

# ***DXP***

## **Digital Communications System**

# **Video Display Terminal Programming Instructions**

The procedures included in this publication reflect software releases through 9A.

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# 1

## *Understanding General Programming Information*

It is best that you program the DXP digital communications system from a video display terminal (VDT) that supports the ANSI standard escape sequences for cursor and video control. The VDT must be a serial-data, RS-232 type, asynchronous device. The DXP system supports ANSI standard, ANSI color, and WYSE 50 terminals with full screen editing of database information. Other types of terminals use a line-by-line editing approach instead of a full screen editing approach and make programming harder to do.

You can employ a personal computer (PC) if it will run a communications software program that allows it to emulate a data terminal device (DTE equipment). Many communications software programs are available for this purpose. One such program that works effectively is known as PROCOMM produced by Datastorm Technologies; however, you can use any that match the following data communications parameters:

- full duplex,
- XMODEM communication protocol (8 bit data required).

Regardless of the type of programming terminal that you employ, connect it to the common equipment data port per the discussion found in IMI66-085, *Installation Instructions For The DXP Digital Communications System Main Cabinet Assembly*.

You can program the DXP digital communications system remotely using the following equipment:

- a VDT or a PC and appropriate software program,
- a pair of data modems (one for your terminal and one for the remote site).

Refer to *GCA40-075, Feature Applications For The DXP Digital Communications System*, for complete remote programming details.

It is possible for you to mismatch the data configurations of your programming terminal (VDT) with those of the DXP and prevent data communications from occurring. You can reconfigure your VDT until you match the data parameters of the DXP; however, the DXCPU-68K board provides a DIP switch that changes the DXP data configuration to a fixed set of parameters. You can match your VDT to this fixed set of parameters and eliminate any configuration guess work. When you set DIP switch 1 to its ON position, you fix the DXP serial data ports to the following parameters:

Parameter	Data Port A	Data Port B
Baud Rate In	9600	300
Baud Rate Out	9600	300
Data Bits	8	7
Stop Bits	1	2
Parity Bits	None	None
Flow control	None	None

When you set the DIP switch to OFF, you can program the DXP data port configuration parameters using the procedure detailed in Section 6.5, *Serial Ports*.

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**2**

## ***Reviewing General Programming Considerations***

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Since the programming procedure is menu driven, you should consider all of the following points.

- The menu presents a list of selections for your consideration. Each selection differs in content and requires a different response.
- When you respond to each selection, it either causes the system to present a further breakdown of selections or causes a particular programming action to take place.
- Menu lines prompt you for the required response and, where appropriate, will repeat prompts to allow programming of more than one device without you having to make another menu selection.
- All of the menus operate in a similar manner. They differ in only the required response that you must make.
- Some menus contain more than one page. On these menus, you can press and hold the CONTROL key while you type the *N* key to display the next page (or type *P* to display the previous page).
- Each prompt requires a response followed by a Carriage Return (RETURN). A more common label for this control on most PC keyboards is ENTER.
- Most menu responses usually consists of a one-, two-, or three-digit number or a string of numbers (or alpha-numeric characters when programming names and messages). Successive entries are separated by a space or a comma (n n n or n,nn,nnn) while blocks of numbers are indicated by hyphen (n-*nnn*).
- Should programmers introduce a numbering conflict while renumbering a feature dialing code, the system will prompt them to remove the conflict. They may have to renumber several features to completely clear any conflicting numbers.

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**3**

# ***Understanding Keyboard And Terminal Definitions***

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## ***3.1 Reviewing The Keyboard Definitions***

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The following list describes the functional keys on the keyboard.

- **Number keys:** Use keys 0–9 for selecting menu items, lines of data to edit, or for editing numeric prompts.
- **Alphabetic keys:** Use keys A–Z and a–z for entering string information such as names and messages. Always begin names of stations, lines, and so forth with a letter or a space.
- **ESCAPE key:** Either of these keys will return you to the previous command prompt and cancel whatever input was in progress. This action may or may not cause the previous screen to be redrawn depending on the current mode. When you enter a change at most of the programming menus, you must press the ESCAPE key and type a y followed by the ENTER key to save the change.
- **Punctuation and Symbol keys:** Except for comma (which is a field delimiter), use the punctuation and symbols on the keyboard just as you use the alphabetic keys.
- **RETURN or ENTER key:** Use this key to terminate the response to a command prompt or to end the editing of a data field. The system ignores a RETURN without any preceding input except when you are editing database information. During this operation, the RETURN key moves the cursor to the next vertical editing position.
- **SPACE BAR:** The space bar steps through the choices for program selections that provide multiple choices.
- **Tab Key:** Use this key during table editing to position the cursor to the next horizontal editing position.
- **Question mark (?):** This key will display any help available concerning the currently displayed screen.

## **3.2 Reviewing The Control Key Definitions**

The following list describes the control key functions. Unless otherwise noted, control keys are valid input at any time during programming.

- **Control C (C for Cancel):** This key will cancel the current mode or function and return you to the last command prompt.
- **Control E (E for Edit or Erase):** Use this key to edit a selected field or entry. On “smart” terminals, most fields will be automatically cleared when the first character is entered. Some fields allow the you to add to the current entry. On these types of fields, Control E will clear the entry and position the cursor at the beginning of the field. You can also use this key to erase a field that has blanks for valid input such as an autodial number.
- **Control I (I for Increment):** Use this key during table editing to position the cursor to the next horizontal editing position.
- **Control N (N for Next):** Use this key to switch to the next page of data for those database items that fill more that one screen. There will always be an on screen note when this key is valid.
- **Control P (P for Previous):** This key is identical to the Control N key except that it displays the previous page of information.
- **Control R (R for Redraw):** When you press this key the system will redraw the current screen display. Usually, you use this key when the terminal display is configured in brief mode.
- **Control X (X for eXit):** Either of these keys will return you to the previous command prompt and cancel whatever input was in progress. This action may or may not cause the previous screen to be redrawn depending on the current mode. When you enter a change at most of the programming menus, you must press the ESCAPE key and type a y followed by the ENTER key to save the change.
- **Control S (S for Stop):** Use this key to stop printouts.
- **Control T (T for Top):** Use this key to cancel whatever input was in progress and return to the top level menu. The top level menu will always be redrawn.
- **Control V:** Use this key to turn the entry field prompting on or off.

## **3.3 Reviewing The Terminal Mode Definitions**

- **Control A:** Use this key to cause the system to send and receive data to an ANSI style terminal.
- **Control D:** Use this key to cause the system to send and receive data to a “dumb” terminal.
- **Control W:** Use this key to cause the system to send and receive data to a Wyse 50 compatible terminal.

# 4

## Reviewing The Command Prompts and Error Reporting

### 4.1 Reviewing The Command Prompts

There are four different types of command prompts.

- **Menu Selection Prompt:** Use this prompt to make a menu selection. The system requires a numeric input and displays the valid range of numbers in the prompt that corresponds to the number of menu items displayed.
- **Edit Line Prompt:** Use this prompt on database editing screens to get to the desired line number to be edited. The system requires a numeric input and displays the valid range of numbers in the prompt that corresponds to the number of menu items displayed. Entering a RETURN (ENTER) at this prompt will automatically select the first item.
- **Station, Line or Class Of Service Prompt:** Use this prompt to get to the particular item or items that are to be edited. This prompt is waiting for numbers, a range of numbers, or names. You may specify a single item or multiple items separated by commas. Select a range of items by entering two numbers separated by a dash. The prompt shows the valid range of numbers but the system will accept names. The system accepts an item as a name if the first character is not a number. The system displays the database information of each item one at a time for viewing or editing. When you use the ESCAPE key to exit the database information screen, the system displays the next item in the list. When you use CONTROL C to exit the screen, all list processing stops and the prompt display returns. When you use CONTROL T to exit the screen, the system stops all list processing and displays the top level menu.
- **Multiple Choice Question Prompt:** This type of prompt asks a specific question concerning the current screen or function and shows the valid responses. Enter these responses as a single character followed by a RETURN (ENTER).

### 4.2 Reporting Errors

Pressing unexpected keys (such as letters when only numbers are allowed) or entering an out-of-range value at a prompt causes the keyboard alarm to sound. The system responds to other types of input errors by displaying an error message on the screen as soon as it detects the error. If the system detects a value-out-of-range error, and if the valid range is not currently shown in the display, the error message includes the valid range of values for reference.

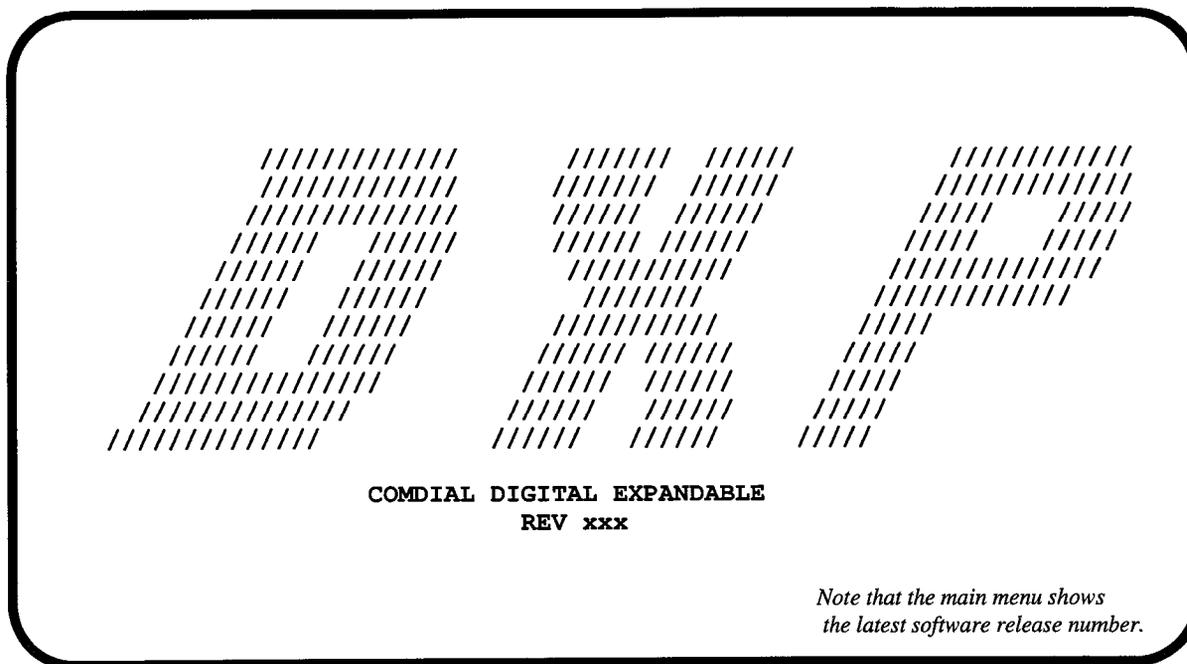
There is one circumstance for which the system does not report an entry error and this is when you are listing items at a station, line or COS prompt. In this case, the system processes valid items in the list up to the first invalid item that it encounters. It does not report the encountered invalid item as an error.

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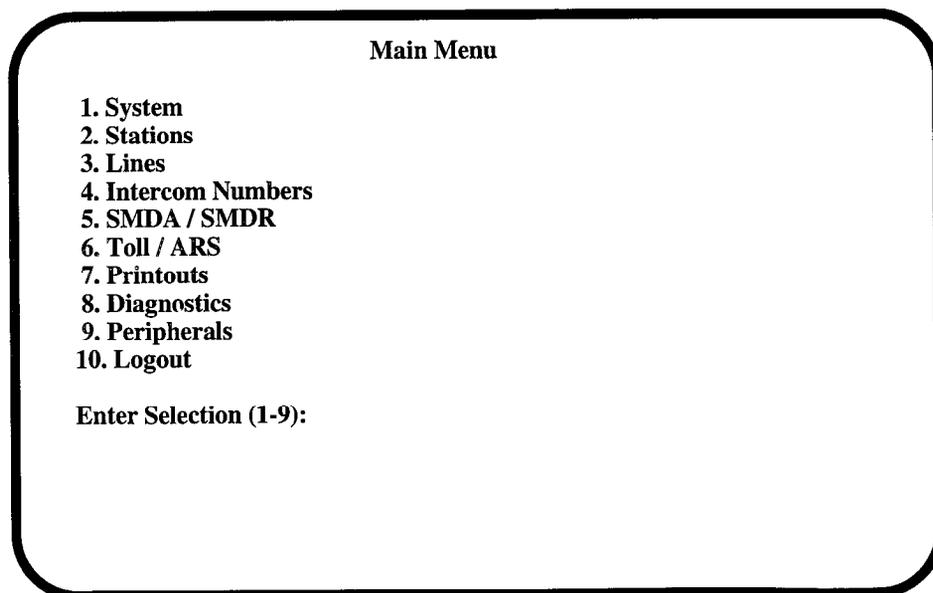
# 5

## Performing The VDT Programming

Once successfully entered, the programming mode causes the VDT to display a welcoming menu. From the welcoming menu, type **I \* 7 4 6 \*** (note that you must type a Capital **I**), and then press **ENTER** to display the main programming menu.

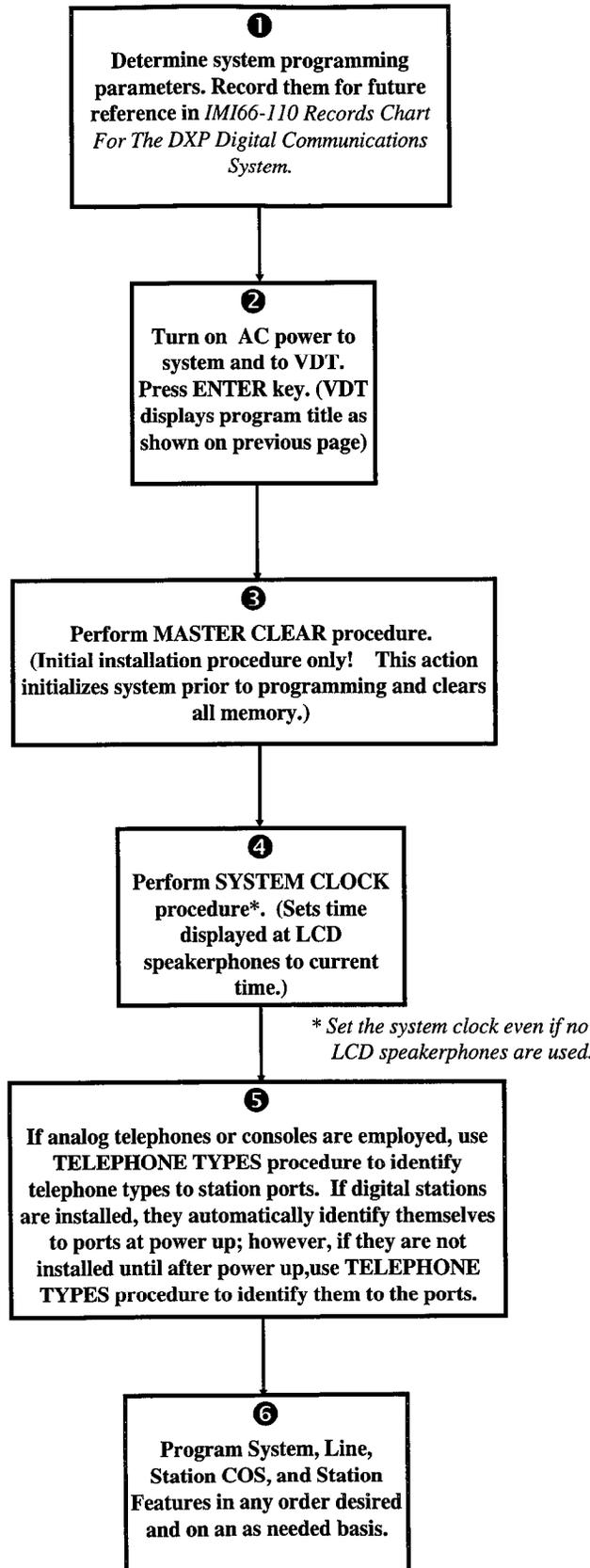


From the main programming menu, choose the type of programming that is required. Type the number of the choice and press **ENTER**.



## 5.1 Reviewing The Programming Progression

Program the system in the sequence shown in the following flow diagram.



**6****Programming System Features**

- Default Functional Programming . . . . . 6.1
- VDT Display Configurations (Terminal Setup) . . . . . 6.2
- Messaging . . . . . 6.3
- Database Storage . . . . . 6.4
- Serial Port (Serial Data Port Parameters) . . . . . 6.5
- Subdued Off-Hook Voice Announce  
(SOHVA) Programming . . . . . 6.6
- Speed Dial Programming . . . . . 6.7
- System Clock (Time and Date) . . . . . 6.8
- System Timing . . . . . 6.9
- System Parameters . . . . . 6.10
- Paging Programming . . . . . 6.11
- Password Programming (Change Password) . . . . . 6.12
- Feature Renumbering . . . . . 6.13

## 6.1 **Default Functional Programming**

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### 6.1.1 **Master Clear**

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- Description:** The master clear feature in an on-line procedure that returns the entire system to the default operating parameters, clears all stored speed dial numbers, and clears any other custom programming as well. Master clear is not part of the off-line PCMMI programming procedure. The system takes 15 to 20 seconds to exercise a master clear command depending upon the system size.
- You can take one of three different master clear options.
- With master clear mode 1 option, the system assumes a set of parameters that reflect a key system arrangement. This means that multiline telephones, except stations 101 and 102, receive direct line appearances in their button maps but have no group intercoms assigned to their hunt lists. Stations 101 and 102 have four group intercom numbers assigned to their hunt lists and are button mapped accordingly.
- With master clear mode 2 option, the system assumes a set of parameters that reflect a hybrid, or PBX-like, system arrangement. This means that multiline telephones have no direct line appearances in their button maps; however, they do have two unique group intercoms assigned to their button maps and to their hunt lists.
- With master clear mode 3 option, the system assumes a set of parameters, that does not map any station buttons, assigns no group intercom access or personal intercom numbers to the stations, and disables both zone and all-call paging features.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select defaults and press ENTER.
  4. Select master clear and press ENTER.
  5. Type y or n (yes or no) to confirm master clear; press ENTER.
  6. Select system default mode (1 = mode 1, 2 = mode 2, 3 = mode 3) and press ENTER.

**CAUTION**

***You can only exercise the master clear when you enter the programming session with the installer password; however, in a defaulted system, the administrator password is the same as the installer password thus giving master clear privileges to the administrator as well. Refer to Section 6.12, Password Programming to customize the passwords.***

## ***Central Processor Unit Switched Master Clear***

**Description:** When following the installation procedures for software replacement as described in publication IMI89-095, *Installation Instructions DXP Digital Communications System Expanded Memory Card and Software Upgrade Card*, you are told to save the data base, master clear the system, and replace the memory card. If you do not master clear the system, it is possible the DXP will not perform properly with the new memory card. The DXCPU-68K board provides a method for the master clear to occur automatically at the initial power up after you have changed or upgraded the software card. When you perform an upgrade, you must execute the following sequence of events exactly as they are stated here:

- Programming:**
1. Save the system data base. This step is critical. Refer to Section 6.4, Database Storage for programming details.
  2. Turn off the AC power to the DXP and replace the memory card on the DXCPU-68K board. Refer to IMI89-095 for mechanical details.
  3. Set DIP switch 8 to its ON position. This step enables the DXP to perform the master clear and is a required step; otherwise, the software upgrade will not occur.
  4. Install the DXCPU-68K board and new software card in the DXP, and turn on the AC power. The DXP automatically executes a master clear operation.
  5. After system powers up, set DIP switch 8 to its OFF position, and restore the data base using the Section 6.4 procedure.

*NOTE: The system performs the automatic master clear once following the initial power up after you have up-graded the software. It will not perform an automatic master clear operation again after subsequent power ups.*

### **6.1.2 System Default**

**Description:** The system default sets the system configuration features to the default operating parameters. When the system default is performed, certain programmed data, such as custom LCD messages and system speed dial numbers, are lost.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select defaults and press ENTER.
4. From defaults menu, select system and press ENTER.
5. Type y to confirm default or n to deny.

### **6.1.3 Class Of Service Default**

**Description:** There are 32 station class of service (COS) feature sets or grouping of features. Each set can have differently configured features. This default programming returns one or all station COS sets to the default configured parameters.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select system and press ENTER.
3. From the system menu, select defaults and press ENTER.
4. From the defaults menu, select station COS and press ENTER.
5. Type 1-32 to enter class of service to be defaulted. Enter the numbers for the COS sets to be defaulted (n,n,nn) or enter a range of numbers (n-nn).

### **6.1.4 Station Default**

**Description:** Each station can have individually configured operating features. The station default sets the configuration of these features to the default parameters. Personal speed dial numbers and autodial numbers are cleared with the station default action.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select defaults and press ENTER.
4. From defaults menu, select stations and press ENTER.
5. Type intercom number or station name.

### **6.1.5 Button Map Default**

**Description:** Every programmable button at each telephone connected to the system provides line selection, direct station selection, or other functions. Programming action for a particular station assigns a function to each button. Unique button function assignment, known as button mapping, at each station is possible. This default erases all unique button function assignments.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select defaults and press ENTER.
4. From defaults menu, select button maps and press ENTER.
5. Type intercom number or station name.

### **6.1.6 Line Default**

**Description:** Each line can have individually configured operating conditions. The line default sets these conditions to the default parameters.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select defaults and press ENTER.
4. From defaults menu, select lines and press ENTER.
5. Type line port number (1-128) or name.
6. Enter the numbers for the lines to be defaulted (n,n,nn) or enter a range of numbers (n-*nnn*).

### **6.1.7 Tables Default**

**Description:** Various system-wide operating features depend upon tables of information to control their parameters. These tables are programmable to let the features match a broad range of site requirements. This table default procedure resets the following programmable tables to the default conditions: SOHVA tables, toll restriction tables, ARS route tables, modify digits tables, and account code verify tables.

**CAUTION**

**Remember, the system erases all programmed entries when you take this defaulting action.**

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select defaults and press ENTER.
4. From defaults menu, select tables and press ENTER.
5. Type y to confirm default or n to deny.

### **6.1.8 DID Translation Table, Default**

**Description:** If you have programmed translation tables for DID use (Section 8.4.4, *DID Translation Table Programming*), you can clear them with this procedure.

**Programming;**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select defaults and press ENTER.
4. From defaults menu, select DID translation table and press ENTER.
5. Type DID table number (1-4) and press ENTER.
6. Repeat step 5 until finished.
7. Press ESCAPE to end.

### **6.1.9 Clear System Status Log**

**Description:** If you have enabled system status reporting (Section 6.10.6, *System Status Reporting*) at a station, you can turn off its status light by using this procedure. Use the Section 13 procedure to view the status report before turning off the light at the status reporting station.

**Programming;**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select defaults and press ENTER.
4. From defaults menu, select clear system status log and press ENTER.
5. Press ESCAPE to end.

### **6.1.10 Voice Prompts/Programming Default**

**Description:** If your system includes a Digital Voice Announcer (DVA) you can use the following procedure to clear voice messages, the translation digits, and the voice analysis report of all existing information. Refer to Section 14.3.3, *Programming for DVA Operation*, for the programming discussion about these features.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select defaults and press ENTER.
4. From defaults menu, select voice prompts/programming and press ENTER.
5. Type letter code for DVA feature to be defaulted.
6. Press ESCAPE to end.

## **6.2 Terminal Setup (VDT Display Configurations)**

**Description:** You must match the system to the type of VDT that you use to program it.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select terminal setup and press ENTER.
4. From terminal setup menu, type selection (1-4) for terminal choice.
5. Press SPACE bar to change or ENTER to maintain.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## 6.3 Messaging

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### 6.3.1 LCD Messaging

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**Description:** This procedure enables a class of service messaging feature. It allows station users to set a message at their stations that will be displayed on calling LCD speakerphones. You can use the second part of this procedure to program the actual LCD messages. Alternately, The attendant can program the LCD messages using procedures found in the attendant guide. Also refer to Section 6.3.2, *Message Deposit*.

**Programming:** To enable feature for class of service,

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu Type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

To program LCD Messages,

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, type item number for feature and press ENTER.
4. From LCD messages menu, type selection (1-10) and press ENTER.
5. Type message and press ENTER. Message can be 16 characters long.
6. Repeat steps 4 and 5 for all messages. Press CONTROL N for more LCD message lines.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

**Operation:** Turn message on: press INTERCOM, dial S 02, then dial message code ( 01 through 30) #.  
Turn Message off: press INTERCOM, dial # 02.

### **6.3.2 Message Deposit (Response Messaging)**

**Description:** This procedure enables a class of service messaging feature that allows station users to call an LCD speakerphone and arrange for a message to be left on its display. The message is for the called party to read if she or he is unable to answer the caller. Refer to Section 6.3.1, *LCD Messaging*, for details about programming the LCD messages that can be deposited. Also, you can use the procedure detailed in Section 7.3, *Square/Nonsquare System-Button Mapping By Station*, to assign a Response Message button to the telephone; however, users can do this for themselves if they need the button.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### **6.3.3 Message Waiting (Message Wait Originate)**

**Description:** When you enable this feature, a station user can dial a feature code to control the message waiting light at another station.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

**Operation:** Turn message waiting light on: press INTERCOM, dial \* 3.  
Turn message waiting light off: press INTERCOM, dial # 3.

## 6.4 Database Storage

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### 6.4.1 Save/Restore Database

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**Description:** This feature will save a database externally from the DXP and restore it after you have turned the DXP off and upgraded the operating system software. Also, you can use this feature anytime to back up the stored programming as a security measure. Employ a personal computer with an XMODEM communications program to store the database on a magnetic diskette and reload it from the diskette after software upgrades. The saved and reloaded database includes the following data: system information, station parameters, line parameters, toll restriction and automatic route selection parameters, and system speed dial numbers but it does not include the SMDA/SMDR records. If you need these SMDA/SMDR records, you must make a printout of them before you perform the database storage. This is necessary because this save/restore feature does not record the stored records and they will be lost. Use the Section 13, *Selecting System Printouts*, procedure for this purpose. Also refer to Section 6.4.2, *Software Upgrade*, for software upgrade considerations.

*NOTE: This programming procedure details steps that one follows when using the communications software program known as PROCOMM (produced by Datastorm Technologies). If you are using a different communications software, your steps may be different.*

During programming, the system stores feature data at several places in its database. To ensure that a database save procedure includes all of a feature's stored data, the system saves the entire database whenever you perform the save/restore database programming procedure.

**Programming:** To save the database,

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select save/restore database menu and press ENTER.
4. Type item number for save database and press ENTER.
5. Press page-down button.
6. Type prompted number to choose XMODEM protocol.
7. Type name of file where database is to be stored, and press ENTER.  
Database save is automatic.
8. To quit, press ESCAPE.

To restore the database,

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select save/restore database menu and press ENTER.
4. Type item number for restore database and press ENTER,
5. Press page-up button.
6. Type prompted number to choose XMODEM protocol.
7. Type name of file where database is stored and press ENTER.  
Database restore is automatic.
8. To quit, press ESCAPE.

## 6.4.2 Software Upgrade

**Description:** This feature will save a database internally within the memory of the DXP and restore that database after you have turned the DXP off and upgraded the operating system software. Saving the database in this manner eliminates the need for a personal computer with an XMODEM communications program to translate the database between software upgrades. The saved and reloaded database includes all of the following data: system information, station parameters, line parameters, toll restriction and automatic route selection parameters, and system speed dial numbers but it does not include the SMDA/SMDR records. If you need these SMDA/SMDR records, you must make a printout of them before you can perform the database storage. This is necessary because this save/restore feature overwrites the current stored records and they will be lost. Use the Section 6.13, *Feature Renumbering*, procedure for this purpose.

### **CAUTION**

***For this procedure to work properly, the system must include the expanded memory card (DXRAM-EXP68K). If the system has the standard memory card (DXRAM-STD68K), you should use the procedures detailed in Sections 6.1.1, Master Clear, and 6.4.1, Save/Restore Database.***

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select default and press ENTER.
4. From default menu, select onboard software upgrade and press ENTER.
5. Type y for yes or n for no to respond to prompt concerning SMDA/SMDR records.
6. After the system saves the database, turn off the AC power to the system, upgrade the operating software, and turn the AC power back on. The system will automatically reload the saved database into the upgraded operating software and log out of the programming mode.

**NOTE:** *The system will take an additional two to three minutes to power up after it receives AC power because of the time required for the database restore processing.*

## 6.5 Serial Ports (Serial Data Port Parameters)

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**Description:** The DXP provides two main serial data ports on the CPU board. In addition, it provides four auxiliary serial ports on each DXOPT-COM communications card that your installer adds to each DXAUX auxiliary circuit board. Since a DXAUX board accepts two DXOPT-COM cards and the system accepts two DXAUX boards, the DXP can provide a maximum of 16 auxiliary serial data ports. Coupled with the two main serial data ports, the system provides a total of 18 serial data ports. Every serial data port provides an RS-232 interface that you can use for such things as VDT and data printer connection. The system recognizes the serial data ports by unique number identifiers. The main serial data ports are 1 and 2, and the serial data ports on the first DXAUX board are 3-6 (upper slot) and 7-10 (lower slot). The serial data ports on the second DXAUX board are 11-14 (upper slot) and 15-18 (lower slot). The port numbering of the auxiliary serial data ports are fixed. This means that if the system provides only one DXOPT-COM located in the lower slot on the first DXAUX board, the auxiliary serial data ports are 7-10.

Use this procedure to set the data communications parameters of the serial data ports. The serial data parameters that you set using this procedure remain in effect until you reprogram them. The settings will not change even if you perform a master clear of the system unless you use the switched master clear method detailed in Section 6.1, *Central Processor Unit Switched Master Clear*. With that procedure, the system also defaults its serial data ports.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select serial ports and press ENTER.
  4. From serial ports menu, type item number for main port or for auxiliary port and press ENTER.
  5. From serial port type menu, select the serial port number and press ENTER.
  6. Press SPACE bar for feature setting
  7. Press TAB for next parameter.
  8. Repeat steps 6 and 7 for all parameters.
  9. Press ENTER to accept settings.
  10. When finished, press ESCAPE twice.
  11. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  12. Press ESCAPE to end.

## **6.6 Subdued Off-Hook Voice Announce (SOHVA) Programming**

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### **6.6.1 Busy On SOHVA**

**Description:** At default, the system returns a ring back tone to users who make SOHVA calls to busy stations; however, this procedure allows you to arrange for telephone users to receive a busy signal instead of the ring back tone. This feature lets non-LCD telephone users know that a called station is busy.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE BAR for feature setting and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each station or press ESCAPE to end.

### **6.6.2 SOHVA Beeps (SOHVA Tone Bursts)**

**Description:** You can choose the number of tone bursts that each telephone user hears preceding a SOHVA message to be from one to six.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select station and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name for station and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type choice (1–6) and press ENTER.
7. Press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–9 for each station or press ESCAPE to end.

### 6.6.3 SOHVA Groups

**Description:** SOHVA calling groups control the pattern in which station ports receive and/or originate SOHVA calls to one another. You must first form the SOHVA groups and then assign the groups to individual stations. Use the Section 7.2.18, *SOHVA Groups*, procedure to assign groups to individual stations.

