1#09 🔲 🗌 🗌
5	Press SPACE to display next key/LED.	
6	Press CF to store data in temporary memory and exit this pro- gram.	Р
7	Continue returning to Step 4 until all data input is complete for this program.	
8	 A) Go to the next program in the Least Cost Routing Assignments list or B) Enter: BSSOSSES To store data in working memory. 	P #*9 \$003333 DATA PROGRAMMED P

TABLE AC PROGRAM 1#XY—LCR AREA CODE TABLE

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STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: 🛛 🖬 🖸 🖨 🖙.	PROG
2	Enter 1 H X 4 (X =Route table number 1 \sim 8).	P 1#X4
3	Press SPACE to page through previous data (will be blank if no data).	
4	Press CR to store data in temporary memory and exit this program.	Р
5	Enter $1 \blacksquare X Y$. Y = 2 (set) or 3 (delete) in setting/deleting area codes. (X = Route table number $1 \sim 8$)	P 1#XY
6	Press SPACE to allow data entry.	
7	Refer to the System Record Sheet and enter the required data. To set: single () or range ()	
	NOTE: When Y = 3, the area code must be entered in the range format.	
8	Press SPACE to store data in temporary memory or allow the next entry.	
9	Continue returning to Step 5 until all data input is complete for this program.	
10	A) Press SPACE CR when entry is complete	Ρ
	B) Go to the next program in the Least Cost Routing Assign- ments list	
	C) Enter: 0195008833CF to store data in working memory.	P #*9 \$003333 DATA PROGRAMMED P

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TABLE AD

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PROGRAM 1#X8Y—ROUTE DEFINITION GROUP

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter $1 \blacksquare X \odot Y$. X = Route Table number (1 ~ 8) and Y = Route Definition Group number (1 ~ 4).	Р 1#Х8 Ү 🔲 🕺
3	Refer to the System Record Sheet and enter the new data.	P 1#X8 Y 🔲 🔲
4	Press CR to store data in temporary memory and exit this program.	Р
5	Continue returning to Step 2 until all data input is complete for this program.	
6	 A) Go to the next program in the Least Cost Routing Assignments list or B) Enter: #195003383CF to store data in working memory. 	P #*9 \$003333 DATA PROGRAMMED P

TABLE AE

PROGRAMS 1#X50 \sim 53/1#X60 \sim 63/1#X70 \sim 73—LCR START TIME SCHEDULES A/B/C

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P T O G CR.	PROG
2	Enter $1 \blacksquare X = 0$ ($1 \blacksquare X = 0$ or $1 \blacksquare X = Route Table number (1 ~ 8).$	P 1#X5 0
3	Refer to the System Record Sheet and enter the start time (in 24-hour format) for this route table:	P 1#X5 0 0000 0000
4	Press CE to store data in temporary memory and exit this program.	Ρ
5	Enter 1 # X 5 Y (1 # X 6 Y or 1 # X 7 Y). Y = Priority class 1, 2 or 3.	P 1#X5 🗌 🔲 🗌 🗌
6	Refer to the System Record Sheet and enter the Priority class data.	P 1#X5 1 000 000
7	Press CR to store data in temporary memory and exit this program.	Ρ
	Use the same procedure for entering data for Programs $1\#X60 \sim 63/1\#X70 \sim 73$.	
8	Continue returning to Step 5 until all data input is complete for this program.	
9	A) Go to the next program in the Least Cost Routing Assign- ments list	
	B) Enter: B999003333CR to store data in working memory.	P #*9 \$003333 DATA PROGRAMMED P

TABLE AF

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PROGRAM 1#9XY—MODIFIED DIGITS TABLE

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter 1 1 2 X Y = Modified Digits table number $(1 \sim 6)$ and Y = 1 (add digits) or 0 (delete digits).	P 1#9X 1
3	Refer to the System Record Sheet and enter the digits to be added (22 max).	(up to 22)
	NOTE: To insert pauses press \blacksquare \blacksquare Y= 1 ~ 8 (2 ~ 16 seconds). Each pause reduces memory by two digits.	
4	Press CR to store data in temporary memory and exit this program.	Р
5	Enter 1 # 9 X 0.	Р 1#9Х О 🔲
6	Refer to the System Record Sheet and enter the quantity of digits to be deleted (00 \sim 10).	Р 1#9Х О
7	Press CR to store data in temporary memory and exit this program.	Ρ
8	Continue returning to Step 2 until all data input is complete for this program.	
9	 A) Go to the next program in the Least Cost Routing Assignments list 	
	B) Enter: #199003333CR to store data in working memory.	P #*9 \$003333 DATA PROGRAMMED P

TABLE AG

PROGRAM 2#XY—AREA/OFFICE CODE TABLE

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter Program Mode	>MODE
	At the >MODE prompt, enter: P R O G CR.	PROG
2	Enter $2 \blacksquare X \odot$. X = Area/Office Code Table number 1 ~ 8 and Y = 0 (Route Table), 1 (Area Code) or 2 (Office Code).	P 2#X0 🗌 🦛 .
3	Refer to the System Record Sheet and enter the new Route Table number.	Р 2#ХО 🗌 🗌
4	Press SPACE CR to store data in temporary memory and exit this program.	Ρ
5	Enter 2 # X 1 .	P 2#X1
6	Refer to the System Record Sheet and enter the new area code (enter *** to clear data).	P 2#X1 000 000
7	Press SPACE CR to store data in temporary memory and exit this program.	Ρ
8	Enter 2 # X 4 .	P 2#X4
9	Press SPACE to display previous data (blank indicates no data available).	
10	Press SPACE CR to store data in temporary memory and exit this program.	Р
11	Enter: 2 II X Y = 2 (set) or 3 (delete) office codes.	P 2#XY
12	Press SPACE to allow data entry.	
13	Refer to the System Record Sheet and enter the required data	
14	Press SPACE to tremporarily store data and allow next entry.	
15	Continue returning to Step 13 until all codes are entered.	
16	Press SPACE CF to store data in temporary memory and exit this program.	Р
17	Continue returning to Step 2 until all data input is complete for this program.	
18	A) Go to the next program in the Least Cost Routing Assign- ments list	
	B) Enter: #99909333CF to store data in working memory.	P #*9 \$003333 DATA PROGRAMMED P

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TABLE AH PROGRAM DUMP

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter the Data Dump Mode	>MODE .
	At the >MODE prompt, enter: D 🛛 M 🛛 CR.	DUMP
2	To output Program Data: Enter: Image: Compare Complexity Image: Compare Complexity Image: Compare Complexity Image: Compare Complexity Image: Complexity Image: Compare Com	
3	To stop the printout at any time, enter DEL CR.	D

000000	00000000	00000000
†		†
LED 21		LED 00

TABLE AI AUTOMATIC DIALING DUMP

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter the Data Dump Mode	>MODE
	At the >MODE prompt, enter: D U M P CR.	DUMP
2	To output Automatic Dialing Data: Enter: REP or	d Rep
	All or system	
	= Station number	
3	To stop the printout at any time, enter DEL CR.	D

TABLE AJ LCD MESSAGING DUMP

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter the Data Dump Mode	>MODE
	At the >MODE prompt, enter: DUMP CR.	DUMP
2	To output Message Data: Enter: MSG	D MSG 🔲 🖛 .
	= All or system	
	= Station number	
3	To stop the printout at any time, enter DEL CR.	D

TABLE AK STATION/CO LINE STATUS CHECK

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter the Test Mode	>MODE
	At the >MODE prompt, enter: I E S I CR .	TEST
2	To Check Station Line Status:	
	Enter SI 🖬 🗙 🔀 . XX = Station Number.	T STXX-IDLE-ON-HOOK
	Possible Status: Idle on-hook, Idle off-hook, Busy on-hook, Busy off-hook.	Т
	CAUTION! To prevent service interference, station line status must be idle on-hook before initiating a test from that station.	
3	To Check CO Line Status:	
	Enter S C O Y Y . YY = CO line number.	T SCOYY-IDLE
	Possible Status: Idle, Busy.	T
4	To exit the Test Mode, at the "T" prompt enter 🖸 🛛 🕻 T CR.	T QUIT >MODE

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TABLE AL

GENERAL STATION ACCESS AND KEY ACTIVATION

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter the Test Mode	>MODE ´
	At the >MODE prompt, enter: 1 E S 1 CR .	TEST
2	To Activate a Key:	e**
	Enter IXXX IV I CF. XX = Station number and YY = Key number	т тхх күү т
	NOTE: KOO = INT key for all stations except those equipped with DSS consoles.	
3	To Activate a Function Key:	
	Enter IXXECR . F = Function key designator.	T TXX F T
	SPKR S	
	HOLD H	
4	To Dial Special System/Station Codes	
	Enter	т тхх 🗆 🗆 🗆 🗆 🗆
5	To Access a CO Line (via CO access code) and Dial Out:	
	Enter IXXX00AAA C CR . AAA = 1-, 2- or 3-digit CO line access code and C = Telephone number.	т тхх коо ааа
6	To Access a CO Line (via CO line key) and Dial Out:	
	Enter IXXXXXIII CONTRACTOR . YY = CO line key number.	т тхх күү 🗆 🗆 🗆 🗆 🗆
7	To exit the Test Mode, at the "T" prompt enter QUITER	

TABLE AM

CO LINE TEST

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter the Test Mode	>MODE
	At the $>$ MODE prompt, enter: $\mathbf{\overline{1}} \equiv \mathbf{S} \mathbf{\overline{1}} \in \mathbf{R}$.	TEST
2	 To Verify Station/CO Line Status: Station line status, enter: SIXX (XX = station number). CO line status, enter: SCOYY (YY = CO line number). 	T STXX-IDLE-ONHOOK T T SCOYY-IDLE
3	Call Remote Station B (from STXX and CO line B):	
	Enter IXXXXXXX I Company CF (= CO line B's tel- ephone number).	T
	Answer station B.	
	NOTE: If the system is equipped with MOH, go to Step 4. If the line must be tested via a trunk-to-trunk connection, go to Step 6.	
4	A) Depress the HOLD key on STXX (station B on-hold). Enter TXXHCR	Т ТХХН
	B) Listen at station B and check that the transmission from the music source is acceptable.	Т
	C) Depress the SPKR key on STXX (to release the call). Enter TXXSCR	T TXXS
5	Continue returning to Step 2 until all CO lines are tested.	
6	 To Set-up a Trunk-to-trunk Connection: Depress the CONF key on STXX and enter IXX C CF. NOTES: 1. Station B is connected via Steps 2 & 3. 2. Verify that Programs 01, 02 and 0#6 allow trunk-to-trunk connections. 3. The next step must be completed immediately to avoid dial tone time-out. 	T TXXC T
7	Call station C (or local time/weather) via CO line C. Enter IXXXIII COLLINE CO line C's key number and C = telephone number of station C or time/ weather.)	т тхх күү 🗆 🗆 🗆 🗆
	Answer station C (or verify time/weather connection) and go to the next step.	
8	Depress the CONF on STXX to establish a trunk-to-trunk con- nection between COs B and C. Enter II X X C CF	T TXXC T
	Check for clear transmission between stations B and C or station B and time/weather service.	
9	Depress the SPKR key on STXX to release call. Enter IXXSCR	T TXXS T
10	Continue returning to Step 2 until all CO lines are tested.	
11	To exit the Test Mode, at the "T" prompt enter	••

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TABLE AN

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SYSTEM DATE/DAY/TIME SETTING PROCEDURE

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter the Test Mode	>MODE ·
	At the >MODE prompt, enter: I ESI CE.	TEST
2	To Set Data: Enter IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	T T10 #*51YYMMDD# T
3	To Set Time-of-day: Enter IIIIIIII52HHMMSSIICR (HH = hour, MM = minute and SS = second).	T T10 #*52HHMMSS# T
4	To Set Day-of-week: Enter 110153DCR (D = day-of-week with Sunday = 1 and Saturday = 7).	T T10 #*53D# T
5	To exit the Test Mode, at the "T" prompt enter	

TABLE AO

MODE 94: REMOTE CALLED STATION MESSAGING (EDIT/REVIEW)

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter the Message Mode	>MODE
	At the >MODE prompt, enter: M = S G CF.	ОК
2	To add to or review a Called Station Message: Set the terminal keyboard to the lower case (cap lock off) and enter:	m94
	NOTE: Enter "m" (lower case) anytime it is desired to start over in this procedure.	
3	Enter: $\mathbf{X} \times \mathbf{X}$ (XX = Destination station number or destination group number—80 = All stations, 81 ~ 84 per system Program 5XX).	m94 XX
4	Enter: IMM (p = Page command (lower case) and YY = Originat- ing station number).	m94 XX pYY
5	Enter: \square \square (p = Page command (lower case) and \square = 2-digit message memory location: 10 ~ 19 = personal messages and 60 ~ 99 = system message).	m94 XX pYY p [] [M]
	After p 🔲 is entered, the previously stored message [M] is displayed (if there is no stored message, nothing is displayed).	
6	To edit the message [M+]	
	Set the terminal keyboard to upper case and add to message as required (alphanumber, 32-character max for total mes- sage).	
7	To set message:	m94 XX pYY p [] [M+] pm0
	Set the terminal keyboard to lower case and enter: 🗗 🖬 🗓.	
	Destination station: MW/FL LED flashes, "Call YYM" is displayed.	
	Origination station: "Sent XXM" is displayed on LCD.	
8	To exit the message mode, at anytime enter mog (lower case).	m0 >MODE

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TABLE AP

MODE 96: REMOTE CALLED STATION MESSAGING (NEW/CHANGE)

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter the Message Mode	>MODE
	At the >MODE prompt, enter: MESE CR.	ОК
2	To change or enter a New Called Station Message:	m96
	Set the terminal keyboard to lower case (cap lock off) and enter:	•
	<i>NOTE: Enter "m" (lower case) anytime it is desired to start over in this procedure.</i>	
3	Enter: $XX = Destination station number or destination station group number—80 = All EKTs, 81 ~ 84 per system Program 5XX).$	m96 XX
4	Enter: D Y Y (p = Page command and YY = Originating station number).	m96 XX pYY
5	Enter: \square (p = Page command and \square = 2-digit message memory location: 10 ~ 19 = personal messages and 60 ~ 99 = system message).	m96 XX pYY p
6	Enter new message [M]	
	Set the terminal keyboard to upper case and enter message as required (alphanumber, 32-character max). New message displays at it is entered.	[]
7	To set the message:	
	Set the terminal keyboard to lower case and enter: 🖥 🖬 🖸.	
	Destination station: MW/FL LED flashes, "Call YYM" is displayed on LCD.	
	Origination station: "Sent XXM" is displayed on LCD.	
8	To exit the message mode, at anytime enter mod (lower case).	mO
		>MODE

NOTE:

To cancel called station messages, use this procedure and skip step 6.

TABLE AQ

MODE 95: REMOTE CALLING STATION MESSAGING (EDIT/REVIEW)

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter the Message Mode	>MODE ,
	At the >MODE prompt, enter: MESG CR.	ОК
2	To add to or review a Calling Station Message:	m95 🦟
	Set the terminal keyboard to the lower case (cap lock off) and enter: m 3 5 .	•
	NOTE: Enter "m" anytime it is desired to start over in this procedure.	
3	Enter: $X \times X \approx$ Station number for which the message will be set and stored)	m95 XX
4	Enter: \square (p = Page command and \square = 2-digit message memory location: 10 ~ 19 = personal messages and 60 ~ 99 = system message).	m95 XX p [[M]
	NOTES: 1. To store system messages permmantly, EKTXX must be sta- tion 10.	· · · ·
	2. After p is entered, the previously stored message is displayed. If there is no stored message, nothing is displayed.	
5	To edit the previous message	m95 XX p [] [M+1
	Set the terminal keyboard to upper case and add to message edit (alphanumber, 32-character max).	
6	To set the message on EKTXX's LCD:	
	Set the terminal keyboard to lower case and enter: p m 0.	
7	To exit the message mode, at anytime enter mog (lower case).	m0 >MODE

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TABLE AR

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MODE 97: REMOTE CALLING STATION MESSAGING (NEW/CHANGE)

STEP	ACTION	DISPLAY/PRINTOUT
1	Enter the Message Mode	>MODE
	At the >MODE prompt, enter: MESG CR.	ОК
2	To enter a New Message or change a previously stored mes- sage:	m97
	Set the terminal keyboard to lower case (cap lock off) and enter:	
	NOTE: Enter "m" at anytime to start over in this procedure.	
3	Enter: XX = Station number for which the message will be set and stored.	m97 XX
4	Enter: \square (p = Page command and \square = 2-digit message memory location: 10 ~ 19 = personal messages and 60 ~ 99 = system message).	m97 XX p
	NOTE: To store system message change permenantly, EKTXX must be station 10.	τ ? α τι −
5	Enter the new message	
	Set the terminal keyboard to upper case and enter message (al- phanumber, 32-character max). New message displays at it is entered.	
6	To set the message on the EKT's LCD:	
	Set the terminal keyboard to lower case and enter: D m 0.	
7	To exit the message mode, at anytime enter mog (lower case).	mO
		>MODE

NOTE:

To cancel calling station messages, use this procedure and skip step 5.

MESG.#____ MESG.#__ -MESG.#___ MESG.#_ MESG.#_ MESG.#_ MESG.#_ MESG.# . MESG.# MESG.#_ MESG.#_

MESSAGE RECORD SHEET—Use several sheets if necessary

TOSHIBA SYSTEM PRACTICES ELECTRONIC KEY TELEPHONE SYSTEM OPERATING PROCEDURES SECTION 500-026-400 JANUARY 1988

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Stratae

Release 2

OPERATING PROCEDURES

OPERATING PROCEDURES SECTION 500-026-400 JANUARY 1988

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GENERAL INFORMATION

Your electronic telephone has been designed to provide easy access to the wide range of features offered by your telephone system. Each phone is equipped with a dial pad, 4, 14 or 24 feature buttons, a speaker with volume control, and a handset.

All the feature buttons are plainly marked as to their purpose. Four buttons have fixed assignments: <u>SPKR</u>, <u>MIC</u>*, <u>CONF</u>, and <u>HOLD</u>. The remaining 10* or 20* buttons are assigned flexibly as <u>CO</u> buttons, or as access buttons for the various features.

The voice and ring tone volume levels are controlled by separate volume controls located on the right side of the telephone. The lower control adjusts speaker volume for dial tone and voice level; the upper control adjusts ring tone and voice announcement volume.

This guide also contains a section on the CENTREX Application, which enhances the system feature capability when installed behind a CENTREX or PBX system.

Please be aware that some of the features listed in this guide may not appear in your telephone system due to hardware configuration or programming.

NOTE:

Wherever a CO line is indicated, it can also be a CENTREX (CTX) and/or PBX line.

*Not available on Single-Line electronic telephone.

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GENERAL INFORMATION

SINGLE-LINE ELECTRONIC TELEPHONE

Your Single-Line electronic telephone is equipped with a blank single-line button/LED that functions as both an intercom (INT) and CO line button/LED.

Features are accessed through the use of dial codes listed in this guide. To access the features that are allowed using the Single-Line electronic telephone, a dial code must be used instead of a feature button. A dial code must be available to allow the feature to function. For example, the Automatic Callback (ACB) feature is allowed due to the dial code [], while the Do Not Disturb (DND) feature is not allowed.

The following features cannot be used with a Single-Line electronic telephone:

- Automatic Dialing Buttons
- Do Not Disturb
- Trunk-to-Trunk Conferencing
- Two-CO Line Conferencing

The Single-Line electronic telephone is a non-speakerphone model that allows handsfree monitoring, but not handsfree answerback. Also, the second modular headset connector is not available for headset or external interface operation. The Single-Line electronic telephone may or may not be equipped with an optional Message Waiting LED.

NOTE:

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The Single-Line electronic telephone is proprietary to Toshiba Telephone Systems and will not function when connected directly to other telephone systems.

GENERAL INFORMATION

BUTTON DESCRIPTIONS

ALARM BUTTON ALRM

A station 10-only programmable option that causes a signal if connected to an alarm mechanism.

ALL CALL VOICE PAGE BUTTON AC (Se only)

A single dedicated button that allows a station to voice page all of the electronic telephones in the system simultaneously.

ALPHANUMERIC MESSAGING BUTTON MSG

Allows system and personal messages to be displayed on the 32-character Liquid Crystal Display (LCD).

ANSWER/CALL BUTTON ANS/C

Places the modem in the answer or originate call mode.

AUTO BUSY REDIAL BUTTON ABR

Allows the user to set up an Automatic Busy Redial after receiving busy tone on a dialed CO line call.

AUTOMATIC CALLBACK BUTTON ACE

Recalls a busy or DND station on intercom as soon as that station becomes idle.

AUTOMATIC DIALING BUTTON

Provides single-button automatic dialing of telephone number.

CALL FORWARD BUTTON

Routes all calls on intercom* to another station.

CALL PICKUP BUTTON CPU Allows CO or intercom calls to be picked up from another station.

CENTRAL OFFICE LINE BUTTON CO Accesses an outside line.

CONFERENCE BUTTON CONF Sets up conference calls and also used to transfer calls.

DIRECT STATION SELECTION BUTTON DSS

Causes a selected electronic telephone to ring by pressing an assigned button.

*A CO line that is programmed to ring at only one station will also be forwarded from that station.

(continued)

GENERAL INFORMATION

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BUTTON DESCRIPTIONS (continued)

DO NOT DISTURB BUTTON DND Locks the individual station in or out of the Do Not Disturb mode.

DOOR LOCK BUTTON D $(1 \sim 4)$ Controls a door lock mechanism.

HOLD BUTTON HOLD Holds outside calls.

Accesses an intercom line.

MANUAL/AUTO BUTTON MA/M Places the modem into manual or automatic answer mode.

MESSAGE WAITING/FLASH BUTTON MW/FL

MW: Indicates a message is waiting.

FL: Disconnects and recalls dial tone on a CO line, or is used to access CENTREX or PBX features.

MICROPHONE BUTTON MC Cuts off the microphone for private conversation.

MICROPHONE CUTOFF BUTTON MCO

Allows a station to turn its microphone off/on while idle.

MODEM BUTTON MODM

Transfers calls from the station's INT or CO button to the modem phone when used with Voice/Data switching and also disconnects modem calls.

NIGHT TRANSFER BUTTON NT

Controls the system's CO line ringing pattern; takes the place of the DND button on the operator's station.

PAUSE BUTTON PAU

Applies a pause after the CO line access code in automatic dialing telephone numbers behind a PBX.

POOLED LINE BUTTON Allows a group of CO lines to appear under one button.

(continued)

GENERAL INFORMATION

TOSHIBA

BUTTON DESCRIPTIONS (continued)

PRIVACY/NON-PRIVACY BUTTON PRV Allows selection of CO line privacy in a non-private system.

REDIAL BUTTON RDL Redials the last telephone number dialed.

REPERTORY BUTTON REP Provides access to automatic dialing numbers.

SAVE BUTTON SAVE

Saves telephone number during conversation and automatically redials that number when button is depressed in the idle state.

SPEAKER BUTTON SPKR Turns the speaker on/off.

TONE BUTTON TONE

Changes the outpulsing of the CO line in use from DTMF tone to rotary pulse and back.



GENERAL INFORMATION

TOSHIBA

LED INDICATIONS

60 INCOMING CALL

A slow flash rate ($\frac{1}{2}$ -sec. on $-\frac{1}{2}$ -sec. off) indicates the CO/PBX line on which the call is coming in.

CONFERENCE

A very fast flash rate (10 impulses per second (IPS)) indicates the CO line presently in the Conference mode. Other stations' LEDs also show same indication for that line.

EXCLUSIVE HOLD

A very fast flash rate (10 IPS) indicates the CO line is placed on Exclusive Hold.

HOLD RECALL

A quick flash rate matching the tones (2 IPS for 1 sec. — 10 IPS for 1 sec.) reminds a station which line has been on hold for the programmed period of time.

INTERCOM CALL

A pulsating on / off flash rate (10 IPS for 1 sec. on and 1 sec. off) appears on the INT LED at the station that is being called.

IN-USE

A steady, double flash rate (2 sec. on $-\frac{1}{6}$ -sec. off $-\frac{1}{6}$ -sec. on $-\frac{1}{6}$ -sec. off) indicates the CO line presently in use at the station that originated the call. Other stations' LEDs are on steady for that time.

ON-HOLD

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A fast (4 IPS) flash rate ($\frac{1}{8}$ -sec. on $-\frac{1}{8}$ -sec. off) indicates the CO line placed on hold at the station. The LEDs of the CO line on hold flash at a medium rate ($\frac{3}{4}$ -sec. on $-\frac{1}{4}$ -sec. off) at the other stations. If using the Pooled Line button, the hold indication is only at the station that places the call on hold.

TOSHIBA

AUTOMATIC DIALING

TO CALL AN AUTOMATIC DIALING NUMBER

- 1) Lift the handset.
- 2) Depress any available CO line button.
 - Listen for dial tone.
- 3) Depress the REP (or the 1) button.
- Dial the 2-digit automatic dialing code for the desired telephone number.

Your system will automatically dial the number for you.

5) Hang up when the call is completed.

TO CHAIN DIAL AUTOMATICALLY

Dials two or more automatic dialing numbers during one call.

- 1) Lift the handset.
- 2) Depress any available ine button.
 Listen for dial tone.
- 3) Depress the REP (or the 1) button.
- 4) Dial the 2-digit automatic dialing code for the first telephone number to be dialed.
- 5) Depress the REP (or the) button.
- 6) Dial the 2-digit automatic dialing code for the second telephone number to be dialed.*
- 7) Repeat the above steps for each subsequent number to be dialed.
 - Your system will automatically dial the number for you.

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8) Hang up when the call is completed.

*Only the first number dialed during the chain dial will be repeated by the Repeat Last Number Dialed feature.

TOSHIBA

AUTOMATIC DIALING

AUTOMATIC DIALING BUTTONS PROGRAMMABLE OPTION

After accessing a CO line, automatic dialing for telephone number storage and use is available by depressing the D button instead of a 2-digit access code. Each D button stores one telephone number (up to 16 digits).*

TO STORE A TELEPHONE NUMBER**

- 1) Do not lift the handset.
- 2) Depress the ((or RDL) and (or REP) buttons, respectively.
- 3) Depress the AD button you wish to use.
- 4) Dial the telephone number to be stored (16 digits maximum).***
- 5) Depress the ((or FDL) button to record the number in memory.
- 6) Repeat the above steps for each AD button.

*Up to 29 digits with the Store Chain Dial Number feature.

- ** Repeat this procedure to replace the stored telephone numbers with new ones.
- *** It may be necessary to insert a pause after the trunk access code to allow for dial tone delay. If so, depress the MW/FL (or PAU) button after entering the CENTREX or PBX access code.

REPEAT LAST NUMBER DIALED PROGRAMMABLE OPTION

This feature enables you to automatically redial the last number called by pressing the **FDL** button, which also serves the same function as the **H** button.

TO REDIAL LAST NUMBER CALLED

1) Lift the handset.

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- 2); Depress any available CO line button.
- Listen for dial tone.
- 3) Depress the RDL (or the #) button.
 - The last telephone number you dialed will automatically be redialed.
- 4) Hang up when the call is completed.

AUTOMATIC DIALING

SAVED NUMBER REDIAL PROGRAMMABLE OPTION

This feature enables you to store a dialed telephone number and later redial that number by pressing a single button.

TO SAVE A TELEPHONE NUMBER

- 1) Lift the handset.
- 2) Obtain a dial tone.
- 3) Dial the desired telephone number.
- 4) Depress the SAVE button.
 - The telephone number is saved for future use.

TO DIAL A SAVED TELEPHONE NUMBER

- 1) Lift the handset.
- 2) Obtain a dial tone.
- 3) Depress the SAVE button.
 - Saved number will be automatically dialed.

TELEPHONE NUMBER STORAGE

TO STORE A TELEPHONE NUMBER IN SYSTEM AUTO-MATIC DIALING MEMORY*

Automatic dialing telephone numbers can be stored in the system memory by station 10 only.

- 1) Do not lift the handset.
- 2) Depress the and buttons, respectively.
- 3) Dial a 2-digit automatic dialing code.
 - System codes run consecutively from $60 \sim 99$.
- 4) Dial the telephone number to be stored (16 digits maximum).**
- 5) Depress the above steps with every number to be stored (up to the maximum of 40).
- 6) Write down the address codes and telephone numbers for future reference.

(continued)

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TOSHIBA

AUTOMATIC DIALING

TELEPHONE NUMBER STORAGE (continued)

TO STORE A TELEPHONE NUMBER IN STATION AUTO-MATIC DIALING MEMORY*

Automatic dialing telephone numbers can be stored by each station.

- 1) Do not lift the handset.
- 2) Depress the # and # buttons, respectively.
- 3) Dial a 2-digit automatic dialing code.
- Station codes run consecutively from 10 ~ 49.
- 4) Dial the telephone number to be stored (16 digits maximum).**
- 5) Depress the button to record the number in memory.
- 6) Repeat the above steps with every number to be stored (up to the maximum of 40).
- 7) Write down the address codes and telephone numbers for future reference.

TO STORE A CHAIN DIAL NUMBER

Links a second number (13-digit maximum) to a number stored in one of ten locations in the system automatic dialing memory ($90 \sim 99$). Any station can link any of its assigned auto dialing numbers ($10 \sim 49$) to codes $90 \sim 99$, however station 10 is required for linking codes $60 \sim 89$. (All other procedures for entering numbers apply.)

- 1) Depress the and buttons.
- 2) Dial an applicable 2-digit automatic dialing code.
- 3) Depress the button.
- 4) Dial the 2-digit code to which this number will be linked (90 \sim 99)
- 5) Dial the number to be chained (13 digits maximum).
- 6) Depress the button to record the number in memory.
- * Repeat this procedure to replace the stored telephone numbers with new ones. Entering an automatic dialing code that has already been used will replace the current telephone number with any new one entered.
- ** It may be necessary to insert a pause after the trunk access code to allow for dial tone delay. If so, depress the [MW/FL (or [PAU]) button after entering the PBX access code.

AUTOMATIC DIALING

* AND # TONE DIALING

When the * or # tones must be output (for computer input service or other use), the Automatic Dialing feature must be disabled to permit manual dialing of the and buttons. (Applicable only if REP and RDL buttons are not programmed.)

TO OUTPUT * AND # TONES

- 1) Lift the handset.
- 2) Depress any available CO line button.
- 2) Dial any desired directory number.
- 4) To disable the Automatic Dialing feature, thereby permitting the * and # tones to be output manually, depress the button and then the button.

NOTE:

Only manual dialing will be possible; the special * and # tones as well as digits $0 \sim 9$ will be output as dialed. The Automatic Dialing feature will be restored when the station is hung up or placed on hold.



CALL FUNCTIONS

AUTO BUSY REDIAL (ABR)

After reaching a busy outside number, the system will automatically redial that number at programmed intervals.

TO USE AUTO BUSY REDIAL

- 1) Lift handset.
- 2) Depress any available CO line and dial the telephone number.
- Receive busy tone.
- 3) Depress ABR button or CONF 8 5
 - ABR LED blinks.
- 4) Hang up.
- 5) At programmed intervals (30/60 seconds), the system will redial the number (15 times maximum).
 - With each attempt, if busy, ABR will reset for next try.
- 6) When the called party is ringing:
 - CO or INT LED blinks.
 - Warning tone is heard.
- 7) Pick up handset and wait for party to answer.

TO CANCEL ABR

1) Depress the ABR button or INT 85.

NOTE:

ABR will not be attempted while the station is busy on another call but will continue to time out.

AUTOMATIC CALLBACK (INTERCOM)

After reaching a busy or DND station on an intercom call, you may use Automatic Callback.

TO USE AUTOMATIC CALLBACK

1A) Dial 2 or 3 for Override (see OVERRIDE).

...or..<u>.</u>

1B) Depress the ACE button or dial 4 to set Automatic Callback.

- Busy tone stops.
- You will hear dial tone for 2 seconds and then busy tone again.

(continued)

TOSHIBA

CALL FUNCTIONS

AUTOMATIC CALLBACK (INTERCOM) (continued)

- 2) Go on-hook. You may make other calls while waiting for the called station to become available.
- 3) When the called station becomes idle:
 - Your telephone rings at a fast rate.
- 4) Answer the call within 9 seconds to prevent the callback from being cancelled.
 - You hear a single tone.
- 5) Proceed to voice announcement.
- 6) Proceed with the conversation.

NOTES:

- 1. You may cancel the request anytime prior to the callback by depressing the INT button and dialing 77.
- 2. If, after answering a callback, you hear a busy tone, it means the called party has already received or originated another call. Your request is **not** cancelled. You will be called again the next time the station becomes idle.

AUTOMATIC OFF-HOOK SELECTION PROGRAMMABLE OPTION

Allows Automatic Off-hook Selection of either an intercom (INT) or a CO line.

TO MAKE A CALL

1) Lift the handset.

• You will be connected to the option programmed.

NOTE:

If you hear silence after going off-hook, you must depress the INT button or a CO line button before making a call.

CALL FUNCTIONS

TOSHIBA

CALL FORWARD PROGRAMMABLE OPTION

For intercom calls* (all calls will be forwarded).

TO SET A CALL FORWARD

- 1) Depress the CFD button or dial
 - CFD LED flashes.
- 2) Dial the station number to which calls are to be forwarded.
- 3) Depress the CFD button or dial #.
 - CFD LED on steady.
 - Calls will be forwarded to stored station number.

TO CANCEL A CALL FORWARD

- 1) Depress the CFD button or dial # 101 # .
 - CFD LED goes off.

*A CO line that only rings at your station will forward.

CALL PICKUP

TO ANSWER A CALL THAT IS PAGING, RINGING OR ON HOLD

- 1) Lift the handset.
- 2) Depress the INT button and dial 7 6 or depress the CPU button.*
- Dial one of the following:
 - Station number (intercom, CO and on hold)
 - 88 = All Call
 - 89 = External Page
 - 99 = Any CO line ringing
- *In Tenant Service, substituting a **CPUI** button picks up COs assigned to Group 1 or a **CPU2** button picks up COs assigned to Group 2 without step 3.

CALL FUNCTIONS

CONFERENCE CALLS

TO CONFERENCE UP TO THREE STATIONS AND TWO CO LINES, OR FOUR STATIONS AND ONE CO LINE Establish a CO line call via a CO line button.

TO ADD A SECOND CO LINE*

- 1) Depress the CONF button.
 - You hear intercom dial tone.
 - CO LED flashes at the Conference rate.
 - INT LED flashes at the In-use rate.
- 2) Depress a second CO line button and dial the next telephone number.
- 3) Depress the CONF button after the party answers.**
 - CO LEDs flash at the In-use rate.
 - All parties will be conferenced.
- * When the Amplified Conference feature is installed, the conference between both CO lines will be amplified. However, only the second CO line and your station will be amplified.
- ** If you receive a busy tone or no answer, return to the original connection by depressing the original **CO** line button.

TO ADD ANOTHER STATION

- 1) Depress the **CONF** button.
 - You hear intercom dial tone.
 - CO LED flashes at the Conference rate.
 - INT LED flashes at the In-use rate.
- 2) Dial the number of the other station.
- Depress the CONF button after the party answers.*
 - CO LED(s) will flash at the In-use rate.
 - All parties will be conferenced.
- 4) Repeat to add another party:
 - Three stations/two CO lines maximum.
 - Four stations/one CO line maximum.
- 5) Hang up when conference call is completed.

* If you receive a busy tone or no answer, return to the original connection by depressing the CONF button.

(continued)

CALL FUNCTIONS

CONFERENCE CALLS (continued)

TO CONFERENCE UP TO FOUR STATIONS ON ONE INTERCOM LINE

- 1) Establish a two-station intercom call.
- 2) Depress the **CONF** button.
 - You hear intercom dial tone.
 - INT LED flashes at the Conference rate.
- 3) Dial the third station's number.
- 4) Depress the CONF button after the party answers.*
 - INT LED flashes at the In-use rate.
 - All parties will be conferenced.
- 5) Repeat to add a fourth station.

*NOTES:

- 1. If you receive a busy tone or no answer, return to the original connection by depressing the **CONF** button.
- 2. The new station will not be conferenced unless the user lifts the handset or depresses the **NT** button.

DO NOT DISTURB

Allows you to prevent incoming calls from accessing your station. You can still make out-going calls.

TO USE DO NOT DISTURB MODE

- 1) Depress the DND button.
 - DND LED goes on.

TO RELEASE THE DO NOT DISTURB MODE

- 1) Depress the DND button.
 - DND LED goes off.
- NOTE: Do Not Disturb prevents Off-hook Call Announce.

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CALL FUNCTIONS

GROUP LISTENING

Allows all persons present to hear the distant party's responses.

TO USE GROUP LISTENING

- 1) With the handset off-hook, depress and hold the SPKR button.
 - SPKR LED lights and the distant party's voice is heard via the telephone's speaker (handset is off-hook but inoperative).
- 2) When local response is required, release the SPKR button.
 - SPKR LED goes off.
 - Telephone speaker is silenced.
 - Handset is activated.

NOTE:

Repeat the procedure as required.

HANDSFREE ANSWERBACK

TO RECEIVE AN INTERCOM CALL (HANDSFREE)

- 1) You will hear a single long tone, followed by the caller's voice.
 - INT LED flashes at the Incoming Call rate.
- 2) Leave the handset on-hook.
- 3) To assure a private conversation, depress the INT button.
 INT LED flashes at the In-use rate.
- 4) Speak at a normal voice level in the direction of the telephone.
- 5) If you depressed the **INT** button earlier, depress the **SPKR**
- button when the call is completed.

CALL FUNCTIONS

TOSHIBA

HANDSFREE MONITORING

Calls placed on hold by the distant party may be monitored "nandsfree."

TO USE HANDSFREE MONITORING

- 1) Depress and hold the SPKR button.
- 2) Place the handset on-hook.
- 3) Release the SPKR button.
 - Sounds from the distant party are heard via the telephone's speaker.
- 4) Lift the handset to continue the conversation when the distant party returns.