- Programming:** Form the SOHVA groups with this procedure.
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select SOHVA table and press ENTER.
  4. Type t, r, c to select transmit or receive group or to clear SOHVA table and press ENTER.
  5. Type 1-16 ENTER to select SOHVA group for programming.
  6. Type SOHVA groups (1-16) to receive from or transmit to selected SOHVA group. Enter the numbers for the groups to be assigned (n,n,nn) or enter a range of numbers (for example, n-nn) to set.
  7. Press ENTER and repeat steps 5 and 6.
  8. When finished, press ESCAPE.
  9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

*EXAMPLE: As illustrated in the following menu, programming action enables group 12 to transmit to groups 3, 5 and 7. System default enables each group to transmit and receive with itself and enables group 16 to transmit and receive with all groups.*

		S O H V A R e c e i v e															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
S O H V A  T r a n s m i t	1	*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	*
	2	.	*	.	.	.	.	.	.	.	.	.	.	.	.	.	*
	3	.	.	*	.	.	.	.	.	.	.	.	.	.	.	.	*
	4	.	.	.	*	.	.	.	.	.	.	.	.	.	.	.	*
	5	.	.	.	.	*	.	.	.	.	.	.	.	.	.	.	*
	6	.	.	.	.	.	*	.	.	.	.	.	.	.	.	.	*
	7	.	.	.	.	.	.	*	.	.	.	.	.	.	.	.	*
	8	.	.	.	.	.	.	.	*	.	.	.	.	.	.	.	*
	9	.	.	.	.	.	.	.	.	*	.	.	.	.	.	.	*
	10	.	.	.	.	.	.	.	.	.	*	.	.	.	.	.	*
	11	.	.	.	.	.	.	.	.	.	.	*	.	.	.	.	*
	12	.	.	*	.	*	.	*	.	.	.	.	*	.	.	.	*
	13	.	.	.	.	.	.	.	.	.	.	.	.	*	.	.	*
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	*	.	*
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	*	*
	16	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

- Use this procedure to assign stations to SOHVA groups.
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name and press ENTER.
  5. Select SOHVA groups and press ENTER.
  6. Type group number 0-16 (n,n,nn or n-nn) and press ENTER.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-8 for each station or press ESCAPE to end.

## **6.7 Speed Dial Programming**

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### **6.7.1 Pause Time**

**Description:** During speed dialing, it is sometimes necessary to have the system delay the sending of digits to give host system switching equipment time to prepare to receive them. A pause, stored in the speed dial number, provides this delay. This programming procedure determines the duration of the pause. The person who stores the speed dial number must press the telephone's HOLD button at the point in the number digit sequence where he or she needs the pause (for example, 9—pause—18049782200).

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, type item number for feature and press ENTER
4. From system timing menu, type appropriate line number and press ENTER
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.7.2 Speed Dial Groups**

**Description:** The system provides 500 system speed dial numbers. These numbers are divided into 50 groups with 10 numbers available in each group. Assign none, one, or a range of groups (n–nn) to each station class of service. Also refer to Section 6.7.4, *System Speed Dial*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1–32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Type desired value (0–50) and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each COS or press ESCAPE to end.

### 6.7.3 Speed Dial Sets

**Description:** A speed dial set is a group of 10 speed dial locations. The system allocates three speed dial sets to each telephone as a default but you can allocate up to 10 sets to a telephone if you wish. When a DSS/BLF console is operated as a companion to a telephone, you can allocate speed dial sets at the companion telephone that the system will then share with the console. The system reserves one speed dial set for the telephone's dial pad buttons 0-9.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type desired value for feature and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each station or press ESCAPE to end.

### 6.7.4 System Speed Dial

**Description:** Use this programming feature to provide a list of 500 speed dial numbers to all stations in the system. Choose the prime line/last line used or designate the line or line group that the system will automatically select for speed dialing. Store up to 32 digits including 1-9, S, #, Hookflash signalling, and pauses. Also refer to Sections 6.7.2, *Speed Dial Groups*, and 12.6, *Automatic Route Selection For Speed Dial Numbers*.

Beginning with software release 8.B, you can alternately choose the intercom to be automatically selected for speed dialing. This enhancement allows you to store intercom selection along with feature codes as speed dial numbers for true one-button access to features (for example; store INTERCOM \*11 and INTERCOM #1 at two locations for system wide availability to music on and music off). This enhancement will not accept S#0S or S#746S as programming entries and it ignores any entered pauses or hookflashes.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select speed dials and press ENTER.
4. From speed dial menu, type item number to edit or press ENTER for line 1.

*NOTE: Pressing ENTER causes the system to accept the entry and move the cursor vertically one location downward. Pressing TAB causes the system to accept the entry and move the cursor horizontally one location to the right. Pressing and holding CONTROL while typing an E erases a number.*

5. Press TAB to set cursor to preset column.
6. Press SPACE bar to choose intercom, prime/last (line), line, line group, or ARS.
7. Enter 1-128 for line port, 1-16 for line group, or 1-128 for ARS line to store as prefix to speed dial number.
8. Press TAB for number entry column.
9. Type speed dial number (up to 32 digits of: 0-9, \*, #, P = pause, F = hookflash) and press ENTER.
10. Repeat steps 4-9 for all speed dial numbers
11. When finished, press ESCAPE twice.
12. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

**Operation:** While on hook, dial \* 100 through \* 599.

## **6.8 System Clock (Time and Date)**

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**Description:** The system clock provides time and date information for display on LCD speakerphones and for SMDR/SMDA timing and reporting. You must set the correct time and date to allow the system to operate properly.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, type item number for feature and press ENTER.
  4. Type time in 24 hour format (hh:mm) using leading zeros for entries less than 10 and then press ENTER.
  5. Type date (mm-dd-yy) using leading zeros for entries less than 10 and press ENTER.

## **6.9 System Timing**

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### **6.9.1 Call Park Recall**

**Description:**

A call that is left in a park orbit longer than the length of time that you program with this feature will automatically return to a hold recall condition at the parking station. Also refer to Section 7.1.6, *Call Park*.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select timing and press ENTER.
  4. From system timing menu, type item number for feature and press ENTER.
  5. Press SPACE bar for feature setting and press ENTER to accept setting.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.2 Page Recall**

**Description:** This timing feature determines the amount of time that a Tracker page remains in a Tracker page orbit before recalling to the paging station. Refer to Section 14.2, *Tracker Paging System Programming* for complete Tracker programming information.

- Programming:**
1. Press CONTROL T for main menu.
  2. Form main menu, select system and press ENTER.
  3. From system menu, select system timing and press ENTER.
  4. From the system timing menu, type item number for feature and press ENTER.
  5. Press SPACE bar for feature setting and press ENTER to accept setting.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.3 Camp-On Tone**

**Description:** Use this procedure to set the duration of the call waiting tone that the system sends to a busy station. Also refer to Section 7.1.8, *Call Waiting*.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select system timing and press ENTER.
  4. From the system timing menu, type item number for feature and press ENTER.
  5. Press SPACE bar for feature setting and press ENTER to accept setting.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.4 DTMF Extended Dialing (Tone Length)**

**Description:** Use this programming feature to set the length of the DTMF tones. The system generates DTMF tones of extended length when users take their telephones off-hook and then wait until after the system sounds the *extended dialing tone burst* before they engage automatic dialing (for example, press speed dial buttons or saved number redial button) at their stations. Also, if analog telephone users take their telephones off-hook and then wait to begin manually dialing until after the system sounds the *extended dialing tone burst*, the system will extend the length of the manually dialed DTMF tones. After setting this extended DTMF tone length, you must enable the feature's use at each station where it is needed (Section 7.2.31, *Extended DTMF Dialing*).

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select system and press ENTER.
  3. From the system menu, select timing and press ENTER.
  4. From the system timing menu, type item number for feature and press ENTER.
  5. Press SPACE bar for feature setting and press ENTER to accept setting.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## **6.9.5 Timed Recall (Held And Transferred Calls)**

### ***Attendant Hold Recall***

**Description:** After a call has been on hold at an attendant station for a programmed length of time it recalls to the attendant station. Use this procedure to set the length of the recall time for a held call at an attendant station.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select timing and press ENTER
  4. From system timing menu, type item number for feature and press ENTER.
  5. Press SPACE bar for feature setting and press ENTER to accept setting.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### ***Hold Recall***

**Description:** After a call has been on hold at a station for a programmed length of time it recalls to the station that placed it on hold. Use this procedure to set the length of the recall time for a held call.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select timing and press ENTER
  4. From system timing menu, type item number for feature and press ENTER.
  5. Press SPACE bar for feature setting and press ENTER to accept setting.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### ***Station Transfer Recall***

**Description:** After a transferred call has been waiting at a station for a programmed length of time it recalls to the station that transferred it. Use this procedure to set the recall time for a transferred call.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select timing and press ENTER
  4. From system timing menu, type item number for feature and press ENTER.
  5. Press SPACE bar for feature setting and press ENTER to accept setting.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.6      Paging Access**

**Description:**      If you have enabled paging transmit capability (see Section 6.11.3, *Paging Transmit*) at a station, it has access to external paging equipment. With this procedure, you can set the maximum length of time that the station can stay connected to the equipment.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.7      Pause Time**

**Description:**      During speed dialing, it is sometimes necessary to have the system delay the sending of digits to give host system switching equipment time to prepare to receive them. A pause, stored in the speed dial number, provides this delay. This programming procedure determines the duration of the pause. The person who stores the speed dial number must press the telephone's HOLD button at the point in the number digit sequence where he or she needs the pause (for example, 9—pause—18049782200). Also see Section 6.7, *Speed Dial Programming*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, type item number for feature and press ENTER.
4. From system timing menu, type appropriate line number and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER..

### **6.9.8      Recall/Flash**

**Description:**      A station can generate either a line disconnect signal (recall) or a host system feature access signal (flash) when its user presses the telephone's TAP button. Use this procedure to arrange for either the recall or the flash signal.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.9 Periodic Tone Time**

**Description:** After you enable the periodic warning tones that remind users to keep conversations short on certain outside lines (Section 7.1.31, *Periodic Line Tone*), use this procedure to set how often that you wish the periodic warning tones to occur

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select systems and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.10 Maximum Call Duration (Time)**

**Description:** After you enable the maximum call duration feature (Section 7.1.32, *Maximum Call Duration*), use this procedure to set the cut off time.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select systems and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.11 Internal Interdigit Dialing**

**Description:** A timer starts running with the dialing of each digit during intercom number dialing. It also starts running whenever the user accesses the intercom number path and does not dial any digits. When the timer times out, the system returns the station to an idle state. Use this procedure to set the intercom dialing time-out period for the entire system.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for time and press ENTER.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing.
8. Press ENTER to end.

### **6.9.12 Line-To-Line Connect Duration**

**Description:** After you have given a station the ability to set up an unsupervised conference between two lines (Section 7.1.36, *Line-To-Line Transfer*), you should use this procedure to set the maximum amount of time that an unsupervised conference can continue between two lines. When the time out occurs, the system recalls the station from where the user enabled the unsupervised conference.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.13 Camp-On/Automatic Call Back Ring**

**Description:** After you use Section 7.1.8, *Call Waiting Tone*, to enable a call waiting tone, use this procedure to set the duration of the camp-on/automatic ringback ring that the system sounds when it returns a camp-on call to the original station..

**Programming:**

1. Press CONTROL T for main menu.
2. Form main menu, select system and press ENTER.
3. From system menu, select system timing and press ENTER.
4. From the system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for time and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.14 Out Dial Delay Time**

**Description:** The system will wait for a programmed length of time before sending automatically dialed numbers over an outside line. This delay gives the host system time to return dial tone before the system begins dialing the number. Different host systems require different periods of time between when a line is picked up and when dial tone is returned. Use this procedure to match this system to your host system.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.15 Authorization Code Time-out**

**Description:** Use the Section 10.5, *Authorization Code*, procedure to enable authorization codes. Once a user uses an authorization code feature to access his or her telephone features, they remain in effect until any idle time at the telephone exceeds the authorization code time-out period that you program with the following programming steps.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.16 IST Ring Time-out**

**Description:** Use this procedure to set the number of times that the system sends a ring signal to an industry-standard telephone on a system-wide basis. Although the ringing stops at the industry-standard telephone when the time-out occurs, the system continues to present the call at the telephone for answering until the caller abandons it. See Section 7.2.35, *Industry-Standard Telephone Support*, for other IST programming requirements.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for time and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.17 IST DTMF Receiver Time-out**

**Description:** You can program the amount of time that the system waits to receive a DTMF tone from an industry-standard telephone, after the user has lifted the telephone's handset and before he or she has pressed a dial pad digit, on a system-wide basis. The system disconnects the telephone after this time-out occurs. If this happens, the user must hang up the handset and lift it again to re-establish the dial tone. See Section 7.2.35, *Industry-Standard Telephone Support*, for other IST programming requirements.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for time and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.18 IST Flash Time**

**Description:** You can program the timed length of the signal that results when a user of an industry-standard telephone presses and releases the telephone hookswitch (or presses the TAP button if available on his or her telephone) on a system-wide basis. Often, a signal with a short time length (typically 500–750 ms) serves to alert the system to receive a feature code (flash) while a signal with a long time length (typically 1.5–2.0 sec) serves to disconnect the line and re-establish dial tone (recall). The value that you set with this procedure is the maximum value for recognizing a flash from an industry-standard telephone. Beginning with software release 6.A, you can also set the minimum value for recognizing a flash from an industry-standard telephone. See Section 7.2.35, *Industry-Standard Telephone Support*, for other IST programming requirements.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From timing menu, type item number for minimum flash time and press ENTER.
5. Press SPACE bar for minimum time and press ENTER to accept setting.
6. Press ENTER to select maximum flash time line item.
7. Press SPACE bar for maximum time and press ENTER to accept setting.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.19 Voice Mail DTMF Tone**

**Description:** The system provides a means by which you can set the length of the DTMF tones that it generates when a user dials a number from his or her telephone. Since the voice mail system may require a different DTMF tone length than that which you have provided for the telephones, the system provides a means for you to set a separate DTMF tone length for voice mail station ports. It defaults the length to 80 msec, but you can program other lengths as needed. Refer to Section 15, *Voice Mail Programming*, for other voice mail programming requirements.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for time and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.20 Pulse Dial Interdigit Time**

**Description:** You can set the interdigit time between dial pulses when the system pulse-dials a number over a line. The DXP defaults this time to 200 msec. and provides a range of timing values between 100 msec. and one sec. that you can set in 100 msec. increments. Refer to Section 8.1.8, *Dialing Mode*, to enable pulse dialing.

**Programming:**

1. Press CONTROL T for main menu,
2. From main menu, select system and press ENTER.
3. From the system menu, select timing and press ENTER,
4. From timing menu type item number for feature and press ENTER,
5. Press SPACE bar to select desired time and press ENTER to select setting.
6. Press ESCAPE twice,
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.21 Pulse Dial Make/Pulse Dial Break (Pulse Dial Ratio)**

**Description:** Use this procedure to set the make/break ratio for rotary dial signalling to match rotary dial line requirements. You can set the line make/break ratio for rotary dial (pulse dial) signalling in a more flexible manner to match many different rotary dial line requirements. You can set the make time and the break time independently in one msec. increments to any time from one to 99 msec. Refer to Section 8.1.8, *Dialing Mode*, to enable pulse dialing.

**Programming:**

1. Press CONTROL T for main menu,
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER,
4. From timing menu, type item number for line pulse make and press ENTER.
5. Type desired time (1-99) and press ENTER,
6. From timing menu, type item number for line pulse break and press ENTER,
7. Type desired time (1-99) and press ENTER,
8. Press ESCAPE twice,
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER,

### **6.9.22 Dialing Complete**

**Description:** With systems operating with the E-1 Digital Carrier Line Board feature, you must use this timing feature to set the maximum amount of time that a user can wait between digits when he or she is dialing a number. In the E-1 operating environment, the central office system will not wait indefinitely for the caller to completely dial a number. Refer to the central office specifications for timing requirements.

**Programming:**

1. Press CONTROL T for main menu,
2. From main menu, select system and press ENTER.
3. From the system menu, select timing and press ENTER,
4. From system timing menu type item number for feature and press ENTER,
5. Press SPACE bar to select desired time and press ENTER to select setting.
6. Press ESCAPE twice,
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.23 Periodic Conference Tone**

**Description:** The conference advisory tone feature allows you to configure the system to provide an audible tone whenever more than two parties are connected in a conference call. You can enable this feature with a station class of service programming action (Section 7.1.47, *Conference Advisory Tone*) as either a one time tone or as a periodic reoccurring tone. If you choose a reoccurring tone, you must use the procedure herein to select the time interval between the reoccurring tones. Also refer to Section 6.10.19, *Location Code*.

**Programming:**

1. Press CONTROL T for main menu,
2. From main menu, select system and press ENTER.
3. From the system menu, select timing and press ENTER,
4. From timing menu type item number for periodic conference tone and press ENTER,
5. Press SPACE bar to select desired time and press ENTER to select setting.
6. Press ESCAPE twice,
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.9.24 Periodic Executive Override Tone**

**Description:** The executive advisory tone allows you to configure the system to provide an audible tone whenever a system user activates the executive override feature. You can enable this feature with a station class of service programming action (Section 7.1.48, *Executive Override Advisory Tone*) as either a one time tone or as a periodic reoccurring tone. If you choose a reoccurring tone, you must use the procedure herein to select the time interval between the reoccurring tones. Also refer to Section 6.10.19, *Location Code*, and Section 7.1.14, *Executive Override Programming*.

**Programming:**

1. Press CONTROL T for main menu,
2. From main menu, select system and press ENTER.
3. From the system menu, select timing and press ENTER,
4. From timing menu type item number for periodic conference tone and press ENTER,
5. Press SPACE bar to select desired time and press ENTER to select setting.
6. Press ESCAPE twice,
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## **6.10 System Parameters**

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### **6.10.1 Synchronized Ringing**

**Description:** The system can provide an audible distinction between internal and external call ringing when needed. Enable or disable that feature with this programming procedure. This feature does not apply to direct inward dial lines (Section 8.4, *Direct Inward Dialing Support*) and E&M lines (Section 8.7, *Tie Line Support*).

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. From system parameters menu, select synchronized ringing.
5. Press SPACE bar for feature setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
8. Press ESCAPE to end.

### **6.10.2 Automatic Attendant Immediate Transfer**

**Description:** You should choose this automatic attendant immediate transfer mode for voice mail transfers. It allows the system to transfer a call as soon as it answers. However, if you turn on the voice mail screen and confirm options (see the voice mail programming manual for details), do not turn on this immediate transfer mode. Immediate transfer is a system-wide parameter and affects all telephones in the system.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. From system parameters menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.10.3 Automatic Route Selection (ARS Enable)**

**Description:** You can enable or disable automatic route selection on a system-wide basis. A defaulted system has ARS disabled. Refer to Section 12, *Enabling Automatic Route Selection*, for other ARS programming details.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From the system menu, select system parameters and press ENTER.
4. From the system parameters menu, select ARS feature and press ENTER.
5. Press SPACE BAR to toggle between enable and disable.
6. Press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **6.10.4 ARS (Automatic Route Selection) Dial Tone**

**Description:** You can select one of three ARS dial tones that you hear whenever you enter the ARS access code.

- Dial Tone 1—steady intercom dial tone (dual tones of 480 Hz + 620 Hz),
- Dial Tone 2—same as dial tone 1 only preceded by three short tones (200 ms on, 200 ms off)
- Dial Tone 3—steady simulated central office ring back tone (dual tones of 440 Hz + 480 Hz).

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. Select ARS dial tone from the system parameters and press ENTER.
5. Press SPACE bar to toggle between dial tone 1, dial tone 2, and dial tone 3.
6. When finished, press ENTER.
7. Press ESCAPE twice to end.

### **6.10.5 Toll / ARS Dialing Pause**

**Description:** To create toll restriction parameters for the system, program restricted numbers as entries in the toll restriction table using programming details provided in Section 11.6, *Restricted Number Programming*. From that discussion, learn about entering a pause as part of the restricted number's digit string. Use the following programming procedure to enable the system to accept that pause entry at the end of a restricted number's digit string.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. From system parameters menu, select toll/ARS dialing pause and press ENTER.
5. Press SPACE bar for feature setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.10.6 System Status Reporting**

**Description:** Use this procedure to enable system status reporting. If you enable status reporting, the system will notify certain designated stations when system status conditions occur, and turn on an status light at those stations. Refer to the Section 7.3, *Square/Nonsquare System—Button Mapping By Station*, procedure to map a status light at a telephone.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. From system parameters menu, select system status reporting and press ENTER.
5. Press SPACE bar for feature setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

**Operation:** When the status light turns on, use the Section 13, *Selecting System Printouts*, procedure to view status conditions, and then use the Section 6.1.9, *Clear System Status Log*, procedure to turn off the status light at the status reporting station.

### **6.10.7 T1 Status Reporting**

**Description:** Use the following instructions to enable the T1 status reporting feature. Use the Section 6.14, *T1 Status Log Parameters*, procedure to program the status reporting and alarm alerting parameters. Refer to Section 8.9, *Programming The T1 Parameters*, for complete T1 programming details.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. From system parameters menu, select T1 status reporting and press ENTER.
5. Press SPACE bar for feature setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER

### **6.10.8 Major Alarm Alerting (T1 Alarm Alerting)**

**Description:** Use the following instructions to enable the T1 alarm alerting feature. Use the Section 6.15, *Major Alarm Alerting*, procedure to program the status reporting and alarm alerting parameters. Refer to Section 8.9, *Programming The T1 Parameters*, for complete T1 programming details.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. From system parameters menu, select major alarm reporting and press ENTER.
5. Press SPACE bar for feature setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER

### **6.10.9 Central Message Desk**

**Description:** Use this procedure to designate one station as the central message desk to take messages for other system stations, control the message waiting light at those stations, and deliver messages to their users upon request.

*NOTE: Do not assign this feature to voice mail station ports since it activates only one port and inhibits all other station ports from having message wait originate capability.*

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select system parameters and press ENTER.
  4. From system parameters menu, select central message desk and press ENTER.
  5. Type personal intercom number or previously assigned name for desired station.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  8. Press ESCAPE to end.

### **6.10.10 IST Ringing Per Phase**

**Description:** While the installer typically connects one industry-standard telephone per IST station port, he or she can connect two industry-standard telephones per IST station port; however, they will share the same assigned intercom number. When he or she installs one telephone per port, you must set the IST ringing per phase feature to 16. When the installer places two telephones at any IST station port, you must change the IST ringing per phase feature to 8. A setting of 16 allows up to 48 industry-standard telephones per cabinet (main cabinet and expansion cabinet) to ring simultaneously. A setting of 8 reduces this simultaneous ringing total to 24 telephones per cabinet. This programming selection is on a system-wide basis. See Section 7.2.35, *Industry-Standard Telephone Support*, for other industry-standard telephone programming features.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select system parameters menu, and press ENTER.
  4. From the system parameters menu, type item number for feature and press ENTER.
  5. Press SPACE bar for feature setting and press ESCAPE once.
  6. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.10.11 IST Ringing Patterns (Ring Mode)**

**Description:** You can program the ringing pattern for either IST ring mode one or IST ring mode two. Mode one causes a two-second ring phase while mode two causes a shorter one second ring phase. For this feature to function properly, insure that the DXIST (industry-standard telephone interface board) contains firmware revision 2C or higher

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. Select IST ring mode from the system parameters and press ENTER.
5. Press SPACE bar to toggle between mode 1 (default) and mode 2.
6. When finished, press ENTER.
7. Press ESCAPE twice to end.

### **6.10.12 IST Ring Frequency**

**Description:** The system will allow you to set a ring frequency of 25 Hz for international applications or set a ring frequency of 21 Hz for domestic applications. Choose a setting that matches the ring frequency of the installed ring generator.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. Select IST ring frequency from the system parameters and press ENTER.
5. Press SPACE bar to toggle between choices of 21 Hz and 25 Hz.
6. When finished, press ENTER.
7. Press ESCAPE twice to end.

## 6.10.13 Operator Station

**Description:** You can designate the station that you want to ring when system users dial the operator. Usually this station is an attendant position station; however, the operator station can be any station in the system. In other words, the operator station does not have to be an attendant position station (see Section 7.2.30, *Attendant Position*) if you do not want it to be one. For more versatility, you can change the code that users dial to call the operator station from a default of 0 to the dialing code of your choice.

**Programming:** To designate the operator station, use the following procedure:

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From the system menu, select system parameters and press ENTER.
4. From the system parameters menu, select feature and press ENTER.
5. Type personal intercom number for station and press ENTER.
6. Press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

To change the operator dialing code, use the following procedure:

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select feature renumbering and press ENTER.
4. From feature renumbering menu, select user feature menu and press ENTER.
5. From user feature menu, type item number for operator access and press ENTER.
6. Press SPACE BAR to clear current code and type new code (type up to four digits—nnnn) and press ENTER.

*NOTE: The number block 5024–5999 is unassigned at default. You can use a number from this block for code renumbering without causing a numbering conflict in the system..*

### **CAUTION**

***If a number conflict exists between the new code that you need to assign and one that is currently in use, the system will prompt you to remove the conflict. Before responding to this prompt with a y (yes), be sure that doing so will not disturb other programmed features. It is possible to enter a situation where you must make several renumbering changes to completely resolve a number conflict.***

7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Press ESCAPE to end.

### **6.10.14 Line Disconnect Automatic Camp-On**

**Description:** If a user at a current station selects a line that a previous station has released from busy but the system has not yet returned to idle, the system arranges for the current station to camp-on to the line before the system makes the line idle. After the system makes the line idle, it immediately connects the camped-on station to the line. With this feature disabled, a station can not select a line until after the system has returned the line to idle. Refer to Section 8.1.10, *Positive Disconnect Time*, to set the time that the system waits before it makes a line idle after a station releases it from busy.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select systems and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. From system parameters menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## 6.10.15 Automatic Station Relocation

**Description:** The system will automatically recognize a particular station should someone relocate it to a different station port. After being installed at a new port location, a relocated station will provide the same class of service parameters and station features that it provided at its original port location. Also, the relocated station will respond to the same personal intercom number that it responded to at its original port location. A relocated station prompts the user to take action to either accept its original programming or accept the programming at the new port. If the user takes no action, the station assumes the parameters and personal intercom number that is determined by the Section 6.10.16, *Default Relocation Response*, programming procedure. Consider these following points when you enable station relocation:

- 4 If someone does a station relocation, you must save the database programming to make the relocation permanent (Section 6.4, *Database Storage*).
- 4 This relocation feature only applies to digital telephones.
- 4 Users must ensure that the vacated port remains unused until they complete a relocation. If someone connects a telephone to the vacated port before users complete a relocation, the relocated telephone will not retain its original programming.
- 4 When the user accept the original programming for the new port, the vacated port assumes the programming currently assigned to the new port (that is, a parameter exchange takes place between the vacated port and the new port).
- 4 If a DSS/BLF console was assigned to the telephone at its original location, the console assignment follows the telephone to the new location even though the console is no longer located physically near the telephone. If you relocate the console, you must connect it to the desired station port and use the Section 7.4, *Telephone Types*, and Section 7.2.26, *DSS/BLF Console Installed*, procedures to program it for use at the new port.
- 4 The relocation feature also applies to relocated digital telephone boards, however, the installer must ensure that the vacated port remains unused until the relocation is complete. All stations connected to the relocated circuit board show the relocation prompt.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select systems and press ENTER.
  3. From system menu, select system parameters and press ENTER.
  4. From system parameters menu, type item number for feature and press ENTER.
  5. Press SPACE bar for feature setting and press ENTER to accept setting.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

- Operation:**
- For LCD speakerphone with interactive buttons,
    - relocate telephone and note Keep Yes /No display,
    - press YES to keep original programming or press NO to default the station parameters.
  - For LCD speakerphone without interactive buttons,
    - relocate telephone and note Keep display and flashing HOLD light,
    - press HOLD to keep original programming or press # to default station parameters.
  - For Non-LCD telephones,
    - relocate telephone and note flashing HOLD light,
    - press HOLD to keep original programming or press # to default station parameters.
  - For all telephone types,
    - relocate telephone and take no action for 10 seconds,
    - relocated telephone assumes parameters determined by Section 6.10.9, *Central Message Desk*, programming.

**Remember, station relocation only works with digital telephones.!**

### **6.10.16 Default Relocation Response**

**Description:** When someone relocates a digital telephone from one station port to another port, the relocated telephone prompts the user to take action to determine the station parameters. The user can either accept the parameters from the station's original port or accept those from the new port. He or she has 10 seconds to make the choice. If the user takes no action, the station assumes the parameters determined by this *Default Relocation Response* programming procedure. If you set the programming choice to YES, the relocated station assumes the parameters from the original station port. If you set the programming choice to NO, the relocated station assumes the parameters from the new port. Also refer to Section 6.10.15, *Automatic Station Relocation*, for additional station relocation programming details.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select systems and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. From system parameters menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.10.17 Ring Back Tone**

**Description:** By default, when callers call an intercom party, they receive an intercom ring back tone to tell them that the called intercom station is ringing. Also, when callers call over the CO line, they receive a CO-style ring back tone to tell them that the distant CO telephone is ringing. Some system users find intercom ring back tone confusing. If you encounter this situation with your users, you can take this programming action to assign CO-style ring back tone to intercom calls.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select systems and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. From system parameters menu, type item number for ring back tone and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
  - Tone 1 = intercom ring back tone
  - Tone 2 = CO-style ring back tone
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.10.18 Day 1, Day 2, and Night Ringing Begin and End Times**

**Description:** With this programming procedure, set the begin and end times of the day 1, day 2, and night ringing time periods. Also refer to Section 7.2.13, *Flexible Ringing Assignment* for related flexible ringing assignment programming.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select system parameters and press ENTER.
  4. From the system parameters menu, select day 1, day 2 or night ringing begin times and press ENTER.
  5. Type times in 24-hour format (hh:mm) and press ENTER.
  6. Press ENTER (repeatedly if needed) to place cursor at next time desired setting.
  7. Repeat step 5 and press ENTER.
  8. Repeat steps 6 and 7 until all times are set and press ENTER.
  9. When finished, press ESCAPE twice.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.10.19 Location Code**

**Description:** The location code feature enhances system installation in the international community. When you set this code for a particular nation where you have installed the DXP, the DXP system automatically defaults certain system parameters to a setting that meets specifications set forth by that nation's technical standards. See also Section 6.9.23, *Periodic Conference Tone*, Section 6.9.24, *Periodic Executive Override Tone*, Section 7.1.47, *Conference Advisory Tone*, Section 7.1.48, *Executive Override Advisory Tone*, and Section 7.2.37, *Line Out Softkey Options*.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select systems and press ENTER.
  3. From system menu, select system parameters and press ENTER.
  4. From system parameters menu, type item number for location code and press ENTER.
  5. Press SPACE bar for feature setting (1-4) and press ENTER to accept setting.
    - 1 = U.S.A.—Standard system default codes for all system features.
    - 2 = South Africa —Standard system default codes for all system features except:
      - transmission and receive levels set to meet local standards,
      - frequency and cadence of call progress tones set to local standards.
    - 3 = Brazil—Standard system default codes for all system features except:
      - transmission and receive levels set to meet locate standards,
      - frequency and cadence of call progress tones set to local standards,
      - conference advisory tone turned on and set to provide periodic reoccurring tone,
      - executive advisory tone turned on and set to provide periodic reoccurring tone,
      - Selectable interactive button menu for LCD speakerphone displays set to substitute a release (RLSE) button for the automatic redial (ARDL) button.
- NOTE: Be sure to notify users of this button change as it is different from information provided in the user's guides.*
- 4 = Argentina and Chile —Standard system default codes for all system features except:
    - transmission and receive levels set to meet locate standards,
    - frequency and cadence of call progress tones set to local standards.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## **6.11 *Paging Zones (Paging Programming)***

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### **6.11.1 *Zone Programming (Zone Names, Transmit Stations, Receive Stations)***

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**Description:** Use this programming procedure to arrange stations to transmit and receive voice announcements, to and from a particular group of stations or to all stations in the system. Also use this procedure to assign names to paging zones when a site requires named zones.

**Programming:** To place stations in paging zones and name the zones, use the following procedure.

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From systems menu, select paging zones and press ENTER.
4. From paging zones menu, select zone paging and press ENTER.
5. Enter zone number (1-8) and press ENTER.
6. From zone paging menu, type item number for zone name and press ENTER.
7. Type name (up to 16 character) and press ENTER.
8. From zone paging menu, type item number for transmit stations and press ENTER.
9. Press CONTROL E to edit station list, type a to add or r to remove and press ENTER.
10. Type station extensions (101-292) to add or remove them and press ENTER.
11. When finished, press ESCAPE.
12. Repeat steps 8-11 for receive stations and press ENTER.
13. When finished, press ESCAPE twice.
14. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
15. Repeat steps 4-15 for each zone or press ESCAPE to end.