INTERCOM CALLS

TO MAKE AN INTERCOM CALL

- 1) Lift the handset.
- 2) Depress the INT button.*
 - You hear intercom dial tone.
 - INT LED flashes at the In-use rate.
- 3) Dial the desired station number.
 - You hear a single ring tone.
- 4) Speak when the ring tone ends.
- 5) Hang up when the call is completed.

NOTE:

Tone Signalling can be accomplished by dialing after the station number.

TO RECEIVE AN INTERCOM CALL

- You hear a single long tone, followed by the caller's voice.
 INT LED flashes at the Incoming Call rate.
- 2) Lift the handset.
- INT LED flashes at the In-use rate.
- '3) Hang up when the call is completed.

*See Automatic Off-hook Selection.

CALL FUNCTIONS

TOSHIBA

OFF-HOOK CALL ANNOUNCE (OCA)

Allows a station user to call and speak to an off-hook, busy electronic telephone through the speaker.

TO USE OFF-HOOK CALL ANNOUNCE

- 1) Lift the handset.
- 2) Call the desired station.Hear warning tone.
- 3) Speak to called party.
- 4) If a busy tone is heard, dial 2.
- Hear warning tone.
- 5) Speak to called party.

NOTE: DND prevents OCA calls.

ON-HOOK DIALING

(Handsfree model only — see Speakerphone for speakerphone electronic telephones)

TO MAKE AN OUTSIDE CALL

- 1) Leave the handset on-hook.
- 2) Depress any available CO line button or PL button and listen for dial tone.
 - CO LED flashes at the In-use rate.
- 3) Dial the desired telephone number.
- 4) Lift the handset when the distant party answers.*
- 5) Hang up when the call is completed.

TO MAKE AN INTERCOM CALL

- 1) Leave the handset on-hook.
- 2) Depress the INT button.
 - INT LED flashes at the In-use rate.
- 3) Dial the desired station number.
 - You hear a single ring tone.*
- 4) Lift the handset to converse.
- 5) Hang up when the call is completed.

*If busy tone is heard, depress the SPKR button to disconnect.

CALL FUNCTIONS

OUTSIDE CALLS

TO MAKE AN OUTGOING CALL

- 1) Lift the handset.
- 2) Depress any available CO line button or pooled line button.
 - Listen for dial tone.
 - CO/PL LED flashes at the In-use rate.
- 3) Dial the desired telephone number.
- 4) Hang up when the call is completed.

TO USE LEAST COST ROUTING (VIe, XIIe/XXe only)

- 1) Lift the handset.
- 2) Depress the INT button.
- 3) Dial 9.
- 4) Dial desired number.
- 5) The call will be directed to the least costly route.

TO RECEIVE AN INCOMING CALL

- 1) You hear a ringing tone.
 - CO LED flashes at the CO Incoming Call rate.
- 2) Lift the handset.
- CO LED flashes at the In-use rate.
- 3) Hang up when the call is completed.

TO RECEIVE INCOMING CALLS WITH POOLED LINE BUTTON (XII_e/XX_e only)

1) Ringing tone is heard.

- PL LED flashes at the CO Incoming Call rate.
- 2) Lift the handset.
 - PL LED on steady.
- 3) A muted ringing indicates a new incoming call, or recall.
- 4) Transfer the present call or place it on hold.*
- 5) Depress and release the hook-switch to answer the next call.
- 6) Repeat Steps 4 and 5 until all calls are completed.
- 7) Hang up.

*NOTES:

- 1. 'Transfer to a busy station will automatically Camp-on.
- 2. If Step 5 is performed before Step 4, the present call is terminated.

TOSHIBA

CALL FUNCTIONS

SPEAKERPHONE

TO MAKE AN OUTSIDE CALL (On-hook Dialing)

- 1) Leave the handset on-hook.
- 2) Depress any available CO line button.
 - Listen for dial tone.
 - CO LED flashes at the In-use rate.
- 3) Dial the desired telephone number.
- 4) Speak at a normal voice level in the direction of the telephone.
- 5) Depress the SPKR button when the call is completed.

TO RECEIVE AN INCOMING CALL

- 1) You hear a ringing tone.
- 2) Leave the handset on-hook.
- 3) Depress the button of the CO line that is flashing at the CO Incoming Call rate.
 - CO LED flashes at the In-use rate.
- 4) Speak at a normal voice level in the direction of the telephone.
- 5) Depress the SPKR button when the call is completed.

TO MAKE AN INTERCOM CALL (ON-HOOK DIALING)

- 1) Leave the handset on-hook.
- 2) Depress the INT button.
 - Listen for intercom dial tone.
 - INT LED flashes at the In-use rate.
- 3) Dial the desired station number.
 - You hear a single ring tone.
- 4) Speak at a normal voice level in the direction of the telephone.

3

5) Depress the SPKR button when the call is completed.

(continued)

CALL FUNCTIONS

TOSHIBA

SPEAKERPHONE (continued)

MICROPHONE CONTROL*

The MIC button cuts off the speakerphone's microphone for private conversations. The MIC LED indicates the status of the microphone:

LED	MICROPHONE
ON	ON
OFF	OFF

The MIC button can function in one of two modes. Your electronic telephone is equipped with the mode that is checked:

Momentary — The microphone and accompanying LED are always ON when the speakerphone is activated unless the MIC button is depressed. The MIC LED and microphone will be OFF while the MIC button is depressed and return to ON when the button is released.

Push-on/Push-off — The microphone and accompanying LED are OFF during on-hook dialing and ON at all other times while the speakerphone is activated. They can be switched OFF/ON or vice versa by a momentary depression of the MIC button. They will then remain in the same state until the MIC button is depressed again or the call is terminated.

NOTES:

- 1. To change from speakerphone to handset:
 - Lift handset.
- 2. To change from handset to speakerphone:
 - Depress and hold the SPKR button.
 - Return handset on-hook.
 - Release the SPKR button.

*See Station Security (MCO button.)

CALL FUNCTIONS

TONE SIGNALLING PROGRAMMABLE OPTION

Provides ringing on incoming intercom calls when voice announcing is not activated.

TO MAKE A TONE SIGNAL CALL

- 1) Call another station via intercom.
 - The called party hears ringing while you hear ringback tone until the call is answered.
- 2) Speak to the party when the call is answered.

NOTE:

To make a voice call, dial after the station number.

TO ANSWER A TONE SIGNAL CALL

- 1) Lift handset or depress the SPKR button (handsfree answerback is inoperative).
- 2) Hang up when the call is completed.

TRUNK QUEUING

Provides a means for station users to be placed in a waiting queue for a busy outgoing trunk group, and to be called back when a trunk in the group is available.

TO USE TRUNK QUEUING

- 1) Lift the handset.
- 2) Depress the INT button.
 - You hear intercom dial tone.
 - INT LED flashes at the In-use rate.
- 3) Dial the desired trunk group access code, dial 9 to access Least Cost Routing, or dial 7 and the CO line numbers:



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CALL FUNCTIONS

SHIBA

TRUNK QUEUING (continued)

4A) '*i* there is an idle trunk, you will be connected and can dial the desired telephone number.

- You hear CO dial tone.
- CO LED flashes at the In-use rate.
- INT LED goes off.

4B) If all trunks are busy, you will hear busy tone.

- 5) Depress the ACE button or dial 4 to set Automatic Callback.
 - Busy tone stops. You will hear dial tone for 2 seconds and then busy tone again.
 - You may go on-hook or make other calls while waiting for a trunk to become available.*
- 6) When a trunk becomes idle:
 - Your telephone rings at a fast rate.
 - CO LED flashes at the Incoming Call rate.
- 7) Lift the handset within 6 seconds to prevent the callback from being cancelled.
 - You hear CO dial tone.**
 - CO LED flashes at the In-use rate.
- 8) Dial the desired telephone number.
- 9) Hang up when the call is completed.
- * You may cancel the request at anytime prior to the actual callback by depressing the INT button and dialing 7 9.

** If, after answering a callback, you hear a busy tone, it means the trunk has already been seized or received an incoming call. Your request is **not** cancelled. You will be called again the next time a trunk becomes idle.

CALL FUNCTIONS

TRUNK-TO-TRUNK CONNECTION

TO ESTABLISH A TRUNK-TO-TRUNK CONNECTION

- 1) Establish a one-CO line call.*
- 2) Depress the CONF button.
 - You hear intercom dial tone.
 - CO LED flashes at the Conference rate.
 - INT LED flashes at the In-use rate.
- 3) Select a second CO line and dial the next telephone number.*
- 4) Depress the CONF button after the party answers.**
 - CO LEDs flash at the In-use rate.
 - All parties will be conferenced.
- 5) Depress the **CONF** button.
 - You hear intercom dial tone.
 - CO LEDs flash at the Exclusive Hold rate.
 - INT LED flashes at the In-use rate.
- 6) Hang up.
 - Both CO LEDs continue flashing at the Exclusive Hold rate.
 - INT LED goes off.
 - COs are connected and in Exclusive Hold on your station.
 - Connection is released automatically when parties hang up.***

On some systems, the connection must be supervised and released as follows:

- 1) Depress either CO button.
 - Both CO LEDs flash at the In-use rate.
 - You will be connected to both CO lines.
- 2) If the parties have hung up, go back on-hook.
 - Both CO LEDs go off.
 - Connection is released.
- 3) If the parties are still talking, proceed to step 5 and then 6 above.

*You must use CO buttons to select CO lines.

- ** If you receive a busy tone or no answer, return to the original connection by depressing the original CO line button.
- *** Depends on the public telephone company; some provide autodisconnect and some do not.

CALL HOLD and TRANSFER CALL HOLDING

TO HOLD A CALL (CO line appears on your station)

- 1) While connected to an outside call, depress the HOLD button (or depress the CONF button and dial 75).
 - CO LED flashes at the On-hold rate.
 - To reconnect the call, depress the CO button on hold (or depress the INT button and dial 76).

TO HOLD A CALL (CO line does not appear on your station)

- 1) While connected to an outside call, depress the **FOLD** button (or depress the **CONE** button and dial **75**).
 - INT LED goes off.
 - To reconnect the call, depress the INT button and the HOLD button (or depress the INT button and dial 76).

NOTE:

The on-hold reminder tone will be heard within a predetermined time. Call Holding will be released automatically if the other party hangs up.

When a CO line is placed on hold, it may be picked up at any station with that CO line appearance, or from any station that dials **18** and the station number that placed the CO line on hold.

CALL TRANSFER WITH CAMP-ON

Allows you to transfer an outside call to a station that is either idle or busy.

TO TRANSFER A CALL

- 1) While connected to an outside call, depress the CONF button.
 - CO LED changes to the Conference flash rate.
 - INT LED flashes at the In-use rate.
- $\frac{1}{2}$ Dial the station number to which the call is to be transferred. 3A) If the called station is idle:
 - You hear a single ring tone.

4A) Announce the call.

. . . or . . .

(continued)

TOSHIBA

CALL HOLD and TRANSFER

CALL TRANSFER WITH CAMP-ON (continued)

5A) Hang up.

- INT LED goes off.
- CO LED changes to the On-hold flash rate.
- CO line rings the called station.
- CO LED illuminates steadily when the called station connects with the transferred call.
- If the station fails to answer the call, you will receive a recall ring after a predetermined time.

...or...

3B) If the called station is busy:

• Busy tone is heard.

4B) Hang úp.

- INT LED goes off.
- · CO LED changes to On-hold flash rate.
- CO line is camped-on to the called station.
- Called station hears a warning tone.
- CO LED illuminates steadily when the station connects with the transferred call.

NOTES:

- 1. The Busy Override feature may be used instead of Call Transfer with Camp-on.
- 2. The call will recall you and camp-on is cancelled if the station does not pick it up within a predetermined time. Inform the caller of the situation, and repeat the procedure (if necessary).
- 3. You may reconnect to a transferred line (anytime before it is answered) by depressing the appropriate CO button.

TO ANSWER A TRANSFERRED CALL (if your station is idle)

- 1) Voice Signalling:
 - a) You will hear a single long tone, followed by an announcement.
 - INT LED flashes at the Incoming Call rate.
 - b) Acknowledge the announcement.
 - c) When the transferring station hangs up, you will hear a ringing tone.

• CO LED changes to the Incoming Call flash rate.

- d) Depress the appropriate CO button.
 - CO LED changes to the In-use flash rate.

(continued)

CALL HOLD and TRANSFER

OSHIBA

CALL TRANSFER WITH CAMP-ON (continued)

NOTE:

If your electronic telephone has the Ringing Line Preference feature, you may depress the SPKR button or lift the handset instead of depressing the CO button.

- 2) Tone Signalling:
 - a) You will hear intercom ringing.
 - INT LED flashes at the Incoming Call rate.
 - b) Lift the handset (or depress the SPKR button).
 - INT LED changes to the In-use flash rate.
 - c) Speak to the transferring station.
 - d) You will be connected to the outside call when the transferring station hangs up.
 - INT LED goes off.
 - The LED of the transferred CO line changes to the In-use flash rate.

NOTE:

If your electronic telephone has the Ringing Line Preference feature, it is not necessary to depress the **INT** button or the **SPKF** button before lifting the handset.

TO ANSWER A TRANSFERRED CALL (if your station is busy)

- 1) You will hear a 1-second warning tone.
 - The outside call is camped-on your station.
 - CO LED flashes at the On-hold rate.
- 2) You have several choices:
 - a) Depress the appropriate CO button.
 - Existing call is terminated.
 - The new line is answered and its LED changes to the In-use flash rate.
 - . . . or . . .

b1) Hang up.

- Existing call is terminated.
- The camped-on line rings at your electronic telephone.

. . . or . . .

- CO LED changes to the Incoming Call flash rate.
 b2) Depress the CO button or lift the handset to answer the
 - call.
 - CO LED changes to the In-use flash rate.

(continued)

TOSHIBA

CALL HOLD and TRANSFER

CALL TRANSFER WITH CAMP-ON (continued)

c1) Depress the HOLD button (if conversing on a CO line).

- Existing CO call is put on hold.
- The camped-on line rings at your electronic telephone.
- CO LED changes to the Incoming Call flash rate. c2) Depress the **CO** button to answer the call.
 - CO LED changes to the In-use flash rate.

NOTE:

If your electronic telephone has the Ringing Line Preference feature, you may depress the SPKR button or lift the handset instead of depressing the CO button.

EXCLUSIVE HOLD

TO USE EXCLUSIVE HOLD (CO line must appear on your station)

- 1) While connected to an outside call, depress the HOLD button twice.
 - CO LED flashes at a fast (10 IPS) rate.
 - To reconnect the call, depress the CO button that is on hold.

NOTE:

When a CO line is placed on Exclusive Hold, it may be picked up at another station by dialing **1**¹ and the station number that placed the call on Exclusive Hold; however, it cannot be picked up by depressing the **CO** button at another station.

TOSHIBA

CALL HOLD and TRANSFER

NIGHT TRANSFER PROGRAMMABLE OPTION

On an optional basis, your system can function with two or three ringing patterns. If three patterns are selected, they are designed **DAY**, **DAY 2**, and **NIGHT**. If only two patterns are selected, **DAY**, and **NIGHT** designations are used.

In both cases, different ringing patterns are chosen by sequential depressions of the **NT** button on station 10.

The active pattern is shown by the state of the NT LED as follows:

	Three-pattern	Two-pattern
DAY	OFF	OFF
DAY 2	FLASH	N/A
NIGHT	ON	ON

.

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MISCELLANEOUS FEATURES ACCOUNT CODE RECORDING

On some calls, you may be required (forced) to dial an account code before dialing an outside number. On other calls, you may wish to record an account number voluntarily after either dialing an outside number or receiving an incoming call. The code you enter will be recorded on the Station Message Detail Recording (SMDR) printout with the details of your call.

TO RECORD A FORCED ACCOUNT CODE

- 1) Access a CO line.
 - You hear dial tone.
- 2) Dial the _____ -digit account code on the dial pad.
 - Dial tone disappears as you dial the first digit.
 - You hear dial tone as you depress the last digit.
- 3) Dial the outside directory number.

TO RECORD A VOLUNTARY ACCOUNT CODE

- 1) An incoming or outgoing call is in progress.
- 2) Dial 50 on the dial pad.
 - The other party is put on hold.
- 3) Dial the _____ -digit account code on the dial pad.
 You are reconnected when you dial the last digit.
- 4) Resume your conversation.

NOTES:

- 1. Unless you dial the correct number of digits, you will not receive dial tone (forced) or be reconnected (voluntary).
- 2. With Forced Account Code, any digits dialed after the code will be treated as part of the outside directory number.
- 3. With Voluntary Account Code, any digits dialed after the code will be heard as tones by the other party.

MISCELLANEOUS FEATURES

TOSHIBA

ALARM

A station 10-only programmable option used with an optional Door Phone Control Unit and alarm system to cause a signal in the system. Depressing the **ALRM** button resets the alarm signal in the system.

BACKGROUND MUSIC (BGM)

If Music-on-Hold is available on your system, you may listen to background music via your station's speaker by depressing the SPKR button. Adjust the volume with the control on the lower right side of your electronic telephone.

DIRECT STATION SELECTION BUTTONS (HOTLINE) PROGRAMMABLE OPTION

Allows stations to be dialed directly by depressing the **DSS** button. The button's LED also shows the status (busy/DND) of that station. If connected to a CO line, depressing this button will put the party on hold. Transfer the call as you would normally, by voice announcing or camping on.

DOOR LOCK

Depressing the Debutton controls a switch connected to a door lock or similar device. Depending upon system in use, up to four Debuttons are available.

MISCELLANEOUS FEATURES

TOSHIBA

DOOR PHONE

TO ANSWER THE DOOR PHONE

- 1) You hear a distinctive ringing tone.
- 2) Lift the handset.
 - INT LED lights.
 - You are connected to the door phone.
- 3) Hang up when the call is completed.

TO CALL/MONITOR A DOOR PHONE

- 1) Lift the handset.
- 2) Depress the INT button.
 - You hear intercom dial tone.
 - INT LED flashes at the In-use rate.
- 3) Dial the number for the desired door location.

661 or 66*	Location	
662 or 67*	Location	سرب ، سوری د دس رو ، ۱۰ رو
663 or 68*	Location	
664	Location	
665	Location	
666	Location	
667	Location	
668	Location	
669	Location	
670	Location _	
671	Location	
672	Location	·
673	Location	

4) Hang up when the call is completed or when you no longer wish to monitor the door phone.

*Depends on system program/configuration.

TO USE A DOOR PHONE

- 1) Depress the button.
 - You hear a distinctive ringing tone.
- 2) When answered, speak at a normal voice level in the direction of the door phone.

MISCELLANEOUS FEATURES

TOSHIBA

MESSAGE WAITING **PROGRAMMABLE OPTION**

TO USE MESSAGE WAITING

- 1) The Message Center calls the station on intercom.
 - If no answer, depress the MW/FL button on the Message Center electronic telephone. This causes the MW/FL LED on the called station to illuminate.
 - MW/FL LED at Message Center illuminates (will go off when the connection is broken).
- 2) Called station user depresses the INT and MW/FL buttons and is connected to the Message Center.
 - A single line electronic telephone with message LED will depress INT 59.
 - After receiving the message(s), hang up.
- 3) To clear the MW/FL LED at the called station, depress the MW/FL button.
 - A single line electronic telephone must respond to the message to clear Message LED.
- 4) To clear the MW/FL LED from the Message Center, call station and depress the MW/FL button twice.

MODEM

TO ORIGINATE A MODEM CALL

Calls may be originated from the station's intercom or CO line and then transferred to the modem line.

1) Set the ANS/C button to call mode.

LED goes off.

- 2) Set the MA/M button to manual mode.
 - LED goes off.
- 3) Call another modem/device via the CO or intercom line.
- 4) Depress the MODM button when a modem tone is received from the other end.
- 5) To disconnect the call, depress the MODM button.

TO SET THE MODEM FOR AUTO-ANSWER

- 1) Set the ANS/C button to answer.
 - LED goes on.
- 2) Set the MA/M button to auto.
 - LED goes on.
- 3) When another party dials the modem station number (not the electronic telephone station number), the modem will auto answer and the MODM LED goes on.
- To disconnect the call, depress the MODM button.

MISCELLANEOUS FEATURES

OVERRIDE

TO INITIATE A BUSY OVERRIDE SIGNAL

- 1) After reaching a busy station, you may signal that station that a call is waiting by dialing 2.
 - A tone signal is heard at the busy station.

TO OVERRIDE DND (Programmable Option)

- 1) After reaching a DND station, you may signal that station that a call is waiting by dialing $\mathbf{2}$.
 - A tone signal is heard at the DND station.

TO INITIATE EXECUTIVE OVERRIDE (Programmable Option)

- 1) After reaching a busy station, Executive Override allows you to enter an established conversation by dialing S.
 - A tone signal is heard prior to entering the conversation.

PAGING

TO PAGE

- 1) Lift the handset.
- 2) Depress the **INT** button and dial the following:
 - **BO** = All Call
 - **1** = Group #1
 - 82 = Group #2
 - 3 = Group #3
 - 84 = Group #4
 - 88 = All Call (with B 89 = External Page = All Call (with External Page)*
- Make your announcement in a normal voice level and repeat, 3) it.
- 4) Hang up when you have completed your announcement.
- *Programmable Option

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TOSHIBA

MISCELLANEOUS FEATURES

PRIVACY/NON-PRIVACY PROGRAMMABLE OPTION

In a non-private system, the PRV button prevents other stations from breaking into an in-progress CO line call.

TO USE PRIVACY/NON-PRIVACY FEATURE

- 1) Depress the **PRV** button.
 - PRV LED goes on.
 - Your station has CO line privacy.

STATION SECURITY PROGRAMMABLE OPTION

The MCO button allows a station to turn its microphone off/on while idle. Handsfree Answerback is inoperable while the microphone is off.

TO USE STATION SECURITY

- 1) Depress the MCO button.
 - MCO LED goes on.
 - Microphone is turned off.
- 2) Depress the MCO button to turn the microphone on again.
 - MCO LED goes off.

MISCELLANEOUS FEATURES

TOLL RESTRICTION OVERRIDE

TO OVERRIDE TOLL RESTRICTION AT A STATION FOR A SINGLE CALL

- 1) Lift the handset.
- 2) Depress a Toll Restricted CO button.*
 - Listen for dial tone.
 - CO LED flashes at the In-use rate.
- 3) Dial 58.
 - You no longer hear dial tone.
- 4) Dial one of the two Toll Restriction Override Codes (4 digits).
 You hear dial tone.
- 5) Dial the desired telephone number.
- 6) Hang up when the call is completed.
- * Or depress the INT button and dial access a CO line; see Trunk Queuing.

TONE/PULSE SENDING PROGRAMMABLE OPTION

In some areas, CO line calls must be made using rotary-dial pulses. In order to access remote equipment requiring tones in these areas (such as automatic tellers or answering machines), you must change to DTMF tone sending after you have dialed the outside directory number.

Depressing the **TONE** button changes the outpulsing status of the CO line in use: TONE LED ON indicates DTMF tones are output; LED OFF indicates Dial Pulses are output.

TO CHANGE TO TONE SENDING

- 1) After you have dialed a telephone number and the call is in progress, depress the **TONE** button.
 - TONE LED goes on.
 - Depressing the dial pad buttons will cause DTMF tones to be transmitted.
- 2) To switch back to rotary-dial pulse transmission, depress the **TONE** button again.
 - TONE LED goes off.
 - Depressing the dial pad buttons will now cause rotarydial pulses to be transmitted.
CENTREX APPLICATION

ABIHSOT

Your system may be equipped with the CENTREX Application, which enhances the system feature capability when installed behind a CENTREX or PBX system.

SION

Wherever a CENTREX line is indicated in this section, it can also be a CO and/or PBX line.

Your electronic telephone may be equipped with one or more of the enhanced CENTREX features listed below:

A) Flexible Intercom Numbering (Up to 4 Digits) A station intercom number can be 1, 2, 3 or 4 digits. It is, therefore, possible to match a station's intercom and CENTREX line extension number. Dial the entire station number when indicated.

:310N

To avoid system numbering plan conflicts, the access codes of the door phone, paging and CENTREX line access features may have been changed.

B) CENTREX Feature Buttons

Certain CENTREX features may be operated by pressing a button on your electronic telephone. The CENTREX access code, including the necessary Flash and/or Pause sequence, is activated when the appropriate button is pressed. Press the appropriate CENTREX feature button is pressed. Press the appropriate CENTREX feature button instead of dialing a CENTREX access code when operation of the feature is desired. See your CENTREX or PBX Operations foon of the secure is desired. See your CENTREX or PBX Operations foon of the secure is desired. See your CENTREX or PBX Operations for a field of the secure is desired.

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The distinctive ring patterns available in your CENTREX system are automatically repeated with your electronic telephone, allowing you to answer appropriately for either outside, inside or callback calls.

Delayed Ringing

CENTREX line(s) may be programmed for a 12-second and/or 24second ring delay at stations to permit alternate answering conditions. Answer the line when your electronic telephone is ringing.

eseries 1A2 Interface

Your electronic telephone may be sharing a CENTREX line with a 1 A2-type key system. The LEDs and lamps in both systems will indicate simultaneous status (such as ringing, in use or on hold) for all telephones where those lines appear. Additionally, some 1 A2 key systems do not offer line privacy; therefore, it is possible for the 1 A2 station to enter an existing conversation.

CENTREX

ABIHSOT

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CENTREX line(s) may be programmed for a 12-second and/or CENTREX line(s) may be programmed for a 12-second and/or conditions. Answer the line when your electronic telephone is ringing.

E) 1A2 Interface

Your electronic telephone may be sharing a CENTREX line with a Your electronic telephone may be sharing a CENTREX line with a 1 A2-type key system. The LEDs and lamps in both systems will indicate simultaneous status (such as ringing, in use or on hold) for all telephones where those lines appear. Additionally, some 1 A2 key systems do not offer line privacy; therefore, it is possible for the 1 A2 station to enter an existing conversation.

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TOSH.				
—Strata _e —Release 2—				
Liquid Crystal Reference Gu	-Display-Teleph ide	one		
	Charlaba Si BAA Minesta			
			97)	
R.R.R. R.R.R.R.R.R.R.R.R.R.R.R.R.R.R.R.				

LIQUID CRYSTAL DISPLAY

In its idle state, the 32-character Liquid Crystal Display (LCD) feature on your electronic telephone gives you an accurate desk clock and calendar combination. When you have an outside call in progress, an Elapsed Time display gives a constant reminder of the call duration. In addition, a variety of information displays and feature prompting make your call handling more efficient. Alphanumeric messaging capability is also provided. All display functions occur automatically as call processing proceeds.



SUMMARY OF LCD FUNCTIONS

Туре

When **Displayed**

A) Date/Time

Idle Telephone

MAY 24 MON 12:05

NOTE:

The Date Time is adjusted on a system-wide basis by station 10.

(continued)



(continued)

TOSHIBA



2

SUMMARY OF LCD FUNCTIONS (continued)

OSHIBA

NOTES:

- 1. On a CO line call, the display can be alternated between Date/ Time, Elapsed Time and Dialed Number by pressing the PAGE button.
- 2. Elapsed Time is displayed for 15 seconds after you hang up and then changes automatically to Date/Time.

F) Calling Number-Intercom



When you receive an intercom call, the calling station's number is displayed.

G) Call Pickup

ST 32 CALL ST 11

When you pick up an intercom call, the calling station's number is displayed on the left and the station number called is displayed on the right.

ST 36 PICKUP ST 14

Your LCD phone displays the information that your call to station 36 was picked up by station 14.

H) Overrides

1. Busy Override

INT 18 BUSY OVR

When you activate the Override feature after calling a busy station, the station number and the feature are displayed.

STA 21 BUSY OVR

Your LCD phone displays the number of a station initiating override when you are on the phone.

2. Exec. Override



When you initiate Executive Override, your LCD phone displays the number of the station that is overridden.

(continued)

JSHIBA

SUMMARY OF LCD FUNCTIONS (continued)

3. Do Not Disturb

(DND) Override

Ð



SUMMARY OF LCD FUNCTIONS (continued)

OSHIBA

K) Message Waiting

INT 14 MW SET

When you set Message Waiting at another station, the number of that station is displayed.

SENT 16 JAN 01 SUN 12:19 When you hang up after setting Message Waiting at another station, a reminder is shown on the top row of your display.

Your display will show up to four

station numbers that left messages

CALL 16 32 19 10

L) Door Phone/ Monitor

DOOR PHONE 1B

When you are called from a door phone, its designating characters are displayed.

DOOR PHONE 1A

When you call a door phone, its designating characters are displayed.

NOTE:

for you.

If only one station is equipped with a door phone, the designators will be A, B, or C. If more than one station is equipped with a door phone, A, B, and C may be proceeded by a numeral.

M) Recalling Station

LN 2 RECALL ST 17

When a transferred call goes unanswered, it will recall to the station that transferred it. The display shows the CO line number, and the station number to which it was originally transferred.

Message Waiting



When a message waiting voice mail is displayed, a "V" will follow the station number. A "+" indicates there is a station message in memory. Depress the **SCRL** button to rotate through the numbers.

(continued)

TOSHIBA

SUMMARY OF LCD FUNCTIONS (continued)

N) Off-Hook Call

O) Least Cost

Routing (LCR)

DIAL TEL NUMBER

L NUMBER 583 3700



When you Off-hook Call Announce to a busy station, your LCD displays the number of that station.

When another station Off-hook Call Announces to your station, your LCD displays the number of that station.

When you are making a call via LCR, your display will prompt you to dial a number.

As you dial the number, it is shown on your display.

P) Auto Busy Redial (ABR)



After setting ABR, your display prompts you that it has been set.

P583 3700

LINE NN ACB

When the system retrieves the call, your display shows the called number.

When the called station is ringing, your station's CO LED (or INT LED) and SPKR LED blink and a warning beep sounded.

Will display the called number followed by LINE NN ACB.

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DATE/TIME/DAY ADJUSTMENT

This operation is possible from station 10 only.

TO SET DATE

- 1) Handset on-hook.
- 2) Dial # 51 (or RDL REP 51).
- 3) Dial in date (year/month/day) in the format YYMMDD. Enter a leading 0 for single digit month and day.
- 4) Depress the (or RDL) button.

TO SET TIME

- 1) Handset on-hook.
- 2) Dial # 52 (or RDL REP 52).
- 3) Dial in time (hour/minute/second) in 24-hour clock format HHMMSS. Enter a leading 0 for single digit.
- 4) Depress the # (or RDL) button.

TO SET DAY

- 1) Handset on-hook.
- 2) Dial # 53 (or RDL REP 53).
- 3) Dial in the day (1 represents SUN, 2 MON, etc. through 7 for SAT).
- 4) Depress # (or RDL) button.

TUSHIBA

STATION-TO-STATION MESSAGE WAITING

TO USE STATION-TO-STATION MESSAGE WAITING

- 1) Lift the handset.
- 2) Dial the desired station number.
 - If no answer (busy or DND), depress the MW FL button. This causes the MW/FL button on the called station to flash.
 - The called station's LCD will display the calling station number.
- 3) Called station user depresses the INT and MW FL buttons to return the call.
- 4) To clear the MW/FL LED from the called station, depress the MW/FL button.
- 5) To clear the MW/FL LED from the calling station, depress the INT button, dial the station number and depress the MW/FL button twice.

NOTE:

Up to four Message Waiting displays may be stored on the LCD; the station number in the left most position will be called when the MW/FL button is depressed. To rotate the station numbers, depress the SCRL button. The fourth message is reserved for the Message Center.

CALLING STATION MESSAGING

The Alphanumeric Messaging feature on your LCD electronic telephone enables you to set short text (up to 32 characters) at your station to ensure you don't miss important calls. Any station may record a message; however, only stations with the LCD are able to display messages.

Your system has up to 40 preprogrammed messages that may be received by other LCD electronic telephones calling your station. You can temporarily add to or change any of these to leave a personalized message at your station. See the listings at the back of this guide.

Some stations may record and save up to 10 personal messages to be used for all types of station messaging. This is a station option enabled in system programming.

NOTE:

Stored messages may be recorded with their message number(s) on the record sheet provided in back of this guide.

(continued)

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TOSHIBA

CALLING STATION MESSAGING (continued)

TO LEAVE A MESSAGE ON YOUR LCD TELEPHONE

- 1) Depress the MSG button.
 - MSG LED blinks.
 - LCD displays "MSG NO.?"
- 2) Dial the number of the message you want. (See the preprogrammed message list.)
 - Selected message is displayed.
- 3) Depress the MSC button.
 - MSG LED goes on steady.

TO LEAVE A MESSAGE IF YOU DO NOT HAVE A MSG BUTTON.

- 1) Depress the **INT** button.
 - INT LED goes on.
- 2) Dial 74.
- 3) Dial the number of the message you want.
- 4) Depress the SPKR button.
 - INT LED goes off (your message has been stored).

TO CANCEL A MESSAGE THAT HAS BEEN LEFT AT YOUR STATION

- 1) Depress the MSG button.
 - MSG LED goes off.

TO CANCEL A MESSAGE IF YOU DO NOT HAVE A MEG BUTTON

- 1) Depress the INT button.
 - INT LED goes on.
- 2) Dial 74.
- 3) Depress the SPKR button.
 - INT LED goes off.

NOTE:

A personal message (10 \sim 19) will remain stored in memory.

BUSY STATION MESSAGING

Upon reaching a busy LCD station, a message can be sent to that station (an audible tone will be heard). The busy station may also return a message to the calling station's LCD. The two stations may continue this procedure to carry on a "silent" conversation.

TO SEND A MESSAGE

- 1) Call the desired station.
 - Receive busy tone.
- 2) Depress the MODE button.
 - LCD displays "MODE NO.?".
- 3) Dial 2.
 - LCD displays "OVER TO STNN MSG NO?".
- 4) Enter the desired message number.* • LCD displays the message.
- 5) Depress the PAGE button. • LCD displays "MSG SEND".
- 6) The destination station beeps four times and the message is
- displayed for 30 seconds, or until originating station hangs up.

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TO RETURN A MESSAGE (Within 30 Seconds)

- 1) Depress the MODE button.
 - LCD displays "MODE NO?".
- 2) Dial 2.
 - LCD displays "OVER TO STNN
 - MSG NO?".
- Enter desired message number.*
- LCD displays the message.
- 4) Depress the PAGE button.
 - LCD displays "MSG SEND".

*Personal (10 ~ 19), System (60 ~ 99).

CALLED STATION MESSAGING

TOSHIBA

Your station number and a message indication may be sent to another LCD station. When that station responds, it will receive the message.

TO USE CALLED STATION MESSAGING

- 1) Dial the station number (station does not answer).
- 2) Depress the MODE button.
 - LCD displays "MODE?".
- 3) Dial 🚺 .
 - LCD displays "MW TO STNN
 - MSG NO?".
- 4) Enter the desired message number.*
 - LCD displays the message.
- 5) Depress the MW/FL button.
 - LCD displays "INT NN MW SET".
- 6) Depress the SPKR button to release.
- "CALL NN M" is displayed at the called station and the MW/FL LED blinks.
- 8) "SENT NNM" is displayed at your station.

TO RECEIVE CALLED STATION MESSAGE

1) Depress the INT and MW/FL buttons.

*Personal (10 ~ 19), System (60 ~ 99).

REMOTE STATION MESSAGING

Allows a station to set a Called Station Message or Calling Station Message for another station.

TO SET A CALLED STATION MESSAGE

- 1) Depress the MODE button.
 - LCD displays "MODE?".
- 2) Dial 94.

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- LCD displays "MODE 94
 - DEST EKT NO.?".
- 3) Dial the "destination" station's number (or enter 80 for all stations, or $81 \sim 84$ for page groups).
 - LCD displays "MODE 94

DEST EKT NO.NN".

- 4) Depress the PAGE button.
 - LCD displays "MODE 94
 - ORG EKT NO.?"

(continued)

REMOTE STATION MESSAGING (continued)

- 5) Dial the "originating" station's number.
 LCD displays "MODE 94
 - ORG EKT NO.NN".
- 6) Depress the **PAGE** button.
 - LCD displays "MSG NO.?".
- 7) Enter the desired message's number.
 - LCD displays the message.
- 8) Depress the PAGE button.
 - LCD displays "MSG NO.?".
- 9) Depress the MODE button.
 - LCD displays "MODE NO.?".
- 10) Dial 🖸 .
 - LCD displays date/day/time.
- 11) LCD displays "SENT NN M" at originating station.
- 12) The originating station number and a message indication are displayed on the destination station LCD.

TO RECEIVE CALLED STATION MESSAGE

- 1) Depress the INT and MW/FL button.
- TO SET A CALLING STATION MESSAGE
- 1) Depress the MODE button.
 - LCD displays "MODE?".
- 2) Dial 95.
 - LCD displays "MODE 95

DEST EKT NO.?".

- 3) Dial the "destination" station number.
 - LCD displays "MODE 95
 - DEST EKT NO.NN".
- 4) Depress the **PAGE** button.
 - LCD displays "MSG NO.?".
- 5) Enter the desired message number.
 - LCD displays the message.
- 6) Depress the **PAGE** button.
 - LCD displays "MSG NO.?".
- 7) Depress the MODE button.
 - LCD displays "MODE NO.?".
- 8) Dial 🖸 .
 - Your LCD shows time and date.
 - The message is displayed at the "destination" station.
 - Any station calling the "destination" station receives the message.

TOSHIBA

PREPROGRAMMING SYSTEM MESSAGES

System messages can only be programmed or permanently changed at station 10. Five preprogrammed messages are automatically stored in memory when the Alphanumeric Messaging with LCD feature is initialized:

60)	OUT TO LUNCH
61)	IN A MEETING
62)	CALL
63)	BACK AT
0.45	OCTUDAL ON

64) RETURN ON ____

You can use these messages and add 35 more designed specifically for your system, or you can overwrite the initialized messages and program up to 10 of your own. Any messages programmed at station 10 will remain in memory until cancelled from station 10 or the system is reinitialized. After reinitialization, only the original five messages will be in memory.

System messages are written and stored in memory according to Storing a Message.