**Operation:** Press INTERCOM and dial 70 for zones 1-8 (all call) or dial 71-77 for zones 2-8.

### **6.11.2 *Paging Access***

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**Description:** If you have enabled paging transmit capability (Section 6.11.3, *Paging Transmit*) at a station, it has access to external paging equipment. With the following procedure, you can set the maximum length of time that the station can stay connected to that external equipment.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **6.11.3 Paging Transmit**

**Description:** Use this procedure to give a class of service of stations the ability to transmit voice announcements to one or all other station monitor speakers. Also refer to Section 6.11.2, *Paging Access*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From the COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### **6.11.4 Paging Receive**

**Description:** Use this procedure to give a class of service of stations the ability to receive voice announcements with the station monitor speaker.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### **6.11.5 Meet Me Answer Page**

**Description:** When you enable this feature at a station, its user can dial a code in response to an all-call or zone page and meet the pager in a private conversation.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

**Operation:** Hear a page, press INTERCOM and dial 78.

### **6.11.6 Relays (External Paging Equipment Control)**

**Description:** If your installer connects customer-supplied external paging equipment to the system's external paging port and that equipment requires external control, use this programming procedure to assign a relay to control the paging equipment. Also refer to Section 6.11.9, *External Paging Port*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From systems menu, select paging zones and press ENTER.
4. From paging zones menu, select zone programming and press ENTER.
5. Enter zone number (1-8) and press ENTER.
6. From zone programming menu, type item number for relays and press ENTER.
7. Type relay number (1-4, 0 = none) and press ENTER.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Repeat steps 4-9 for each zone or press ESCAPE to end.

### **6.11.7 Relays (Line Answer From Any Station)**

**Description:** Assign one or more of the four relays located on the central processor board to track the ring signal of any or all line ports. You can arrange for a relay to track the ringing of the direct, delayed, day 1, day 2, or night ringing modes. **Typically, installers wire these relays to control loud bells or other external ringers.** Users, upon hearing the external ringers, can dial feature codes to answer the call that is ringing on the associated lines.

**Programming:**

1. Press CONTROL T to return to main menu.
2. From main menu, select system and press ENTER.
3. From the system menu, select paging zones and press ENTER.
4. From the paging zones menu, select relays and press ENTER.
5. From the relays menu, select relay 1-4 and press ENTER.
6. From the relay n menu, type item number for ring type and press ENTER.
7. Press CONTROL E for edit menu.
8. From edit menu, type a to add or r to remove and press ENTER.
9. Type line port numbers 1-128 (type as n,nn,nnn or n-*nnn* to add or remove and press ENTER.
10. Press ESCAPE and repeat steps 6-9 for other ring types.
11. When finished press ESCAPE twice.
12. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
13. Repeat steps 5-12 for other relays.
14. Press ESCAPE to end.

**Operation:** dial 65 = relay 1, dial 66 = relay 2, dial 67 = relay 3, dial 68 = relay 4,  
dial 69 = relays 1 through 4 (when all are programmed with ringing)

### **6.11.8 Common Audible Ringer (Common Audible Ringer Interface)**

**Description:** If your installer connects customer-supplied external paging equipment to the system's external paging port, use this programming procedure to arrange for that equipment to sound the ring signal of any or all lines. You can arrange for it to track the ringing of the direct, delayed, day 1, day 2, or night ringing modes. Upon hearing the ringing over the external paging equipment, the user can dial feature codes to answer the call that is ringing on the associated lines. Refer to Section 7.2.13, *Flexible Ringing Assignments*, to assign lines to the ringing modes.

*NOTE: You can assign the same ringing pattern to an unused and unconnected relay (Section 6.11.2, Relays-Line Answer From Any Station) that you assign to the external paging equipment with the following procedure. If you do this, station users can dial the call pick up codes associated with the assigned relays to answer the calls that sound over the external paging equipment.*

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select paging zones and press ENTER.
4. From paging zones menu, select common audible ringer and press ENTER.
5. From common audible ringer menu, select ringing type and press ENTER.
6. Press CONTROL E.
7. Type a for add, r for remove and press ENTER.
8. Type line port number 1-128 (n-*nnn* or n, *nn*, *nnn*) and press ENTER.
9. Press ESCAPE once and repeat steps 5-7 for next ring type or press ESCAPE twice.
10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

**Operation:**

Directed call pickup = press INTERCOM \* 4 then dial extension of ringing telephone  
Group call pickup = INTERCOM # 4  
Line pick up with relay assigned, press INTERCOM and dial relay code 66-68 or 69.

### **6.11.9 External Paging Port (External Paging Interface)**

**Description:** If your installer connects customer-supplied external paging equipment to the system's external paging port, use this programming procedure to assign the external paging port to a paging zone. When users want to page through the external paging equipment they must dial the code for the paging zone that you assign to the external paging port with this procedure. Also refer to Section 6.11.6, *Relays-External Paging Equipment Control*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From systems menu, select paging zones and press ENTER.
4. From paging zones menu, select zone programming and press ENTER.
5. Enter zone number (1-8) and press ENTER.
6. From zone programming menu, type item number for external paging port and press ENTER.
7. Type 1 for yes or 0 for no and press ENTER.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Repeat steps 4-9 for each zone or press ESCAPE to end.

## **6.12 Password Programming (Change Password)**

You can use this programming procedure to change the VDT program entry password for both the installer and the administrator and change the main programming station entry code for the system manager and the attendant.

The default sequence for both the installer and the administrator VDT password entries is: I \*746 \*.

You can change part or all of either or both of these passwords to a customized sequence of up to 15 digits and/or letters. You can enter both upper and lower case letters if you desire but do keep in mind that the programmer must enter the password later just as you program it here with the letters properly placed in either upper or lower case. Thus, a new VDT entry password could be as follows: nnnnnnnnnnnnnnn, or nnn, or just n (n = any number digit or any letter - for example 12345678, or Jane, or 1A, or any other combination that you pick.)

The default system manager station entry code is as follows: INTERCOM button, \* # 746 \*.

You can change the default password portion of this station entry code (the 6 portion) to a custom value of up to 15 digits. Thus, a new station entry could be as follows: INTERCOM button, \* #74 nnnnnnnnnnnnnnn \*.

You can also change the feature code portion of the system manager station entry (the \*#74 sequence). You can change the feature code from \*#74 to a custom code of up to four digits (no letters allowed).

Thus, a new system manager entry could be as follows: INTERCOM button, nnnn 6 \*.

Further, if you couple the allowed password change with the allowed feature code change, a system manager station programming entry code could be as follows: INTERCOM button, nnnnnnnnnnnnnnnnn \*.

The default attendant station entry code is as follows: INTERCOM button, \* #0 \*.

The feature code part of this entry is the \*#0 sequence. You can change the feature code from the \*#0 code to a custom code of up to four digits (no letters allowed).

Thus, a new attendant entry could be as follows: INTERCOM button, nnnn \*.

### **6.12.1 Changing The Password**

**Description:** To change the password, follow this procedure.

- Programming**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select change password and press ENTER.
  4. Type a for administrator, i for installer, or s for station and press ENTER.
  5. Type the current password and press ENTER.
  6. Type the new password and press ENTER.
  7. Retype the new password and press ENTER.
  8. Repeat steps 3–7 to create other new passwords.

### **6.12.2 Changing The Feature Code (System Manager And Attendant Station Entry Code)**

**Description:** To change the feature code follow this procedure.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select feature renumbering and press ENTER.
  4. From the feature renumbering menu, select station programming and press ENTER.
  5. From station programming menu, select row number for system manager or attendant and press ENTER.
  6. Type new feature code (up to four digits - can include # and \*) and press ENTER.

*NOTE: The new feature code must not conflict with existing dialing codes. Either choose a different feature code or use the Section 6.13, Feature Renumbering, programming procedure to renumber any dialing codes that conflict.*

7. Repeat steps 5 and 6 to set the other entry code if needed.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## 6.13 Feature Renumbering

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**Description:** Dialing codes for user features are flexible so that you can renumber them. This may be necessary if site requirements dictate that personal or group intercom numbers fall within a certain block or sequence. Since new number assignments can not conflict with existing number, the system provides a block of unassigned numbers that you can use for renumber assignment. At default, the system assigns blocks of numbers in the following ranges:

- 101–292 = personal intercom,
- 3101–3292, 4101–4292, 5000–5023 = group intercom,
- 5024–5999 = unassigned,
- 600—899, \*, # = feature codes
- 9 = line group 1

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select feature renumbering and press ENTER.
4. From feature renumbering menu, select feature category and press ENTER.
5. From feature category menu, type item number for feature and press ENTER.
6. Type new code and press ENTER.

*NOTE: The number block of 5024–5999 is unassigned at default. Use it for code renumbering.*

7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Press ESCAPE to end.

**CAUTION**

***If a number conflict exists, the system will prompt you to remove the conflict. Before responding to this prompt with a y (yes), be sure that doing so will not disturb other programmed features that depend upon the removed extension number. It is possible to create a situation where you must make several renumbering changes to completely resolve a number conflict.***

## 6.14 T1 Status Log Parameters

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**Description:** After you use Section 6.10.7, *T1 Status Reporting*, to enable reporting, use the procedure below to program the T1 status log parameters. Also refer to Section 8.9, *Programming The T1 Parameters*, for complete T1 programming details.

- Programming:**
1. Press CONTROL T to return to main menu.
  2. From main menu, select system and press ENTER.
  3. From the system menu, select T1 status log parameters and press ENTER.
  4. From the T1 status log parameters menu, select the row number for the error type you want to program. The cursor will move to the threshold entry field for that error type. Select any of the following threshold values:
    - 0 = never log the alarm
    - 1 = always log the alarm
    - (2 to 999) = check this number of alarm occurrences during the selected time period and decide whether or not to log the alarm. (The maximum threshold for the bipolar and CRC alarm trigger is 255.)
  5. After making your entry for the alarm threshold, press ENTER to advance to the next line in the threshold entry field, or press TAB to advance to the time period entry field.
  6. With the cursor in the time period entry field, toggle through the choices using the space bar. When the system displays the time period you want to use, press ENTER to go to the next line in the time period entry field, or press TAB to advance to the next line in the threshold entry field.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Press ESCAPE to end.

## 6.15 Major Alarm Alerting (T1 Parameters)

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**Description:** After you use Section 6.10.8, *Major Alarm Alerting*, to enable alarm alerting, use the procedure below to program the audible alarms for the various T1 system errors. Also refer to Section 8.9, *Programming The T1 Parameters*, for complete T1 programming details.

- Programming:**
1. Press CONTROL T to return to main menu.
  2. From main menu, select system and press ENTER.
  3. From the system menu, select major alarm alerting and press ENTER.
  4. Select the error type you want to program. The cursor will move to the threshold entry field for that error type. From the threshold entry field, select any of the following threshold values:
    - 0 = never go to alert status
    - 1 = go to alert status if the alarm is ever logged
    - 2 to 999 = check this number of occurrences during the selected time period to decide whether or not to elevate the alarm to alert status.
  5. After making the alarm threshold entry, press ENTER to advance to the next line in the threshold entry field, or press TAB to place the cursor in the time period entry field.
  6. With the cursor in the time-period entry field, toggle through the choices using the space bar. When the system displays the time period you want to use, press ENTER to go to the next line in the time period entry field, or press TAB to advance to the next line in the threshold entry field.
  7. Press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Press ESCAPE to end.

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7

# Programming Station Features

- Programming Class Of Service Features . . . . . 7.1
- Programming Station Features . . . . . 7.2
- Square/Non-Square System (Button Mapping by Station) . . . . . 7.3
- Telephone Types (Phone Types) . . . . . 7.4
- Copy Model COS, Station, Button Map (Block Programming) . . . . . 7.5

*NOTE: When you program the station features, always perform the Section 7.4, Telephone Types, procedure before you perform the Section 7.5, Square/Non-Square System (Button Mapping), procedure.*

## **7.1 Programming Station Class Of Service Features**

### **7.1.1 Account Codes (Forced with Positive Verification)**

**Description:** After you have enabled the account code feature for the system, set its parameters, and programmed its list of account codes into the system (Section 10.3, *Account Codes*), use this procedure to turn the feature on for a station class of service and make it either forced or optional. If you make it a forced account code, the user must enter an account code before the system will let him or her dial the number for an outgoing call. Also, on incoming calls a user must enter an account code before the system will allow him or her to make any future outgoing calls. See Section 10.4, *Emergency Numbers*, for an exception to forced account code entry.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From the COS programming menu, type item number for account code and press ENTER.
6. Press SPACE BAR for feature setting.
7. When finished, press ESCAPE.
8. Press CONTROL N as necessary to display line number for forced account code and press ENTER.
9. Type item number for forced account code and press ENTER.
10. Press SPACE BAR for feature setting.
11. When finished, press ESCAPE twice.
12. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

## **7.1.2 Automatic Hold**

### ***Automatic Hold On Intercom Number***

**Description:** The system automatically places a current inside call on hold when a station user presses an intercom button or line button other than the one for the active call.

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select stations and press ENTER.
  3. From the stations menu, select COS programming and press ENTER.
  4. Type class of service number (1–32) and press ENTER.
  5. From the COS programming menu type item number for feature and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4–8 for each COS or press ESCAPE to end.

### ***Automatic Hold On Lines***

**Description:** The system automatically places a current outside call on hold when a station user presses another line or intercom button.

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select stations and press ENTER.
  3. From the stations menu, select COS programming and press ENTER.
  4. Type class of service number (1–32) and press ENTER.
  5. From the COS programming menu, type item number for feature and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4–8 for each COS or press ESCAPE to end.

### **7.1.3 Background Music**

**Description:** Music or other supplied audio information is available at a station through the telephone speaker and is turned on or off by the station user when he or she dials the appropriate codes. Use this procedure to assign background music to stations.

The music or information source is external to the common equipment and is customer supplied. The system will accept two music sources. You can use one source for this feature and the other source for the music on hold feature (Section 7.1.19, *Music Or Tone On Hold*).

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

**Operation:**

Music source one: on = INTERCOM \* 11  
                          off = INTERCOM # 1

Music source two: on = INTERCOM \* 12  
                          off = INTERCOM # 1

### **7.1.4 Call Cost Display (Display Of Calls)**

**Description:** If you have arranged for the system to employ call costing (Section 12.5, *Costing Information*), you can use this procedure to arrange for an LCD speakerphone to display the cost of a call made from that station.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

## **7.1.5 Call Forward**

### ***Call Forward Of All, Personal, Busy, or Ring-No Answer (RNA) Calls***

**Description:** Use this procedure to give users of an entire class of service of stations the ability to forward the calls that they receive at their stations to another station for answering. This feature allows these users to forward either all of the calls that their stations receive or just the calls they receive on their prime line and personal intercom number. Further, it can limit them to forwarding only the calls that their stations receive while it is busy or unattended (ring no-answer calls). If you choose this last option you will have to arrange the call forwarding default scheme at individual stations using the next procedure in this section titled, *Call Forward RNA, Ring (On) Busy*.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the stations menu, select COS programming and press ENTER.
4. From the COS programming menu, select the class of service to be programmed and press ENTER.
5. From the COS programming menu, type the item number for the style of call forwarding that you wish to enable and press ENTER.
6. Press SPACE bar for desired setting and press ENTER.
7. Press ESCAPE and repeat steps 5 and 6 for other call forwarding types to be enabled.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Repeat steps 4-9 for each COS or press ESCAPE to end.

**Operation:**

All calls: INTERCOM \* 52 plus extension  
Personal: INTERCOM \* 51 plus extension  
Cancel: INTERCOM # 5

## ***Call Forward RNA, Ring (On) Busy (Enhanced Call Forwarding)***

**Description:** The call forward feature allows a station user to choose to receive several rings for RNA calls before the system forwards them. At default, the system immediately forwards calls that reach a busy station. You can take this programming action to allow calls to a busy station to ring in a subdued manner before they forward if the user chooses them to do so. This subdued ringing of calls to a busy station requires an idle intercom number at the busy station. Plus, if you have assigned group intercoms to the station, you must program them into a hunt list, using the Section 9.2.2, *Intercom Hunt List*, procedure, to ensure that this call forward feature will function properly.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From the station programming menu, type item number for feature and press ENTER.
6. Press SPACE BAR to enable feature (choose **yes**) and press ENTER
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
8. Press ESCAPE and repeat steps 4–6 for other stations
9. When finished, press ESCAPE twice.
10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

**Operation:**

All calls: INTERCOM \* 54 plus extension  
Personal: INTERCOM \* 52 plus extension  
Cancel: INTERCOM # 5

## ***Call Forward, Default Forward Type (For Busy Or Ring-No Answer Calls)***

**Description:** Use this procedure to arrange the call forward default scheme for individual stations. With this feature, the system will automatically forward ringing calls to another station after a preset number of rings. Since this is an automatic forwarding of the calls, the station users do not have to take any action; however, any user-enabled call forwarding that they do take at their stations will override this automatic call forwarding.

This procedure determines answers for the following questions: can busy/RNA call forwarding take place at a station, to what intercom number will calls be forwarded to, and what type of calls will the system forward?

You must also program the number of rings that must occur before this automatic call forwarding can take place (Section 7.2.13, *Flexible Ringing Assignment*).

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select stations and press ENTER.
  3. From the stations menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name and press ENTER.
  5. From the station programming menu, type item number for feature and press ENTER.
  6. Press SPACE BAR to enable feature(choose yes) and press ENTER for ITCM FWD To menu.
  7. From the ITCM FWD To menu, type intercom number to receive forwarded calls and press ENTER for FWD Type.
  8. Press SPACE BAR to enable either personal calls or all calls and press ENTER.
  9. When finished, press ESCAPE twice.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4–10 for each station or press ESCAPE to end.

## ***Recall Call Forward***

**Description:** When you enable this feature for a station, any held, parked, and transferred calls that recall to a station while it is busy on another call follow the call forwarding path set up for that station.

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select stations and press ENTER.
  3. From the stations menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name and press ENTER.
  5. From the station programming menu. type item number for feature and press ENTER.
  6. Press SPACE BAR to enable feature (choose yes) feature and press ENTER.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4–8 for each station or press ESCAPE to end.

## **7.1.6 Call Park**

### ***Call Park Access***

**Description:** Access to call park enables the station user to place as many as nine calls in park zones, or orbits, where they are retrievable by all system users.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

**Operation:** Park call: INTERCOM \* 91 through \* 99 (for orbits 91-99)  
Pick up parked call: INTERCOM # 91 through # 99.

### ***Call Park Recall***

**Description:** A call that is left in a park orbit longer than the length of time that you program with this feature will automatically return to a hold recall condition at the parking station.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## 7.1.7 Call Pick-Up

### *Call Pick-Up, Enable*

**Description:** A station user can dial a code plus an intercom number of a ringing or on-hold station to answer the ringing call or to pick up a held call at that station. Turn this call pick-up feature on for a station class of service using this procedure. Remember, you must also assign this class of service to the station that you wish to have this feature.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1–32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each COS or press ESCAPE to end.

**Operation:** INTERCOM \* 4 then dial intercom number of ringing or on hold station

### *Call Pick-Up Group*

**Description:** Use this procedure to place a number of stations in a call pick-up group so that one station can answer a call ringing at any other station in the group.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type desired value for feature (1–16 = groups 1–16, 0 = no group) and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each station or press ESCAPE to end.

**Operation:** INTERCOM # 4

## 7.1.8 Call Waiting (Tone)

**Description:** Use this procedure to provide a station with the ability to send a tone signal to a busy called station. Refer to Section 7.1.11, *Camp-On Programming*, to enable basic camp-on ability at a station. Refer to Section 6.9.3, *Camp-On Tone*, to set the time duration of the call waiting tone.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1–32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each COS or press ESCAPE to end.

### **7.1.9 Tracker Access**

**Description:** Assign Tracker access to a particular station intercom or group of intercoms using the following class of service (COS) programming. (The default is yes for COS1 and COS32.) Refer to Section 14.2, *Tracker Paging System Programming*, for further Tracker programming.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select Stations and press ENTER.
  3. From stations menu, select COS Programming and press ENTER.
  4. From COS programming, type class (1-32) and press ENTER.
  5. From COS (class number) programming, select Tracker Access.
  6. Toggle the SPACE bar to select yes/no and press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  8. Press ESCAPE to end.

### **7.1.10 Enhanced LCD Display**

**Description:** In systems operating with software releases prior to 8.B, when users receive intercom calls, their LCD-equipped telephone displays either the name of the calling station or its personal intercom number if the station does not have an assigned name. With software release 8.B, you can take programming action that enhances the display of an LCD-equipped telephone so that it shows both the name of the calling station and its personal intercom number.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select COS programming and press ENTER.
  4. Type class of service number (1-32) that corresponds with class of service that you wish to modify and press ENTER.
  5. From COS programming menu, type row number that corresponds with Enhanced LCD Display and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Press ESCAPE to end.

### **7.1.18 Meet Me Answer Page**

**Description:** When you enable this feature at a station, its user can dial a code in response to an all-call or zone page and meet the pager in a private conversation.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

**Operation:** Press INTERCOM and dial 78.

### **7.1.19 Message Deposit (Response Messaging)**

**Description:** This procedure enables a class of service messaging feature that allows station users to call an LCD speakerphone and arrange for a message to be left on its display. The message is for the called party to read if she or he is unable to answer the caller. Refer to Section 6.3.1, *LCD Messaging*, for details about programming the LCD messages that can be deposited. Also, you can use the procedure detailed in Section 7.3, *Square/Nonsquare System (Button Mapping By Station)*, to assign a response message button to the telephone; however, users can do this for themselves if they need the button.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

## **7.1.20 Message Wait Originate (Message Waiting)**

**Description:** When you enable this feature, a station user can dial a feature code to control the message waiting light at another station.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1–32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each COS or press ESCAPE to end.

**Operation:** Turn message waiting light on: press INTERCOM, dial \* 3.  
Turn message waiting light off: press INTERCOM, dial # 3.

## **7.1.21 Music On Intercom Hold (Music Or Tone On Hold)**

**Description:** With this feature enabled, the system supplies music, tone bursts or other audio information to callers while they are on hold. The music or information source is external to the common equipment and is customer supplied. Since the system accepts two music sources, you can use one source for this feature and the other source for the background music feature discussed in Section 7.1.3, *Background Music*.

When the system supplies tone bursts to callers while they are on hold, it sounds two .1 second long tone bursts separated by a 0.1 second interval of silence. It repeats this tone burst sequence every 5 seconds.

**Programming:** **For intercom number,**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1–32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each COS or press ESCAPE to end.

**For lines,**

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From the lines menu, select line programming and press ENTER.
4. From line programming menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
8. Repeat steps 4–7 for each line or press ESCAPE to end.

### **7.1.22    Paging Receive**

**Description:**     Use this procedure to give a class of service of stations the ability to receive voice announcements with the station handset and monitor speaker. For other paging requirements, refer to Section 6.11, *Paging Zone*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### **7.1.23    Paging Transmit**

**Description:**     Use this procedure to give a class of service of stations the ability to transmit voice announcements to one or all other station handsets and monitor speakers. For other paging requirements, refer to Section 6.11, *Paging Zones*. Also refer to Section 6.9.5, *Paging Access*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From the COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### **7.1.24 Ringing Preference (Ringing Line Preference)**

**Description:** When you enable this feature, a station can automatically connect to a ringing line when a user takes his or her telephone off-hook. Refer to Section 7.2.13, *Flexible Ringing Assignments*, for other ringing considerations.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From the COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### **7.1.25 Day Route Access/Night Route Access**

**Description:** You must use Section 12.4, *Route Tables*, to build and assign automatic route selection (ARS) route tables before the system can perform ARS on a dialed number. Each of the six routes of a route table require a route access level of 1 to 4. ARS uses this route access level to determine if the dialing station has access to dial out on the route. It does this by comparing a station's route access level to the required dial out access level. If the station route access level is greater than or equal to the route access level that you assign to the route, the system allows the station to access the route. Otherwise, the system will not accept the dialed number, and sounds an error at the station's speaker or handset. The route access level allows some stations to gain access to the more costly routes in a route table while denying it to others. Just as you program each route from least to most costly, you must also arrange the station's route access level to increase from a low level to a high level. This is necessary because once the system denies access because of the access level, it will not try another route. The more costly the route is, the higher the access level needed to access it.

Use the following programming procedure to assign a route access level of 1 to 4 to a station class of service for both day and night operation.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From the COS programming menu, type item number for day route access and press ENTER.
6. Type 1-4 for restriction level.
7. Press ENTER for night route access level, and type 1-4 for restriction level.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### **7.1.26 Day Restriction Level/Night Restriction Level**

**Description:** Use restriction level programming (Section 11.4, *Restriction Level Programming*) to create as many as eight different toll calling categories based on the freedom to dial various numbers or the restriction from dialing them. You can assign one of eight different restriction (1–8) levels or assign an *allow all* level or a *deny all* level. Level 8 is the least restrictive from a station viewpoint but the most restrictive from a restriction table viewpoint. (For example, a station with a restriction of 8 is only restricted from dialing *always deny* numbers and it can dial numbers with restriction levels of 1–8. A station with a restriction level of 1–7 cannot dial a number with a toll restriction table entry of 8.) The *allow all* entry ensures that the system applies no dialing restriction to a number (example: 911). The *deny all* ensures that station user can never a number (example: 1–900).  
Use the following procedure to assign a restriction level to a station class of service. Program the restriction level value that accurately reflects the toll restriction dialing freedom expected by telephones with this class of service.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the stations menu, select COS programming and press ENTER.
4. Type class of service number (1–32) and press ENTER.
5. From the COS programming menu, type item number for day restriction level and press ENTER.
6. Type 1–8 for restriction level.
7. Press ENTER for night restriction level, and type 1–8 for restriction level.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each COS or press ESCAPE to end.

### **7.1.27 System Speed Dial Groups**

**Description:** The system provides 200 system speed dial numbers. These numbers are divided into 20 groups with 10 numbers available in each group. Assign none, one, or a range of groups (n - nn) to each station class of service. Refer to Section 6.7, *Speed Dial Programming*, for additional speed dial considerations.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1–32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Type desired value (1–20) and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each COS or press ESCAPE to end.

**Operation:** While on hook, dial 0–9 or press other speed dial buttons.

## **7.1.28 Station Monitoring**

**Description:** When you enable this feature, the busy lamp field (BLF) light of an associated direct station select select (DSS) button provides a visual indication of idle, busy, and ringing status of the station it represents. A station user can press this DSS button to make a one-button pick-up of a ringing station. When you disable this feature, the BLF shows only idle and busy conditions of the DSS station.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

## **7.1.29 Directed Station Hold**

**Description:** This feature, when enabled, allows station users to pick up the last call a user placed on hold at another station. This feature does not allow users to pick up exclusive hold calls or calls that are in the process of being transferred. Also, the feature does not allow users to send a directed call hold to a station where its user is scanning the currently held calls. In addition, this feature allows users to place a call on hold at another station and have this call appear to be the one that has been on hold there for the longest time. Features such as hold recall apply to the station that sent the directed call hold and not to the station that received the directed call hold.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

**Operation:**

Directed Hold: INTERCOM \* 90 then dial intercom number of destination station  
Directed Pickup: INTERCOM # 90 then dial intercom number of station where call is on hold

### **7.1.30 Remote Station Disable**

**Description:** Software release 6.A provides this feature that, when enabled, allows users at stations with the proper class of service to dial a code and remotely disable or enable another station. Normally, you should give this capability to the system attendant but you can assign it to any class of service that is appropriate.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

**Operation:**

Disable Station: INTERCOM \* 05, then dial intercom number of station  
Enable Station: INTERCOM # 05, then dial intercom number of station

### **7.1.31 Remote Day Exception Number/Night Exception Number**

**Description:** A DISA caller may have access to an outside line where the toll restriction is based on the DISA authorization code that is associated with a particular class of service. Remote day and remote night exception numbers allow DISA callers to dial numbers that their toll restriction normally prevents them from dialing. If a toll restriction table exception number matches one of the exception numbers that you assign using this procedure, the system allows the DISA caller to dial the number.

The exception number values that you can assign are 1 through 32 and NONE. You can assign 32 exception numbers to each DISA class of service. You also must assign one exception number to each toll restriction table line entry (Section 11.7, *Exception Number Programming*). Refer to Section 8.8, *Direct Inward System Access (DISA) Programming*, for DISA programming details.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for day exception number and press ENTER.
6. Type day exception number (0-32) (n, nn, n-nn, or 0 for none) and press ENTER.
7. Repeat step 6 for night exception number.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### **7.1.32 Conference Advisory Tone**

**Description:** The conference advisory tone feature allows you to configure the system to provide an audible tone whenever more than two parties are connected in a conference call. You can select this tone as either a one time tone or as a periodic reoccurring tone. If you choose a reoccurring tone, you must use the section 6.9.23, *Periodic Conference Tone*, procedure to select the time interval between the reoccurring tones. Also refer to Section 6.10.19, *Location Code*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type CTRL-N to get to the page with the selection for conference advisory tone.
6. Select conference advisory tone and press ENTER.
7. Press SPACE bar to toggle your options.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Press ESCAPE to end.

### **7.1.33 Executive Override Advisory Tone**

**Description:** The executive advisory tone allows you to configure the system to provide an audible tone whenever a system user activates the executive override feature. You can select this tone as either a one time tone or as a periodic reoccurring tone. If you choose a reoccurring tone, you must use the Section 6.9.24, *Periodic Executive Overriding Tone*, procedure to select the time interval between the reoccurring tones. Also refer to Section 6.10.19, *Location Code*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type CTRL-N to get to the page with the selection for executive override advisory tone.
6. Select executive override advisory tone and press ENTER.
7. Press SPACE bar to toggle your options.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Press ESCAPE to end.

### **7.1.34 Line Answer**

**Description:** This feature provides station access to a line for call answering purposes for an entire class of service of stations. Also refer to Section 7.1.33, *Line Originate*. You must turn on both that feature and this *Line Answer* feature for a line to be fully usable.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select COS programming and press ENTER.
  4. Type class of service number (1-32) and press ENTER.
  5. From COS programming menu, type item number for feature and press ENTER.
  6. Press CONTROL E.
  7. Type a for add, r for remove and press ENTER.
  8. Type line port 1-128 (type as n,nn,nnn or n-~~nnn~~) to be removed or added and press ENTER.
  9. Press ESCAPE three times.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4-10 for each COS or press ESCAPE to end.

### **7.1.35 Line Originate**

**Description:** This feature provides station access to a line for call originating purposes for an entire class of service of stations. Also refer to Section 7.1.32, *Line Answer*. Both that feature and this one must be turned on for a line to be fully usable.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select COS programming and press ENTER.
  4. Type class of service number (1-32) and press ENTER.
  5. From COS programming menu, type item number for feature and press ENTER.
  6. Press CONTROL E.
  7. Type a for add, r for remove and press ENTER.
  8. Type line port 1-128 ( n, nn,nnn or n-~~nnn~~) to be removed or added and press ENTER.
  9. Press ESCAPE three times.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4-8 for each COS or press ESCAPE to end.

### **7.1.36 Periodic Line Tone**

**Description:** This when enabled, provides periodic warning tones to station users while they are busy on certain lines. The warning tone consists of one 500 ms burst, a 100 ms off period, and one 100 ms burst. The tone reminds the users to keep their conversations short on these lines. You can enable this feature for a class of service of telephones and then specify the particular lines that you deem applicable. Further, you can select how often the tone sounds. Also refer to Section 7.1.35, *Maximum Call Duration*, for a related feature.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press CONTROL E.
7. Type a for add, r for remove and press ENTER.
8. Type line port 1-128 (n, nn,nnn or n-*nnn*) to be removed or added and press ENTER.
9. Press ESCAPE three times.
10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
11. Repeat steps 4-8 for each COS or press ESCAPE to end.

### ***Periodic Line Tone Time***

**Description:** After you enable the periodic warning tones that remind users to keep conversations short on certain outside lines, use this procedure to set how often that you wish the periodic warning tones to occur

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select systems and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **7.1.36 Periodic Line Tone**

**Description:** This when enabled, provides periodic warning tones to station users while they are busy on certain lines. The warning tone consists of one 500 ms burst, a 100 ms off period, and one 100 ms burst. The tone reminds the users to keep their conversations short on these lines. You can enable this feature for a class of service of telephones and then specify the particular lines that you deem applicable. Further, you can select how often the tone sounds. Also refer to Section 7.1.35, *Maximum Call Duration*, for a related feature.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press CONTROL E.
7. Type a for add, r for remove and press ENTER.
8. Type line port 1-128 (n, nn,nnn or n-~~nnn~~) to be removed or added and press ENTER.
9. Press ESCAPE three times.
10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
11. Repeat steps 4-8 for each COS or press ESCAPE to end.