STORING A MESSAGE

TO STORE A MESSAGE

- 1) Depress the MSG (or the INT 74) button.
 - MSG LED blinks.
 - LCD displays "MSG NO.?".
- 2) Dial the 2-digit message number to be stored.
 - Personal (10 ~ 19).
 - System (60 \sim 99 station 10 only).
- 3) Use the Recording a Message procedure to store the message.
- 4) Depress the MSG (or SPKR) button.
 - MSG LED on steady.
 - LCD displays "MSG".
- B) Depress the MSG (or INT 7 4 SPKR) button.
 MSG LED goes off.

 - Message is stored.

ADDING TO A PREPROGRAMMED MESSAGE

When you select a message, it appears on your station display, A cursor (---) also appears immediately to the right of the last letter in the message. You can now input additional information (up to a total of 32 digits for each message). Some system messages may expect you to add more information. For example:

1) CALL _____

- Add a station or outside telephone number.
- 2) BACK AT _____
 - Add the time you will return.
- 3) RETURN AT _____
 - Add the date you will return.

NOTE:

Refer to Recording a Message for adding to a preprogrammed message.

LEAVING A NEW MESSAGE

You can leave a completely new, personalized message by overwriting any of the existing preprogrammed messages. To do this, simply call up one of the messages as instructed above. When the cursor appears to the right of the message, shift it to the left margin and write your new message over the preprogrammed one. The new message will remain on your station until cancelled. It will then be erased and the original preprogrammed message will be restored.*

NOTE:

Refer to Recording a Message for leaving a new message at your station.

*Messages 60 \sim 99 will be erased. Messages 10 \sim 19 will remain in memory until changed.

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TOSHIBA

RECORDING A MESSAGE

Use this procedure when storing a personal message ($10 \sim 19$), system message ($60 \sim 99$), adding to a preprogrammed message or leaving a new message. After calling up a message on your display (see Storing a Message, steps 1 and 2):

TO RECORD A MESSAGE

- Depress the button to access alpha characters and refer to Figure 1 for an explanation of the dial pad buttons.
- Move the cursor (---) to the desired position (the left edge of the display for a new message, two spaces to the right of the preprogrammed message to add information).
- Depress the button that has the letter you wish to enter. Use the D button to shift from letter to letter on that button. For example:
 - If you depress 3, a D will be displayed. By depressing 0, the D is changed to E. By depressing 0 again, the E is changed to F. Depress 0 again and the F changes to D.
 - To enter a space, depress 1.
- 4) If you want to enter a number, depress the abutton to change to numeric characters. Numbers are also entered on the dial pad. Depress the button again to return to alpha characters.
- 5) The following special characters are set by depressing i and then depressing i to step through the available characters:
 Q, Z, ∴, -, +, /.
- 6) When the message is complete, depress the MSC button or the SPKR button if you do not have a MSC button.
 - Your message is now stored on your station.



AUTO DIAL MEMO

Allows an LCD user to program a 12-character name for each of their 40 personal auto dial numbers.* The "memo pad" of names may be scrolled through to select the appropriate party. Memos may also be added to system auto dial codes via station 10.

TO PROGRAM NAMES AND NUMBERS

- 1) Depress the **buttons**.
- 2) Dial the desired auto dial number.**
 - LCD displays "# * NN SPEED DIAL".
- 3) Depress the MODE button.
 - LCD displays "* NN _
 - SPEED DIAL".
- 4) Enter the name or memo (refer to Recording a Message).
- 5) Depress the MODE button.
 - LCD displays "* NN MEMO

SPEED DIAL".

- 6) Enter the desired telephone number (16 digits maximum).
- 7) Depress the button to record data in memory.

TO DIAL AN AUTO DIAL NUMBER

- Depress the MODE button.
 LCD displays "MODE NO.?".
- 2) Dial 🛛 .
- 3) Enter the auto dial number (personal or system).
 - The auto dial number appears with name or memo.
- Depress the SCRL button to select the appropriate number/ memo.
- 5) Depress any available CO button.
- 6) The number is dialed.
- *A station must be enabled via system programming for LCD message memory.
- ** Personal Auto Dial Code Numbers: 10 ~ 49 System, stored from station 10 only: 60 ~ 99

NOTE:

Auto Dial numbers and memos may be recorded with their 2-digit code on the record sheet provided in back of this guide.

TOSHIBA

TIMED REMINDERS

Allows five separate messages to be set at each LCD station. These messages will be displayed at the times (hour and minute) set by the station user. They can be displayed just once or repeated on a daily basis.

TO RECORD A MESSAGE

- 1) Depress the **Depress** the **Depress** the **Depress** buttons.
- 2) Dial a 2-digit reminder number (05 ~ 09).
 LCD displays "# * NN TIMER".
- 3) Enter the desired time (24-hour clock format; i.e., HHMM) for the message to be displayed.
- 4) Dial [] if message will be repeated every day, or [] if it is a one-time message only.
- 5) Enter the desired message number.*
- 6) Depress at to record the data in memory.
 - The message will be displayed at the specified time, and beeping tone will be heard for 30 seconds (or until cancelled by depressing the MODE button).

MODE EXIT

TO EXIT ANY MODE

- 1) Depress the MODE button
 - LCD displays "MODE NO.?".
- 2) Dial 🚺 .
 - LCD displays date/day/time.

BUSY LAMP FIELD (BLF) DISPLAY

TO DISPLAY BLF STATUS ON THE LCD DISPLAY 1) Depress the **MODE** button.

- LCD displays "MODE NO.?".
- 2) Dial 1.
- 3) Depress the PAGE button to rotate BLF groups.

*Personal (10 ~ 19), System (60 ~ 99).

VOICE MAIL (VM)

Whenever your station is call forwarded to voice mail, certain digits will automatically be sent to the voice mail unit to direct the call to your voice mail box.

TO STORE THE DIGITS TO BE SENT

- 1) Depress the **buttons**.
- 2) Dial 56.
 - LCD displays "# * 5 6 ID CODE SET".
- 3) Dial the digits (up to 16) and pauses (MW/FL) to be sent.
 - LCD displays the digits and pauses.
- 4) Depress the button to store data.

When you wish to retrieve your messages from voice mail, certain digits will automatically be sent to the voice unit to play back your messages.

TO STORE THE DIGITS TO BE SENT

- 1) Depress the **B** buttons.
- 2) Dial 57.
 - LCD displays "# * 5 7 ID CODE SET".
- 3) Dial the required digits and pauses to be sent.
 - LCD displays the data as it is entered.
- 4) Depress the # button to store data.

TO RETRIEVE MESSAGES

- 1) Depress the INT and MW/FL buttons.
- **TO CLEAR ALL DIGITS**
- 1) Depress the **H** (56 or 57) **H** buttons.

NOTES:

- 1. The above procedures are required for initial VM set-up only. The digits remain in memory until changed.
- 2. Digits are not sent to camped-on VM calls.

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Strata _e Release 2		
Direct Sta User Guid	tion-Selection Console- e	

DIRECT STATION SELECTION (DSS) CONSOLE USER GUIDE

The Direct Station Selection (DSS) console has been designed for use where the volume of incoming calls warrants a dedicated call forwarding location.

Similar in shape and size to the electronic telephone, the DSS makes an attractive and easy-to-use companion for the busy attendant. It features a station button and LED for each electronic telephone in the system as well as a dedicated intercom circuit reserved specifically for the operator's use.

BUTTON FUNCTIONS

Your DSS console has the following buttons:

ALL CALL BUTTON AC

Provides direct access to all electronic telephone speakers for paging.

INTERCOM BUTTON INT

Serves the same function as the **INT** button on the electronic telephone by accessing an intercom line. Since the electronic telephone used with a DSS console has all line buttons assigned to CO lines, the attendant's intercom and special function buttons are located on the DSS console.

MESSAGE WAITING/FLASH BUTTON MW/FL

Used by the station designated as the Message Center to indicate when a message is waiting for any other station. When used as a Flash button, it disconnects and recalls dial tone on a CO line, or is used to access PBX features.

NIGHT TRANSFER BUTTON NT

Used by the attendant to control the system's CO/PBX line ringing patterns. Different ringing patterns are chosen by sequential depressions of the NT button.

STATION BUTTON/LED (10-65)

Used as a one-step operation to call another station. A dedicated button is provided for each station. The accompanying LED displays the busy/idle status of the station.

TOSHIBAI

OPERATIONS

CALL ANSWERING CO/INT

Answer using the same procedures as with an electronic telephone.

NOTE:

The INT button is located on the DSS console.

CALL TRANSFER WITH CAMP-ON

Allows you to transfer an outside call to a station that is either busy or idle.

TO TRANSFER A CO LINE CALL TO AN IDLE STATION:

- 1) Depress the number button corresponding to the station to be called.
 - CO line is placed on hold automatically.
 - CO LED flashes at double the On-Hold rate.
 - DSS station LED flashes.
 - You hear a single ring tone.
- 2) Announce the call.
- 3) Hang up.
 - CO LED changes to the On-Hold flash rate.
 - CO line rings the called station.
 - CO LED illuminates steadily when the called station connects with the transferred call.

TO TRANSFER A CO LINE CALL TO A BUSY STATION:

- 1) Depress the number button corresponding to the station to be called.
 - CO line is placed on hold automatically.
 - CO LED flashes at double the On-Hold rate.
 - DSS station LED flashes.
 - You hear a single ring tone.
- 2) Hang up.
 - CO LED changes to the On-Hold flash rate.
 - CO line is camped-on to the called station.
 - CO LED illuminates steadily when the called station connects with the transferred call.

NOTES:

- 1. The call will recall you and camp-on is cancelled if the station does not pick it up within a pre-determined time. Inform the caller of the situation, and repeat the procedure (if necessary).
- 2. You may reconnect to a transferred line (anytime before it is answered) by depressing the appropriate CO button.
- 3. The Busy Override feature may be used instead of Call Transfer with Camp-on. (continued)

OPERATIONS (continued)

ALL CALL PAGE

TO PAGE ALL STATIONS:

- 1) Lift the handset.
- 2) Depress the AC button.
 - AC LED lights steadily.
- 3) Make your announcement in a normal voice level and repeat it.
- 4) Hang up when you have completed your announcement.

MESSAGE WAITING (Programmable Option)

- Message Center calls station on intercom or by DSS. If no answer, depress the MW FL button on the Message Center DSS.
 - MW/FL LED on called station illuminates.
- 2) Called station user lifts handset and calls the Message Center on intercom. After receiving message(s), hang up.
- To clear the MW/FL LED at the called station, depress the MW/FL button (do not depress the INT or the CO button).
- 4) To clear the MW/FL LED from the Message Center DSS, call the station and depress the MW/FL button twice.

NIGHT TRANSFER

- 1) Different ringing patterns are chosen by sequential depressions of the NT button.
- 2) Depending upon system programming, either two or three night transfer patterns are available. The active pattern is shown by the state of the NT LED:

	Three-pattern	Two-pattern
DAY	OFF	OFF
DAY 2	FLASH	N/A
NIGHT	ON	ON

NOTES:

- 1. For Non-tenant Service: Ringing pattern can be changed by either DSS in a two-DSS system.
- 2. For Tenant Service: CO lines are assigned and controlled independently.



GENERAL INFORMATION

Using a standard telephone with your Toshiba Stratae telephone system provides easy access to a wide range of features listed in this guide.

Intercom dial tone must be heard before dialing; if you have just lifted the handset, you will hear intercom dial tone. During a conversation, intercom dial tone is obtained by "flashing" the hookswitch (plunger) located in the handset cradle. To flash, depress the hookswitch momentarily (for about a ½ second), and you will hear intercom dial tone.

TOSHIBA

AUTOMATIC CALLBACK (Intercom)

After reaching a busy or DND station on an intercom call, you may use Automatic Callback.

TO USE AUTOMATIC CALLBACK 1A) Dial 2 or 3 for Override (see OVERRIDE)

. . . or . . .

1B) Dial 4 to set Automatic Callback.

- Busy tone stops.
- You will hear dial tone for 2 seconds and then busy tone again.
- 2) You may go on-hook or make other calls while waiting for the called station to become available.
- 3) When the called station becomes idle:
 - Your telephone will ring at a fast rate.
- 4) Answer the call within 9 seconds to prevent the callback from being cancelled.
 - You will hear a single tone.
- 5) Proceed to voice announcement.
- 6) Proceed with the conversation.

NOTES:

- 1. You may cancel the request anytime prior to the callback by lifting the handset and dialing **77**.
- 2. If, after answering a callback, you hear a busy tone, it means the called party has already received or originated another call. Your request is **not** cancelled. You will be called again the next time the station becomes idle.

CALL HOLDING

TO HOLD A CALL

- 1) While connected to an outside call, flash the hookswitch.
 - You will hear intercom dial tone.
 - Dial 75 and hang up.
 - You may now originate or receive other calls.

TO RETURN TO CALL ON HOLD

- 1) Lift the handset.
 - You will hear intercom dial tone.
- 2) Dial 76.
 - You will be reconnected with the call.

NOTE:

If you do not return to the call within a designated time period, your telephone will ring to recall you.

CALL PICK-UP

TO ANSWER AN INTERCOM CALL THAT IS PAGING, RINGING ANOTHER STATION, OR CALL ON HOLD

- 1) Lift the handset.
 - You will hear intercom dial tone.
- 2) Dial 78.
- 3) Dial the desired station number.
 - The call will be transferred to your telephone.

NOTE:

Any CO line ringing another station may be picked up at your station by performing Steps 1 and 2, and then dialing 2.

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TRUNK QUEUING (continued)

3B) If all trunks are busy, you will hear busy tone.

4B) Dial 4 to set Automatic Callback.

• Busy tone will stop, you will hear dial tone for 2 seconds and then busy tone again.

TOSHIBA

• You may go on-hock or make other calls while waiting for a trunk to become available.*

5B) When a trunk becomes idle:

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- Your telephone will ring at a fast rate.
- 6B) Lift the handset within 6 seconds to prevent the callback from being cancelled.
 - You will hear CO dial tone.**
 - Dial the desired telephone number.
- * You may cancel the request at anytime prior to the actual callback by lifting the handset and dialing **7**9.
- ** If, after answering a callback, you hear a busy tone, it means the trunk has already been accessed or received an incoming call. Your request is **not** cancelled. You will be called again the next time a trunk becomes idle.

OFF-HOOK CALL ANNOUNCE

TOSHIBA

After reaching a station that is busy off-hook you may use Off-Hook Call Announce.

TO USE OFF-HOOK CALL ANNOUNCE

1A) If you hear a single ring tone, speak to the called party.

... or ...

1B) If you hear a busy tone, dial 2.

- You will hear a single ring tone.
- Speak to the called party.

PAGING

TO PAGE

1) Lift the handset.

- 2) Listen for intercom dial tone and dial the following:
 - **BO** = All Call (Groups $1 \sim 4$)
 - 81 = Group #1
 - = Group #2
 - = Group #3
 - = Group #4
 - = All Call (with External Page)*
 - 89 = External Page
- 3) Make your announcement in a normal voice level and repeat it.
- 4) Hang up when you have completed your announcement.

*Programmable Option; also see Call Pick-up.

TONE SIGNALLING PROGRAMMABLE OPTION

TOSHIBA

TO MAKE A TONE SIGNAL CALL

1) Call another station via intercom.

- You will hear a ringing tone as the primary method of intercom call signalling (voice announcing is inoperative).
- 2) Speak to the called party when the call is answered.
- 3) To make a voice call, dial 1.

TRUNK QUEUING

This feature provides a means for station users to be placed in a waiting queue for a busy outgoing trunk group, and to be called back when a trunk in the group is available.

TO USE TRUNK QUEUING

- 1) Lift the handset.
 - You will hear intercom dial tone.
- 2) Dial the desired trunk group access code:

Code	Line Group	Code	Line Group
9		95	
91		96	
92		97	
93		98	
94		7XX	Selective access to line number "XX"

3A) If there is an idle trunk, you will be connected.

• You will hear CO dial tone.

4A) Dial the desired telephone number.5A) Hang up when the call is completed.

. . . or . . .

CALL TRANSFER WITH CAMP-ON

SHIEA

This feature allows you to transfer an outside call to a station that is either idle or busy.

TO TRANSFER A CALL

- 1) While connected to an outside line, flash the hookswitch.
 - You will hear intercom dial tone.

2) Dial the station number to which the call is to be transferred.3A) If the called station is idle:

- You will hear a single ring tone.
- 4A) Announce the call.

5A) Hang up.

. . . or . . .

3B) If the called station is busy:

You will hear busy tone.

4B) Hang up.

The call is camped-on to the busy station.

NOTES:

- 1. The Override features (See OVERRIDE) may be used instead of transfer camp-on.
- 2. Flash the hookswitch to reconnect to the line before it is transferred. (If the called station has lifted the handset or depressed the INT button, a conference will be formed by the hookswitch flash.)
- The call will recall you and camp-on is cancelled if the station does not pick it up within a predetermined time. Inform the caller of the situation, and repeat the procedure, if necessary.

TOSHIBA

CONFERENCE CALLS

TO CONFERENCE UP TO FOUR STATIONS ON ONE COLINE

- 1) Establish a standard one-CO line call.
- 2) Flash the hookswitch.
 - You will hear intercom dial tone.
 - The existing call will be on hold.
- 3) Dial the number of the desired station.
- 4) Flash the hookswitch after the party answers.*
 - All parties will be conferenced.
- 5) Repeat to add another station. (Four stations, including yours, and one CO line is maximum.)
- 6) Hang up when the call is completed.

TO CONFERENCE UP TO FOUR STATIONS ON INTERCOM

- 1) Establish a standard two-station intercom call.
- 2) Flash the hookswitch.
 - You will hear intercom dial tone.
 - The existing call will be on hold.
- 3) Dial the number of the desired station.
- Flash the hookswitch after the party answers.*
 All parties will be conferenced.
- 5) Repeat to add another station. (Four stations, including yours, is maximum.)
- 6) Hang up when the call is completed.

* Called party must come off-hook or depress the INT button. If you receive a busy tone or no answer, return to the original connection by flashing the hookswitch.

ITOSHIBA

DOOR PHONE

TO CALL/MONITOR A DOOR PHONE

- 1) Lift the handset.
 - You will hear intercom dial tone.
- 2) Dial the desired number:

Door phone location
Door phone location
Door phone location
Door phone location

- You will not hear a warning tone.
- 3) Hang up when the call is completed or when you no longer wish to monitor the door phone.

INTERCOM CALLS

TO MAKE AN INTERCOM CALL

1) Lift the handset.

- You will hear intercom dial tone.
- 2) Dial the desired station number.
 - You will hear a single ring tone.
- 3) Speak when the ring tone ends.*
- 4) Hang up when the call is completed.

*If you are calling another standard telephone, ring tones will continue. Wait for an answer. Tone signalling can be accomplished by dialing after the station number.

TO RECEIVE AN INTERCOM CALL

- 1) You will hear a ringing signal (1 second on --- 3 seconds off).
- 2) Lift the handset and speak to the caller.
- 3) Hang up when the call is completed.

OUTSIDE CALLS

TO MAKE AN OUTSIDE CALL

- 1) Lift the handset.
 - You will hear intercom dial tone.
- 2) Dial the CO line access code:

Code	Line Group	Code	Line Group
9	· · · · · · · · · · · · · · · · · · ·	95	·
91	····	96	<u> </u>
92		97	<u> </u>
93		98	
94		7XX	Selective access

"ХХ"

- 3) Listen for CO dial tone.
- 4) Dial the desired telephone number.
- 5) Hang up when the call is completed.