### ***Periodic Line Tone Time***

**Description:** After you enable the periodic warning tones that remind users to keep conversations short on certain outside lines, use this procedure to set how often that you wish the periodic warning tones to occur

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select systems and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **7.1.37 Maximum Call Duration**

**Description:** The system provides the maximum call duration feature. This feature, when enabled, automatically cuts off calls on certain lines after a preprogrammed time. The system will not cut off calls made to an emergency number (Section 10.4, *Emergency Numbers*). The system sounds a warning tone at the busy station 10 seconds before it disconnects the call. The warning tone consists of one 800 ms burst followed by eight 100 ms bursts. Also refer to Section 7.1.34, *Periodic Line Tone*, for a related feature.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press CONTROL E.
7. Type a for add, r for remove and press ENTER.
8. Type line port 1-128 (n, nn,nnn or n-*nnn*) to be removed or added and press ENTER.
9. Press ESCAPE three times.
10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
11. Repeat steps 4-8 for each COS or press ESCAPE to end.

### ***Maximum Call Duration Time***

**Description:** After you enable the maximum call duration feature, use this procedure to set the cut off time.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select systems and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **7.1.38 Line Group Access**

**Description:** Use this procedure to give a station access to line groups. Refer to Section 8.2, *Line Group Programming*, for other line group considerations.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select COS programming and press ENTER.
  4. Type class of service number (1–32) and press ENTER.
  5. From COS programming menu, type item number for feature and press ENTER.
  6. Type line groups (1–16, 0 = none, type as n,n,nn or n–nn) and press ENTER.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4–8 for each COS or press ESCAPE to end.

### **7.1.39 Line Group Queue**

**Description:** Use this procedure to give a station the ability to queue for an idle line in a line group. Refer to Section 8.2, *Line Group Programming*, for other line group considerations.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select station and press ENTER.
  3. From station menu, select COS programming and press ENTER.
  4. From the COS programming menu, type item number for feature and press ENTER.
  5. When finished, press ESCAPE twice.
  6. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  7. Repeat steps 4–8 for each COS or press ESCAPE to end.

### ***7.1.40 Line-To-Line Transfer (Unsupervised Conference)***

**Description:** This programming feature gives a station the ability to set up an unsupervised conference between two lines.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### ***Line-To-Line Connect Duration***

**Description:** After you have given a station the ability to set up an unsupervised conference between two lines, use this procedure to set the maximum amount of time that an unsupervised conference can continue between two lines. When the time out occurs, the system recalls the station from where the user enabled the unsupervised conference.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **7.1.41 Voice Announce Block**

**Description:** When you enable this programming feature a station has the ability to block voice announced internal signalling when its user dials the proper code.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select COS programming and press ENTER.
  4. Type class of service number (1–32) and press ENTER.
  5. From COS programming menu, type item number for feature and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4–8 for each COS or press ESCAPE to end.

**Operation:** On: INTERCOM \* 2  
Off: INTERCOM # 2

### **7.1.42 Internal IST Flash**

**Description:** If industry-standard telephone users access an outside line using the line group feature and then quickly press and release (flash) the telephone's hookswitch, the IST will react in one of two different ways depending upon how you program this feature. Refer to Section 7.2.35, *Industry-Standard Telephone Support* for other IST programming considerations.

- With the internal IST flash feature disabled**, IST users can flash the hookswitch while on an outside line and generate a hookflash signal on the outside line; however, they cannot flash the hookswitch to obtain intercom dial tone. (The Section 7.2.35 procedure sets the hookflash signal time. This signal time determines whether the IST hookflash signal is long enough to recall the outside line dial tone or short enough to access the outside line host system features. Refer to the CO specifications for actual timing requirements.)
- With the internal IST flash feature enabled**, IST users can flash the hookswitch while on an outside line and obtain intercom dial tone; however, if they need to generate a hookflash signal on the outside line, they must flash for intercom and then dial S 08. Dialing S 08 over the intercom, generates an outside line hookflash signal and returns the telephone to the outside line.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select COS programming and press ENTER.
  4. Type class of service number (1–32) that corresponds with class of service assigned to the IST and press ENTER.
  5. From COS programming menu, type row number for IST distinctive ringing and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Press ESCAPE to end.

### **7.1.43 Forced Account Codes**

**Description:** After you have enabled the account code feature for the system, set its parameters, and programmed its list of account codes into the system, turn the feature on for a station class of service and make it either forced or optional. If you make it a forced account code, the user must enter an account code before the system will let him or her dial the number for an outgoing call. Also, on incoming calls a user must enter an account code before the system will allow him or her to make any future outgoing calls. See Section 10.3, *Account Codes* for other account code programming considerations and to Section 10.4, *Emergency Numbers* for an exception to forced account code entry.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From the COS programming menu, type item number for account code and press ENTER.
6. Press SPACE BAR for feature setting.
7. When finished, press ESCAPE.
8. Press CONTROL N as necessary to display line number for forced account code and press ENTER.
9. Type item number for forced account code and press ENTER.
10. Press SPACE BAR for feature setting.
11. When finished, press ESCAPE twice.
12. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **7.1.44 Allow Busy Display (Display Of Busy Status)**

**Description** When you activate this feature, users calling a busy station from an LCD speakerphone can read the busy status of the called station on the telephone's display. (for example, Busy with line 2). With the feature inactive, the display shows busy but does not reveal the busy status.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### **7.1.45 Clear Major Alarm Ring**

**Description:** This feature allows users to clear the major alarm ring condition from a telephone station. To make this feature available to users, you must first program a class of service as described below and then assign that class of service to the user's telephone station.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type CTRL-N to get to the page with the selection for clearing the major alarm ring.
6. Select clear major alarm ring and press ENTER.
7. Press SPACE bar to toggle between yes or no.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Press ESCAPE to end.

**Operation** Clear major alarm ring condition: INTERCOM #90

### **7.1.46 High Handset Volume (On Impact Telephones)**

**Description:** You can program the handset volume feature on Impact telephones to offer the station user more choices in selecting the handset volume level locally from his or her telephone. Normally, users have up to 8 volume levels that they can select. However, when you program the high level, the user's handset volume choices increase to 13.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type CTRL-N to get to the page with the selection for high level handset volume.
6. Select high level handset volume and press ENTER.
7. Press SPACE bar to toggle between yes or no.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Press ESCAPE to end.

**Operation:** While on a call, press VOLUME UP or VOLUME DOWN once for each change of volume. To set loudness default to a certain level,

- lift handset,
- adjust loudness using VOLUME UP or VOLUME DOWN,
- press INTERCOM and dial \*\*7,
- hang up.

### **7.1.47 Restrict ARS Hookflash (Automatic Route Selection, Hookflash Restriction)**

**Description:** This feature enhances ARS response to hookflash action on an outside line when that action is followed by dialed digits. With the feature enabled, the system delays response to a hookswitch flash until after the ARS feature verifies as valid all subsequent dialed digits. With the feature disabled, the system sends the hookflash over the line without waiting for the ARS feature to verify the validity of subsequent dialed digits. This station class of service feature is applicable only when the ARS feature is active.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) that corresponds with class of service that you wish to modify and press ENTER.
5. From COS programming menu, type row number that corresponds with Restrict ARS Hookflash and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Press ESCAPE to end.

### **7.1.48 Quick Transfer**

**Description:** The quick transfer feature allows users to perform an automatic screened or unscreened transfer of an incoming line call without pressing their telephone's TRANS/CNF button. The transfer occurs automatically as soon as the user who answers the call dials the intercom number or access code for the transfer location. The system begins the call transfer process as soon as the user dials a digit on his or her dial pad, and effects the transfer as soon as the user hangs up or presses his or her telephone's RELEASE button. When this feature is active, it greatly reduces the keystrokes that users must take to transfer calls over a tie line.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) that corresponds with class of service that you wish to modify and press ENTER.
5. From COS programming menu, type row number that corresponds with Quick Transfer and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Press ESCAPE to end.

## **7.2 Programming Station Features**

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### **7.2.1 Personal Intercom Number**

**Description:** Use this programming procedure to change the station's personal intercom number. Also refer to Section 9.1, *Modifying Intercom Numbers*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for personal intercom and press ENTER.
6. Type personal intercom number and press ENTER. The system indicates if a number conflict exists and prompts you to select another number or take appropriate action.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each station or press ESCAPE to end.

### **7.2.2 Display Name/Full Name (Station Name)**

**Description:** You can assign a display name and a full name to a station. A display name is composed of a maximum of seven characters and shows in the display of an LCD speakerphone as a identification aid. A full name is composed of a maximum of 20 characters and shows in some voice mail and open architecture interface applications. You can compose a valid name from any alpha-numeric character; however, the first character of a display name must be an alphabetic character. You can also add station names by following the procedure described in Section 9.1, *Modifying Intercom Numbers*..

**Programming:** To assign a name to a station,

1. Press CONTROL T for main menu.
2. From main menu, select station and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for display name and press ENTER.
6. Type display name (a–z, A–Z, 0–9, punctuation, special characters, and so forth) and press ENTER.  
A display name can be up to seven characters long.
7. Type full name (a–z, A–Z, 0–9, punctuation, special characters, and so forth) and press ENTER.  
A full name can be up to 20 characters long.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Repeat steps 4–8 for each station that requires a name or press ESCAPE to end.

### **7.2.3 Class Of Service**

**Description:** You can assign a group of preprogrammed class of service station features to a station. The system makes up to 32 different classes of service available, and you can program the feature values differently in each one.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type desired value for feature and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each station or press ESCAPE to end.

### **7.2.4 Speed Dial Sets**

**Description:** A speed dial set is a group of 10 speed dial locations. The system allocates three speed dial sets to each telephone as a default but you can allocate up to 10 sets to a telephone if you wish. When a DSS/BLF console is operated as a companion to a telephone, you can allocate speed dial sets at the companion telephone that the system will then share with the console. The system reserves one speed dial set for the telephone's dial pad buttons 0–9. For other speed dial considerations, see Section 6.7, *Speed Dial Programming*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type desired value for feature and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each station or press ESCAPE to end.

### **7.2.5 Idle Line Priority**

**Description:** If you use Section 7.1.13, *Idle Line Preference*, to give a station the ability to automatically connect to an idle assigned line when the user takes the handset off-hook, take this programming action to set the priority in which the system chooses the idle lines for use. You can place up to eight lines in this priority list.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name and press ENTER.
  5. From station programming menu, type item number for feature and press ENTER.
  6. Type any eight line numbers 1-128 (type as n,nn,nnn or n-*nnn*) and press ENTER.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-8 for each station or press ESCAPE to end.

### **7.2.6 Intercom Hunt List**

**Description:** Place personal intercom and group intercom numbers in a list with this programming procedure. Calls to a busy hunt list number will search the list for an idle number at which to ring. Up to eight intercom numbers are allowed in a hunt list. These can be all group intercom numbers or one personal intercom number and seven group intercom numbers. See Section 9, *Programming Intercom Numbers*, for other intercom number considerations.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select station and press ENTER.
  3. From station menu, select station programming and press ENTER.
  4. Type personal intercom number of station being programmed and press ENTER.
  5. From station programming menu, type item number for feature and press ENTER.
  6. Type intercom numbers for list (up to eight allowed separated with commas - include the personal intercom of station being programmed for intercom call hunting; otherwise, only line calls to the station will hunt) and press ENTER.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-8 for each station or press ESCAPE to end.

## **7.2.7 Group Intercom Access**

**Description:** Use this procedure to add group intercom numbers to stations for their use. Also refer to Section 7.3, *Square/Nonsquare System-Button Mapping By Station*, to map buttons for group intercom number selection. See Section 9, *Programming Intercom Numbers* for other intercom number considerations.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select station and press ENTER.
3. From station menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name of station being programmed and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type a for add or r for remove and press ENTER.
7. Type group intercom numbers ( type nnnn,nnnn, nnnn or type nnnn-nnnn) and press ENTER.
8. When finished, press ESCAPE three times.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Repeat steps 4-9 for each station or press ESCAPE to end.

## **7.2.8 Prime Line Programming**

### ***Prime Line Type***

**Description:** When you enable this feature, the station automatically selects a line, line group, or intercom number for use when the station user takes the station off hook. Use the programming procedures shown below to select the line port, line group, or intercom number to serve as the prime station calling interface.

**NOTE:** You can create an **intercom hot line telephone** by taking special programming action when you assign a prime intercom number. Refer to the paragraph titled Prime Intercom Number in this section for details.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming.
  4. Type personal intercom number or previously assigned name and press ENTER.
  5. From station programming menu, type item number for feature and press ENTER.
  6. Press SPACE BAR for desired value and press ENTER.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4–8 for each station or press ESCAPE to end.

### ***Prime Line***

**Description:** Use this procedure to choose the prime line.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or station name and press ENTER.
  5. From station programming menu, type item number for feature and press ENTER.
  6. From prime line menu, type 1–128 press ENTER.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4–8 for each station or press ESCAPE to end.

## ***Prime Line Group***

**Description:** Use this procedure to choose the prime line group.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or station name and press ENTER.
  5. From station programming menu, select prime line group and press ENTER.
  6. From prime line group menu, type 1-16 and press ENTER.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-8 for each station or press ESCAPE to end.

## ***Prime Intercom Number***

**Description:** Use this procedure to choose the prime intercom number.

**NOTE:** You can create an **intercom hot line telephone** by assigning one telephone's personal intercom number as the prime intercom of another telephone. When the user takes this programmed telephone off hook, it automatically calls the other telephone.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or station name and press ENTER.
  5. From station programming menu type item number for feature and press ENTER.
  6. From prime intercom menu, type personal intercom number and press ENTER.
- NOTE:** Remember, with this step, you can create an **intercom hot line** by typing a personal intercom number of another telephone.
7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-8 for each station or press ESCAPE to end.

### **7.2.9 Tone Or Voice Signalling (Tone First)**

**Description:** Intercom calls are either tone or voice signalled as a first choice with the other mode available as a second choice. Use this procedure to select the first choice in intercom signalling on a per station basis.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name and press ENTER.
  5. From station programming menu, type item number for feature and press ENTER.
  6. Press SPACE BAR for feature value and press ENTER.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4–8 for each station or press ESCAPE to end.

### **7.2.10 Call Announce Beeps (Call Announce Tone Bursts)**

**Description:** You can set the number of call announce tone bursts to be a value of from one to five and you can do this for each station in the system.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select station and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name for station you wish to program and press ENTER.
  5. From station programming menu, type item number for feature and press ENTER.
  6. Type choice (1–5) and press ENTER.
  7. Press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4–9 for each station or press ESCAPE to end.

### **7.2.11 Default Forward Type**

**Description:** Use this procedure to arrange the call forward default scheme for individual stations. With this feature, the system will automatically forward ringing calls to another station after a preset number of rings. Since this is an automatic forwarding of the calls, the station users do not have to take any action; however, any user-enabled call forwarding (Section 7.1.5, *Call Forward*) that they take at their stations will override this automatic call forwarding. This procedure determines whether or not intercom busy/RNA call forwarding can take place at a station. You must also program the number of rings that must occur before this automatic call forwarding can take place (Section 7.2.13, *Flexible Ringing Assignment*).

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From the station programming menu, type item number for feature and press ENTER.
6. Press SPACE BAR to enable feature (choose ITCM FWD) and press ENTER.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
8. Repeat steps 4-10 for each station or press ESCAPE to end.

### ***Intercom Number Forwarded To***

**Description:** Use this procedure to assign the intercom number of a station to receive another station's forwarded calls.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select station and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name for station you wish to program and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type intercom number for forward to station and press ENTER.
7. Press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-9 for each station or press ESCAPE to end.

### ***Forward Type (For Busy Or Ring - No Answer Calls)***

**Description:** Use this procedure to arrange what type of calls will forward from the station. You must also program the number of rings that must occur before this automatic call forwarding can take place (Section 7.2.13, *Flexible Ringing Assignment*).

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From the station programming menu, type item number for feature and press ENTER.
6. Press SPACE BAR to enable either personal calls or all calls and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-9 for each station or press ESCAPE to end..

## **7.2.12 Forward RNA Ring Busy (Enhanced Call Forwarding)**

**Description:** The call forward feature allows a station user to choose to receive several rings for RNA calls before the system forwards them. At default, the system immediately forwards calls that reach a busy station. You can take this programming action to allow calls to a busy station to ring in a subdued manner before they forward if the user chooses them to do so. This subdued ringing of calls to a busy station requires an idle intercom number at the busy station. Plus, if you have assigned group intercoms to the station, you must program them into a hunt list, using the Section 9.2.2, *Intercom Hunt List*, procedure, to ensure that this call forward feature will function properly at station. Refer to Section 7.1.5, *Call Forward*, for other call forwarding considerations.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From the station programming menu, type item number for feature and press ENTER.
6. Press SPACE BAR to enable feature (choose Yes) and press ENTER
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
8. Press ESCAPE and repeat steps 4–6 for other stations
9. When finished, press ESCAPE twice.
10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

**Operation:**

All calls: INTERCOM \* 54 plus extension  
Personal: INTERCOM \* 52 plus extension  
Cancel: INTERCOM # 5

## **7.2.13 Flexible Ringing Assignments**

Program ringing assignments on a per station/per line/per intercom number basis. Ringing can be immediate, delayed, or special purpose. Use the procedures in this section to customize the ringing features for the system. If needed, use the Section 6.11.7, *Relays (Line Answer From Any Station)* procedure to arrange for a relay to track the ringing of the direct, delayed, day 1, day 2, or night ringing modes (use Section 6.10.18, *Day 1, Day 2, And Night Ringing Begin And End Times* to program these ringing modes). Plus, if your installer connects customer-supplied external paging equipment to the system's external paging port, use the Section 6.11.6, *Relays (External Paging Equipment Control)*, procedure to arrange for that equipment to sound the ring signal of any or all lines.

### ***Direct Ringing***

**Description:** Use this procedure to choose the line ports that you want to ring at a station as soon as a call appears. Direct ringing sounds during the day 1 and day 2 time periods but does not ring during the night ringing mode or during the manual night transfer (of ringing) operation.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type the item number for feature and press ENTER.
6. Press CONTROL E for edit.
7. Type a for add or r for remove and press ENTER.
8. Type line port number 1-128 (type as n,nn,nnn or n-nnn) and press ENTER.
9. When finished, press ESCAPE twice.
10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
11. Repeat steps 4-10 for each station or press ESCAPE to end.

### ***Delayed Ringing***

**Description:** Use this procedure to choose the line ports that you want to ring at a station after waiting a short time period from when a call appears. Delayed ringing sounds during day 1, day 2 time periods, during the night ringing mode, and during the manual night transfer (of ringing) operation.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press CONTROL E.
7. Type a for add or r for remove and press ENTER.
8. Type line port number 1-128 (type as n,nn,nnn or n-nnn) and press ENTER.
9. When finished, press ESCAPE twice.

## Day 1 Ring

**Description:** Use this procedure to choose the line ports that you want to ring at stations during the day 1 ringing mode time period. Refer to the paragraph below titled, *Day 1, Day 2, and Night Ringing Begin and End Times*, to set the beginning and ending times of this ringing.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name and press ENTER.
  5. From station programming menu, type item number for feature and press ENTER.
  7. Type a for add or r for remove and press ENTER.
  6. Press CONTROL E to edit.
  8. Type line port number 1–128 (n,nn,nnn or n–nnn) and press ENTER.
  9. When finished, press ESCAPE twice.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4–10 for each station or press ESCAPE to end.

## Day 2 Ring

**Description:** Use this procedure to choose the line ports that you want to ring at stations during the day 2 ringing mode time period. Refer to the paragraph below titled, *Day 1, Day 2, and Night Ringing Begin and End Times*, to set the beginning and ending times of this ringing.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name and press ENTER.
  5. From station programming menu, type item number for feature and press ENTER.
  6. Press CONTROL E to edit.
  7. Type a for add or r for remove and press ENTER.
  8. Type line port number 1–128 (type as n,nn,nnn or n–nnn) and press ENTER.
  9. When finished, press ESCAPE twice.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4–10 for each station or press ESCAPE to end.

## ***Day 1, Day 2, And Night Ringing Begin And End Times***

**Description:** With this programming procedure, set the begin and end times of the day 1, day 2, and night ringing time periods.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select system parameters and press ENTER.
  4. From the system parameters menu, select day 1, day 2 or night ringing begin times and press ENTER.
  5. Type times in 24-hour format (hh:mm) and press ENTER.
  6. Press ENTER (repeatedly if needed) to place cursor at next time desired setting.
  7. Repeat step 5 and press ENTER.
  8. Repeat steps 6 and 7 until all times are set and press ENTER.
  9. When finished, press ESCAPE twice.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4-10 for each station or press ESCAPE to end.

## ***Night Ring (Night Transfer—Of Ringing)***

**Description:** Choose the line ports that you want to ring, along with the delayed ringing line ports, at stations during the night ringing mode of operation. The ringing arrangement that you configure here is the arrangement that is active both during the automatic night ringing time period and whenever the attendant manually activates the night transfer (of ringing) operation. Do note that the attendant commanded night ringing period supersedes the automatic night ringing period. Refer to the above paragraph titled, *Day 1, Day 2, and Night Ringing Begin and End Times*, to set the time for the automatic night ringing period.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name and press ENTER.
  5. From station programming menu, type item number for feature and press ENTER.
  6. Press CONTROL E.
  7. Type a for add or r for remove and press ENTER.
  8. Type line port number 1-128 (type as n,nn,nnn or n-*nnn*) and press ENTER.
  9. When finished, press ESCAPE twice.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4-10 for each station or press ESCAPE to end.

**Operation:** From an attendant station, On: INTERCOM \* # 0 \* 031  
Off: INTERCOM \* # 0 \* 032

## ***Caller ID Ring No-Answer (RNA)***

**Description:** This feature offers telephone users the ability to review calls that ring at their stations while they are away. The system stores caller ID RNA records and allows users to review them and use one-button dialing to return those calls that need returning. The feature also denotes the identification of the last station that reviewed the records thus helping prevent multiple call backs to the same number. After users review the caller ID RNA records, the system deletes the records from their telephones yet retains them in the SMDA storage so that they can look at them later if they must. For complete caller ID programming, refer to Section 14.1, *Caller ID Programming*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select station and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name for station you wish to program and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press CONTROL E for edit table.
7. Type *a* to add or *r* to remove and press ENTER.
8. Enter caller ID line port numbers 1–128 (enter *n*, *nn*, *nnn* or *n-*nnn**) to serve feature at this station and press ENTER.
9. Press ESCAPE three times.
10. Type *y* to accept changes, *n* to reject them, or *r* to resume editing and press ENTER.
11. Repeat steps 4–9 for each station or press ESCAPE to end.

## ***Ring No-Answer Rings***

**Description:** This procedure sets the amount of rings that sound at one station port before the call rolls over to ring at another station port. Any system feature that requires a ring no-answer value (for example, call forwarding) uses the setting that you program here. The system defaults the ring no-answer value at regular station ports to four rings, and it defaults ports programmed to function as voice mail ports to three rings. This insures that, at default, the voice mail equipment will have sufficient time to answer a call before it rolls over to the next port.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type number of rings 0–6 and press ENTER.
7. When finished, press ESCAPE twice.
8. Type *y* to accept changes, *n* to reject them, or *r* to resume editing and press ENTER.
9. Repeat steps 4–8 for each station or press ESCAPE to end.

## ***Personalized Ringing Tone***

**Description:** Program a station to ring in one of several distinctive tones for proprietary digital telephones and in one of four distinctive tones for analog telephones. While industry-standard telephones do not provide personalized ringing, you can set distinctive ringing for them using the Section 7.2.35, *Industry-Standard Telephone Support*, procedure.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From the station programming menu, type item number for feature and press ENTER.
6. Type ring tone choice and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each station or press ESCAPE to end.

**Operation:** INTERCOM \* \* 4 then dial ring code (1–8)

## **7.2.14 LCD Contrast (Digital Telephones—Only)**

**Description:** Adjust the intensity of the display on digital LCD speakerphones with this procedure. The user can also change the display contrast at his or her telephone using instructions provided in the system user's guide.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select station and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type 1–8 and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each station or press ESCAPE to end.

**Operation:** INTERCOM \* \* 51–58

## ***7.2.15 Service Observing***

This feature allows a station to enter an in-progress call in an unannounced, muted mode to monitor the conversation. Use this procedure to give a station service observe capability and make other stations available for service observing.

### ***Initiating Service Observe***

**Description:** Allow a station to perform a service observe operation.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE BAR for feature value and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each station or press ESCAPE to end.

**Operation:** INTERCOM # 03 then dial the extension

### ***Making A Station Service Observable***

**Description:** Allow a station to be service observed.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE BAR for feature value and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each station or press ESCAPE to end.

### **7.2.16 Day Exception Number/Night Exception Number**

**Description:** Exception numbers allow stations to dial numbers that they are not normally allowed to dial by their automatic route selection/toll restriction levels. If the toll restriction table exception number matches one of the exception numbers that you assign to the station using the following procedure, the station is allowed to dial the number.

The exception number values that you can assign are 1 through 32 and NONE. You can assign 32 exception numbers to each station. You also must assign one exception number to each toll restriction table line entry (Section 11.7, *Exception Number Programming*).

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type intercom number or name of station.
  5. From station programming menu, type item number for Day (or Night) exception number.
  6. Type exception numbers 0-32 (n,nn or n-nn) or type 0 for none.
  7. Press ENTER for Night (or Day) exception number and repeat step 6.
  8. When finished, press ESCAPE twice.
  9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  10. Press ESCAPE to end.

### **7.2.17 SOHVA Beeps (SOHVA Tone Bursts)**

**Description:** You can choose the number of tone bursts that each telephone user hears preceding a SOHVA message to be from one to six.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select station and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name for station and press ENTER.
  5. From station programming menu, type item number for feature and press ENTER.
  6. Type choice (1-6) and press ENTER.
  7. Press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-9 for each station or press ESCAPE to end.

### **7.2.18 SOHVA Groups**

**Description:** SOHVA calling groups control the pattern in which station ports receive and/or originate SOHVA calls to one another. You must first form the SOHVA groups (Section 6.6.3, *SOHVA Groups*) and then assign the groups to individual stations with the following procedure.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. Type item number for feature and press ENTER.
6. Type group number 0–16 (n,nn or n-nn) and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each station or press ESCAPE to end.

### **7.2.19 Busy On SOHVA**

**Description:** At default, the system returns a ring back tone to users who make SOHVA calls to busy stations; however, this procedure allows you to arrange for telephone users to receive a busy signal instead of the ring back tone. This feature lets non-LCD telephone users know that a called station is busy.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE BAR for feature setting and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each station or press ESCAPE to end.

### **7.2.20 Pick-Up Groups**

**Description:** Use this procedure to place a number of stations in a call pick-up group so that one station can answer a call ringing at any other station in the group.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type desired value for feature (1-16 = groups 1-16, 0 = no group) and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each station or press ESCAPE to end.

**Operation:** INTERCOM # 4

### **7.2.21 Through Dialing (Thru-Dialing)**

**Description:** This procedure allows DTMF tones that are generated by an external device connected to the system through necessary interface equipment to pass through the system and out to any line connection.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select station and press ENTER.
3. From station menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name of station being programmed and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for desired setting and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 level for each station or press ESCAPE to end.

### **7.2.22 Single Line Tap (Single Line Proprietary Telephone TAP Button)**

**Description:** Use this procedure to set the function of the TAP button on single line proprietary telephones.

- Programming:
1. Press CONTROL T for main menu.
  2. From main menu, select station and press ENTER.
  3. From station menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name of station being programmed and press ENTER.
  5. From station programming menu, type item number for feature and press ENTER.
  6. Press SPACE bar for desired setting and press ENTER.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  10. Repeat steps 4-8 level for each station or press ESCAPE to end.

### **7.2.23 Ringing On Busy (Enhanced Subdued Ringing)**

**Description:** When a telephone is busy on a call and another call comes to that telephone, the system subdues the ringing of the second call to a lower volume but allows the call to continue to ring at this subdued volume until the caller abandons it. The system shortens the ringing of another call to model 8024S, 8124S, 8012S, and 8112S speakerphones that are busy in the speakerphone mode to one quick tone burst; however, if these telephones are busy in an off-hook manner (non-speakerphone mode), the system still subdues the ringing of the second call to a lower volume and allows the call to continue to ring at this subdued volume until the caller abandons the call.

If a user does not wish to hear subdued ringing while he or she is busy on a call (even the one quick tone burst on those particular models that provide it) you can take this programming action to eliminate all ringing by a second call.

- Programming:
1. Press CONTROL T to return to the main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type the personal intercom number or the previously assigned name and press ENTER.
  5. From station programming menu, type the item number for feature and press ENTER.
  6. Press SPACE BAR to eliminate ringing on busy (set option to no) and press ENTER.
  7. When finished press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **7.2.24 Allow Ringer Off (Ringer Volume Off)**

**Description:** On some proprietary telephones, the user selects the ringer volume level by pressing a rocker-type volume control repeatedly to select one of four different volume levels. The lowest volume setting is essentially an off condition as the telephone sounds only one low-volume ring burst when a call rings the station.  
Sometimes users would rather not receive even one ring burst. For these cases, program the system so that it completely silences the ringer at a telephone when its user selects the lowest volume setting.

**Programming:**

1. Press CONTROL T to return to the main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or the previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE BAR to turn ringer off (set option to yes) and press ENTER.
7. When finished press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **7.2.25 Disabled (Station Disable)**

**Description:** Disable a station port with this feature. Refer to Section 7.4, *Telephone Types*, for the procedure for marking the station port as undefined after you disable the port. Use the Section 7.1.30, *Remote Station Disable*, procedure to give a station the capability to disable other stations.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE BAR for feature setting and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each station or press ESCAPE to end.

## **7.2.26 Consoles Installed (DSS/BLF Consoles Installed)**

**Description:** Use this procedure to assign DSS/BLF consoles to a station and to identify the ports that the consoles occupy.

**NOTE:** Before you can assign a console and name the console port with this programming step, you must use the Section 7.4, Telephone Types, programming procedure to identify the type of console and the station port to which it is assigned.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select station and press ENTER.
  3. From station menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name of station being programmed and press ENTER.
  5. Type item number for the consoles installed and press ENTER.
  6. Press SPACE bar for desired setting and press ENTER.
  7. Type item number for console ports and press ENTER.
  8. Type the port number for console ports (1–192, 0 for none—up to four allowed) and press ENTER.
  9. When finished, press ESCAPE twice.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4–10 for each station or press ESCAPE to end.

## **7.2.27 Programming Port (Database Programming Station)**

**Description:** This procedure assigns limited database programming ability to a station.

**NOTE:** You must ensure that there is an LCD speakerphone connected to the station port that you choose with this feature.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name of station and press ENTER.
  5. From station programming menu, type item number for the feature and press ENTER.
  6. Press SPACE bar for desired setting and press ENTER.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4–8 level for each station or press ESCAPE to end.

## **7.2.28 Automatic Transfer On Busy**

**Description:** You can enable automatic attendant transfer on busy for individual station ports if you wish. With this feature enabled, the system will ring a busy telephone when the voice mail system is attempting to transfer a call to it thus giving the user the option of leaving his or her present call and taking the new one. With the feature disabled, the busy telephone is not signalled by the presence of a new call and the voice mail system will automatically route it to the busy telephone's voice mail box. For complete voice mail programming, see Section 14.5, *Voice Mail Programming*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name of station being programmed and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for desired setting and press ENTER.
7. When finished press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each station or press ESCAPE to end.

## **7.2.29 Headset**

**Description:** This procedure enables the use of a headset at a telephone.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select station and press ENTER.
3. From station menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name of station being programmed and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each station or press ESCAPE to end.

### **7.2.30 Attendant Position (Alternate Attendant, Overflow Attendant)**

**Description:** The attendant position station provides incoming call direction, and controls system-wide operating features. Additionally, the attendant position is responsible for certain programming features. The system defaults two stations as attendant positions (101 and 102) but it does not limit the number of attendant positions that it can support. Also refer to Section 6.10.13, *Operator Station*.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for setting and press ENTER.
7. Type personal intercom number for alternate attendant (if needed) and press ENTER.
8. Type personal intercom number for overflow attendant (if needed) and press ENTER.
9. When finished, press ESCAPE twice.
10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
11. Repeat steps 4–10 for each attendant position or press ESCAPE to end.