TO RECEIVE AN INCOMING CALL

- 1) You will hear a ringing tone.
- 2) Lift the handset.
- 3) Hang up when the call is completed.

OVERRIDE

After reaching a busy station, you may signal that station that a call is waiting.

TO INITIATE A BUSY OVERRIDE SIGNAL 1) Dial 2.

• A tone signal will be heard at the busy station.

After reaching a DND station, you may signal that station that a call is waiting.

TO OVERRIDE DND (Programmable Option)

- 1) Dial 2.
 - A tone signal will be heard at the DND station.

After reaching a busy station, Executive Override allows you to enter an established conversation.

TO INITIATE EXECUTIVE OVERRIDE (Programmable Option) 1) Dial 2.

• A tone signal will be heard prior to entering the conversation.

TOSHIBA SYSTEM PRACTICES ELECTRONIC KEY TELEPHONE SYSTEM

Strata Se & Vle

Release 2

SYSTEM RECORD

PART NUMBER: A.R. SH S/VIER2 ITEM NUMBER: 4010902

•

KEY/LED	X	LED ON	LED OFF
17		Transfer Privacy	Alternate point answer of transferred CO line
16		System Speed Dial Override of Toll Restriction	Restricted
15		Eight CO Line Groups (91 \sim 98)	One CO Line Group (9) 🧽
14		Two CO Line Conferencing—Inhibit	Allowed
13*		LCR Access	No LCR
12		DP Make Ratio 33%	40%
11		DTMF Signal Time 160ms	80ms
09		Non-privacy	Privacy
07		Station 17/10-key EKT	Station 17/20-key EKT
06		Incoming Call Abandon/8-sec.	6-sec
05		3-sec. Pause After Flash	1.5-sec. Pause
04	1	Insert Pause After Flash	No Pause
03		3-sec. Pause (MW/FL key)	1.5-sec. Pause
02		0.5-sec. Flash Timing	2-sec. Flash
00		Tone First	Voice First

PROGRAM 01-SYSTEM ASSIGNMENTS (Basic)

* VI_e only

X = Select (LED on) Initialized Data: All LEDs off

PROGRAM 0#1-DOOR PHONE SELECTION

KEY/LED	Х	LED ON	LED OFF
17		Door Lock Timeout (6 sec.)	3 sec.
08		Door Phone 2B Door Lock	Door Phone
07		Door Phone 2C Busy-out	No Busy Signal
06		Door Phone 2B Busy-out	No Busy Signal
05		Station 12/14 Door Phone	EKT
04		Door Phone 1C Alarm (Station 13 only)	Door Phone
03		Door Phone 1B Door Lock	Door Phone
02		Door Phone 1C Busy-out	No Busy Signal
01		Door Phone 1B Busy-out	No Busy Signal
00		Station 11/13 Door Phone	EKT

X = Select (LED on) Initialized Data: All LEDs off

Availability: S_e = 11, 12 VI_e = 13, 14 STRATA S_e/VI_e System record May 1988

PROGRAM 02—SYSTEM ASSIGNMENTS (Options)

KEY/LED	X	LED ON	LED OFF
13		Station 15/23 assigned to Trunk-to-trunk Connection	EKT
12		Station 14/22 assigned to Trunk-to-trunk Connection	EKT
11		Stations 16/17 & 18/19 assigned to Amplified Conference	Not Amplified
10*		Stations 24/25 assigned to Amplified Conference	Not Amplified
06		ACB Warning Tone	No Warning Tone
04		Display Dialed Number—1 minute	15 seconds
02*	_	Night Ringing Over Ext. Page—Allowed	Not Allowed
01		BGM Over Ext. Page—Allowed	Not Allowed
00		Ext. Page Included With All Call Page	Not included

X = Select (LED on) Initialized Data: All LEDs off *Vle only

AMP CONF: S_e—16/17 VI_e—18/19, 24/25

TRK TO	TRK:
Se-14,	15
Vle-22,	. 23

PROGRAM 0#2 ACCOUNT CODE DIGIT LENGTH and MODEM SPEED

KEY/LED	Х	LED ON	LED OFF
17		Repeat Ringing	Standard Ringing
15		SDTU Modem Speed—1200 bps	300 bps
04		Account Code Digit Length	
03		Account Code Digit Length	
02		Account Code Digit Length	
01		Account Code Digit Length	
00		Account Code Digit Length	

X = Select (LED on) Initialized Data: LEDs 01 & 02 on; all other LEDs off. NOTE:

LEDs 00 \sim 04 set the Account Code Digit Length (4 \sim 15 Digits) in binary format per the table below.

SMDR ACCOUNT CODE DIGIT LENGTH TABLE

Digit Length	4	5	6	7	8	9	10	11	12	13	14	15
04							X	X	X	X	Х	X
03					X	X						
02	X	Х	X	X							Х	X
01	1-		X	X				<u> </u>	X	X		
00		X		X		X		X		X		X

X = LEDs on All LEDs off = no data

-

-2-

KEY/LED	X	LED ON	LED OFF
10		Staion 10-ALARM Key	AD1 Key
09		Station 10-DND Key	NT Кеу
08		3-Ring Mode (DAY 1/DAY 2/NT)	2-Ring Mode (DAY 1/NT)
07*		CO Line Pickup Groups (1 & 2)	1 Group only
04		Message Center—Station 12	Not Equipped
03	_	Message Center—Station 11	Not Equipped
02		Message Center-Station 10	Not Equipped

PROGRAM 03—SYSTEM ASSIGNMENTS (Options)

X = Select (LED on) Initialized Data: LED 02 on; all other LEDs off

*See Program 08 for group assignments.

Only one station may be Message Center.

KEY/LED	X	LED ON	LED OFF
06		DP	DTMF
05		DP	DTMF
04		DP	DTMF
03		DP	DTMF
02		DP	DTMF
01		DP	DTMF

PROGRAM 04—CO LINE OUTPULSING SELECTION

Initialized Data: All LEDs off

PROGRAM #4-CO LINE IDENTIFICATION

KEY/LED	16 DIGITS MAXIMUM						
06							
05							
04							
03							
02							
01							

PROGRAM 05 AUTOMATIC RECALL FROM HOLD TIMING

KEY/LED	X	TIME
07		160 sec.
06		128 sec.
05		96 sec.
04		64 sec.
03		48 sec.
02		32 sec.
01		16 sec.
00		No Recall

X = Select (LED on) Initialized Data: LED 02, 10. 11 and 12 on

PROGRAM 06 AUTOMATIC RELEASE ON HOLD ENABLE

KEY/LED	Х
06	
05	
04	
03	
02	
01	

X = Enable (LED on) Initialized Data: All LEDs off

PROGRAM 07 AUTOMATIC RELEASE ON HOLD TIMING

KEY/LED	X
06	
05	
04	
03	
02	
01	

X = Cross Bar (XB) Timing (95ms) Blank = ESS Timing (450ms) Initialized Data: All LEDs off

PROGRAM 0#5 CAMP-ON TIMEOUT

KEY/LED	Х	TIME
03		64-sec.
02		48 sec.
01		32 sec.
00		16 sec.

X = Select (LED on) Initialized Data: LED 01 on

PROGRAM 0#6 TRUNK-to-TRUNK CONNECTION ENABLE

KEY/LED	Х
06	
05	
04	
03	
02	
01	

X = Enable (LED on) Initialized Data: All LEDs off

PROGRAM 0#7 1A2 INTERFACE

KEY/LED	Х
06	
05	
04	
03	
02	
01	

X = Enable (LED on) Initialized Data: All LEDs off

PROGRAM 0#8 NIGHT RING OVER EXTERNAL PAGE (Vie only)

KEY/LED	X
06	
05	
04	
03	
02	
01	

X = Ring (LED on) Blank = No ring Initialized Data: All LEDs on

> PROGRAM 0#9 OPL LINE HUNTING

KEY/LED	X
06	
05	
04	
03	
02	
01	

X = Hunt Initialized Data: All LEDS off

-

PROGRAM 08 CO LINE PICKUP

KEY/LE	DX			
06				
05				
04				
03				
02				
01				

X = Belongs to Group 2 Blank = Belongs to Group 1 Initialized Data: All LEDs off

PROGRAM 09 SINGLE CO LINE (DIAL 9) GROUP SELECTION (OPX, Trunk Queuing)

KEY/LED	X
06	
05	
04	
03	
02	
01	

X = Include in "Dial 9" group (LED on) Initialized Data: All LEDs on

NOTE:

Used only if LED 15 is off in Program 01.

PROGRAM 09X FOUR CO LINE GROUPS SELECTION (Dial 91, 92, 93, 94, 95, 96, 97, 98)

COLINE	GROUP							
	091	092	093	094	095*	096*	097*	098*
06								
05								
04								
03								
02								
01								

X = Include in group (LED on) Initialized Data: 091—All LEDs on 092 ~ 098—All LEDs off

NOTE:

Used only if LED 15 is on in **Program 01** (Eight CO Line Groups). * VI_e only Line groups 95 ~ 98 do not apply to Automatic Off-hook Selection.

PROGRAM 19X PBX ACCESS CODES

CODES	1st DIGIT	2nd DIGIT
#1 (191)		
#2 (192)		
#3 (193)		
#4 (194)		
#5 (195)		
#6 (196)		
#7 (197)		
#8 (198)		

Enter the Access Codes (Maximum: 8) Initialized Data: None

NOTE:

If the access code is a single digit, enter "*" in the second column. If all combinations following a particular 1st digit are to be considered access codes (e.g., 91, 92, 93, ect.), enter "*" (don't care) in the 2nd column.

PROGRAM 190 PBX BACKUP

CO LINE	X
06	
05	
04	
03	
02	
01	•

X = Connected to PBX line (LED on)

Initialized Data: All LEDs off

PROGRAM 100—TOLL RESTRICTION SYSTEM PARAMETERS (Dialing Plan)

KEY/LED	X	LED ON	LED OFF
02		1 + A/C + NXX and NXX	
01		1 + A/C + NXX and 1 + NXX	
00		A/C + NXX and 1 + NXX	

X = Select (LED on) Initialized Data: LED 00 on

NOTE: KEY/LED 03 and 04 are not used

PROGRAM 101 TOLL RESTRICTION DISABLE

KEY/LED	X
06	
05	
04	
03	
02	
01	

X = Disable (LED on) Blank = Enable Initialized Data: All LEDs

PROGRAM 102 FORCED ACCOUNT CODE CHECK

KEY/LED	X
06	
05	
04	
03	
02	
01	

X = Check Blank = No Check Initialized Data: All LEDs off

NOTE:

Program 0#2 defines number of digits in account code.

PROGRAM 103, 104, 105 & 106 EQUAL ACCESS NUMBERS (1 & 2) OCC AUTHORIZATION CODE LENGTHS (1 & 2)

PROGRAM	ITEM	ENTRY
103	Equal Access Number 1	
104	OCC Authorization Code Digit Length #1	
105	Equal Access Number 2	
106	OCC AuthorizationCode Digit Length #2	

PROGRAM 108/109 TOLL RESTRICTION OVERRIDE CODES #1and #2

108		
109		

PROGRAM 1X0—TOLL RESTRICTION CLASS PARAMETERS X = class 1 \sim 4

KEY/LED	X	LED ON	LED OFF
02		Area Code + 555 + XXXX Allowed	Not Allowed
01		01 or 011 Overseas Restricted	Allowed
00		0 + Restricted	Allowed

X = Select (LED on) Initialized Data: All LEDs on

SIKAIA Se/Vie SYSTEM RECORD MAY 1988

PROGRAM 1XY-TOLL RESTRICTION CLASS AREA CODE ENTRY

 $X = Class 1 \sim 4$

Y = 2 (allow)

3 (deny) 4 (display)

PROGRAM	1X2 ALLOW				
CLASS		ARE	A COD	ES	
				•~~	
				<u> </u>	
	<u> </u>				
	<u> </u>				
				···	
PROGRAM	1 1X3 DENY				
CLASS		ARE	A COD)ES	
1					

Initialized Data: Allow 000 \sim 999

NOTE: Use multiple sheets as required.

Sheet _____ of _____.

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PROGRAM 1XZ-TOLL RESTRICTION CLASS OFFICE CODE ENTRY*

 $\begin{array}{l} {\sf X} = {\sf Class} \ 1 \sim 4 \\ {\sf Z} = 6 \ ({\sf allow}) \\ {\sf 7} \ ({\sf deny}) \end{array}$

8 (display)

rnuunaivi	1X6 ALL	.ow				
CLASS			ARE		DES	
			···			
			····			
			•	····		
	<u> </u>					
PROGRAN	1 1X7 DE	<u>NY</u>				
CLASS			ARE		DES	
		_				

*This table will be used for office code restriction within home area code only. Initialized Data: Allow 000 \sim 999

NOTE: Use multiple sheets as required. Sheet _____ of _____.

	OFFICE CODES
「able (1 ∼ 8)	
Area Code	
X = Table 1 ~ 8 Y = 1 (area code) 2 (office codes added) 3 (office codes deleted) 4 (display)	

PROGRAM 2XY-TOLL RESTRICTION AREA/OFFICE CODE EXCEPTION TABLE

Initialized Data: Blank

NOTE: Use multiple sheets as required.

Sheet _____ of _____.

PROGRAM 1X1—TOLL RESTRICTION CLASS AREA/OFFICE CODE EXCEPTION TABLE SELECTION

KEY/LED	X	LED ON	LED OFF
07		Area/Office Code Table 8 selected	Not Selected
06		Area/Office Code Table 7 selected	Not Selected
05		Area/Office Code Table 6 selected	Not Selected
04		Area/Office Code Table 5 selected	Not Selected
03		Area/Office Code Table 4 selected	Not Selected
02		Area/Office Code Table 3 selected	Not Selected
01		Area/Office Code Table 2 selected	Not Selected
00		Area/Office Code Table 1 selected	Not Selected

NOTE:

Initialized Data: All LEDs off

Use multiple sheets as required.

Sheet _____ of _____.

-

PROGRAM 1#00 LCR HOME AREA CODE



Initialized Data: Data =

PROGRAM 1#0X LCR SPECIAL CODES

	$(X = 1 \sim 5)$						
X	CODE						
1							
2							
3							
4							
5							

Initialized Data: Data =

NOTE:

If a special code is 3 digits, enter as fourth digit. These codes will be routed via the local call route.

PROGRAM 1#06 LCR PARAMETERS

KEY/LED	KEY/LED X LED ON		LED OFF
02		WNT-Most Expensive Route	Not Equipped
01		DT—After Access Code	Silent
00		555-LDI Route	Normal

Initialized Data: All LEDs off

PROGRAM 1#07X SELECT LONG DISTANCE INFORMATION (LDI) ROUTE



Initialized Data: Data = 8

PROGRAM 1#08X SELECT LOCAL CALL ROUTE

(X = Route Table 1 \sim 8)

•		
1		
1		
	 _	

Initialized Data: Data = 8 NOTE: An area code table with local area code must be assigned to this route.

PROGRAM 1#09 **DIAL ZERO TIMEOUT**

KEY/LED	X	TIME
03		10 seconds
02		8 seconds
01		6 seconds
00		4 seconds

NOTE: Only one choice is allowed.

Initialized Data: LED 01 on

PROGRAM 1#X8Y LCR SELECT ROUTE DEFINITION

X = Route Table 1 \sim 8 Y = Route Definition 1 \sim 4

X =	DATA								
Y	CO LINE GROUP No. (1 \sim 8)	Modified Digits Table No. (1 \sim 6)							
1									
2									
3									
4									

Initialized Data: Data = 11

PROGRAM 1#XY LCR/AREA CODE TABLE ENTRY

X = Route Table Number $(1 \sim 8)$

Y = 2#, Data = Area Code Added to Table

Y = 3#, Data = Area Code Deleted from Table

Y = 4#, Data = Displays the Area Codes in table.

(Press the dot to step through area code table).

Route Table Number							
	AREA CODES						
		· · · · ·					

NOTE: Area codes which are added to these tables are automatically removed from Table 8. Area codes which are deleted from these tables are automatically transferred to Table 8.

Initialized Data: 1 # X 2 #, Data =

ζ. :

1 # X 3 #, Data =

1 # X 4 #, Data =

All Area Codes Are In Route Table 8

PROGRAM 1#X50 \sim 53 START TIME A SCHEDULE

X = Route Table 1 ~ 8 *Start Time Data = HHMM (24-hour clock) Priority Data = Route Definition (1 ~ 4) Assigned in **Program 1#X8Y**

Route Table

PROGRAM	FEATURE	*DATA
50	Start Time A	
51	Priority Class 1	
52	Priority Class 2	
53	Priority Class 3	

Initialized Data: 50, 51 \sim 53, Data = 0000

PROGRAM 1#X60 \sim 63 START TIME B SCHEDULE

X = Route Table 1 \sim 8 *Start Time Data = HHMM (24-hour clock) Priority Data = Route Definition (1 \sim 4) Assigned in **Program 1#X8Y**

Route Table

PROGRAM	FEATURE	*DATA
60	Start Time B	
61	Priority Class 1	
62	Priority Class 2	
63	Priority Class 3	

Initialized Data: 60, 61 \sim 63, Data = 0000

PROGRAM 1#X70 ~ 73 START TIME C SCHEDULE

X = Route Table 1 \sim 8 *Start Time Data = HHMM (24-hour clock) Priority Data = Route Definition (1 \sim 4) Assigned in **Program 1#X8Y**

Route Table

PROGRAM	FEATURE	*DATA
70	Start Time C	
71	Priority Class 1	
72	Priority Class 2	
73	Priority Class 3	

Initialized Data: 70, 71 \sim 73, Data = 0000
* :

PROGRAM 1#9XY---ADD DIGIT TABLES X = Modified Digits Table 1 \sim 6 Y = 1

XY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
11																						
21																						
31																				•	-	
41																					•	
51	-																					
61																						

Initialized Data = P1 X = Modified digits table (#1 \sim 6)

NOTE: A pause uses two digits per table below.

KEY/LED	Pause (Seconds)	Record Entry
08	16	P8
07	14	P7
06	12	P6
05	10	P5
04	8	P4
03	6	P3
02	4	P2
01	2	P1

PAUSE ENTRY TABLE

PROGRAM 1#9XY

X = Modified Digits Table 1 \sim 6 Y = 0 DELETE DIGITS (DTY) TABLES

XY	Qt	γ*
10		
20		
30		
40		
50		
60		

*(00 ~ 10)

-15-

PROGRAM 2#XY LEAST COST ROUTING AREA/OFFICE CODE EXCEPTION TABLE ENTRY

X = Area/Office Code Table Number (1 \sim 8).

Y = 0, Data = Route Table (1 \sim 8).

- Y = 1, Data = Area Code 🗌 🔲 🖾 Exception
- Y = 2#, Data = Office Code Added to Table (Exception)

Y = 3#, Data = Office Code Deleted from Table

Y = 4#, Data = Displays Office Codes in Table (depress the to step through Office Code Table).