## 7.2.31 **Extended DTMF Dialing**

**Description:** You can enable the extended DTMF length dialing feature on a per station basis with this programming procedure. The system generates DTMF tones of extended length when users take their telephones off-hook and then wait until after the system sounds the *extended dialing tone burst* before they engage automatic dialing. This feature also allows an analog station to generate extended DTMF tones when its user manually dial numbers at the telephone's dial pad after hearing an *extended dialing tone burst*. Since digital telephones generate a DTMF tone for as long as the user holds the dial pad button down during manual dialing, this feature is only applicable on automatically dialed numbers at digital telephones. Refer to the following paragraph for the procedure that sets the time length of the DTMF tone.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-10 for each station or press ESCAPE to end.

### **DTMF Extended Dialing (Tone Length)**

**Description:** Use this programming feature to set the length of the DTMF tones. The system generates DTMF tones of extended length when users take their telephones off-hook and then wait until after the system sounds the *extended dialing tone burst* before they engage automatic dialing (for example, press speed dial buttons or saved number redial button) at their stations. Also, if analog telephone users take their telephones off-hook and then wait to begin manually dialing until after the system sounds the *extended dialing tone burst*, the system will extend the length of the manually dialed DTMF tones. After setting this extended DTMF tone length, you must enable the feature's use at each station where it is needed by performing the *Extended DTMF Dialing* procedures shown above..

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select system and press ENTER.
3. From the system menu, select timing and press ENTER.
4. From the system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **7.2.32 Softkeys Setup (Interactive Button Support)**

**Description:** The system provides support for interactive buttons on LCD speakerphones with product codes of 7010S and 7016S (all revisions), and 7700S (revision H and earlier). The three interactive buttons and the associated expanded displays provide quick, easy access to system features and straight-forward button programming without the need for dialing codes. At default, the interactive button support is disabled; therefore, you must take programming action to enable it. When you enable them, the system overrides any previous mapped function at the buttons with this new assignment. If, after you have enabled the support, you take new action to button map any of the interactive buttons to another assignment, the new assignment will take effect at that button. In addition, the system will clear the remaining two buttons and disable the interactive button support. If you replace any of these LCD speakerphones with a non-display telephone, the system recognizes it as such and does not assign interactive buttons to it. Since the system allows you to enable interactive buttons with station programming action, it does not provide a means for assigning interactive buttons with the button mapping procedure. After you have enabled the interactive buttons, you can look at the button assignments with the button mapping procedure, and note that the system identifies them as SOFT1, SOFT2, and SOFT3.

- Programming:**
1. Press CONTROL T to return to the main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or the previously assigned name and press ENTER.
  5. From station programming menu, type the item number for feature and press ENTER.
  6. Press SPACE BAR to enable interactive buttons (set option to "yes") and press ENTER.
  7. When finished press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **7.2.33 IST Hold Confirmation**

**Description:** Industry-standard telephones sound a special hold confirmation tone when their users place calls on hold. Prior to this software release, these telephones returned to intercom dial tone when their users placed calls on hold. The system defaults with the special confirmation tone enabled; however, you can disable the feature if you wish. The confirmation tone is three 80 ms. on –80 ms. off tone bursts repeated at 800 ms. intervals. See Section 7.2.35, *Industry-Standard Telephone Support* for other IST programming considerations.

**Programming:**

1. From main menu, select stations and press ENTER.
2. From stations menu, select station programming and press ENTER.
3. Type personal intercom number or previously assigned name for IST and press ENTER.
4. From the station programming menu, type item number for feature and press ENTER.
5. Press SPACE bar to enable or disable feature (yes = enable, no = disable) and press ENTER.
6. Press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
8. Repeat steps 3–7 for each station or press ESCAPE to end.

### **7.2.34 Transfer Ring Cadence**

**Description:** A telephone user can select the ringing cadence that announces a transferred line call. They have two choices as follows: Ring cadence one provides a 2 sec. on–4 sec. off tone. Ring cadence two provides a 0.5 sec.– 5.5sec. off tone. Ring cadence one is available to telephone users as a default and they can select the other one as they need it. Use this procedure to select the default cadence for each system station.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE bar to select cadence choice for default.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each station or press ESCAPE to end.

## **7.2.35 Industry-Standard Telephone Support**

The DXP digital communications system supports the use of industry-standard telephones. It does this through the use of DXIST-8 and DXIST-16 industry-standard telephone station interface circuit boards and a DXRNG ring generator assembly. Refer to the Comdial publication IMI89-078, *Installation Instructions DXP Digital Communications System Industry-Standard Telephone Support* for installation details. Program the DXP system to operate properly with industry-standard telephones by assigning values to DXP features using the procedures given below. They are presented in a typical order of progression but you can perform them in any convenient order.

### ***IST Hold Confirmation***

**Description:** Industry-standard telephones sound a special hold confirmation tone when their users place calls on hold. Prior to this software release, these telephones returned to intercom dial tone when their users placed calls on hold. The system defaults with the special confirmation tone enabled; however, you can disable the feature if you wish. The confirmation tone is three 80 ms. on –80 ms. off tone bursts repeated at 800 ms. intervals

**Programming:**

1. From main menu, select stations and press ENTER.
2. From stations menu, select station programming and press ENTER.
3. Type personal intercom number or previously assigned name for IST and press ENTER.
4. From the station programming menu, type item number for feature and press ENTER.
5. Press SPACE bar to enable or disable feature (yes = enable, no = disable) and press ENTER.
6. Press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
8. Repeat steps 3–7 for each station or press ESCAPE to end.

### ***IST Ring Timeout***

**Description:** Use this procedure to set the number of times that the system sends a ring signal to an industry-standard telephone on a system-wide basis. Although the ringing stops at the industry-standard telephone when the time-out occurs, the system continues to present the call at the telephone for answering until the caller abandons it.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for time and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### ***IST DTMF Receiver Timeout***

**Description:** You can program the amount of time that the system waits to receive a DTMF tone from an industry-standard telephone, after the user has lifted the telephone's handset and before he or she has pressed a dial pad digit, on a system-wide basis. The system disconnects the telephone after this time-out occurs. If this happens, the user must hang up the handset and lift it again to re-establish the dial tone.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for time and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## ***IST Distinctive Ringing***

**Description:** An industry-standard telephone can sound one ring cadence for intercom calls and a different ring cadence for outside calls or it can sound the same ring cadence for both types of calls. You must select one of these ringing styles on a station class of service basis. All industry-standard telephones with the same class of service have the same ringing style.

**NOTE:** Do not enable distinctive ringing for voice mail ports.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select COS programming and press ENTER.
  4. Type class of service number (1–32) that corresponds with class of service assigned to the IST and press ENTER.
  5. From COS programming menu, type row number for IST distinctive ringing and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Press ESCAPE to end.

## ***IST Flash Time***

**Description:** You can program, on a system-wide basis, the timed length of the signal that results when a user of an industry-standard telephone presses and releases the telephone hookswitch (or presses the TAP button if available on his or her telephone). Often, a signal with a short time length (typically 500–750 ms) serves to alert the system to receive a feature code (flash) while a signal with a long time length (typically 1.5–2.0 sec) serves to disconnect the line and re-establish dial tone (recall). The value that you set with this procedure is the maximum value for recognizing a flash from an industry-standard telephone. You can also set the minimum value for recognizing a flash from an industry-standard telephone.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select timing and press ENTER.
  4. From timing menu, type item number for minimum flash time and press ENTER.
  5. Press SPACE bar for minimum time and press ENTER to accept setting.
  6. Press ENTER to select maximum flash time line item.
  7. Press SPACE bar for maximum time and press ENTER to accept setting.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## ***IST Ringing Per Phase***

**Description:** While the installer typically connects one industry-standard telephone per IST station port, he or she can connect two industry-standard telephones per IST station port; however, the telephones will share the same assigned intercom number. When he or she installs one telephone per port, you must set the IST ringing per phase feature to 16. When the installer places two telephones at any IST station port, you must change the IST ringing per phase feature to 8. A setting of 16 allows up to 48 industry-standard telephones per cabinet (main cabinet and expansion cabinet) to ring simultaneously. A setting of 8 reduces this simultaneous ringing total to 24 telephones per cabinet. This programming selection is on a system-wide basis.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters menu, and press ENTER.
4. From the system parameters menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ESCAPE once.
6. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## ***IST Ringing On Busy***

**Description:** You can program industry-standard telephones to provide a ringing on busy signal to users. With this feature, when an IST telephone is busy on a call and another call comes to that telephone, the system sounds three quick tone bursts in the telephone's handset receiver. If a user does not wish to hear the ringing on busy tones while he or she is busy on a call, you can take this programming action to eliminate it.

**Programming:**

1. From main menu, select stations and press ENTER.
2. From stations menu, select station programming and press ENTER.
3. Type personal intercom number or previously assigned name for IST and press ENTER.
4. From the station programming menu, type item number for feature and press ENTER.
5. Press SPACE bar to enable or disable feature (yes = enable, no = disable) and press ENTER.
6. Press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

## Internal IST Flash

**Description:** If industry-standard telephone users access an outside line using the line group feature and then they quickly press and release (flash) the telephone's hookswitch, the IST will react in one of two different ways depending upon how you program this feature.

- **With this feature disabled**, IST users can flash the hookswitch while on an outside line and generate a hookflash signal on the outside line; however, they cannot flash the hookswitch to obtain an intercom dial tone. The previous *Section 7.2.35* procedure titled, *IST Flash Time*, sets the hookflash signal time. This time determines whether the IST hookflash signal is long enough to recall the outside line dial tone or short enough to access the outside line features. Refer to the CO specifications for actual requirements.
- **With this feature enabled**, IST users can flash the hookswitch while on an outside line and obtain intercom dial tone; however, they must dial \*08 after they flash the hookswitch if they need to generate a hookflash signal on the outside line.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select COS programming and press ENTER.
  4. Type class of service number (1-32) that corresponds with class of service assigned to the IST and press ENTER.
  5. From COS programming menu, type row number for IST distinctive ringing and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Press ESCAPE to end.

## IST Ringing Patterns

**Description:** You can program the ringing pattern for either IST ring mode one or IST ring mode two. Mode one causes a two-second ring phase while mode two causes a shorter one second ring phase. For this feature to function properly, insure that the DXIST (industry-standard telephone interface board) contains firmware revision 2C or higher

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select system parameters and press ENTER.
  4. Select IST ring mode from the system parameters and press ENTER.
  5. Press SPACE bar to toggle between mode 1 (default) and mode 2.
  6. When finished, press ENTER.
  7. Press ESCAPE twice to end.

## ***IST Ring Frequency***

**Description:** The system will allow you to set a ring frequency of 25 Hz for international applications or set a ring frequency of 21 Hz for domestic applications. Choose a setting that matches the ring frequency of the installed ring generator.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. Select IST ring frequency from the system parameters and press ENTER.
5. Press SPACE bar to toggle between choices of 21 Hz and 25 Hz.
6. When finished, press ENTER.
7. Press ESCAPE twice to end.

### **7.2.36 Ring Back On Busy**

**Description:** In systems operating with software releases prior to 8.B, when someone calls another telephone and the calling party is busy on an outside line, the caller hears a ring back tone—not a busy tone. When the caller is using a non-display telephone he or she has no means of knowing the busy status of the called party. (Remember, LCD speakerphones display called party status—for details on this feature, see Section 7.1.39, *Allow Busy Display*.) With software release 8.B, you can take programming action that allows callers to hear a busy tone instead of a ring back tone when they call a party who is busy on an outside line.

**Programming:**

1. Press CONTROL T to return to the main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type the item number for feature and press ENTER.
6. Press SPACE BAR to choose setting( no = busy tone, yes = ring back tone) and press ENTER.
7. When finished press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **7.2.37 Line Out Softkey Option**

**Description:** Beginning with software release 9A, you can select between two different interactive button menu options that LCD speakerphones display when connected to outbound lines for outgoing calls. Specifically, this action substitutes a release (RLSE) button for the automatic redial (ARDL) button. This feature enhances DXP installations within the international community because some nations have specifications in place that disallow automatic redialing.

**Programming:**

1. Press CONTROL T to return to the main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type the item number for line out softkey option and press ENTER.
6. Press SPACE BAR to choose setting(CONF SAVE ARDL or CONF SAVE RLSE) and press ENTER.
7. When finished press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

## **7.3 Square/Non-Square System (Button Mapping By Station)**

**Description:** The system assigns certain functions to each of the station buttons as a default condition. Re-assign the button functions with this programming feature. You can assign functions at a first level or at a second level at each button. Assign functions at the first level that require status light feedback because the system does not provide status light feedback to buttons at the second level (press CONTROL N to display the second level). You can also use this procedure to map the buttons on a DSS/BLF console (press CONTROL N to display the console buttons) but first you must use the Section 7.2.26, *Console Installed*, procedure to assign the console to the station and name the console port.

**Programming:** To map the telephone buttons,

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select button mapping and press ENTER.
4. Type prime intercom number or previously assigned name and press ENTER.  
(Screen presents current button map for review.)
5. Type first level button code (L1–L25, 0–9) and press ENTER.
6. Type mnemonic of feature from list (below) and press ENTER. (Press and hold SHIFT and type ? for mnemonic definitions—press any key to return to button map.)

NOTE: If you press ENTER without first typing a mnemonic, the system “blanks” that button. Users can program “blanked” buttons as personal speed dial buttons.

7. Repeat steps 5 and 6 for all desired buttons.
8. Press CONTROL N and repeat steps 5 and 6 for second level (or DSS/BLF console).
9. Press ESCAPE and repeat steps 4–8 for each station.
10. When finished, press ESCAPE twice.

To map dial pad buttons with speed dial numbers,

1. Repeat steps 1 through 4 from the previous procedure.
2. Type dial pad button number (1–0) and press ENTER.
3. Type i for intercom, l for line, g for line group, or p for prime line or last line used, or a for automatic route selection and press ENTER.
4. Type 1–128 to choose line or type 1–16 to choose line group and press ENTER.
5. Type speed dial number (up to 16 digits) and press ENTER.
6. Repeat steps 1–4 for all desired dial pad buttons and then repeat steps 7–9 from the previous procedure.

### 7.3.1 Feature Mnemonic List

ACCT	(account code button): allows users to enter an account code
ALTRN	(alternate attendant button): places station in alternate attendant mode
ANSWER	(answer button): answers a ringing call
APAGE	(auxiliary page button): allows auxiliary page operation (model 8024S and 7700S—rev I and later)
ARD	(automatic redial button): redials last dialed number 10 times with one minute off time
ARECD	(auxiliary record button): allows auxiliary record operation (model 8024S and 7700S—rev I and later)
ARING	(auxiliary ring button): allows auxiliary ring operation (model 8024S and 7700S—rev I and later)
AUTH	(authorization code button): prompts for authorization code entry
BOTH	(both button): conferences current party with last party placed on hold
CAMP	(camp on button): engages camp on feature at busy station or line
CID	(caller ID button): sends caller ID RNA records to LCD
DND	(do not disturb button): enables/disables do not disturb mode
DPKUP	(directed call pick up button): picks up call ringing at another station
DSTAT	(DSS status button): selects station DSS status view (line and intercom or just intercom)
EXOVR	(executive override button): allows executive override of another station
FEATR	(feature button): use with feature code to access certain features
FWD-A	(forward all button): enable/disable all call forwarding
FWD-P	(forward personal button): enable/disable prime line and personal intercom call forwarding
FWDR A	(forward all RNA button): enable/disable all call after RNA forwarding
FWDR P	(forward personal RNA button): enable/disable prime line and personal intercom calls after RNA forwarding
GPLSN	(group listen button): allows group listen operation (digital multiline telephones)
GPKUP	(group pick up button): picks up a call that rings anywhere within a group of stations
HDST	(headset button): enables/disables headset mode
HOLD	(hold button): places current call on hold and scrolls list of held calls
ITCM	(intercom button): accesses personal intercom number
I####	(intercom number button): group intercom number or station DSS
LCDMS	(LCD messaging button): enables/disables LCD message feature
LNG##	(line group button 1–16): accesses one of 16 line groups
LN###	(line button 1–128): accesses one of 128 lines
LOCK	(lock button): prevents/allows station use (prevents station use until someone dials an authorization code)
MMEPG	(meet me page button): answers a page by meeting intercom paging party on line
MSGWT	(message waiting button): turns on/turns off message waiting light at another station
MUSC#	(music source button 1, 2): turns on/turns off background music
NIGHT	(night mode button): allows attendant to place system in night transfer (of ringing) mode
OAI##	(open architecture button): special Enterprise functions (used with Total Control PC Attendant and Enterprise Toolkit options)
OVERFL	(overflow button): turns on/turns off overflow mode
PAGE#	(paging zone button 1–8): allows group paging
PARK#	(park orbit button 1–9): parks and retrieves calls
PRVCY	(privacy button): releases privacy on line so another station can join a call
QUEUE	(queue button): queues station at busy line group to await idle line
RLSE	(release button): disconnects current call
RSP##	(response button 1–30, S = universal): sends response message to another station for SOHVA and message deposit
S-OBS	(service observe button): enables station to service observe another station
SAVE	(dynamic save button): saves last dialed number and line on which it was dialed
SDIAL	(speed dial): saves often dialed number at a button
SILNT	(silent ringer button): mutes ringing for current call
SOHVA	(SOHVA button): sends SOHVA to another station
SPLIT	(split button): allows station user to talk to two different parties
SRIAL	(serial call button): transfers a serial call to specified stations
SYST	(system status report button): indicates system status report
TAFS#	(night answer button 1–4, S= all calls): answers call indicated by system's ringing relay
TBUSY	(line test busy button): views status of busy line
TRACK	(Tracker pager activate button): sends message to pager display
VABLK	(voice announce block button): blocks/allows voice announcements
VOLSV	(save volume button): saves volume settings (digital multiline telephones)
XVM##	(transfer to voice mail button 1–32): transfers call to voice mail box when used with DSS button

*NOTE: Many of the feature buttons require programming action before they can function as described.*

## 7.4 Telephone Types (Phone Types)

**Description:** This programming feature allows you to identify the particular type of system telephone equipment that you or your installer will connect to each station port. You can also mark the station port equipment as undefined so that the system will not test the port for a specific type of equipment and will not include the port in any menu presentations. Also refer to Section 7.2.25, *Disabled*, for the procedure for disabling a station port.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. From station programming menu, select phone types and press ENTER.
  5. From the phone types menu, select desired equipment or none (for undefined) and press ENTER.

**NOTE:** Depending upon which equipment you choose, the system will present different sub-menus that allow you to further define the equipment as to the quantity of lines it can serve, whether it is a speakerphone, whether it is a DSS/BLF console, and other defining characteristics. Follow the sub-menu prompts and press ENTER after you have typed each selection.

6. Type the station port number (1-192) and press ENTER.
7. Press ESCAPE to end.

### ExecuTech Telephone Types

<u>DXP Menu List</u>	<u>Product Code</u>
23 Line	6620, 6620E, 6620S, 6620T,
22 Line	6614, 6614E, 6614S, 6614T
17 Line	6600E, 6600S
Proprietary Single Line	6701X
32-Button Console	DB32S
70-Button Console	DB70
ATI-X	ATI-X
OPX-X	OPX-X
VMI-X	VMI-X

### ExecuTech 67xx Telephone Types

<u>DXP Menu List</u>	<u>Product Code</u>
14 Line	6714S, 6714X
12 Line	6700S
6 Line	6706X
2 Line	6702X
SLPS w/ Autodials	6709A*
32-Button Console	EB32X

### Americom Telephone Types

<u>DXP Menu List</u>	<u>Product Code</u>
19 Line	7016S, 7116S, 7116X
10 Line	7010S, 7110S, 7110X
2 Line	7102X
Single Line	6701X
32-Button Console	not currently available
64-Button Console	XD64X
ATI-D-1PT	ATI-D-1PT

### Comdial Express Telephone Types

<u>DXP Menu List</u>	<u>Product Code</u>
19 Line	6116X, 6116S, 6016S
10 Line	6110X, 6110S, 6010S
2 Line	6102X
Proprietary Single Line	6701X
32-Button Console	XB32X
64-Button Console	XB64X
ATI-X	ATI-X
OPX-X	OPX-X
VMI-X	VMI-X

### DigiTech Telephone Types

<u>DXP Menu List</u>	<u>Product Code</u>
24 Line	7700S, 7714S, 7714X
	Rev H and later
22 Line	7714X, 7714S
	Rev H and earlier
17 Line	7700S
Single Line	7701X
32-Button Console	DD32X

### Impact Telephone Types

<u>DXP Menu List</u>	<u>Product Code</u>
24 Line	8024S, 8124S
12 Line	8012S, 8112S, 8112N
Single Line	8101N
64-Button Console	IB64X

### Wireless Telephone Type

<u>DXP Menu List</u>	<u>Product Code</u>
Wireless	900MX

\* Use the Section 7.3, *Square/Nonsquare System*, procedure to "blank" the 12 speed dial buttons on this telephone so that users can custom program them for personal use.

## ***7.5 Copy Model COS, Station, Button Map (Block Programming)***

### ***7.5.1 Block Programming, Class-Of-Service***

Description: Program some or all class-of-service categories to match the programming of a model class-of-service category.

Programming:

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the station menu, type item number for feature and press ENTER.
4. Select model COS by typing COS number 1-32 for source COS and press ENTER.
5. Type COS numbers of destination COS(s) (n,nn or n-nn) and press ENTER.  
Values of source COS is assigned to destination COS(s), and programming is ended.

### ***7.5.2 Block Programming, Station Features***

Description: Program some or all stations to have the same features as a model station. The system does not copy the following features from the model station:

- station name,
- intercom numbers,
- personal speed dial numbers,
- DSS/BLF console installed,
- console port,
- alternate attendant,
- overflow attendant,
- interactive button support.

Programming:

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the station menu, select model station and press ENTER.
4. Type personal intercom number or previously assigned name of source station and press ENTER.
5. Type personal intercom numbers or previously assigned names of destination stations (nnn,nnn or nnn-nnn) and press ENTER. Values of source station is assigned to destination stations, and programming is ended.

### ***7.5.3 Block Programming, Button Mapping***

Description: Program some or all stations to have the same button features as a model station.

Programming:

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From stations menu, type item number for feature and press ENTER.
4. Type personal intercom number or previously assigned name of source station and press ENTER.
5. Type personal intercom numbers or previously assigned names of destination stations (nnn,nnn,or nnn-nnn) and press ENTER.  
Button map of source station is assigned to buttons of destination stations, and programming is ended.

**8**

**Programming Line Features**

- Line Programming . . . . . 8.1
- Line Group Programming . . . . . 8.2
- Copy Model Line (Block Programming, Line) . . . . . 8.3
- Direct Inward Dialing (DID) Support . . . . . 8.4
- Ground Start Line Support . . . . . 8.5
- Loop Start Line Support . . . . . 8.6
- Tie Line Support . . . . . 8.7
- Direct Inward System Access Programming . . . . . 8.8
- Programming The T1 Parameters . . . . . 8.9

## 8.1 Line Programming

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### 8.1.1 Line Name

**Description:** You can assign a name to a line. A name shows in the display of an LCD speakerphone as a identification aid. A valid name is composed of any seven alpha-numeric characters but the first character must be an alphabetic character.

**Programming:** To assign a name to a line,

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From lines menu, select line programming and press ENTER.
4. Type line port number 1-128 number or previously assigned name and press ENTER.
5. From line programming menu, type item number for feature and press ENTER.
6. Type name (a-z, A-Z, 0-9) and press ENTER. A name can be up to seven characters long.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each line port or press ESCAPE to end.

### 8.1.2 Line Type

**Description:** Condition the line port as to the type of line or function that the port serves.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From lines menu, select line programming and press ENTER.
4. Type line port number 1-128 or previously assigned name and press ENTER.
5. From the line programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting and press ENTER to accept setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each line port or press ESCAPE to end.

### ***Ground Start Line***

Refer to Section 8.5, *Ground Start Line Support*, for a discussion about ground start lines.

### ***Loop Start Line***

Refer to Section 8.6, *Loop Start Line Support*, for a discussion about loop start lines.

### ***E&M Tie Line***

Refer to Section 8.7, *Tie Line Support*, for a discussion about E&M tie lines.

### ***DID Line***

Refer to Section 8.8, *Direct Inward System Access (DISA) Programming* for a discussion about DID lines.

### ***Auxiliary Port***

If you type-name a line port as an auxiliary port, you condition the line port to interface with external paging equipment instead of a telephone line.

## ***E&M DNIS Line***

**Description:** Dialed Number Identification Service (DNIS) is a T1 service feature for E&M lines. Long distance carriers offer DNIS as a feature to dial 800 and dial 900 lines. DNIS identifies the numbers that callers dial to reach an internal telephone system. Businesses served by a dial 800 or dial 900 service allow calls to ring on any available line within an assigned block of lines and then have their internal telephone system process the DNIS information to route the calls to their proper destinations.

The common carrier supplies DNIS information as DTMF digits. When the DNIS feature is combined with the Automatic Number identification (ANI) feature, the common carrier delimits the ANI information from the DNIS routing information with the asterisk (\*) tone so that the DXP system can process each portion properly.

The DXP uses information that you program in the DID/DNIS translation table to route the call to the proper intercom number. The system also sends the called number information to the SMDR/SMDA line report and makes the information available to devices that are connected to the DXP's Open Architecture Interface (OAI).

As a single service, if the call routes to an LCD speakerphone, the speakerphone's display shows the name that you programmed in the DID/DNIS translation table. If you have programmed no name there, the display shows the DNIS/DID block name that you assigned to the DID/DNIS block. If you have programmed no name there, the display shows the processed DNIS digits. (As a DNIS/ANI combined service, the display shows the processed ANI digits.)

E&M DNIS lines access the Direct Inward System (DISA) feature when the DNIS digits translate into the DISA access code.

Since the DXP system supports the DNIS only on tone dial lines, it supports both wink start and delay start protocols but does not support the immediate start protocol.

**Programming:** Program the line type to be E&M DINS using the Section 8.1.2, *Line Type*, procedure.  
Program the E&M DNIS tie line attributes using the Section 8.4.3, *DID/DNIS Programming*, procedure.  
Program the DID/DNIS translation table using the Section 8.4.4, *DID/DNIS Translation Table*, procedure.

### **8.1.3 Line Disable**

**Description:** Take a line port out of service because of defect or other reason using this programming choice.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select lines and press ENTER.
  3. From line menu, select line programming and press ENTER.
  4. Type line port 1-128 or previously assigned name and press ENTER.
  5. From line programming menu, type item number for feature and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-8 for each line port or press ESCAPE to end.

### **8.1.4 Music Or Tone On Hold**

**Description:** With this feature enabled, the system will supply music, tone bursts or other audio information to callers while they are on hold. The music or information source is external to the common equipment and is customer supplied. The system will accept two music sources. You can use one source for this feature and the other source for the background music feature discussed in Section 7.1.3, *Background Music*. When the system supplies tone bursts to callers while they are on hold, it sounds two .1 second long tone bursts separated by a .1 second interval of silence. It repeats this tone burst sequence every 5 seconds.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select lines and press ENTER.
  3. From the lines menu, select line programming and press ENTER.
  4. From line programming menu, type item number for feature and press ENTER.
  5. Press SPACE bar for feature setting.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  8. Repeat steps 4-7 for each line or press ESCAPE to end.

### **8.1.5 Ringback On Transfer**

**Description:** Beginning with software release 8C, installers have the ability to control what outside parties hear while the system transfers their calls to an internal extension. Prior to this software release, outside parties hear whatever the music on hold source provides. With software release 8C, programmers can select ringback tone in place of music on hold on a per line basis.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From the lines menu, select line programming and press ENTER.
4. Type line port number (1–128) or name and press ENTER.
5. From line programming menu, type item number for ringback on transfer and press ENTER.
6. Press SPACE bar for feature setting and press ENTER.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
8. Repeat steps 4–7 for each line or press ESCAPE to end.

### **8.1.6 Automatic Privacy (Privacy Release)**

**Description:** Assign privacy release to a line so that a user can press the privacy button on his or her telephone and change a private line into a non-private one as needed. When a line is private, a station user has exclusive use of it during a call. Also refer to the Section 7.3, *Square/Nonsquare System—Button Mapping By Station*, procedure to map a privacy button on the user's telephone.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select lines and press ENTER.
3. From the lines menu, select line programming.
4. Type line port number (1–128) or name and press ENTER.
5. From the line programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for desired feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each line port or press ESCAPE to end.

### **8.1.7 SMDR Record**

**Description:** When you enable this feature, the system stores SMDR records for the specified line. Refer to Section 10, *SMDA/SMDR Programming*, for other SMDA/SMDR programming considerations.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select lines and press ENTER.
  3. From lines menu, select line programming and press ENTER.
  4. Type line port number (1-128) or name and press ENTER.
  5. From line programming, type item number for feature and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-8 for each line port or press ESCAPE to end.

### **8.1.8 Cost Incoming**

**Description:** If you have arranged for the system to cost calls, you can arrange for it to also cost incoming calls on a per line basis. You can arrange for the costing to begin as soon as the call arrives in the system, begin after the user answers the call or begin after a programmed delay. Plus, you can pick the call rate table that you want the system use when it costs the call. Refer to Section 12, *Enabling Automatic Route Selection*, for other automatic route selection programming considerations.

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select lines and press ENTER.
  3. From the lines menu, select line programming.
  4. Type line port number (1-128) or name and press ENTER.
  5. From the line programming menu, type item number for feature and press ENTER.
  6. From cost incoming prompt, press SPACE bar for desired feature setting and press RETURN.
  7. From incoming cost delay prompt, press SPACE bar for desired feature setting and press ENTER.
  8. From incoming cost route prompt, type 1-32 for desired rate table.
  9. When finished, press ESCAPE twice.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4-8 for each line port or press ESCAPE to end.

### 8.1.9 **Pad Level—Transmit, Receive** (Gain And Attenuation Settings For Line Transmit And Receive)

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**Description:** This feature enhances the DXPT1 digital carrier transmission option, the pad level programming feature adjusts voice levels for both the transmit and receive circuits in the individual channels.

The choices include: Gain 2, Gain 1, Nominal, Loss 1, Loss 2, Loss 3, Loss 4, and Loss 5. These settings provide an approximate +6 to -15 dB range of choices. Starting at the Nominal setting, each gain level represents an approximate 3 dB amplification of the signal level from the previous setting, and each loss level represents an approximate 3 dB attenuation of the signal level from the previous setting. Because digital transmission does not lose volume level as readily as analog transmission does, it is likely that the receive level may be noticeably higher when using the T1 option. Therefore, you may need to select a low setting such as Loss 2 for the voice level receive parameter when programming this feature for T1 lines that are being used exclusively for voice transmission. Further, if you choose a setting to increase the receive gain, you should carefully examine speakerphone operation. It is possible to select a receive gain that will, under certain conditions, interfere with proper speakerphone operation.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From the lines menu, select line programming and press ENTER.
4. Type line port number (1–128) or name and press ENTER.
5. From line programming menu, type item number for pad level—transmit and press ENTER.
6. Press SPACE bar for feature setting and press ENTER for pad level—receive.
7. Press SPACE bar for feature setting.
8. Press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Repeat steps 3–9 for each line or press ESCAPE to end.

### 8.1.10 **Pad Level—DISA** (Gain Setting For DISA Lines)

**Description:** Callers that use the DISA feature to access a trunk group and place calls (trunk-to-trunk calling) may experience low audio levels on their calls due to the normal line resistance of CO lines. While low audio level is usually only noticeable on long line loops. Software 8C adds +3dB of gain to the DISA lines as a default setting, and provides a means for you to disable this gain if necessary. The software enhancement also provides a means by which DISA callers can preselect the gain on a DISA line before they select the line for use. They can dial a code to select either 0dB, +3dB, or +6dB of gain.

*NOTE: The unamplified line-to-line DISA connections often exhibit low audio levels due to double loop copper losses. While adding gain to these connections will sometimes improve audio signal levels, the added gain may also result in circuit instability in some connections. This instability presents itself as a singing sound that can interfere with dialing or voice communications. If callers experience dialing problems or hear singing in their calls, you may need to disable the pad level for the DISA line or they may need to select a lower gain setting for use.*

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select lines and press ENTER.
  3. From the lines menu, select line programming and press ENTER.
  4. Type line port number (1-128) or name and press ENTER.
  5. From line programming menu, type item number for pad level—DISA and press ENTER.
  6. Press SPACE bar for feature setting and press ENTER
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-7 for each line or press ESCAPE to end.

### ***8.1.11 Dialing Mode***

**Description:** Program the line port to match either a DTMF tone or a rotary (pulse) dialing line as supplied by the central office (CO).

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select lines and press ENTER.
  3. From lines menu, select line programming and press ENTER.
  4. Type line port number (1–128) or name and press ENTER.
  5. From line programming menu, type item number for feature and press ENTER.
  6. Press SPACE bar for feature setting and press ENTER to accept setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4–8 for each line port or press ESCAPE to end.

### ***Pulse Dial Make/Pulse Dial Break (Pulse Dial Ratio)***

**Description:** Use this procedure to set the make/break ratio for rotary dial signalling to match rotary dial line requirements. You can set the line make/break ratio for rotary dial (pulse dial) signalling in a more flexible manner to match many different rotary dial line requirements. You can set the make time and the break time independently in one msec. increments to any time from one to 99 msec.

- Programming:**
1. Press CONTROL T for main menu,
  2. From main menu, select system and press ENTER.
  3. From system menu, select timing and press ENTER,
  4. From timing menu, type item number for line pulse make and press ENTER.
  5. Type desired time (1–99) and press ENTER,
  6. From timing menu, type item number for line pulse break and press ENTER.
  7. Type desired time (1–99) and press ENTER.
  8. Press ESCAPE twice,
  9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### ***Pulse Dial Interdigit Time***

**Description:** You can set the interdigit time between dial pulses when the system pulse-dials a number over a line. The DXP defaults this time to 200 msec. and provides a range of timing values between 100 msec. and one sec. that you can set in 100 msec. increments.

- Programming:**
1. Press CONTROL T for main menu,
  2. From main menu, select system and press ENTER.
  3. From the system menu, select timing and press ENTER.
  4. From timing menu type item number for feature and press ENTER.
  5. Press SPACE bar to select desired time and press ENTER to select setting.
  6. Press ESCAPE twice,
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **8.1.12 Abandon Hold Release**

**Description:** When a distant party abandons a hold condition and his or her station disconnects from the line, the central office sends a forward disconnect signal to the system. This signal is either 50 or 350 msec. in length. Use this procedure to program the line port to match the central office signal length.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From lines menu, select line programming and press ENTER.
4. Type line port number (1-128) or name and press ENTER.
5. From line programming menu, type item number for feature and press ENTER for feature.
6. Press SPACE bar for feature setting and press ENTER to accept setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each line port or press ESCAPE to end.

### **8.1.13 Positive Disconnect Time**

**Description:** When a station drops a line after its user has finished using it, the system waits a programmable length of time before it allows another station to access that line. This time delay helps prevent such conditions as call-collision. The system holds the line status light on during the time out period.

**Programming**

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From lines menu, select line programming and press ENTER.
4. Type line port number 1-128 or previously assigned name and press ENTER.
5. From line programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting and press ENTER to accept setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each line port or press ESCAPE to end.

### **8.1.14 Toll Groups**

**Description:** You must identify the individual lines that you do not want users to use when they dial toll restricted numbers. Do this by first assigning the lines to toll groups and then assigning those toll groups to the restricted number. There are 32 toll groups available for line assignment. Assign one, several, or all lines to any desired toll group or combination of toll groups as needed. See Section 11, *Programming Toll Restriction*, for complete toll restriction programming details.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From lines menu, select line programming and press ENTER.
4. Type line name or line number and press ENTER.
5. From line programming, type item number for toll group and press ENTER.
6. Type line number (1-128) and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Press ESCAPE to end..

### **8.1.15 DTMF Level**

**Description:** Adjust the audio level of the DTMF signals to a low (-5 db), medium (0 db), or high (+3 db) setting. Certain sites may require a higher db level to overcome line conditions that could interfere with reliable dialing such as a long loop distance to the central office.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select line and press ENTER.
3. From line menu, select line programming and press ENTER.
4. From line programming menu, type item number to select feature and press ENTER.
5. Press SPACE bar for desired setting and press ENTER.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
8. Repeat steps 4-7 for each line or press ESCAPE to end.

### **8.1.16 Busy Lead Detection (Auxiliary Equipment Interface)**

**Description:** When you enable this feature, the system can detect an off-hook condition in a telephony device such as a modem, FAX machine, industry-standard telephone, or similar device that an installer has connected to a line ahead of the system. When the system detects the off-hook condition, it makes a busy indication appear at system stations that have this line appearance.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select lines and press ENTER.
3. From the lines menu, select line programming and press ENTER.
4. Type line port number (1-128) or name and press ENTER.
5. From the line programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each line port or press ESCAPE to end.

### **8.1.17 Disconnect Supervision**

**Description:** When you enable this feature, the system detects a break in loop current anytime one occurs during an outside call.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From lines menu, select line programming and press ENTER.
4. Type line port number (1-128) or name and press ENTER.
5. From line programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each line port or press ESCAPE to end.

## **7.1.11 Camp-On Programming**

### ***Camp-On Originate, Camp-On Receive (Camp-On/Call Back)***

**Description:** If a busy tone or a ring no-answer is encountered when one station calls another, the calling station user can initiate a camp-on to the busy station and wait for it to become idle or initiate an automatic callback when the called station becomes available. Use this procedure to enable this feature for a class of service of stations. Also, use the Section 7.1.8, *Call Waiting Tone*, procedure to enable a call waiting tone, and use Section following *Camp-On/Automatic Call Back Ring* and *Camp-On Tone* procedures to set the duration of the camp-on/automatic callback ring and the duration of a call waiting tone that the system sends to a busy station.

**Programming:** To arrange for station to initiate and receive camp-on to another station.

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for camp-on initiate and press ENTER.
6. From COS programming menu, type item number for camp-on receive and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### ***Camp-On/Automatic Call Back Ring***

**Description:** After you use the Section 7.1.8, *Call Waiting Tone*, procedure to enable a call waiting tone, use this procedure to set the duration of the camp-on/automatic ringback ring that the system sounds when it returns a camp-on call to the original station..

**Programming:**

1. Press CONTROL T for main menu.
2. Form main menu, select system and press ENTER.
3. From system menu, select system timing and press ENTER.
4. From the system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for time and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### ***Camp-On Tone***

**Description:** Use this procedure to set the duration of the call waiting tone that the system sends to a busy station.

**Programming:**

1. Press CONTROL T for main menu.
2. Form main menu, select system and press ENTER.
3. From system menu, select system timing and press ENTER.
4. From the system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## **7.1.12 Do Not Disturb Programming**

### ***Do Not Disturb Inhibit***

**Description:** This feature prevents a station from entering the do-not-disturb mode of operation.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### ***Do Not Disturb Override***

**Description:** This feature allows a station to override a do-not-disturb condition at another station.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

**Operation:** Make intercom call, hear DND tones, dial \* 03

### **7.1.13 Exclusive Hold**

**Description:** When you enable this feature, it prevents a telephone user at one station from picking up a call that someone placed on hold at another station.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select COS programming and press ENTER.
  4. Type class of service number (1-32) and press ENTER.
  5. From COS programming menu, type item number for feature and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-8 for each COS or press ESCAPE to end.

### **7.1.14 Executive Override Programming**

#### ***Executive Override (Enable or Disable)***

**Description:** You can program a class of stations so its users have the ability to override a busy or a do not disturb condition at other stations.

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select stations and press ENTER.
  3. From the stations menu, select COS programming and press ENTER.
  4. Type class of service number (1-32) and press ENTER.
  5. From the COS programming menu, type item number for feature and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-8 for each COS or press ESCAPE to end.

**Operation:** Make intercom call, hear DND tones, dial S 03

#### ***Executive Override Block***

**Description:** Use this procedure to arrange a station class of service that blocks executive overrides.

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select stations and press ENTER.
  3. From the stations menu, select COS programming and press ENTER..
  4. Type class of service number (1-32) and press ENTER.
  5. From COS programming menu, type item number for feature and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-8 for each COS or press ESCAPE to end.

## ***Periodic Executive Override Tone***

**Description:** The executive advisory tone allows you to configure the system to provide an audible tone whenever a system user activates the executive override feature. You can enable this feature with a station class of service programming action (Section 7.1.48, *Executive Override Advisory Tone*) as either a one time tone or as a periodic reoccurring tone. If you choose a reoccurring tone, you must use the procedure herein to select the time interval between the reoccurring tones. Also refer to Section 6.10.19, *Location Code*.

**Programming:**

1. Press CONTROL T for main menu,
2. From main menu, select system and press ENTER.
3. From the system menu, select timing and press ENTER,
4. From timing menu type item number for periodic conference tone and press ENTER,
5. Press SPACE bar to select desired time and press ENTER to select setting.
6. Press ESCAPE twice,
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **7.1.15 Idle Line Programming**

#### ***Idle Line Preference***

**Description:** With you enable this feature, a station automatically connects to an idle line when the user lifts the telephone's handset.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. Fro COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

#### ***Idle Line Priority***

**Description:** If you use preceding *Idle Line Preference* procedure to give a station the ability to automatically connect to an idle assigned line when the user takes the handset off-hook, take this *Idle Line Priority* programming action to set the priority in which the system chooses the idle lines for use. You can place up to eight lines in this priority list.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type any eight line numbers 1-128 (type as n,nn,nnn or n-*nnn*) and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each station or press ESCAPE to end.

### **7.1.16 IST Distinctive Ringing**

**Description:** An industry-standard telephone can sound one ring cadence for intercom calls and a different ring cadence for outside calls or it can sound the same ring cadence for both types of calls. You must select one of these ringing styles on a station class of service basis. All industry-standard telephones with the same class of service have the same ringing style. See Section 7.2.35, *Industry-Standard Telephone Support*, for other industry-standard telephone programming requirements.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1–32) that corresponds with class of service assigned to the IST and press ENTER.
5. From COS programming menu, type row number for IST distinctive ringing and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Press ESCAPE to end.

### **7.1.17 LCD Messaging**

**Description:** This procedure enables a class of service messaging feature. It allows station users to set a message at their stations that will be displayed on calling LCD speakerphones. You can use the second part of this procedure to program the actual LCD messages. Alternately, The attendant can program the LCD messages using procedures found in the attendant guide. Also refer to Section 6.3.2, *Message Deposit*.

**Programming:** To enable feature for class of service,

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu Type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

To program LCD Messages,

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, type item number for feature and press ENTER.
4. From LCD messages menu, type selection (1–10) and press ENTER.
5. Type message and press ENTER. Message can be 16 characters long.
6. Repeat steps 4 and 5 for all messages. Press CONTROL N for more LCD message lines.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **8.1.18 Caller ID Active**

**Description:** When caller identification (ID) information is available from the central office, take this programming action to match the line port to the feature. You must also assign the caller ID lines to the stations and assign special-purpose station buttons to control the feature. Refer to Section 14.1, *Caller ID Programming*, for complete caller ID programming details.

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select lines and press ENTER.
  3. From the lines menu, select line programming and press ENTER.
  4. Type line port number (1–128) or name and press ENTER.
  5. From the line programming menu, type item number for feature and press ENTER.
  6. Press SPACE bar for feature setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4 through 8 for each line port or press ESCAPE to end.
  10. Assign caller ID lines to stations—refer to Sections 7.1.32, *Line Answer*, and 7.1.33, *Line Originate*, for details.
  11. Assign caller ID button (mnemonic CID) and SAVE button (mnemonic SAVE) to stations (refer to Section 7.3, *Square/Nonsquare System—Button Mapping By Station*, for details).

### **8.1.19 Voice Mail ID**

**Description:** You can assign an identification number to each line so that the voice mail system can provide customized call handling on a per line basis. Use voice mail system programming to match this ID number to a particular personal directory or transaction box within the voice mail system. When the DXP routes a call that is ringing at a particular line to the voice mail system to be answered, it routes it with the ID number. The voice mail system then sends the call to the box that corresponds to the line's ID number. You can use voice mail system programming to construct customized answering prompts for the individual boxes. This allows the IDed DXP lines to be answered in a customized manner by the voice mail system's automatic attendant. Refer to Section 14.5, *Voice Mail Programming*, for complete voice mail programming details.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select line and press ENTER.
  3. Type port number of line to be programmed (1–128) and press ENTER.
  4. From the line menu, select item number for feature and press ENTER.
  5. Type the identification (ID) number and press ENTER.
  6. Press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  8. Repeat steps 3–7 for each line or press ESCAPE to end.

## **8.1.20 DISA And DISA Voice Options**

**Description:** Use the following programming instructions to enable or disable DISA capability on lines 1 through 240. Also, use the DISA Voice Options 1 through 4 to select digital voice announce (DVA) messages. For example, selecting DISA voice option 2 will cause welcome greeting 2, day main menu 2, night main menu 2, recall no answer 2, and recall busy 2 prompts to play whenever a DISA line is covered by DVA. Refer to Section 14.3, *Digital Voice Announce Programming*, for complete DVA programming details.

**Programming**

1. Press CONTROL T for main menu.
2. From main menu, select Lines and press ENTER.
3. From the lines menu, select Line Programming and press ENTER.
4. Enter line number you want to program and press ENTER.
5. From the line (number) programming menu (page 2), select DISA and press ENTER.
6. Toggle the SPACE bar to select/deselect DISA and press ENTER.
7. Enter 1 through 4 for the DISA Voice Options and press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Enter the number for the next line you want to program or press ESCAPE to end.

## **8.2 Line Group Programming**

**Description:** Use this procedure to group similar type line ports together for dial-up access. Up to 16 different line groups are available. During operation, the system searches for an idle line in the line group in the same order that you program them using this procedure.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From lines menu, select line group programming and press ENTER.
4. Type line group number (1-16) and press ENTER.
5. From line group programming menu, type a to add lines, r to remove lines, or c to change name of line group and press ENTER.
6. Type line to be removed, added or changed, then press ENTER.
7. When finished, press ESCAPE.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-7 for each line port or press ESCAPE to end.

### **8.2.1 Line Group Access**

**Description:** Use this procedure to give a station access to line groups.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Type line groups (1-16, 0 = none, type as n,n,nn or n-*nn*) and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

## **8.2.2 Line Group Queuing**

**Description:** Use this procedure to give a station the ability to queue for a busy line group.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select station and press ENTER.
3. From station menu, select COS programming and press ENTER.
4. From the COS programming menu, type item number for feature and press ENTER.
5. When finished, press ESCAPE twice.
6. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
7. Repeat steps 4-8 for each COS or press ESCAPE to end.

## **8.3 Copy Model Line (Block Programming, Line)**

**Description:** Program some or all line ports to have the same programming as a model line port.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select lines and press ENTER.
3. From the lines menu, select model line and press ENTER.
4. Type line port number (1-128) or name of model line to be copied and press ENTER.
5. Type line port numbers of lines to match model and press ENTER.  
(Type line port numbers as n,n,nn or n-nn. )
6. Press ESCAPE to end.

## 8.4 Direct Inward Dialing (DID) Support

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The DID line board (DXPCO-DD4 and DD8) allows incoming CO calls to reach internal DXP intercom extensions by direct dialing. No attendant assistance is necessary. Since DID lines are incoming only, their direct appearance is limited to attendant stations where status indication may be useful. DID operation requires a group of published directory numbers (400 maximum) provided by the telephone company central office (CO). These directory numbers are incoming only and the DXP translates them to the appropriate personal or group intercom number for ringing. The lines will accept outgoing DTMF digits during a call to support personal identification number dialing and similar uses.

The DXP handles DID calls in the same manner that it handles regular intercom calls and will forward them via a hunt list or a call forwarding scheme. An unanswered DID call will either continue to ring or route to a programmed ring no-answer (RNA) destination. If neither forwarding nor RNA is available, the system provides no routing.

The system returns a ringback signal to DID callers when a called station is in the do not disturb (DND) mode.

The system returns an off-hook indication to the CO when a DID line is disabled. The DXP synchronized ringing feature does not have any affect on DID calls, and the Caller ID feature is not available.

The DID line is a reverse-battery, loop-start, two-wire voice circuit. (The term reverse battery means that it is the DXP and not the CO that provides tip and ring supervisory battery for the loop.) The DXP sends and receives all supervisory and voice signals across the voice pair and provides all necessary signal control at its line interface. In the idle state, the loop is open at the CO end, with the DXP maintaining on-hook battery polarity on the circuit. The CO requests service from the DXP by applying a resistance across the line causing a current flow to occur. The DXP recognizes the current flow as a CO connection and prepares for the incoming call. The CO does not send ringing since the DXP generates it internally and sends it to the stations.

After the DXP receives all of the address digits, it translates them based on the appropriate DID block translation table and attempts to place the call to the desired station. To assure that the caller will always hear ringback prior to the call being answered (for example, when answered by voice mail), the system delays the station ringing until it applies ringback tone.

The called station sounds a distinctive ringing based on the ring code in the translation table. If the translation table has a name for the CO digit sequence that the DID call is on, the LCD of the called station displays that name. Otherwise, the station displays the DID block name followed by a portion of the CO digit string. If there is neither CO digit string name nor DID block name programmed, the station displays the CO digit string alone. If an incoming call is for either an unassigned or an uninstalled station, the DXP routes the call to the DID block alternate extension. If the DID Block alternate extension is unavailable, the DXP routes the call to the Dial 0 attendant. If the Dial 0 attendant is unavailable, the DXP returns reorder tone to the caller.

The DXP returns call progress signals to the CO in the interval after it receives address signalling and before it answers. It does this within 1.5 seconds after completion of address signalling.

When a called station answers a DID call, the DXP sends answer supervision to the CO by applying reverse polarity to the line. The DXP maintains this polarity reversal until either the station goes on-hook or the CO opens the loop.

The CO signals a line disconnect condition to the DXP by opening the loop. When the DXP detects the CO disconnect, it returns the line to idle polarity and changes the line from busy to idle. The DXP signals a line disconnect condition to the CO by returning the supervision battery polarity to the on-hook state. While immediate start lines return to idle at once, wink and dela tart lines maintain busy status until the DXP detects CO release.

## **8.4.1 Direct Inward Dialing Line Examples**

Example 1:

Jenny's Bakery has the following CO numbering blocks:

555-3600 to 555-3619,

555-4520 to 555-4539,

555-1200 to 555-1399.

It will receive the 36nn and 45nn calls through CO lines 1–5 and the 1nnn calls through CO lines 6–8. The system requires two DID blocks for use: block one for CO lines 1–5, and block two for CO lines 6–8. The numbers in DID block one have two unique digits and the numbers in DID block two have three unique digits. Assume that DID block one is configured as wink start, tone dial, has a 2-digit string, and is named SALES. Assume DID block two is configured as delay start, tone dial, has a 3-digit string, and is named SERVICE.

Example 2:

Ed's Telephone Mart starts with 20 CO numbers 555–2320 to 555–2339. Only one DID block is used and is configured as wink start, pulse dial, with a 2-digit string. As the company grows, they add another 20 CO numbers 555–3420 to 555–3439. You cannot simply add these numbers to the existing DID block translation table. This is because a 2-digit string will not uniquely specify which number was dialed. You must either treat these two CO blocks as two different DID blocks or increase the expected digit string quantity to three.

### **CAUTION**

***Increasing the expected digits for a DID translation block deletes all entries in that block, and you must reprogram the table.***

## **8.4.2 DID Options**

### ***DID/DNIS Block Name***

**Description:** Choose a 7-character name to associate with each DID/DNIS block.

**Programming:** Refer to Section 8.4.3, *DID/DNIS Programming*.

### ***DID Control Signalling***

**Description:** Decide upon which address supervision signalling protocol that you will use. This decision will depend upon the type of supervision that is compatible with the CO requirements.

**Immediate Start:** Use this protocol for rotary (pulse dial) lines. With this protocol, the CO will not expect address supervision signalling and may begin pulsing the dialing digits as soon as 65 msec. after it connects to the line.

**Wink Start:** With this protocol, the CO will expect address supervision signalling. After the CO connects to the line, the DXP will reverse the polarity of the line for a period of 200 msec when it is ready to receive digits (that is, the DTMF receiver is available for tone dial lines). This “wink” signal indicates to the CO that the DXP is ready to receive incoming digits. After the wink occurs and the line polarity returns to normal, the CO will begin sending the dialing digits. If the CO does not see the wink within 4 to 8 seconds (heavy traffic timings), it may route the call to network reorder or retry the call on another line. Typically, a CO will try to dial two times. A second failure will result in network reorder. Wink start protocol is the best choice for its combination of integrity checks and retrial capabilities.

**Delay Start:** With this protocol, the CO will expect address supervision signalling. Approximately 100 msec. after the CO connects to the line, the DXP will reverse the polarity of the line for a period of at least 140 msec. It will hold this reversal until it is ready to receive incoming digits. At that time, it will return the polarity to normal. After the line polarity returns to normal, the CO will begin sending the dialing digits. If the CO does not see the line polarity return to normal within 4 to 8 seconds, it will route the call to network reorder. There is no requirement for the CO to retry failures on lines with delay dial signalling.

**Programming:** Refer to Section 8.4.3, *DID/DNIS Programming*.

### ***Expected CO Digits***

**Description:** Obtain a block of numbers for use from the CO. The DXP supports a maximum of 400 numbers (for example, 555-1000 through 555-1399). You can have a maximum of four DID blocks with each DID block using its own name, signalling protocol, digit addressing method and number of digits needed to avoid numbering conflicts. As a default, the system assigns all DID lines to block one. A DID block represents a group of lines that the system will use to receive calls for one or more CO directory number blocks.

*NOTE: You will derive maximum user convenience if you choose the CO block to match the intercom numbers that you have assigned to the DXP system. (For example, if your intercom numbers are 1000-1399, they would match the sample CO block.)*

Determine the quantity of unique digits in the string that you expect to receive from the CO. The number of digits expected should be large enough to avoid numbering conflicts within a DID block and provide future growth. In the case of the CO block mentioned above, the quantity of unique digits is three to cover 1000 through 1399. If the CO block was 555-1100 through 555-1192, the string quantity would be two to cover 00 through 192.

**Programming:** Refer to Section 8.4.3, *DID/DNIS Programming*.

### ***Dialing Mode***

**Description:** Based upon the system's expected incoming call volume and recommendations and requirements of the CO, determine whether the CO will send address digits by DTMF tones or by loop pulse (rotary) dialing. (Always choose DTMF tones if possible.)

**Programming:** Refer to Section 8.4.3, *DID/DNIS Programming*.

### ***ANI Delivery***

**Description:** Enable or disable the DXP to process ANI information that is delivered by the long distance common carrier as a T1 feature on dial 800 and dial 900 lines. Refer to Section 8.7.4 for details about the ANI feature.

**Programming:** Refer to Section 8.4.3, *DID/DNIS Programming*.

### ***DISA Voice Options***

**Description:** Use the DISA Voice Options 1 through 4 to select digital voice announce (DVA) message levels. For example, selecting DISA voice option 2 will cause welcome greeting 2, day main menu 2, night main menu 2, recall no answer 2, and recall busy 2 prompts to play whenever a DISA-configured DID line is covered by DVA. Refer to Section 16, *Digital Voice Announce Programming*, for complete DVA programming details.

**Programming:** Refer to Section 8.4.3, *DID/DNIS Programming*.

### ***DID Alternate Routing***

**Description:** Use this procedure to select an attendant station to serve as an alternate routing station. The system will route DID calls to this station if it cannot find the digits it receives from the CO in the translation table. The system will ring this station with a distinctive ring tone or pattern that you program. If you do not select an attendant station with this procedure, the system routes the call to the dial 0 station. If the dial 0 station is not available, the system returns a reorder tone to the caller.

**Programming:** Refer to Section 8.4.3, *DID/DNIS Programming*.

### 8.4.3 DID/DNIS Programming

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, type the selection for lines and press ENTER.
  3. From the lines menu, type the selection for DID/DNIS block programming and press ENTER.
  4. From the DID/DNIS block prompt line, type the DID/DNIS block number and press ENTER.
  5. From the DID/DNIS block programming menu, select options, and press ENTER.
  6. From the options menu, set the parameters for the DID/DNIS block that you are programming:

Name                      Type up to seven characters and press ENTER.

*NOTE: End the DID/DNIS block name with a space if you desire a blank space between the name and the CO digits when they show on an LCD speakerphone's display. Also, the number of CO digits that will show in the display is dependent on the length of the DID/DNIS block name.*

Control Signalling	Press SPACE bar for protocol choice and press ENTER.
Expected Digits	Type quantity (0-7) of digits and press ENTER.
Dialing Mode	Press SPACE bar for choice and press ENTER.
ANI Delivery	Press SPACE bar for Yes or No and press ENTER.
DISA Voice Options	Type DVA message identification number (1-4) and press ENTER.
Alternate Routing	Type intercom number (up to four digits) for station to handle misdialled calls.
Ring Code	Type code (1-8) to specify the ringing pattern for calls to the alternate station.

7. When finished, press ESCAPE.
8. Type y to accept changes, n to reject them, or r to resume editing then press ENTER to return to the DID/DNIS block programming menu.

*NOTE: If you save the changes and you have changed the expected digits value, additional prompts may appear.*

## **8.4.4 DID/DNIS Translation Tables**

**Description:** When you initialize a translation table, you must first enter the string of CO digits that you obtain from the telephone company. Then you must enter the intercom number that you want to match with the first CO digit sequence in the string. With this, the system automatically matches the remainder of the CO digit string to consecutive intercom numbers beginning with the one that you entered. You can edit the translation table by selecting the item number for each entry and making the changes that you deem necessary. The translation table includes the following listed items:

**CO Digit String:** This is the actual string of digits expected from the CO. Within a table, each CO digit sequence in the string must be unique. While each CO digit sequence must have an assigned extension number, you can assign the same extension number to several CO digit sequences if you wish.

**Name:** As an option, you can enter a seven character name for each CO digit sequence in the string. If you assign a name, the system will use it for LCD display during signalling.

**Day Number:** This personal or group intercom number is the one that the system will ring when a DID/DNIS call arrives through the matching CO digit sequence during normal or daytime operations. DID/DNIS will not support Delay Ring, Day 1 ring, or Day 2 ring modes.

**Night Number:** As an option, you can assign a personal or group intercom number that the system can ring when a DID/DNIS call arrives through the matching CO digit sequence during night transfer (of ringing) operations.

**Ring Code:** As an option you can choose one of eight distinctive ringing codes for each CO digit sequence in the string. Remember, the proprietary analog telephones provide only four distinctive ring possibilities.

## ***DID Translation Tables Programming***

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, type the selection for lines and press ENTER.
  3. From the lines menu, type the selection for DID/DNIS block programming and press ENTER.
  4. From the DID/DNIS block prompt line, type the DID block number and press ENTER.
  5. From the DID/DNIS block programming menu, select initialize translation table, and press ENTER.

NOTE: If you choose the initialize translation table entry, the system will prompt you to enter a range of CO digit strings (system maximum is 400 strings and maximum digits per string is seven) and a starting extension number corresponding to the first CO digit string. Once you confirm your changes, the system will update the translation table with sequential extension numbers that are associated with the sequence of CO digit strings. You can repeat this process, as needed, for other sequences of numbers.

6. When finished, press ESCAPE to return to the DID/DNIS block programming menu.
7. From the DID/DNIS block programming menu, select edit translation table, and press ENTER.

The screen shows a translation table in which you can perform selective editing.

NOTE: If there are more numbers in the DID/DNIS block than the screen can show, the system places them on underlying pages. Press and hold CONTROL and type N or P to display each next or previous page. The table will form the screen so the CO digits are displayed in sequential order. You can add additional entries to the end of the table that will appear in sorted order the next time you access the table.

8. When finished, press ESCAPE twice
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Press ESCAPE three times to return to main menu.

You can erase the entries in the translation table using the system default menu.

1. From the main menu, select system and press ENTER.
2. From the system menu, select defaults, and press ENTER.
3. From the defaults menu, select DID translation tables and press ENTER.
4. Type the DID/DNIS block number (1-4), and press ENTER. The system automatically removes all entries in the chosen table.
5. Press ESCAPE twice to return to main menu.

## ***DID/DNIS Translation Table, Default***

**Description:** You can clear programmed translation tables with this procedure.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select defaults and press ENTER.
  4. From defaults menu, select DID translation table and press ENTER.
  5. Type DID/DNIS table number (1-4) and press ENTER.
  6. Repeat step 5 until finished.
  7. Press ESCAPE to end.

## 8.5 **Ground Start Line Support**

**Description:** The multipurpose line board (DXPCO-GD4, and GD8) provides system interface for loop start lines, ground start lines, and E and M tie lines. These are typically the three different line types that the central office (CO) makes available for connection to the public switched network. With the ground start line type, the DXP momentarily grounds the ring lead to signal the CO to establish a communications link for an outgoing call. When the CO detects this, it acknowledges by momentarily grounding the tip lead. The DXP responds by removing its ground connection and bridging itself across the tip and ring leads. The CO then removes its ground connection and returns dial tone to the DXP.

For an incoming call, the CO grounds the tip lead and places an alternating voltage on the ring lead for the DXP to sense. If you set the incoming alert signal to its ring optional setting, the DXP detects tip-lead ground and then causes its ring generator to generate ringing to the station being called. If you set the incoming alert signal to its ring required setting, the DXP waits until the CO applies the alternating voltage before the DXP generates ringing to the station. When a station answers the ringing, the circuit is completed as it is for outgoing calls.

Because ground start lines are controlled at both ends, they are capable of a release supervision that provides a sure means of determining when a distant party hangs up his or her telephone. This is very important in applications where the system costs the calls. Also, since the signalling protocol indicates which end requests the line, it helps prevent call collisions and glare and thus is useful in applications where there is a high volume of incoming and outgoing calls occurring on the same lines.

Ground start lines are standard protocol for remote networking and are useful for connecting the DXP to private branch exchange (PBX) equipment. For ground start lines to be dependable, you must ensure that you have connected the DXP to a low resistant telephone company ground.

NOTE: The Federal Communications Commission (FCC) requires that you inform the central office that the DXP is configured as an MF (multipurpose) registered device if you connect it to ground start lines.

With ground start lines, set the following feature parameters:

-Incoming Alert Signal

- For ring required**, the DXP must detect a ring signal on the line before it will send a ring signal to a station. This method is normally used with systems that use synchronized ringing to prevent a long first ring.
- For ring optional**, the DXP sends a ring signal to a station as soon as it detects a ground on the tip lead of the line (put there by the calling equipment) or when it detects a ring signal on the line. This method allows the station to receive a ring signal in less time than the ring required method does; however, phantom ringing can occur on poorly grounded lines or lines that fail from the CO.

- Dialing Mode	- Incoming Alert Signal
-Toll Groups	-DTMF Level
- Busy Lead	-Caller ID Active
- voice mail ID	- Line Group

**Programming:** Refer to Section 8.5.1, *Ground Start Line Support Programming*.

## **8.5.1 Ground Start Line Support Programming**

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select lines and press ENTER.
  3. From the lines menu, select line programming and press ENTER.
  4. Type line port number 1-128 or previously assigned name and press ENTER.  
The system displays page 1 of the line programming menu.
  5. From line programming menu, type item number for line type and press ENTER.
  6. Press SPACE bar to toggle line type and press ENTER.
  7. From line programming menu, type item number for another parameter and press ENTER.
  8. Respond to prompt action for feature setting, and press ENTER to accept setting.
  9. Repeat steps 7 and 8 for all required parameters.
  10. Press CONTROL and type N and the system will display the menu page 2 of line programming menu.

NOTE: The programming items shown on menu page 2 are for the line port type that you selected in step 7. These items will be different for each line type.

11. From menu page 2 of line programming menu, type item number for feature and press ENTER.
12. Respond to prompt line action for feature setting, and press ENTER to accept setting.
13. From menu page 2 of line programming menu, repeat steps 11 and 12 for all required choices.
14. When finished, press ESCAPE twice.
15. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
16. Repeat steps for each line port or press ESCAPE to end.