Table Number _____

OFFIC	E COD	ES (Al	LLOW)		
		i i			

NOTE:

If Area Code is the home area code, the **Program 1#00** *must be entered.*

Use multiple sheets as required (_____ of ____)

Initialized Data: 2 # X 0, Data = 8

2 # X 1, Data = 2 # X 2, Data = 2 # X 3, Data =

*VI_e only

•

						S	ΓA1	10	N	NÜ	M	BEF	٦S				
KEY/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
06	Allow Access										,					\square	
05	Allow Access							Γ				Γ	Γ				
04	Allow Access											Γ	Γ				
03	Allow Access		Γ														
02	Allow Access												Γ				
01	Allow Access																

PROGRAM 3XX—STATION CO LINE ACCESS

X = Select (LED on) Initialized Data: All LEDs on

PROGRAM 3#XX HOXB, HMDB and HIOB MODULE ENABLE

KEV/LED	LED ON			S	ΓΑΊ	⁻10	N	NU	M	BE	RS		
KET/LED		14	15	16	17	18	19	20	21	22	23	24	25
07*	HIOB—Voice Mail;												
06	HIOB—Tone from device (MF)												
04	HMDB—Equipped												
03	HIOB-Equipped												
02	OPX—Busy-out												
01	OPX-Equipped												
00	HIOB-Privacy												

X = Select (LED on) Initialized Data: All LEDs off

*HIOB sends digits automatically to voice mail (upon answer). Program digits using an EKT connected to the HIOB port via #*56 code. This most be completed before assigning the HIOB to this port in this program.

Availability

HIOB/HMDB: Se = $14 \sim 18$, VIe = $18 \sim 25$ OPX: Se = 14/15, 16/17; VIe = 18/19, 20/21, 22/23, 24/25

	EEATURE					ST	AT	10	N	NL	M	BE	R	S			
KEY/LED	FEATURE	10	11	12	13	3 1 4	15	16	17	18	19	20	21	22	23	24	25
11*	Start at CO4											Γ.					
10*	Start at CO1											Γ					
09	Top to Bottom														Ī		\Box
06	Pattern B											Γ					
05	Pattern A																
01	10-key/single-line EKT					T						Γ					
00	20-key EKT		Γ			Τ					Γ	 			 		\square

PROGRAM 4XX—STATION TYPE ASSIGNMENT

X = Select (LED on)

Initialized Data: LEDs 01 and 04 on; all other LEDs off

NOTES:

1. This program must be done before Program 4#XX.

2. If a single-line EKT is equipped with a message waiting LED, LED 09 for that station must

be programmed as MW/FL (code 99) in Program 4#XX..

STATION KEY									
19							·		ł
18									
17						[
16			1						
15					[[ľ
14									
13									
12									
11									
10									
09									
08									ĺ
07									l
06									
05							[
04									
03									
02									
01									
00	INT								

PROGRAM 4#XX—STATION FLEXIBLE KEY ASSIGNMENTS

NOTES:

Do Program 4XX for all stations before this program.
Each code (except * for AD) can only be assigned once per station. If assigned more than once, keys become AD keys. Refer to Table 38 for feature codes.
Use two sheets if required (one sheet per eight stations). Sheet _____ of _____.

						<u> </u>	
CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
01	CO1	71	DL1 key	83	CPU1 key	_94	ACE kev
02	CO2	72	DL2 key	84	CPU key	95	PAU key
03	CO3	78	MM / MA key	85	SAVE key	96	RDL key
04	CO4	79	ANS / CALL key	87	CFD key	97	REP key
05	CO5	80WW	MODM key	88	MCO key	98	DND key
06	CO6	81	MSG key	90	TONE key	99	MW/FL key
*	AD key	82	CPU2 key	93	PRV key	#YY	DSS key
						*ZZ	Locked AD key

FLEXIBLE KEY ASSIGNMENTS FFATURE CODES

NOTE:

WW = Modem Station Number

YY = DSS Destination Station Number

ZZ = System Speed Dial Code (60 \sim 99)

#YY (DSS key) is not programmable using the group programming procedure.

						ST	AT	10	NI	NU	M	BE	RS	;			
KEY/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
17	Privacy Override—Allowed																
16	DND Override—Allowed																
15	Executive Overide—Allowed																
13	Off-Hook Call Announce—Enable				Γ												
12	OCA—Dial 2 (originate)																
09	Group Page 4																
08	Group Page 3																
07	Group Page 2														·		
06	Group Page 1				Γ												
05	All Call Page—Allowed																
04	Warning Tone—Disabled																
03	Handsfree Answerback—Disabled																
02	MIC on at Start of Call																
01	MIC Key Lock				Γ												
00	Speakerphone—Enabled																

PROGRAM 5XX—STATION CLASS OF SERVICE #1

X = Select (LED on) Initialized Data: LEDs 00 and 05 on; all other LEDs off

PROGRAM 5#XX--STATION CLASS OF SERVICE #2

						ST	AT	10	Nİ	ŇU	M	BE	R	5			
KEY/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	2 5
17 ³	Alphanumeric LCD Type																
16	Station-to-station MW with LCD																
15 ¹	LCD Message Memory (personal)																
14	Forced Acct. Code—Required																
13 ²	Toll Restrict. Override Code											Γ	Γ				
12*	Hold Recall Time Code																
11*	Hold Recall Time Code																
10*	Hold Recall Time Code											Γ					
07	Auto Off-Hook Selection—94]															
06	Auto Off-Hook Selection-93																
05	Auto Off-Hook Selection—92																
04	Auto Off-Hook Selection—91																
03	Auto Off-Hook Selection-01																
02	Auto Off-Hook Selection—INT																
01	Ringing Line Preference												Γ				
00	Auto Dialing—Allowed											ſ	Γ				

Initialized Data: LEDs 00, 01, 15, 16 and 17 on; all other LEDs off

¹Enables personal messages and speed dial memo. VI_e = 6 stations max.—S_e = 4 stations max. (Initialized for lowest stations) ²Allows station to change the code.

³Enable if EKT has 32-character LCD or no LCD; leave blank if EKT has 12-character LCD.

* Hold Recall Time Code

KEY/LED	Prog. 05	16 Sec.	32 Sec.	48 Sec.	64 Sec.	96 Sec.	128 Sec.	160 Sec.
12					Χ	Х	Х	Х
11			X	Х			Х	X
10		Х		X		Х		X .

				.01					~~~								
	FEATURE					ST	TA		N.	ΝL	JM	BE	RS				
KET/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
12	LCR Class 3																
11	LCR Class 2																
10	LCR Class 1																
07	Digit Restrict														-		
06	Class 4																
05	Class 3																
04	Class 2																
03	Class 1																
02	Restrict 0 or 1 as 1st/2nd Digit																
01	Allow 1 + O/C Only																
00	No Restrict.																

PROGRAM 6XX—STATION TOLL RESTRICTION CLASSIFICATION

X = Select (LED on) Initialized Data: LEDs 00 and 10 on; all other LEDs off

PROGRAM 6#XX—STATION-to-STATION HUNTING

					ST	Ά1	10	N	NÜ	M	BE	RS				
	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Station Hunt Destination																1-

PROGRAM 7XX—STATION OUTGOING CALL RESTRICTION

KEV /I ED	EEATURE					ST	AT	10	NI	NU	M	BE	RS	5			
RET/LED	FEATORE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
06	Restricted																
05	Restricted																\square
04	Restricted																
03	Restricted																
02	Restricted																H
01	Restricted																\square

X = Select (LED on) Initialized Data: All LEDs off

	FEATURE					S	TA	TI	ON	I N	UN	ΛB	EF	S				
KEY/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	69
06	DAY/immediate																	—
05	DAY/immediate																Í	
04	DAY/immediate												Γ		Γ			
03	DAY/immediate										Γ		Γ		Γ			\square
02	DAY/immediate																	
01	DAY/immediate														Γ		·	

PROGRAM 81XX—RINGING ASSIGNMENTS-DAY/IMMEDIATE

NOTES:

1. 69 = Assign for auto-connect Remote Maintenance.

2. If a CO is to "Call Forward" from a station, the CO must be assigned to ring ONLY that station. However, this CO may be assigned to ring other stations in other ringing assignment programs.

PROGRAM	82XX—	CO	RINGING	ASSIGNMENTS	-DAY/	′12 -	SEC.	DELAY
---------	-------	----	---------	-------------	-------	--------------	------	-------

	EEATURE					S	STA	TI	ON	N	UN	ΛB	ER	S				
KEY/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	6 9
06	DAY/12-sec. delay																	
05	DAY/12-sec. delay							Γ										\square
04	DAY/12-sec. delay							Γ.										
03	DAY/12-sec. delay																	
02	DAY/12-sec. delay																	
01	DAY/12-sec. delay																	

Initialized Data: All LEDs off

	FEATURE					S	TA	TI	ON	N	UN	ΛB	ËR	S				
KEY/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	69
06	DAY/24-sec. delay																	
05	DAY/24-sec. delay																	
04	DAY/24-sec. delay																	
03	DAY/24-sec. delay																	
02	DAY/24-sec. delay																	
01	DAY/24-sec. delay																	

PROGRAM 83XX-CO RINGING ASSIGNMENTS-DAY/24-SEC. DELAY

NOTES:

1. 69 = Assign for auto-connect Remote Maintenance.

 If a CO is to "Call Forward" from a station, the CO must be assigned to ring ONLY that station. However, this CO may be assigned to ring other stations in other ringing assignment programs.

	FEATURE					S	TA	TI	0N	N	Ū٨	AB	ER	S				
KEY/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	69
06	DAY 2/immediate																	
05	DAY 2/immediate							Ι							Γ			
04	DAY 2/immediate																	
03	DAY 2/immediate																	
02	DAY 2/immediate							Γ								•		
01	DAY 2/immediate							Γ										

PROGRAM 84XX—CO RINGING ASSIGNMENTS-DAY 2/IMMEDIATE

NOTE:

Initialized Data: All LEDs off

This program is used only if the CO8 LED was turned on in Program 03.

						S	TA	TI	ON	N	U٨	ЛB	ER	S				
KEY/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	69
06	DAY 2/12-sec. delay																	
05	DAY 2/12-sec. delay																	
04	DAY 2/12-sec. delay																	
03	DAY 2/12-sec. delay																	
02	DAY 2/12-sec. delay																	
01	DAY 2/12-sec. delay																	

PROGRAM 85XX—CU RINGING ASSI	SNMENTS-UAY 2/12-SEC. DELAY
------------------------------	-----------------------------

NOTES:

- 1. 69 = Assign for auto-connect Remote Maintenance.
- If a CO is to "Call Forward" from a station, the CO must be assigned to ring ONLY that station. However, this CO may be assigned to ring other stations in other ringing assignment programs.

	CE A TUDE					S	ΤA	TI	ЛC	Ν	UN	1B	ËR	S				
KEY/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	69
06	DAY 2/24-sec. delay																	
05	DAY 2/24-sec. delay																	
04	DAY 2/24-sec. delay																	
03	DAY 2/24-sec. delay							[
02	DAY 2/24-sec. delay																	
01	DAY 2/24-sec. delay				1													·

PROGRAM 86XX-	-CO BING	ING ASS	IGNMENTS -	DAY 2	2/24-SEC.	DELAY
	-00 111180			יתהי ב	4/ 4 7 -060.	

X = Select (LED on) Initialized Data: All LEDs off

NOTE:

This program is used only if the CO8 LED was turned on in Program 03.

	EEATURE					S	ST/	TI	ON	N	UN	ΛB	ER	S				
KEY/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	69
06	NIGHT/immediate																	
05	NIGHT/immediate							Γ										
04	NIGHT/immediate																	
03	NIGHT/immediate				Γ			Ι								•		
02	NIGHT/immediate						Τ	Ι										
01	NIGHT/immediate		Γ	Γ	<u> </u>													

PROGRAM 87XX-CO RINGING ASSIGNMENTS-NIGHT/IMMEDIATE

PROGRAM 88XX-CO RINGING ASSIGNMENTS-NIGHT/12-SEC. DELAY

						S	TA	TIC	NC	N	UN	ЛB	ER	S				
KEY/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	69
06	NIGHT/12-sec. delay																	
05	NIGHT/12-sec. delay																	
04	NIGHT/12-sec. delay																¢	
03	NIGHT/12-sec. delay																	
02	NIGHT/12-sec. delay																	
01	NIGHT/12-sec. delay																	

PBOGRAM 89XX		BINGING	ASSIGNMENTS	-NIGHT/24-SEC.	DELAY
--------------	--	---------	-------------	----------------	-------

	FEATURE					S	TA	TI	ON	N	UN	ΛB	ER	S				
KEY/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	6 9
06	NIGHT/24-sec. delay																	
05	NIGHT/24-sec. delay																	
04	NIGHT/24-sec. delay																	
03	NIGHT/24-sec. delay																	
02	NIGHT/24-sec. delay																	
01	NIGHT/24-sec. dealy																	

X = Select (LED on) Initialized Data: All LEDs off

NOTES:

1. 69 = Assign for auto-connect Remote Maintenance.

2. If a CO is to "Call Forward" from a station, the CO must be assigned to ring ONLY that station. However, this CO may be assigned to ring other stations in other ringing assignment programs.

	FEATURE					ST	AT	10	N	NŪ	M	BE	R	5			_
KET/LED	FEATURE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
05	Door Phone 12/14 Ring C											-	Γ	\square			Ē
04	Door Phone 12/14 Ring B														-		
03	Door Phone 12/14 Ring A															•-	
02	Door Phone 11/13 Ring C																
01	Door Phone 11/13 Ring B																
00	Door Phone 11/13 Ring A																

PROGRAM 9#XX—DOOR PHONE RINGING ASSIGNMENTS

X = Select (LED on) Initialized Data: All LEDs off

PROGRAM *X# FLEXIBLE ACCESS CODE NUMBERING X = INITIALIZED FIRST DIGIT

FEATURE	ACC COI	ESS DE	NEW DIC	/ 1ST GIT*
Door Phone/	6	6		6
Monitor Station	6	7	"	7
	6	8	"	8
CO Line Dial Selection	7	ХХ		ХХ
Paging	8	0		0
	8	1	"	1
	8	2	"	2
	8	3	"	3
	8	4	"	4
	8	5	"	5
	8	6	"	6
	8	7		7
	8	8	"	8
	8	9	"	9
Trunk Group		9		
	9	1		1
	9	2	"	2
	9	3	"	3
	9	4	"	4

Initialized Data: Access Code Column

*Enter the new first digit of the access code in the blank space where applicable.

PROGRAM *XX FLEXIBLE INTERCOM NUMBERING XX = SYSTEM INTERCOM NUMBER

SYSTEM INTERCOM NUMBER	NEW INTERCOM NUMBER (1 - 4 digits)
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	· · · ·

Initialized Data: System intercom numbers

PROGRAM	#1XX*YY—SYSTEM	AUTO	DIAL	RECORD	SHEET
	(XX = 10/YY =	= 60 ~	- 99)		

-

•

Auto Dial			Διπ	to [lei	Die	nite	/P:	2116	0e (16	ma	vim		1	
	4	2	<u></u>						0	100	10	1110	4 2		۷ م ا ا	10
60	-	2	3	4	5	0	/	ð	3	10	11	12	13	14	15	10
61																
62																
62																
64																
65																
66																
67																
67		-														
68																
69																
70																
71																
72																
73																
74																
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77																
78																
79																
80					_											
81															-	
82													-			
83																
84																
85																
86										 		1				
87																
88								<u> </u>								
<u> </u>										†		<u> </u>				
90		<u> </u>								 						
<u> </u>		-								<u> </u>			<u> </u>			
<u>عا</u> ۵۶										\vdash		-				
<u>32</u> 02							<u> </u>					-		<u> </u>		
33							<u> </u>	<u> </u>	-		<u> </u>		<u> </u>			
94								<u> </u>					<u> </u>			
95		┝						 	╂	┣──		<u> </u>				
96		-		<u> </u>		 		 	 							
97	<u> </u>		<u> </u>		├			 	<u> </u>	<u> </u>						
98			<u> </u>	<u> </u>	<u> </u>	<u> </u>	 		<u> </u>			<u> </u>			 	
99													1			

NOTE: Enter a "P" for each 1-second pause.

PROGRAM #1XX*YY—STATION AUTO DIAL RECORD SHEET XX = Station No. (10 \sim 25)/YY = Code No. (10 \sim 49)

STATION #

.										-	4.0					
Auto Dial	<u> </u>		Aut	to [Jial	Dig	gits		aus	es (16	ma	xim	um	<u>)</u>	
Loae	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
10				L						ļ		L		L		
11		<u> </u>			L		ļ	<u> </u>	ļ					L		
12									<u> </u>							
13								I								
14																
15																
16																
17																
18						_		l								
19																
20																
21																
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31												_				
32																
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35											_					
36																
37																
38																
39																
40																
41																
42																
43																
44																
45								-								
46																
47																
48			-+											_		
10			-	-+							-					
43	i			ł												

NOTES:

Enter a "P" for each 1-second pause.
Use more than one sheet if necessary (one sheet per station).

Sheet ____ of ____ • • TOSHIBA SYSTEM PRACTICES ELECTRONIC KEY TELEPHONE SYSTEM

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Strata VI. - SYSTEM RECORD MAY 1985 Rel. 1

Strata[®] VI_e SYSTEM RECORD



Rel

- 1

TABLE 1 SYSTEM RECORD SHEET

PROGRAM 01-SYSTEM ASSIGNMENTS (Basic)

KEY/LED	X	LED ON	LED OFF
PAU		Transfer Privacy	Alternate point answer of transferred CO line
AD7		System Speed Dial Override Toll Restriction	Restricted
AD6		Four CO Line Groups (91 ~ 94)	One CO Line Group (9)
ADS.		Two CO Conferencing—Inhibit	Allowed
AD3		DP Make Ratio 33%	40%
AD2	•	MF Signal Time 160ms	80ms
MW/FL		Non-Privacy	Privacy
ACB		Station 17/10-key EKT	Station 17/20-key EKT
CO6		Incoming Call Abandon (8 seconds)	6 seconds
CO5 .	:	3-sec. Pause After Fiash	1.5-sec. Pause
C04		Insert Pause After Flash	No Pause
CO3		3-sec. Pause (MW/FL or PAU key)	1.5 sec. Pause
CO 2		0.5-sec. Flash Timing	2.0-sec. Flash
INT		Tone First	Voice First

X = Select (LED on) Initialized Data: All LEDs off

PROGRAM 02—SYSTEM ASSIGNMENTS (Options)

KEY/LED	X	LED ON	LED OFF
DND		OPX#21 Busy	Not busy
C04		Display the dialed number (1 minute)	15 seconds
CO2		Night Ring over External Page Allowed	Not Allowed
CO1		BGM over External Page Allowed	Not Allowed
INT		External Page Included with All Cail Page	Not Included

Initialized Data: All LEDs off

PROCRAM 0#2-ACCOUNT CODE DIGIT LENGTH (4 to 15 digit length)



Initialized Data: 6 digits

Strata VIe SYSTEM RECORD MAY 1986 *Re* (.

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PROGRAM 03-SYSTEM ASSIGNMENTS (Options)

KEY/LED	X	LED ON	LED OFF
PAU		Door Lock Time (6 seconds)	3 seconds
AD7		Door Phone C/Alarm	Door Phone
AD6		Door Phone B/Door Lock	Door Phone
AD5		Door Phone C Busy	Door Phone
AD4		Door Phone B Busy	Door Phone
AD3	1	Station #14 is Door Phone	Station #14 is ERTK.
AD2		Station #13 is Door Phone	Station #13 is EKT
AD1	1	Station #10 Alarm Key	AD 1 Key
MW/FL		Station #10 DND Key	Nite Kev
DND	1	3-Ring Mode	2-Ring Mode
CO4		Message Center Station #12	Not Equipped
CO3	1	Message Canter Station #11	Not Equipped
CO2	1	Message Center Station #10	Not Equipped

Initialized Data: CO2 on; all other LEDs off

PROGRAM 04-VCOU OUTPULSING

KEY/LED	X	LED ON	LED OFF
CO6		DP	MF
C05	1	DP	MF
C04		OP	MF
CO3		DP	MF
CO2		OP	MF
CO1		OP	MF

Initialized Data: All LEDs off

PROGRAM 05 AUTOMATIC RECALL FROM HOLD TIMING

KEY/LED		Х	-	TIME
ACB	ļ		-	160 seconds
C06	ļ		Ì	128 seconds
CO5	1		1	96 seconds
C04				54 seconds
CO3	1			48 seconds
CO2			1	32 seconds
CO1				16 seconds
INT	:		Ì	No Recail

X = Select (LED on) Initialized Data: CO2 LED on NOTE:

Used only if AD1, AD2 & AD3 LEDs in **Program** 5#XX are all off.

Strata VIe SYSTEM RECORD Rel MAY 1986

PROGRAM 0#5 CAMP-ON TIMEOUT

KEY/LED X	TIME
CO3	64 seconds
CO2	48 seconds
CO1	32 seconds
INT	16 seconds

X = Select (LED on) Initialized Data: CO 1 LED on

PROGRAM 06 AUTOMATIC RELEASE ON HOLD ENABLE

1

KEY/LED	X
CO6	I
COS	
CO4	
CO3	
CO2	
CO1	i

X = Enable (LED on) Initialized Data: All LEDs off

PROGRAM 07 AUTOMATIC RELEASE ON HOLD TIMING

KEY/LED	ļ	Х
CO6		-
CO5	1	
CO4	ļ	
CO3		
CO2	İ	
CO1	ļ	

X = XB (LED on) Blank = ESS Initialized Data: All LEDs off

PROGRAM 0#8-NIGHT RING OVER EXTERNAL PAGE

CEV SD	X LED ON	LED OFF
	·····	
CO4	Ring	No Ring
203	Ring	No Ring
002	Ring	No Ring
201	Ring	No Ring

Initialized Data: All LEDs off

NOTE: Program 02 CO2 LED on.

Strata VIe SYSTEM RECORD MAY 1986 Re//

PROGRAM 09 SINGLE CO LINE (DIAL 9) GROUP SELECTION (OPX, Trunk Queuing)

KEY/LED	X
CO6	Х
CO5	Х
CO4	Х
CO3	Х
CO2	Х
CO1	X

X = Include in "Dial 9" group (LED on) Initialized Data: All LEDs on

NOTE:

Used only if AD6 LED is off in **Program 01** (Single CO Line Group).

PROGRAM 0#9 OPL LINE HUNTING (HOLB)

KEY/LED	l	X
CO6	ł	Х
CO5	-	Х
CO4		Х
CO3	1	Х
CO2		Х
<u>co;</u>	ţ	X

X = Hunting Initialized Data: All LEDs on

PROGRAM 09X FOUR CO LINE GROUP SELECTION (Dial 91, 92, 93, 94—OPX, Trunk Queuing)

	GROUP				
COLINE	091	092	093	094	
CO6	х		•	1	
CO5	х				
CO4	х	ž,		i 1	
CO3	х			:	
CO2	х		•	•	
CO1	х	·	•	1	

X = Include in group (LED on) Initialized Data:

091—All LEDs on 092 ~ 094—All LEDs off *NOTE:

Used only if AD6 LED is on in Program 01 (Four CO Line Groups).

PROGRAM 100—TOLL RESTRICTION SYSTEM PARAMETERS (Dialing Plan)

KEY/LED	X	LED ON	LED OFF
CO2		1 + A/C + NXX and NXX	
CO1		1 + A/C + NNX and $1 + NNX$	
INT	1	A/C + NNX and 1 + NNX	

Initialized Data: INT LED on

PROCRAM 101-TOLL RESTRICTION DISABLE

KEY LED X		LED ON	LED OFF
C06		Disable	Enable
CO5		Disable	Enable
CO4		Disable	Enable
cca		Disable	Enable
CO2		Disable	Enable
CC1		Disable	Enable

Initialized Data: All LEDs off



PROGRAM 102—FORCED ACCOUNT CODE CHECK

KEY/LED	X	LED ON	LED OFF
CO6		Check	No Check
CO5		Check	No Check
CO4		Check	No Check
CO3		Check	No Check
CO2		Check	No Check
CO1		Check	No Check

Initialized Data: All LEDs off

1000

NOTE: Program 0#2 defines number of digits in account code.

PROGRAMS 103, 104, 105 & 106 EQUAL ACCESS NUMBERS 1 & 2 OCC AUTHORIZATION CODE LENGTHS (1 & 2)

PROGRAM	ITEM	ENTRY
103	Equal Access* Number 1	
104	OCC Authorization** Code Digit Length #1	
105	Equal Access* Number 2	
106	OCC Authorization** Code Digit Length #2	

X = 0 ~ 9

*Enter the equal access code or Other Common Carrier directory number (five digits: 10XXX).

**Enter the number of digits in the OCC Authorization Code ($00 \sim 16$).

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KEY/LED	X	LED ON	LED OFF
CO2		Area Code - 555 - XXXX Allowed	Not Allowed
		"Otifier "Otif" Overseas Restricted	Allowed
INT		"O" - Restricted	Allowed

Initialized Data: All LEDs off

PROGRAM 1XY-TOLL RESTRICTION CLASS AREA CODE ENTRY

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X = Class 1 \sim 4 Y = 2 (allow) 3 (deny) 4 (display allow)

PROGRAM	I 1X2 ALLOW
CLASS	AREA CODES 🦟
5 Ke	
; ;	
PROGRA	M 1X3 DENY
CLASS	AREA CODES
· · ·	

Initialized Data: Allow 000-999

NOTE: Use multiple sheets as required

Sheet _____ of _____.

PROGRAM 1XZ-TOLL RESTRICTION CLASS OFFICE CODE ENTRY*

Z = 6 (allow)

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7 (deny)

8 (display allow) X = Class $1 \sim 4$

PROGRAM	1X6 ALLOW										
CLASS OFFICE CODES 1											
			•								
1											
su ti			······································								
44.											
PROGRAM	1X7 DENY										
CLASS		OFFICE CODES	· · · · · · · · · · · · · · · · · · ·								
,											
	·										
		1									
	I										
	<u> </u>										
	— <u> </u>										
1											

*This table will be used for office code restriction within home area code only. Initialized Data: Allow 000-999 •

NOTE: Use multiple sheets as required

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PROGRAM 1X1—TOLL RESTRICTION CLASS AREA/OFFICE CODE EXCEPTION TABLE SELECTION X = class 1 - 4

KEY/LED	X	LED ON	LED OFF
ACS		Area/Office Code Table 8 selected	Not Selected
00 CO6		Area/Office Code Table 7 selected	Not Selected
CO5	1	Area/Office Code Table 6 selected	Not Selected
CO4_		Area/Office Code Table 5 selected	Not Selected
, co3 ·		Area/Office Code Table 4 selected	Not Selected
CO2		Area/Office Code Table 3 selected	Not Selected
CO1		Area/Office Code Table 2 selected	Not Selected
INT		Area/Office Code Table 1 selected	Not Selected

Initialized Data: All LEDs off

NOTE: Use multiple sheets as required.

Sheet _____ of _____

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Initialized Data: Allow 000-999

NOTE: Use multiple sheets as required

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Sheet _____ of _____.

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PROGRAM 190 PBX BACXUP

	CO LINE	X
ſ	CO6	1
ſ	CO5	
ſ	CO4	
ſ	CO3	
ſ	CO2	1
Į	CQ1	1

X = Connected to PBX line (LED on)

Initialized Data: All LEDs off

PROGRAM 19X PBX ACCESS CODES

CODES	1st DIGIT	2nd DIGIT
#1 (191)		
#2 (192)		•
#3 (193)		
#4 (194)		in the state of t
≠5 (195)		
<i>≠</i> 6 (196)		
<i>#</i> 7 (197)		1
#8 (198)		1

Enter the Access Codes (Maximum: 8) Initialized Data: AD1 flashing

NOTE:

If the access code is a single digit, enter """ in the second column. If all combinations following a particular 1 st digit are to be considered access codes (e.g., 91, 92, 93, etc.), enter "D" (don't care) in the 2nd column.

PROGRAM 3XX-STATION CO LINE ACCESS

		STATION NUMBERS															
KEY/LED	FEATURE		011	111	2!1	311	411	5116	ii17	7 18	3115	3120	121	22	23	124	1:25
CO6	Allow Access	1)								
CO 5	Allow Access		1				_		1				<u> </u>	1	1	;	
CO 4	Allow Access	<u>i</u>	1	1							1		1	-			
CO 3	Allow Access	Ì							1		1	<u>.</u>	<u>.</u> .		ļ	:	1
CO 2	Allow Access	1	-	_		1	1	}		!		1		<u> </u>		1	;
CO 1	Allow Access		Ì									<u> </u>					

X = Select (LED on) Initialized Data: All LEDs on

PROGRAM 4XX—STATION TYPE ASSIGNMENT

KEY/LED		STATION NUMBERS													
	FEATURE	101111213114115116117118119120121122123124125													
AD2	Start at CO4														
AD1	Start at CO1														
MW/FL	Top to Bottom														
CO1	10-key														
INT	20-kev														

XX = Station number

Initialized Data: CO1 and AD1 LEDs on; all other LEDs off

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PROGRAM 4#XX—STATION FLEXIBLE KEY ASSIGNMENTS

STATION	!!					1		<i>c</i>	
KEY	1	!			 				
19	ł					1			
18	ļ					i		A	3.
17		,				1		12.	
16		÷				ł			
15	i					;		r: •*	
14	Ì								
13	:	1			-				·
12					1 Mar 1				
11	1			_]				
10		į				1			
9									-
8	ł					4 •			
7		İ			_	[
6									
5	!								
4									
3		1							
2		i							
1									
0		INT	NT 1	INT	INT	INT	INT	INT	INT

NOTES:

1. Each code (except * for AD) can only be assigned once per EKT. If assigned more than once, as a become 4C kard. Balance Trate 2D for trature codes.

2. Use multiple sheets as required. Sheet _____ of _____.

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PROGRAM 5XX-STATION CLASS OF SERVICE #1

	CTATURE		STATION NUMBERS														
KEY/LED	FEATURE	10	11	12!	13	114	15	16	17	18	19	20	21	22	23	24	125
15 PAU	Privacy Override Allowed		1											ļ			
14 AD7	DND Override Allowed 2																
13 AD6	Executive Override Allowed																
1Z AD3	Door Phone C ring													<u> </u>			
U AD2	Door line B ring											!	<u> </u>	!			
10 AD1	Door Phone A ring					<u> </u>						ļ					1
OMW/FL	Group Page 4												į	<u> </u>			
08DND	Group Page 3					1										1	
07 ACB	Group Page 2													1			
06 CO6	Group Page 1							!					<u> </u>		Ì		
05 CO5	All Call Page Allowed						!				ļ	ļ			1	!	
04CO4	Room Monitor without Warning Tone	1															
03 ^{CO3}	Handsfree Answerback Allowed			-				-				1					
0Z CO2	MIC on at start of call		! 		<u> </u>							1			:	<u> </u>	
0 / CO1	MIC key lock		1	ļ		1		<u> </u>				<u>.</u>	<u> </u>		<u> </u>		
OO INT	Speakerphone Enable					}	}			ĺ				}	1		

Initialized Data: INT and CO5 LEDs on; all other LEDs off

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KEY/LED	FEATURE	STATION NUMBERS													
	TEATONE	10111112113114115116117118119120121122123124125													
AD7	Station-to-Station Message Waiting with LCD Allowed														
AD5	Forced Account Code required														
AD3	Hold Recall Time Code*														
AD2	Hold Recall Time Code*														
AD1	Hold Recall Time Code*														
ACB	Automatic off-hook selection; Group 94 or 9 (see NOTE)														
CO6	Automatic off-hook selection; Group 93 or 9 (see NOTE)														
CO5 ,	Automatic off-hook selection; Group 92 or 9 (see NOTE)														
CO4	Automatic off-hook selection; Group 91 or 9 (see NOTE)														
CO3	Automatic off-hook selection; CO1 Position														
CO2	Automatic off-hook selection; INT														
CO1	Ringing Line Preference														
INT	Automatic Dialing Allowed														

PROGRAM 5#XX-STATION CLASS OF SERVICE #2

Initialized Data: AD7, CO1, INT LEDs on; all other LEDs off

NOTE:

Only one selection possible per station; lowest selection has priority.

*Hold Recall Time Code

KEY/LED	Prog	. 05 1	6 Sec	•	32 Sec	.	48 Sec.	6	54 Sec.	9	6 Sec.	128 Sec.	160 Sec.
AD3				i		I		1	x	1	x	X	l x
AD2		1		:	х	:	X	1	·	i		X	Y
AD1			х	ļ		1	x	ļ	········	Ī	x	<u>_</u>	X

PROGRAM 5XX-STATION TOLL RESTRICTION CLASS

KEY/LED	FEATURE	STATION NUMBERS															
	TEATONE	1	0!1	111	2!1	311	411	511	611	711	811	912	012	122	23	2412	25
CO6	Class 4*	i		1	1	-	1	i	1	ł	i		T	1			-
008	Class C1	·	,		;	i	÷	:	i	i			+	+			
CO4	Class 2*	;	1	i	1	1	-				i	- <u>-</u> -	÷.				
CO3	Class 11	:		!	1	÷			÷	<u></u>	<u></u>		+	+		_	
CO2	Restrict 0 or 1. 1st and 2nd digit		1		1	1	i	1		Ī	i						_
CO1	Allow 1 + 0/C only	1	;	Ť	Ì		;	÷	+	1	1	+	+	<u> </u>			
INT	No restriction	1	ļ	İ	1	Ì	l			 ;	1	1					-

Initialized Data: INT LED on; all other LEDs off

* See Toll Restriction Programs 100, 1X1, 1XY, 1XZ and 2XY.

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PROGRAM 7XX-STATION OUTGOING CALL RESTRICTION

	FEATURE			STATION NUMBERS														
KEY/LED	FEATORE	10	011	11	12	13	1411	5	16	17	18	3179	20	121	122	2 23	24	2
CO 6	Restricted		Ì	1												1	1	1
CO 5	Restricted		İ	İ	1	!	j					1						
CO 4	Restricted		1								 			<u> </u>		1	<u> </u>	1
CO 3	Restricted					ļ							<u> </u>		ĺ			[
CO 2	Restricted:		}	ļ		j												
CO 1	Restricted			1	1		ļ						ļ				l	

🔆 = Select (LED on) Initialized Data: All LEDs off

PROGRAM 8XX-CO RINGING ASSIGNMENTS-DAY

		STATION NUMBERS															
KEY/LED	FEATURE	1	01	111	2!1	311	411	51	611	711	811	92	02	112	2:2:	3124	125
CO 6	Ring in DAY		į	ţ	:	!		i			1	1		į	,	-	[
CO 5	Ring in DAY)	÷	:			i	1			}	1				
CO 4	Ring in DAY	1	:						:		-	1					<u> </u>
CO 3	Ring in DAY	;	;	:					ĺ	!	i	;	_				
CO 2	Sing in DAY	i	i	1			÷		•	1	:		1	1			
CO 1	Ring in DAY		l	:		÷	i	ł			i		l				

X = Select (LED on) Initialized Data: Station 10—all LEDs on; all other LEDs off NOTE:

Each line can ring on only eight stations. If more than eight are programmed, only the eight stations with the lowest station numbers will ring.

	FEATURE	STATION NUMBERS																
KEY/LED		10)17	1	12!	131	14	15	116	17	118	19	20	21	22	23	24	25
CO 6	Ring in DAY 2					1					<u> </u>							
CO 5	Ring in DAY 2		-					<u> </u>	ļ			[<u> </u>			<u> </u>		
		l 	}		1	;		l 	۱ ــــــــــــــــــــــــــــــــــــ]			1	ļ	<u> </u>	
CO 3	Ring in DAY 2				Ì					<u> </u>	Ļ	Ļ		1	<u> </u>	<u> </u>		
CO 2	Sing in DAY 2			1				[<u>{</u>				<u> </u>	<u> </u>	<u> </u>
CO 1	Ring in DAY 2			ļ	ļ	į												

PROGRAM 8#XX-00 RINGING ASSIGNMENTS-DAY 2

A = Cerect (LED on) Initialized Data: All LEDs off

NOTE:

Each line can ring on only eight stations. If more than eight are programmed, only the eight stations with the lowest station numbers will ring.

FEATURE	STATION NUMBERS																
	10	<u>ric</u>	111	211	311	4	15	16	17	7118	3119	920)21	22	23	24	25
Ring in NIGHT			1		ļ	Ī							ĺ			Ł	
Ring in NIGHT					:								Ī				
Ring in NIGHT			İ														Ī
Ring in NIGHT				1	1						ł						
Ring in NIGHT.					-		~										
Ring in NIGHT			1		*				ĺ		İ			ļ			
	FEATURE Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT	FEATURE 10 Ring in NIGHT 10 Ring in NIGHT 10 Ring in NIGHT 10 Ring in NIGHT 10 Ring in NIGHT 10 Ring in NIGHT 10	FEATURE 1011 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1	FEATURE Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT	FEATURE 101111211 Ring in NIGHT 101111211 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1	FEATURE Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT	FEATURE ST Ring in NIGHT 10111121314 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1	FEATURE STA Ring in NIGHT 1011112113114115 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1	FEATURE STATIC Ring in NIGHT 1011112113114115116 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1	FEATURE STATION Ring in NIGHT 1011112113114115116117 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1	FEATURE STATION NU Ring in NIGHT 101111211311411511617718 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1	FEATURE STATION NUM Ring in NIGHT 101111211311411511617718119 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1	FEATURE STATION NUMBER Ring in NIGHT 10111121131141151161771811920 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1 Ring in NIGHT 1	STATION NUMBERS 10111121131141151161771811920121 Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT	STATION NUMBERS 1011112113114151617118192012122 Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT	STATION NUMBERS FEATURE STATION NUMBERS 101111211311411516177181192012122123 Ring in NIGHT 1 <td< td=""><td>STATION NUMBERS FEATURE STATION NUMBERS 10111121311415161718192021222324 Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT</td></td<>	STATION NUMBERS FEATURE STATION NUMBERS 10111121311415161718192021222324 Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT Ring in NIGHT

PROGRAM 9XX—CO RINGING ASSIGNMENTS-NIGHT

Strata Vie SYSTEM RECORD MAY 1986

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X = Select (LED on) Initialized Data: Station 10-all LEDs on; all other LEDs off NOTE:

Each line can ring on only eight stations. If more than eight are programmed, only the eight stations with the lowest station numbers will ring.

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