## 8.6 Loop Start Line Support

**Description:** The multipurpose line board (DXCPO-GD4, and GD8) provides system interface for loop start lines, ground start lines, and E and M tie lines. These are typically the three different line types that the central office (CO) makes available for connection to the public switched network. With the loop start line type, the DXP bridges a resistance across the tip and ring leads to signal the CO to establish a communications link for an outgoing call. The CO detects the resulting current flow and supplies dial tone to the DXP. The CO signals an incoming call to the DXP by placing an alternating voltage (ring signal) on the tip lead for the DXP to sense. The DXP then generates ringing to the DXP station being called. When a station answers the ringing, the circuit is completed as it was for outgoing calls. Loop start lines can not provide any sure means of determining when a distant party hangs up his or her telephone. For a system that experiences moderate incoming and outgoing call volume and does not cost calls, loop start lines provide an economical choice for connecting the DXP to the central office (CO) equipment. When you use line 1 for the power-fail mode, you must program that line to be a loop-start line unless the industry-standard telephone that you use as a power-fail station is a ground-start device.

With loop start lines, set the following feature parameters:

- |                         |                       |                           |
|-------------------------|-----------------------|---------------------------|
| -Dialing Mode           | -Abandon Hold Release | -Positive Disconnect Time |
| -Toll Groups            | -DTMF Level           | -Busy Lead                |
| -Disconnect Supervision | -Caller ID Active     | -Voice Mail ID            |
| -Line Group             |                       |                           |

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select lines and press ENTER.
  3. From the lines menu, select line programming and press ENTER.
  4. Type line port number 1-128 or previously assigned name and press ENTER. The system displays page 1 of the line programming menu.
  5. From menu page 1 of line programming menu, type item number for line type and press ENTER.
  6. Press SPACE bar to toggle line type (choose loop start, ground start, or E and M tie line) and press ENTER.
  7. From menu page 1 of line programming menu, type item number for another line parameter, press ENTER.
  8. Press SPACE bar for feature setting, and press ENTER to accept setting.
  9. From menu page 1 of line programming menu, repeat steps 8 and 9 for all required choices.
  10. Press CONTROL and type N and the system will display the menu page 2 of line programming menu.

NOTE: The programming items shown on menu page 2 are for the line port type that you selected in step 7. These items will be different for each line type.

11. From menu page 2 of line programming menu, type item number for feature and press ENTER.
12. Press SPACE bar for feature setting, and press ENTER to accept setting.
13. From menu page 2 of line programming menu, repeat steps 11 and 12 for all required choices.
14. When finished, press ESCAPE twice.
15. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
16. Repeat steps for each line port or press ESCAPE to end.

## 8.7 Tie Line Support

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The multipurpose line board (DXCPO-GD4, and GD8) provides system interface for loop start lines, ground start lines, and E and M tie lines. These are typically the three different line types that the central office (CO) makes available for connection to the public switched network. The tie line connections (also known as tie trunk access) are special circuits that allow, on either a dial-up or a continuous connection (hot line) basis, the DXP to communicate with remotely located equipment such as: another DXP, a PBX, or other common carrier (OCC) equipment for long distance calls.

*NOTE: Tie lines are primarily for incoming calls to a DXP and depend upon software controlling the remote site.*

Tie lines can be a part of a private or leased network and can be metallic, carrier current, T1, or microwave. The E and M line provides control signalling between local and remote systems. When a local DXP puts a request for service on the M lead, the remote equipment detects this request on its E lead. As an option it can also respond by putting an alerting signal on its M lead.

### 8.7.1 Tie Line Parameters

#### *Tie Line Types (Connect Mode)*

**Description:** The DXP supports two different types of E and M lines. The E and M Direct type is for direct connection between two telephone systems and is also known as a metallic connection. The E and M Carrier type is for tie lines that run through a central office (CO) interface; however, some COs also provide a metallic connection interface.

**Programming:** Refer to Section 8.7.2, *Tie Line Support Programming*.

#### *Tie Line Standard-Protocol Signalling (Control Signalling)*

##### **Description:**

The system can respond to either one of three different standard-protocols of E and M signalling. They are known as: immediate signalling, wink signalling, and delayed signalling. You must program the desired protocol type to match that provided by the CO or the remote equipment.

**Immediate Signalling:** With this signalling method, the called DXP answers as soon as the calling DXP initiates the call. This signalling method is usually used if the line is programmed for hot line operation or is programmed for pulse dialing. It is best to avoid this type of signalling in any other circumstances.

**Wink Signalling:** With this signalling method, the called DXP places a momentary signal reversal (wink) on its M lead to alert the calling DXP system that it is ready to receive information. The calling DXP controls the status of the M lead and watches for a return signal from the called DXP on the E lead. A wink occurs when the called DXP is ready to receive dialed digits from the calling DXP. Dialing can begin only after the wink is complete. After the wink occurs, the called DXP (if it is programmed for dialing) returns dial tone to the calling DXP as an indication it is ready to receive digits. This signalling method is the preferred protocol for use between two DXP systems.

**Delayed Signalling:** With delay dial signalling, the called DXP immediately responds to the calling DXP by sending an off-hook signal on its M lead. It holds this off-hook condition until it is ready to receive digits and then returns its M lead to on-hook. After this signal exchange occurs, the called DXP (if it is programmed for dialing) returns dial tone to the calling DXP as an indication it is ready to receive digits. This signalling method is most useful if the DXP is connected to another manufacturer's PBX with incompatible wink timing parameters.

**Programming:** Refer to Section 8.7.2, *Tie Line Support Programming*.

## ***Tie Line Non-Standard Protocol Signalling (Line Access)***

**Description:** You can program the system to respond to two types of non-standard tie line signalling protocols. They are known as hot line and intercom dialing.

**Hot Line:** You can program the system for hot-line operation so that as soon as a user accesses the tie line, the station or stations at the distant system that have access to the personal or group intercom assigned to the hot line will ring. If you arrange for access by hot line, you must enter the extension that will automatically ring when the tie line is seized by the calling DXP. If you do not enter an extension, the system will ring the dial 0 station, and if it is unavailable, the system will return dial tone to the caller.

**Intercom Dialing:** Alternately, you can program the system for intercom dialing mode so that as soon as users access the tie line they will hear dial tone. Upon hearing dial tone, they can dial either a personal or group intercom number at the distant system.

*NOTE: Intercom feature codes of one DXP are not available to callers from the other DXP nor can those callers access a line through the distant DXP using line group access codes.*

**Programming:** Refer to Section 8.7.2, *Tie Line Support Programming*.

## ***Automatic Number Identification (ANI) Delivery***

**Description:** Automatic Number Identification (ANI) is a T1 service feature for both E&M and DID lines. Long distance common carriers offer ANI as a feature to dial 800 and dial 900 lines. The ANI feature provides information to an internal telephone system that identifies the telephone number of the calling party. Businesses served by a dial 800 or dial 900 service allow any available user to answer the calls and have their internal telephone system process the ANI information to identify the caller's telephone number.

The common carrier supplies ANI information as DTMF digits. When the ANI feature is combined with the Dialed Number Identification Service (DNIS) feature, the common carrier also delimits the DNIS information from the ANI information with an asterisk (\*) tone so that the DXP can process each portion properly.

The DXP system decodes the ANI information and sends the caller's number to the called telephone and to the SMDR/SMDA line reports. If the called telephone is an LCD speakerphone, its display shows the caller's number. This display is shown for all conditions (that is, transferred calls, call forward and so forth). The DXP also sends the calling number information to the SMDR/SMDA line report and makes the information available to devices that are connected to the DXP's Open Architecture Interface (OAI).

When you assign ANI to lines that callers reach by dialing access codes, the DXP processes all incoming digits as ANI digits until it encounters the delimiter. The DXP then processes the remainder of the incoming digits as DNIS call routing digits. When you assign ANI to lines that callers reach without dialing any digits (such as, E&M hot line or DID lines with 0 digits expected), the DXP processes all incoming digits as ANI digits until it encounters the end delimiter. The DXP then routes the call to one of the following intercom numbers: the one that services the E&M hot line number, the one that serves as the DID/DNIS default, or the one that serves as the operator for the system.

The DID, E&M DNIS, and E&M tie lines all can access the Direct Inward System Access (DISA) feature when the caller dials the DISA access code or when the DID/DNIS digits translate to the DISA access code. The system distinguishes the DISA code from the preceding ANI information.

Since the DXP supports ANI only on tone dial lines, it supports both wink start and delay start protocols but does not support the immediate start protocol.

**Programming:** Use the Section 8.7.2, *Tie Line Support Programming*, procedure to enable DXP processing of ANI information for tie lines and program the tie line attributes.

## ***Call Announce***

**Description:** This feature, when enabled, allows tie line callers from outside the system to voice announce incoming calls to the DXP station after they hear an alert tone. You must also arrange the DXP system to respond to voice announce intercom calls.

**Programming:** Refer to Section 8.7.2, *Tie Line Support Programming*.

## ***Dialing Mode***

**Description:** Program the tie line to match either a DTMF tone or a rotary (pulse) dialing line as supplied by the central office (CO).

**Programming:** Refer to Section 8.7.2, *Tie Line Support Programming*.

## ***Toll Groups***

**Description:** You must identify the tie lines that you do not want users to use when they dial toll restricted numbers. Do this by first assigning the tie lines to toll groups and then assigning those toll groups to the restricted number. There are 32 toll groups available for line assignment. Assign one, several, or all lines to any desired toll group or combination of toll groups as needed. See Section 11 for complete toll restriction programming details.

**Programming:** Refer to Section 8.7.2, *Tie Line Support Programming*.

## ***DTMF Level***

**Description:** Adjust the audio level of the tie line's DTMF signals to a low (-5 db), medium (0 db), or high (+3 db) setting. Certain sites may require a higher db level to overcome line conditions that could interfere with reliable dialing.

**Programming:** Refer to Section 8.7.2, *Tie Line Support Programming*.

## ***DISA***

**Description:** Enable or disable DISA capability on the tie line.

**Programming:** Refer to Section 8.7.2, *Tie Line Support Programming*.

## ***DISA Voice Options***

**Description:** Use the DISA Voice Options 1 through 4 to select digital voice announce (DVA) message levels. For example, selecting DISA voice option 2 will cause welcome greeting 2, day main menu 2, night main menu 2, recall no answer 2, and recall busy 2 prompts to play whenever a DISA-configured tie line is covered by DVA. Refer to Section 14.3, *Digital Voice Announce Programming* for complete DVA programming details.

**Programming:** Refer to Section 8.7.2, *Tie Line Support Programming*.

## **8.7.2 Tie Line Support Programming**

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select lines and press ENTER.
  3. From the lines menu, select line programming and press ENTER.
  4. Type line port number 1-128 or previously assigned name and press ENTER.  
The system displays page 1 of the line programming menu.
  5. From line programming menu, type item number for line type and press ENTER.
  6. Press SPACE bar to toggle line type and press ENTER.
  7. From line programming menu, type item number for another line parameter, press ENTER.
  8. Respond to screen prompt action for feature setting, and press ENTER to accept setting.
  9. Repeat steps 7 and 8 for all required parameter choices.
  10. Press CONTROL and type N and the system will display the menu page 2 of line programming menu.

*NOTE: The programming items shown on menu page 2 are for the line port type that you selected in step 7. These items will be different for each line type.*

11. From menu page 2 of line programming menu, type item number for feature and press ENTER.
12. Respond to screen prompt action for feature setting, and press ENTER to accept setting.
13. Repeat steps 11 and 12 for all required parameter choices.
14. When finished, press ESCAPE twice.
15. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
16. Repeat steps for each line port or press ESCAPE to end.

## **8.8 Direct Inward System Access (DISA) Programming**

Through the DISA programming routines, you can configure a system to allow outside callers to call directly into the system. DISA callers can dial authorization codes that allow them to use the system's features that are normally available only to inside callers.

*NOTE: It is possible to use the automatic route selection (ARS) feature (Section 12, Enabling Automatic Route Selection) along with the DISA feature to route DISA calls that pass through the system. If you enable this application, you may need to add pauses in the ARS modify digits table (Section 12.4.4, ARS Modify Digits Table) to account for the time delay the system experiences in obtaining the CO dial tone. The amount of time delay varies for each installation; therefore, you must test your installation to determine the time required to obtain a CO dial tone when using the DISA feature. You can then adjust the system timing pause time or add multiple pauses to offset this delay.*

### **8.8.1 DISA Specific Programming**

**Description:** The purpose of the DISA specific programming is to perform the following tasks:

- Enable extensions where day/night DISA calls will be routed when call-routing is necessary,
- Enable proprietary voice mail to receive DISA calls and route the calls to a dedicated mailbox that holds the appropriate intercept greetings,
- Select access lockout time (the amount of time that the line remains locked-out from use after invalid conditions occur—such as, when a caller repeatedly dials an invalid authorization code),
- Select the timeout period for DISA extensions that ring without answer (RNA),
- Select the maximum timeout period for the reminder tone that sounds during an in-process call when the DISA caller is using an outside line and the system has no disconnect supervision. This tone sounds at set intervals to remind the caller that he or she must dial a code (any single digit) or be disconnected within 10 seconds,
- Select the option to either route a DISA call or drop it after caller dials an invalid authorization code

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select Lines and press ENTER.
3. From the lines menu, select DISA configuration and press ENTER.
4. From the DISA configuration menu, select Day Routing Extension and press ENTER.
5. Type day routing extension number and press ENTER.
6. Type night routing extension number and press ENTER.
7. Type voice mail Routing ID (up to eight digits) and press ENTER.
8. Toggle the SPACE bar to select access lockout times (2, 5, 10, 15, 30 minutes) and press ENTER.
9. Type the ring no answer (RNA) rings of 0 through 9, and press ENTER.
10. Toggle the SPACE bar to select Maximum Reminder Timeout periods of (2, 5, 10, 15, 30 minutes) and press ENTER.
11. Toggle the SPACE bar to select Route or Drop from Route/Drop Invalid Access field and press ESCAPE twice.
12. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
13. Press ESCAPE to end.

## **8.8.2 DISA And DISA Voice Options (Enabling Or Disabling DISA Lines)**

**Description:** Use the following programming instructions to enable or disable DISA capability on lines 1 through 128. Also, use the DISA Voice Options 1 through 4 to select digital voice announce (DVA) messages. For example, selecting DISA voice option 2 will cause welcome greeting 2, day main menu 2, night main menu 2, recall no answer 2, and recall busy 2 prompts to play whenever a DISA line is covered by DVA. Refer to Section 14.3, *Digital Voice Announce Programming*, for complete DVA programming details.

**Programming**

1. Press CONTROL T for main menu.
2. From main menu, select Lines and press ENTER.
3. From the lines menu, select Line Programming and press ENTER.
4. Enter line number you want to program and press ENTER.
5. From the line (number) programming menu (page 2), select DISA and press ENTER.
6. Toggle the SPACE bar to select/deselect DISA and press ENTER.
7. Enter 1 through 4 for the DISA Voice Options and press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Enter the number for the next line you want to program or press ESCAPE to end.

## **8.8.3 Programming DISA Authorization Codes**

**Description:** DISA callers with assigned authorization codes have access to advanced system features. Authorization codes are associated with either personal or group intercom numbers; therefore, when a DISA caller enters his or her authorization code, the code alerts the system as to what features to make available to the caller. Once callers access features with authorization codes, the access remains in effect until any idle time exceeds the authorization code time-out period. Use this programming procedure to assign or modify authorization codes and to tie the authorization codes to accompanying intercom numbers. Use the Section 8.8.4, *Remote COS Programming*, procedure to assign a station class of service to the intercom numbers.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select SMDA/SMDR and press ENTER.
3. From SMDA/SMDR menu, type item number for authorization codes and press ENTER.
4. From authorization code menu, type line number to add, remove, or modify authorization codes and press ENTER.
5. Type authorization code (up to 6 digits) and press ENTER.

*NOTE: You can include a programmed pause as part of the authorization code by typing a p at the point in the code where you wish a pause to occur. If you include a pause, a user must wait the programmed pause time at the proper point when he or she dials the DISA authorization code because the pause is now part of the code.*

6. If adding or modifying a code, type intercom number that it is associated with and press ENTER.
7. When finished, press ESCAPE once.
8. Type item number to display authorization codes for review and press ENTER.
9. When finished, press ESCAPE to end.

## **8.8.4 Remote COS Programming**

**Description:** DISA callers that have assigned authorization codes have access to advanced system features. The features that they have access to are controlled by the station class of service that you assign with this programming procedure. The intercom number that is associated with this remote COS assignment is the same intercom number that is associated with the caller's DISA authorization code that you set using the Section 8.8.3, *Remote DISA Authorization Codes*, procedure.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select Intercom number and press ENTER.
3. From Intercom menu, select Modify Intercoms and press ENTER.
4. Enter intercom number and press ENTER. (Remember, this is the intercom number that you set in Section 8.8.3, *Remote DISA Authorization Codes*, to correspond with the DISA authorization code.)
5. Select Remote COS and press ENTER.
6. Enter station class of service number 1–32 and press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## **8.8.5 Remote Day Exception Number/Night Exception Number**

**Description:** A DISA caller may have access to an outside line where the toll restriction is based on the DISA authorization code that is associated with a particular class of service. Remote day and remote night exception numbers allow DISA callers to dial numbers that their toll restriction normally prevents them from dialing. If a toll restriction table exception number matches one of the exception numbers that you assign using this procedure, the system allows the DISA caller to dial the number.

The exception number values that you can assign are 1 through 32 and NONE. You can assign 32 exception numbers to each DISA class of service. You also must assign one exception number to each toll restriction table line entry (Section 11.7, *Exception Number Programming*).

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1–32) and press ENTER.
5. From COS programming menu, type item number for day exception number and press ENTER.
6. Type day exception number (0–32) (n, nn, n–nn, or 0 for none) and press ENTER.
7. Repeat step 6 for night exception number.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4–8 for each COS or press ESCAPE to end.

### **8.8.6 Pad Level—DISA (Gain Setting For DISA Lines)**

**Description:** Callers that use the DISA feature to access a trunk group and place calls (trunk-to-trunk calling) may experience low audio levels on their calls due to the normal line resistance of CO lines. While low audio level is usually only noticeable on long line loops, software release 8C adds +3dB of gain to the DISA lines as a default setting, and provides a means for you to disable this gain if necessary.

The software enhancement also provides a means by which DISA callers can preselect the gain on a DISA line before they select the line for use. They can dial a code to select either 0dB, +3dB, or +6dB of gain.

*NOTE: The unamplified line-to-line DISA connections often exhibit low audio levels due to double loop copper losses. While adding gain to these connections will sometimes improve audio signal levels, the added gain may also result in circuit instability in some connections. This instability presents itself as a singing sound that can interfere with dialing or voice communications. If callers experience dialing problems or hear singing in their calls, you may need to disable the pad level for the DISA line or they may need to select a lower gain setting for use.*

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select lines and press ENTER.
  3. From the lines menu, select line programming and press ENTER.
  4. Type line port number (1-128) or name and press ENTER.
  5. From line programming menu, type item number for pad level—DISA and press ENTER.
  6. Press SPACE bar for feature setting and press ENTER.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Repeat steps 4-7 for each line or press ESCAPE to end.

## **8.9 Programming The T1 Parameters**

**Description:** When the system is using the T1 option, you can program status and alarm alerting parameters. Also, you can program the DXP loss insertion that affects audio levels in the individual T1 channels. The specific programming instructions for the T1 parameters are shown in the following list:

- enable T1 status reporting and major alarm alerting,
- program status log parameters,
- program major alarm alerting parameters,
- assign system status button to station,
- print and clear the status log,
- program DXP loss insertion.

### **8.9.1 Enabling T1 Status Reporting And Major Alarm Alerting**

**Description:** Use the following instructions to enable the T1 status reporting and major alarm alerting features. Use the Section 8.9.2, *Programming The Status Log Requirements*, and Section 8.9.3, *Programming The Major Alarm Alerting Parameters*, procedures to program the status reporting and alarm alerting parameters.

**Programming:**

1. Press CONTROL T to return to main menu.
2. From main menu, select system and press ENTER.
3. From the system menu, select system parameters and press ENTER.
4. From the system parameters menu,
  - select T1 status reporting, and press space bar to select enabled.
  - select major alarm alerting and press space bar to select enabled
5. When finished, press ESCAPE twice.
6. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
7. Press ESCAPE to end.

#### ***Relays (External T1 Alarm Reporting)***

**Description:** Assign one of the four relays located on the central processor board to alert system users if a T1 alarm occurs. Typically, installers wire the relay to control loud bells or other external ringers, but they can use visual devices if desired. Specified users, upon hearing this alarm, can dial a feature code to turn off the alarm. Generally, you should use relays 2–4 for this purpose since they are normally open. Because relay 1 is normally closed, you must use a specially configured device when using this relay.

**Programming:**

1. Press CONTROL T to return to main menu.
2. From main menu, select system and press ENTER.
3. From the system menu, select paging zones and press ENTER.
4. From the paging zones menu, select relays and press ENTER.
5. From the relays menu, select 1-4 and press ENTER.
6. From the relay n menu, type item number for major alarm ring and press ENTER.
7. Press space bar to select options.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Press ESCAPE to end.

## **8.9.2 Programming The T1 Status Log Parameters**

**Description:** Use the following instructions to program the T1 status log parameters.

- Programming:**
1. Press CONTROL T to return to main menu.
  2. From main menu, select system and press ENTER.
  3. From the system menu, select T1 status log parameters and press ENTER.
  4. From the T1 status log parameters menu, select the row number for the error type you want to program. The cursor will move to the threshold entry field for that error type. Select any of the following threshold values:
    - 0 = never log the alarm
    - 1 = always log the alarm
    - (2 to 999) = check this number of alarm occurrences during the selected time period and decide whether or not to log the alarm. (The maximum threshold for the bipolar and CRC alarm trigger is 255.)
  5. After making your entry for the alarm threshold, press ENTER to advance to the next line in the threshold entry field, or press TAB to advance to the time period entry field.
  6. With the cursor in the time period entry field, toggle through the choices using the space bar. When the system displays the time period you want to use, press ENTER to go to the next line in the time period entry field, or press TAB to advance to the next line in the threshold entry field.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Press ESCAPE to end.

## **8.9.3 Programming The Major Alarm Alerting Parameters**

**Description:** Use the following instructions to program the audible alarms for the various T1 system errors.

- Programming:**
1. Press CONTROL T to return to main menu.
  2. From main menu, select system and press ENTER.
  3. From the system menu, select major alarm alerting and press ENTER.
  4. Select the error type you want to program. The cursor will move to the threshold entry field for that error type. From the threshold entry field, select any of the following threshold values:
    - 0 = never go to alert status
    - 1 = go to alert status if the alarm is ever logged
    - 2 to 999 = check this number of occurrences during the selected time period to decide whether or not to elevate the alarm to alert status.
  5. After making the alarm threshold entry, press ENTER to advance to the next line in the threshold entry field, or press TAB to place the cursor in the time period entry field.
  6. With the cursor in the time-period entry field, toggle through the choices using the space bar. When the system displays the time period you want to use, press ENTER to go to the next line in the time period entry field, or press TAB to advance to the next line in the threshold entry field.
  7. Press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Press ESCAPE to end.

### **8.9.4 Assigning A System Status Button To A Station**

**Description:** Use the following instructions to program a system status button.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select button mapping and press ENTER.
  4. Type prime intercom number or previously assigned name and press ENTER.  
(Screen presents current button map for review.)
  5. Type first level button code (L1-L25, 0-9) and press ENTER.
  6. Type mnemonic of feature (SYSST) and press ENTER
  7. When finished, press ESCAPE twice.

### **8.9.5 Printing The Status Log**

**Description:** Use the following program to print a system status log, a T1 status log, or both. This program gives you the choice of printing the log to your VDT screen or a printer.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select printouts and press ENTER.
  3. From printouts menu, select status log printout and press ENTER.
  4. Type s for screen printout or p for hard copy printout through the SMDA/SMDR data printer and press ENTER.
- NOTE: Press CONTROL C to stop a printout to the VDT screen when necessary. This action will not stop printout to a data printer.*
5. When printout is finished, press ESCAPE to return to printouts menu.
  6. Repeat steps 3-6 for next desired printout or press ESCAPE to end.

### **8.9.6 Clearing The Status Log**

**Description:** The following program allows you to clear either the system status log, the T1 status log, or both.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select defaults and press ENTER.
  4. From defaults menu, select system and press ENTER.
  5. From the system defaults menu, select clear status logs and observe prompt.
  6. From prompt, select system status log, T1 status log or both.
  7. Type y to confirm default or n to deny.
  8. Press ESCAPE once to end the programming session.

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**9****Programming Intercom Numbers**

- Modifying Intercom Numbers . . . . . 9.1
- Adding Intercom Numbers . . . . . 9.2
- Removing Intercom Numbers . . . . . 9.3
- Renumbering Intercom Numbers . . . . . 9.4

The system provides a maximum of 600 intercom slots with 192 slots set up as personal intercom numbers. This means that the system provides up to 408 group intercom numbers. Group intercom numbers are four digits and begin with number 3101. At default, the blocks of intercom numbers are assigned as follows:

101–292 = personal intercom numbers  
3101–3292, 4101–4292, 5000–5023 = group intercom numbers  
5024–5999 = unassigned—used for renumbering purposes  
600–899 = feature codes

Remember, the system numbers the station ports and defaults the personal intercom numbers beginning with the station board located in the left-most slot nearest the central processor unit (CPU) circuit board (station port 1 is personal intercom number 101 and so forth). If a station slot is unavailable (the system includes an auxiliary board for instance), that block of personal intercom numbers are unavailable for use until you use the Section 9.4 procedure to re-number the unavailable intercom numbers. For example, if the slot that provides station ports 1–8 (intercom 101–116) is occupied by a DXAUX board and you wish to retain that intercom block, you can arrange station ports 17–192 to begin at intercom 101.

## 9.1 **Modifying Intercom Numbers**

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**Description:** Use this programming procedure to modify intercom numbers and station names. A display name is composed of a maximum of seven characters and shows in the display of an LCD speakerphone as a identification aid. A full name is composed of a maximum of 20 characters and shows in some voice mail and open architecture interface applications. You can compose a valid name from any alpha-numeric character; however, the first character of a display name must be an alphabetic character. Refer to Section 7.2.2, *Display Name/Full Name*, for the creating station names procedure.

- Programming:**
1. Press CONTROL T for the main menu.
  2. From main menu, select intercom numbers and press ENTER.
  3. From intercom numbers menu, select modify intercoms and press ENTER.
  4. Type the intercom number to be modified and press ENTER.
  5. Type the row number for extension and press ENTER.
  6. Type the new intercom number and press ENTER.
- NOTE: You can select a new intercom number from 5024 to 5999 if the system's intercom numbers are at default; however, you can select any four-digit intercom number if you remove dialing conflicts that the system prompts you about.*
7. Type display name (a-z, A-Z, 0-9, punctuation, special characters, and so forth) and press ENTER.  
A display name can be up to seven characters long.
  8. Type full name (a-z, A-Z, 0-9, punctuation, special characters, and so forth) and press ENTER. A full name can be up to 20 characters long.
  10. Type remote COS (1-32) and press ENTER.  
Refer to Section 8.8.4, *Remote COS Programming*, for remote COS details.
  9. When finished, press ESCAPE twice.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4-8 for each intercom number or press ESCAPE to end.

## 9.2 **Adding Intercom Numbers**

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**Description:** Use the procedure to add intercom numbers.

- Programming:**
1. Press CONTROL T for the main menu.
  2. From main menu, select intercom numbers and press ENTER.
  3. From intercom numbers menu, select add intercoms and press ENTER.
  4. Type intercom number to be added and press ENTER.
  5. Type g for group intercom or p for personal intercom and press ENTER.
  6. Type the station port number (1-192) and press ENTER.
  7. If a prompt line indicates a conflict, type y to overwrite or n to reject and press ENTER.
  8. Press ESCAPE to end.

## **9.2.1 Group Intercom Access**

**Description:** Use this procedure to add group intercom numbers to stations for their use. Also refer to Section 7.3, *Square/Nonsquare System-Button Mapping By Station*, to map buttons for group intercom number selection.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select station and press ENTER.
3. From station menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name of station being programmed and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type a for add or r for remove and press ENTER.
7. Type group intercom numbers ( type nnnn,nnnn, nnnn or type nnnn-nnnn) and press ENTER.
8. When finished, press ESCAPE three times.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Repeat steps 4-9 for each station or press ESCAPE to end.

## **9.2.2 Intercom Hunt List**

**Description:** Place personal intercom and group intercom numbers in a list with this programming procedure. Calls to a busy hunt list number will search the list for an idle number at which to ring. Up to eight intercom numbers are allowed in a hunt list. These can be all group intercom numbers or one personal intercom number and seven group intercom numbers. Do not place the same group intercom number in more than one hunt list.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select station and press ENTER.
3. From station menu, select station programming and press ENTER.
4. Type personal intercom number of station being programmed and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Type intercom numbers for list (up to eight allowed separated with commas - include the personal intercom of station being programmed for intercom call hunting; otherwise, only line calls to the station will hunt) and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each station or press ESCAPE to end.

## 9.3 Removing Intercom Numbers

---

**Description:** Use this procedure to remove intercom numbers.

**NOTE:** If you remove or renumber an intercom number, be sure that you do not use the old intercom number in button mapping, hunt lists, call forwarding and similar applications.

- Programming:**
1. Press CONTROL T for the main menu.
  2. From main menu, select intercom numbers and press ENTER.
  3. From the intercom numbers menu, select remove intercoms and press ENTER.
  4. Type intercom number to be removed and press ENTER.
  5. Press ESCAPE to end.

## 9.4 Renumbering Intercom Numbers

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**Description:** Use this procedure to renumber one intercom number or a block of intercom numbers

**NOTE:** If you remove or renumber an intercom number, be sure that you do not use the old intercom number in button mapping, hunt lists, call forwarding and similar applications.

- Programming:**
1. Press CONTROL T for the main menu.
  2. From main menu, select intercom numbers and press ENTER.
  3. From the intercom numbers menu, select renumber and press ENTER.
  4. Type station ports 1-192 (type as n, nn, nnn or n-*nnn*) to renumber and press ENTER.
  5. Type the beginning intercom number in the series to be assigned to the block and press ENTER.
  6. Press ESCAPE to end.

**10**

**Programming Call Costing and  
Station Message- Detail  
Accounting and Reports  
(SMDA/SMDR Programming)**

---

- SMDA/SMDR Parameters . . . . . 10.1
- SMDA Reports . . . . . 10.2
- Account Codes (Forced with Positive Verification) . . . . . 10.3
- Emergency Numbers . . . . . 10.4
- Authorization Code . . . . . 10.5

## **10.1 SMDA/SMDR Parameters**

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### **10.1.1 Dial Time Limit**

**Description:** Program the amount of time that the system ignores for dialing purposes. The system does not cost dialing time when it records the time of a call for costing purposes. Refer to Section 12.5, *Costing Information (ARS)*, for related call costing information.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select SMDA/SMDR and press ENTER.
3. From SMDA/SMDR programming menu, select SMDA/SMDR parameters and press ENTER.
4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
5. Press SPACE BAR for feature value.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **10.1.2 Answer Time Limit**

**Description:** Program the amount of time that the system waits before beginning to cost a call. This time allows for a call to ring and be answered before being costed. Refer to Section 12.5, *Costing Information (ARS)*, for related call costing information.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select SMDA/SMDR and press ENTER.
3. From SMDA/SMDR programming menu, select SMDA/SMDR parameters and press ENTER.
4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
5. Press SPACE BAR for feature value.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **10.1.3 SMDR Print Parameter**

**Description:** When you turn on the SMDR with this programming action, the system provides continuous printout of system-wide station call activity as it is collected. You can arrange for the printout to include the cost of each reported call or to report the calls without the costing information. Refer to Section 12.5, *Costing Information (ARS)*, for related call costing information.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select SMDA/SMDR and press ENTER.
3. From SMDA/SMDR programming menu, select SMDA/SMDR parameters and press ENTER.
4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
5. Press SPACE BAR for feature value.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

## 10.1.4 SMDR Record Format

**Description:** Choose either a station message detail report (SMDR) format or a station message detailed accounting (SMDA) format for the report. This section and Section 10.2.1, *Automatic Reports*, include examples of some typical reports for your reference.

The system presents each record in an 80-column format and ends it with a carriage return/line feed. The following chart details the formats for both SMDR and SMDA records.

SMDR Records			
Column	Value	Format	Justification
1-4	station number	nnnn	left
6-8	line number	nnn	right
9-11	not currently used		
13-20	month/day/year	nn/nn/nn	right
22-26	time call was initiated (24-hour)	nn:nn	right
29-33	call duration (minutes and tenths or NOANS)	nnn.n	right
36-39	ring time (incoming call)	nn.n	right
43-58	digits dialed on line (maximum of 16)	nnnn . . . n	left
65-71	call cost (if enabled)	\$nnn.nn	right

SMDA Records			
Column	Value	Format	Justification
1-5	month/day	nn/nn	left
7-11	time call was initiated (24-hour)	nn:nn	left
15-18	station number	nnnn	right
21-28	account code (two lines if greater than 8 digits)	nnnnnnnn	right
30-34	call duration (minutes and tenths or NOANS)	nnn.n	right
37-43	call cost	\$nnn.nn	left
46-46	call type (I = incoming, O = outgoing)	n	left
47-48	not currently used		
49-52	ring time (incoming call)	nn.n	right
54-56	line number	nnn	right
57-59	caller ID line	ID	left
61-76	digits dialed on line (maximum of 16)	nnnn . . . n	left

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select SMDA/SMDR and press ENTER.
  3. From SMDA/SMDR programming menu, select SMDA/SMDR parameters and press ENTER.
  4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
  5. Press SPACE BAR for feature value.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

**Operation:** INTERCOM \* # 0 \* 82 then dial code

1 = all records	5 = department records
2 = station reports	6 = automatic reports
3 = line reports	7 = delete all records
4 = account code reports	

*SMDR Record Sample Shown In SMDA Format*

This is a sample of SMDR (in SMDA format)							
09/23	12:27	163	2.9	0.1	I	0.3	18
09/23	12:29	175	0.9	0.0	I	0.1	88
09/23	12:30	117	0.4	0.0	O		82
09/23	12:28	194	2.4	0.0	O		110
09/23	12:30	154	0.2	0.0	I	0.1	102
09/23	12:17	139	14.2	0.4	O		74
09/23	12:29	188	2.0	0.0	I	0.0	5
09/23	12:31	154	0.3	0.0	I	0.2	17
09/23	12:31	143	0.9	0.0	O		75
09/23	12:32	188	0.3	0.0	I	0.0	5
09/23	12:31	203	1.1	0.5	I	0.0	16
09/23	12:26	144	6.1	4.1	I	0.0	8
09/23	12:32	154	0.5	0.1	I	0.2	18
09/23	12:32	154	1.1	0.5	I	0.0	17
09/23	12:28	154	5.7	3.3	I	0.1	21
09/23	12:34	154	0.1	0.0	I	0.1	16
09/23	12:33	184	1.0	0.0	I	0.0	8
09/23	12:20	140	14.2	3.9	I	0.0	7
09/23	12:32	161	2.6	0.0	O		102
09/23	12:34	205	0.5	0.0	I	0.0	16

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### **10.1.5 Account Code (System Parameters)**

**Description:** Account codes are used to identify calls by category or by any other desired grouping, so that the system can record costing by that category. You can arrange the system to force the user to enter an account code and have the system verify it before it allows the user to make a call. Turn on the account code feature for the entire system using this procedure. Also, enable or disable system verification of the entered code. If you enable verification, the system compares the account code entered by a station user with the programmed account code entries that you have assigned. If the system does not find a match and you have enabled the forced account code feature through station class of service, the system prevents any further dialing until the user enters a matching account code. If you have not enabled verification, the system does not check the entered account code for a match. See Section 10.3, *Account Codes*, for further account code programming details.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select SMDA/SMDR and press ENTER.
3. From SMDA/SMDR menu, select SMDA/SMDR parameters and press ENTER.
4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
5. Press SPACE BAR for desired value.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **10.1.6 Account Code Display And Account Code Display Time**

**Description:** As a feature to LCD speakerphone users, a message appears in the telephone's display to prompt the user to enter an account code during incoming and outgoing calls. If the system does not require such a prompt (for example, because the account code feature is disabled), turn off the prompting message display with this programming operation. If the system does require the prompting display and you enable it using this procedure, also set the length of time that the prompt shows on the user's display. See Section 10.3, *Account Codes*, for further account code programming details.

*NOTE: When the account code display is on, the user must enter an account code within the display time when he or she is making an outgoing call; otherwise, the system will drop the line.*

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select SMDA/SMDR menu and press ENTER.
3. From SMDA/SMDR menu select SMDA/SMDR parameters and press ENTER.
4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
5. Press SPACE BAR for feature value.
6. When finished, press ESCAPE once.
7. If you enabled the display, continue with step 8. If you disabled the display, press ESCAPE once and continue with step 11.
8. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
9. Press SPACE BAR for time.
10. When finished, press ESCAPE twice.
11. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **10.1.7 Account Code Length**

**Description:** An account code can be a minimum of three digits or a maximum of 16 digits. Use this procedure to set the amount of account code digits. See Section 10.3, *Account Codes*, for further account code programming details.

*NOTE: If you change the account code length you will delete all currently programmed account codes.*

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select SMDA/SMDR and press.
  3. From SMDA/SMDR menu, select SMDA/SMDR parameters and press ENTER.
  4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
  5. Type the account digit amount (3–16).
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **10.1.8 SMDA Attendant Delete**

**Description:** Use this programming feature to provide the system attendant with the ability to delete SMDA records from the system memory.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select SMDA/SMDR and press ENTER.
  3. From SMDA/SMDR programming menu, select SMDA/SMDR parameters and press ENTER.
  4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
  5. Press SPACE BAR for feature value.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

**Operation:** INTERCOM \* # 0 \* 827

### **10.1.9 SMDA/SMDR Printer Port**

**Description:** Use this programming feature to determine which serial data port the system will route its generated SMDA/SMDR through.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select SMDA/SMDR and press ENTER.
  3. From SMDA/SMDR programming menu, select SMDA/SMDR parameters and press ENTER.
  4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
  5. Type data port number (1–18) and press ENTER.
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **10.1.10 Report Option**

**Description:** You can arrange for the SMDR/SMDA parameters to convey either the cost of calls that the stations make or the amount of time that lines have been on hold at the stations.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select SMDA/SMDR and press ENTER.
3. From SMDA/SMDR programming menu, select SMDA/SMDR parameters and press ENTER.
4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
5. Press SPACE BAR for feature value.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **10.1.11 SMDR Record**

**Description:** When you enable this feature, the system stores SMDR records for the specified line.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From lines menu, select line programming and press ENTER.
4. Type line port number (1-128) or name and press ENTER.
5. From line programming, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each line port or press ESCAPE to end.

### **10.1.12 Secure Account Code Display**

**Description:** Software release 8C enhances the SMDA/SMDR feature. Prior to software release 8C when a caller dials his or her account code, the LCD speakerphone displays the dialed digits. With software release 8C, you can activate the secure account code display that causes the LCD speakerphone to display an \* for each digit instead of the dialed account code digits.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select SMDA/SMDR and press ENTER.
3. From SMDA/SMDR programming menu, select SMDA/SMDR parameters and press ENTER.
4. From SMDA/SMDR parameters menu, type item number for secure account code display and press ENTER.
5. Press SPACE BAR for feature value.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

## 10.2 SMDA Reports

---

**Description:** The SMDA feature allows the system to store various call records and generate reports of these records for printout. Use the following programming procedure to manually command a printout to occur. These reports include either station, line, account codes, or all of the above. When the system generates a station report, it will generate a separate report for any and all stations that have had outside call activity.

The station report shows all calls that the station user has made and received along with totals and averages. Line reports show the totals for each active line in the system.

The line report shows the number of calls, total minutes busy, number of incomplete calls, and cost for each line. The line report also summarizes line group activity as well.

The account code report provides the same information as the station report except the records are based upon each account code.

The all record report sends all stored SMDA records to the serial data port. This report is not in groups as is the station, line or account code reports but rather is in a chronological order.

You can view the number of free records or you can delete all stored SMDA records to insure that only the latest SMDA reports are being stored or to provide a known starting port for record storage. Prior to this release, you or the system user could only make this selection from a programming station using the system manager and attendant programming procedure.

*NOTE: If your programming terminal shares the same port as your data printer and you command it delete all records, the system will not take this action until you log out of the VDT programming mode.*

In addition to this manual report command, you can also request the system to generate reports automatically on a timed basis. Refer to Section 10.2.1, *Automatic Reports*, for details about automatic reports and to Section 10.2.2 for some typical report examples. Further, you or the system user can employ the system manager and attendant programming procedure to request reports at a programming station. Finally, the system will automatically generate an automatic report when its memory nears its saturation point (95 percent full).

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select printouts and press ENTER.
  3. From printouts menu, select SMDA/SMDR and press ENTER,
  4. From SMDA/SMDR menu, select SMDA reports and press ENTER.
  5. From SMDA reports menu, select desired report and press ENTER.

*NOTE: If you select the delete records option and your VDT is installed in the printer port, the system will not delete the SMDA records until you log out from the programming mode.*

6. Press ESCAPE to end.

### **10.2.1 Automatic Reports (SMDA)**

**Description:** Program the system to automatically provide call cost reports for printing.

- Choose the day and time that the printout is desired.
- Choose the type and detail of each report.
- Dictate whether the call records are to be erased from the system memory after they are printed.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select SMDA/SMDR and press ENTER.
3. From the SMDA/SMDR menu, select automatic reports and press ENTER.
4. Type row number to select desired report and press ENTER.
5. Press SPACE bar for desired setting or type report print time in 24-hour format (as directed by menu prompt) and press ENTER.
6. Repeat steps 4 and 5 for all desired reports and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

SMDA Report Examples

Station Report for Extension - 125 (Savannah)

Date: 09/13/94 Time: 06:30

DATE	TIME	STATION	ACCOUNT	LNTH	HOLD	I/O	RING	LINE	NUMBER	
09/12	09:06	125		4.2	0.0	I	0.1	26	9737100	
09/12	09:21	125		5.1	5.0	I	1.1	77		
09/12	09:45	125		1.1	0.0	I	0.0	26		
09/12	10:16	125		1.2	0.4	I	0.1	26		
09/12	15:01	125		8.3	8.2	I	0.8	74		
09/12	16:35	125		1.2	0.0	I	0.1	26		
09/12	16:39	125		1.2	0.0	O		73	9782200	
09/12	16:40	125		0.4	0.0	O		73	9782200	
09/12	16:49	125		0.3	0.0	I	0.1	26		
TOTALS:				23.0	13.6		2.3			
AVERAGE OUTGOING:				0.8	0.0				TOTAL OUTGOING: 2	
AVERAGE INCOMING:				3.0	1.9		0.3		TOTAL INCOMING: 7	
									TOTAL CALLS: 9	

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Account Report for Account Number - 179059

Date: 09/13/94 Time: 06:34

DATE	TIME	STATION	ACCOUNT	LNTH	HOLD	I/O	RING	LINE	NUMBER	
09/12	08:59	159	179059	1.7	0.0	O		102	91234567	
09/12	10:16	159	179059	8.5	0.1	O		102	91234567	
09/12	11:02	159	179059	1.8	0.0	O		103	91234567	
09/12	11:32	159	179059	2.5	1.2	I	0.0	17		
09/12	11:43	159	179059	4.2	0.0	O		102	91234567	
09/12	11:05	159	179059	1.0	0.0	O		103	91234567	
09/12	14:33	159	179059	1.2	0.0	O		102	91234567	
09/12	14:40	159	179059	0.7	0.0	O		105	91234567	
09/12	16:21	159	179059	1.0	0.0	O		103	91234567	
09/12	17:06	159	179059	1.0	0.0	O		105	91234567	
09/12	17:44	159	179059	0.1	0.0	O		103	91234567	
TOTALS:				23.7	1.3		0.0			
AVERAGE OUTGOING:				2.1	0.0				TOTAL OUTGOING: 10	
AVERAGE INCOMING:				2.5	1.2		0.0		TOTAL INCOMING: 1	
									TOTAL CALLS: 11	

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Detail Report for Line - 8 (L008)

Date: 09/13/94 Time: 06:40

DATE	TIME	STATION	ACCOUNT	LNTH	HOLD	I/O	RING	LINE	NUMBER	
09/12	08:25	141		33.2	19.9	I	0.0	8		
09/12	09:05	134		23.4	15.3	I	0.0	8		
09/12	09:29	185		0.1	0.0	I	0.1	8		
09/12	09:34	135		8.4	2.3	I	0.0	8		
09/12	09:44	134		13.1	1.9	I	0.1	8		
09/12	10:01	134		11.5	4.1	I	0.0	8		
09/12	10:13	134		14.6	6.7	I	0.0	8		
09/12	10:28	185		1.6	0.0	I	0.1	8		
09/12	10:30	140		6.9	3.2	I	0.1	8		
09/12	10:37	135		15.9	8.6	I	0.1	8		
09/12	10:54	133		13.5	2.1	I	0.0	8		
TOTALS:				595.0	277.4		2.4			
AVERAGE OUTGOING:				0.0	0.0				TOTAL OUTGOING: 0	
AVERAGE INCOMING:				11.2	5.2		0.0		TOTAL INCOMING: 53	
									TOTAL NO ANSWER: 0	
									TOTAL CALLS: 53	

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Line Summary Report

Date: 09/13/94 Time: 06:44

LINE	CALLS	MINUTES	INCOMING	NOANS	OUTGOING	HOLD	PK	MR	PK	CAL	PK	DUR
1	50	595.5	50	0	0	141.6	12	PM	8	45.8		
2	41	565.3	40	1	0	183.2	2	PM	7	62.5		
5	56	480.4	55	1	0	229.7	2	PM	13	75.7		
6	38	387.0	38	0	0	129.0	12	PM	7	55.0		
7	63	593.5	62	1	0	265.8	1	PM	8	58.0		
8	53	595.0	53	0	0	277.4	11	AM	8	74.7		
9	55	560.5	54	1	0	275.2	12	PM	8	55.2		
10	53	512.8	53	0	0	243.7	4	PM	7	49.2		
11	16	23.9	0	0	16	0.0	4	PM	4	9.3		
12	5	11.8	0	0	5	0.0	2	PM	3	5.1		
13	38	457.4	38	0	0	194.6	10	AM	6	40.2		
14	31	323.4	31	0	0	153.9	4	PM	5	50.8		
15	18	242.7	18	0	0	85.2	3	PM	4	81.1		
16	164	489.5	159	5	0	108.2	10	AM	21	37.5		
-----												
105	89	206.6	17	0	72	5.7	2	PM	17	22.6		
106	41	98.6	0	0	41	3.6	3	PM	8	23.6		
107	26	47.7	2	0	24	0.4	4	PM	7	11.2		
109	36	57.9	17	2	17	0.0	10	AM	15	21.4		
110	57	70.3	14	0	43	0.0	8	AM	17	20.7		
111	36	113.0	34	2	0	6.1	4	PM	5	24.0		
112	131	55.6	20	111	0	11.1	4	PM	38	0.3		
-----												
TOT:	2886	11163.3	1547	154	1185	2913.1						

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LINE GROUP SUMMARY

LINE GROUP	ACCESSES	FAILURES
1	731	12
4	8	0
5	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0

screen6.eps

## **10.3 Account Codes (Forced, with Positive Verification)**

### **10.3.1 Account Code (System Parameters)**

**Description:** Account codes are used to identify calls by category or by any other desired grouping, so that the system can record costing by that category. You can arrange the system to force the user to enter an account code and have the system verify it before it allows the user to make a call. Turn on the account code feature for the entire system using this procedure. Also, enable or disable system verification of the entered code. If you enable verification, the system compares the account code entered by a station user with the programmed account code entries that you have assigned. If the system does not find a match and you have enabled the forced account code feature through station class of service, the system prevents any further dialing until the user enters a matching account code. If you have not enabled verification, the system does not check the entered account code for a match.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select SMDA/SMDR and press ENTER.
3. From SMDA/SMDR menu, select SMDA/SMDR parameters and press ENTER.
4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
5. Press SPACE BAR for desired value.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **10.3.2 Account Code Display And Account Code Display Time**

**Description:** As a feature to LCD speakerphone users, a message appears in the telephone's display to prompt the user to enter an account code during incoming and outgoing calls. If the system does not require such a prompt (for example, because the account code feature is disabled), turn off the prompting message display with this programming operation. If the system does require the prompting display and you enable it using this procedure, also set the length of time that the prompt shows on the user's display.

*NOTE: When the account code display is on, the user must enter an account code within the display time when he or she is making an outgoing call; otherwise, the system will drop the line.*

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select SMDA/SMDR menu and press ENTER.
3. From SMDA/SMDR menu select SMDA/SMDR parameters and press ENTER.
4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
5. Press SPACE BAR for feature value.
6. When finished, press ESCAPE once.
7. If you enabled the display, continue with step 8. If you disabled the display, press ESCAPE once and continue with step 11.
8. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
9. Press SPACE BAR for time.
10. When finished, press ESCAPE twice.
11. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **10.3.3 Account Code Length**

**Description:** An account code can be a minimum of three digits or a maximum of 16 digits. Use this procedure to set the amount of account code digits.

*NOTE: If you change the account code length you will delete all currently programmed account codes.*

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select SMDA/SMDR and press.
  3. From SMDA/SMDR menu, select SMDA/SMDR parameters and press ENTER.
  4. From SMDA/SMDR parameters menu, type item number for feature and press ENTER.
  5. Type the account digit amount (3–16).
  6. When finished, press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **10.3.4 Account Code Programming (Add, Remove, Display Account Codes)**

**Description:** Use this procedure to assign up to 1000 account codes (each up to 16 digits in length—see Section 10.3.3, *Account Code Length*). Alternately, use this procedure to remove previously assigned account codes from the system. Add or remove one account code at a time or an entire block of account codes all at once. To assign numbers that user's can dial without entering an account code, refer to Section 10.4, *Emergency Numbers*.

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select SMDA/SMDR and press ENTER.
  3. From SMDA/SMDR menu, select account code menu and press ENTER.
  4. From account code menu, type item number to add or remove one account code or a block of account codes and press ENTER.
  5. Type account code (up to 16 digits) and press ENTER. Then, if assigning block of codes, type quantity of account codes (up 1000) and press ENTER.
  6. When finished, press ESCAPE once.
  7. Type item number to display account codes for review and press ENTER.
  8. When finished press ESCAPE as necessary to return to main menu.

### **10.3.5 Account Code (For Class Of Service)**

**Description:** After you have enabled the account code feature for the system, set its parameters, and programmed its list of account codes into the system, turn the feature on for a station class of service and make it either forced or optional. If you make it a forced account code, the user must enter an account code before the system will let him or her dial the number for an outgoing call. Also, on incoming calls a user must enter an account code before the system will allow him or her to make any future outgoing calls. See Section 10.4, , for an exception to forced account code entry.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From the COS programming menu, type item number for account code and press ENTER.
6. Press SPACE BAR for feature setting.
7. When finished, press ESCAPE.
8. Press CONTROL N as necessary to display line number for forced account code and press ENTER.
9. Type item number for forced account code and press ENTER.
10. Press SPACE BAR for feature setting.
11. When finished, press ESCAPE twice.
12. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

## **10.4 Emergency Numbers**

**Description:** When the system requires an account code, a telephone user must enter it before the system allows him or her to dial a number; however, the system does not require an account code prior to allowing a telephone user to dial a designated emergency number. Use this procedure to list the designated emergency numbers. The system accepts a total of 16 numbers. Each number can be up to 16 digits long.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select SMDA/SMDR and press ENTER.
3. From SMDA/SMDR menu, select emergency numbers and press ENTER.
4. From emergency numbers menu, type row number to select entry location and press ENTER.
5. Type emergency number (up to 16 digits), or press SPACE BAR to delete current number, and press ENTER.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
8. Press ESCAPE to end.

## 10.5 Authorization Code

---

**Description:** Authorization codes provide system users the mobility to use their class of service (COS) features, prime line assignments, and exception numbers on any telephone in the system instead of being limited by what is available to the particular telephone they happen to be using. One popular term for such a feature is *walking class of service*.

Authorization codes are associated with personal intercom numbers as are COS, prime markings, and exception numbers. Therefore, when a user enters his or her authorization code at any system telephone, the code alerts the system as to what features to make available to the user. The user can employ the telephone for anything allowed by his or her personal intercom number; however, he or she cannot disturb the last number redial stored there by the normal user. Once an authorization code user accesses his or her telephone features, they remain in effect until any idle time at the telephone exceeds the authorization code time-out period.

As an additional feature, when a telephone is mapped with a lock button, a user can press it and then dial an authorization code. This action denies access to that telephone by other users. Use the procedure given here to program and assign authorization codes. Use the Section 7.2.3, *Class Of Service*, procedure to match the COS to the personal intercom number and use the Section 7.3, *Square/Nonsquare System-Button Mapping By Station*, procedure to assign the lock button to a telephone.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select SMDA/SMDR and press ENTER.
  3. From SMDA/SMDR menu, type item number for authorization codes and press ENTER.
  4. From authorization code menu, type line number to add, remove, or modify authorization codes and press ENTER.
  5. Type authorization code (up to 6 digits) and press ENTER.

*NOTE: You can include a two second pause as part of the authorization code by typing a p at the point in the code where you wish a pause to occur. If you include a pause, a user must wait two seconds at the proper point when he or she dials the authorization code because the pause is now part of the code.*

6. If adding or modifying a code, type personal intercom number that it is to be associated with and press ENTER
7. When finished, press ESCAPE once.
8. Type item number to display authorization codes for review and press ENTER.
9. When finished press ESCAPE as necessary to return to system menu.

### 10.5.1 Authorization Code Timeout

---

**Description:** Once a user uses the authorization code feature to access his or her telephone features, they remain in effect until any idle time at the telephone exceeds the authorization code time-out period that you program with this feature.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select timing and press ENTER.
  4. From timing menu, type item number for feature and press ENTER.
  5. Press SPACE bar for feature setting and press ENTER.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

**11**

**Programming Toll Restriction**

- Toll Restriction Example 1 . . . . . 11.1
- Toll Restriction Example 2 . . . . . 11.2
- Toll Restriction Flow Diagram . . . . . 11.3
- Restriction Level Programming . . . . . 11.4
- Toll Groups Programming . . . . . 11.5
- Restricted Numbers Programming . . . . . 11.6
- Exception Number Programming . . . . . 11.7

With the toll restriction feature, the system allows or denies outgoing line calls to selected users over selected lines. Toll restriction meets different dialing needs by allowing users to dial numbers that they are required to dial yet restrict them from dialing numbers they are not allowed to dial. A defaulted system allows station users to dial any number they choose to dial. When programming the various aspects of toll restriction, use the planning sheets provided in IMI66-110, *Programming Records For The DXP Digital Communications System*. The dialing option table provides for not only toll restriction but also automatic route selection and call costing features. Each of these features may be used separately, together, or not used at all. For a overview illustration of toll restriction, refer *Section 11.3* Assign toll restriction in the sequence detailed below.

- Step 1. Program the restriction level (Section 11.4).      Step 2. Program the toll groups (Section 11.5).
- Step 3. Program the restriction numbers (Section 11.6).      Step 4. Program the exception numbers (Section 11.7).

A user can dial any number that his or her station is not restricted from dialing. A station user can dial any numbers restricted by a restriction level that is equal to or lower than the one assigned to his or her station. A station that is restricted from dialing a certain telephone number on a certain line can, if programming permits, dial that number on another line that is not restricted.

As a user dials a number from a station that has toll restriction assigned, the toll restriction feature first makes a comparison between the dialed number and the telephone number entries on the toll restriction table. It compares the dialed number up to the last digit in the entry. At that point it considers it a match and applies the other restriction tests whether the station user keeps dialing or not.

Example entry A: 1-804 555-1212

Example entry B: 1-804

In example A, the toll restriction feature continues matching digits (and does not apply any restriction) until the user dials the entire 11-digit number.

In example B, the feature applies restriction after the user dials 1-804.

If the feature finds a match in the toll restriction table, it next compares the dialed number to entries in the toll group. If it finds a match here, it next compares the restriction level of the entry against the restriction level of the station. If the restriction level of the station is equal to or less than the restriction level of the matched entry, the toll restriction feature allows dialing over the line specified with the toll group assignment. If the restriction level is greater than the restriction level of the matched entry, the toll restriction feature compares the dialed number to the exception number list. If it finds a match there, it allows the call.

## 11.1 Toll Restriction Example 1

---

In this example, the chief executive can dial all telephone numbers except those numbers with a restriction level of always deny. The section manager can dial all numbers except those in restriction level 8 (international numbers over lines assigned to toll group 1) and those numbers with a restriction level of always deny. The unit manager can dial all numbers except those numbers in restriction levels 7 and 8 (international numbers over lines assigned to toll group 1 and out of state numbers over lines assigned to toll groups 16 and 17) and those numbers with a restriction level of always deny. All other users can dial all numbers except those in restriction levels 6 (local calls over lines assigned to toll group 5), 7 (out of state numbers over lines assigned to toll groups 16 and 17), 8 (international numbers over lines assigned to toll group 1) and those numbers with a restriction level of always deny. All toll restricted stations can dial 1800 numbers on all lines. No toll restricted station can dial 1900 numbers on any line. Note that the feature allows dialing on lines that are not in the toll group. As illustrated in this example, there is no restriction for international dialing on lines in toll groups 2, 5, 16, and 17 and there is restriction only on lines 1-5 in toll group 1.

Toll Category	Dialing	Restriction Level	Toll Group
Chief Executive	International 011	8	1,
Section managers	Out of state	7	16, 17
Unit managers	In state	6	5
All other users	Local calls	1	2
911	Always allow	32	
1800	Always allow	32	
1900	Always deny	32	

Toll Group	Lines Assigned
1	1, 2, 3, 4, 5
2	6, 7
5	12, 13
16	14, 15
17	20, 25, 26, 27, 28, 29, 30
32	All Lines

## 11.2 Toll Restriction Example 2

---

In this example, assume that you have assigned the following restriction levels and exception numbers to the following people in a company: Keep in mind that you assign restriction level to stations by programming the class of service with a particular restriction level while you assign exception numbers to individual stations through station programming.

Station	Restriction Level	Exception Number
President	8	NONE
Executive	7	NONE
Manager	6	NONE
Joe in sales	1	5
Sally in sales	1	5, 6

Also, assume that you have programmed the following outside numbers, restriction levels and exception numbers into the toll restriction table:

Number	Restriction Level	Exception Number
1212	7	5
1213@@@	6	6
978	2	NONE
911	ALWAYS ALLOW	NONE

A toll restriction arrangement such as this example permits the following dialing conditions:

the president and the executive can dial all numbers,

the executive can dial any 1-212 prefixed number, any 1-213 prefixed number (remember, @ = match any digit), 978 numbers, and 911 (any numbers with restriction level equal to or less than 7),

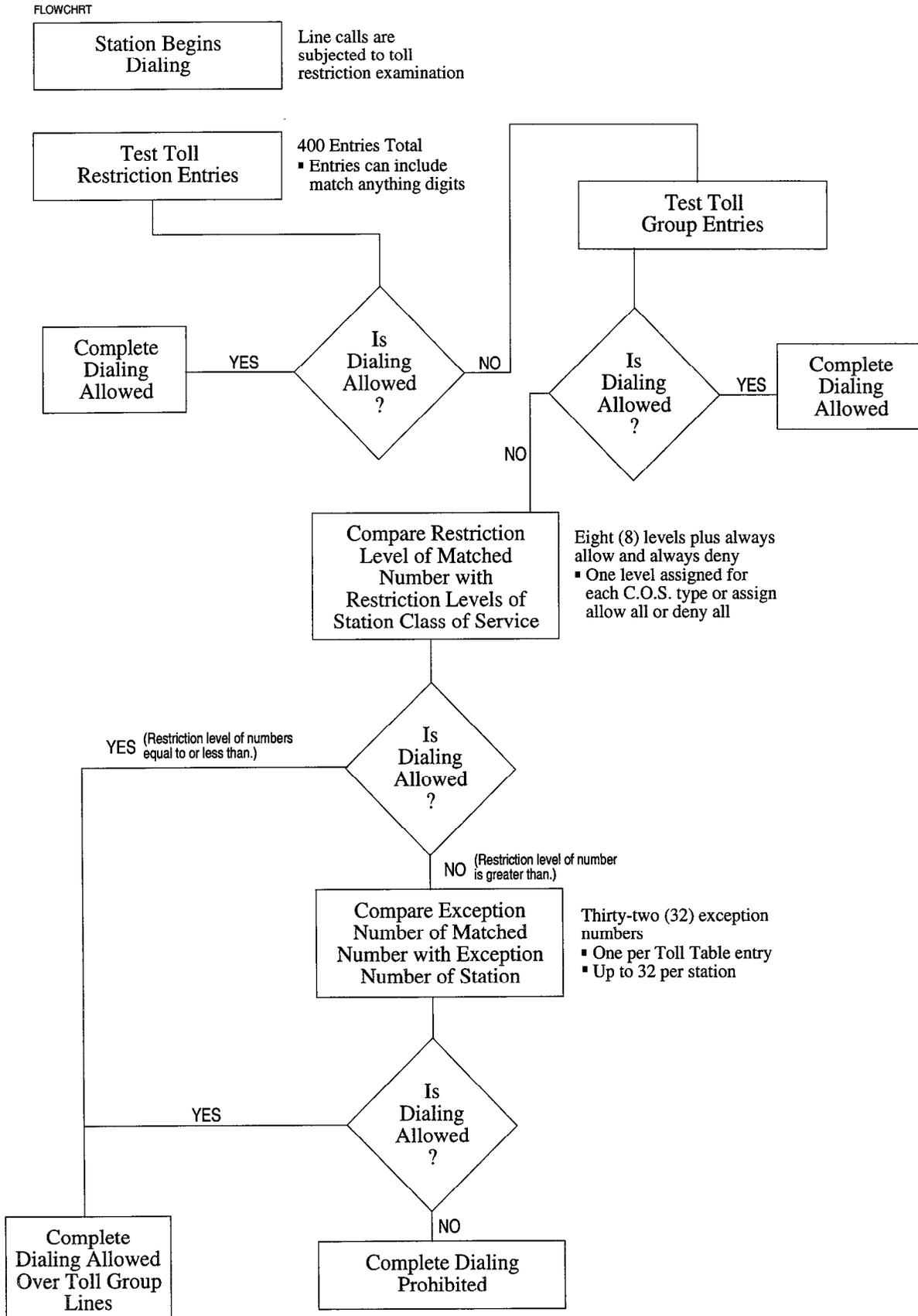
the manager can dial any 1-213 prefixed numbers, 978 numbers and 911 (any numbers with restriction levels equal to or less than 6),

Joe (in sales) can dial 911 (via his restriction level) plus 1-212 numbers through his exception number,

Sally (in sales) can dial 911 (via her restriction level) plus 1-212 and 1-213 numbers through her exception numbers.

(Remember, exception numbers allow Joe and Sally to dial numbers that are denied to them through their restriction levels.)

### 11.3 Toll Restriction Flow Diagram



## 11.4 Restriction Level Programming

---

**Description:** Group the system stations into as many as eight different toll calling categories based on the freedom to dial various numbers or the restriction from dialing them. Assign one of eight different restriction (1–8) levels or assign an “allow all” level or a “deny all” level. Level 8 is the least restrictive from a station viewpoint but the most restrictive from a restriction table viewpoint. (For example, a station with a restriction of 8 is only restricted from dialing “always deny” numbers and it can dial numbers with restriction levels of 1–8. A station with a restriction level of 1–7 cannot dial a number with a toll restriction table entry of 8.) The “allow all” entry ensures that the system applies no dialing restriction to a number (example: 911). The “deny all” ensures that a station user can never dial a number (example: 1-900). You actually assign a restriction level to a station by first assigning it to a station class of service and then assigning that class of service to the station. As previously described, the class of service assignment provides features and service that matches the needs of a specific category of stations. Program the restriction level value that accurately reflects the toll restriction dialing freedom expected by a specific category of stations.

**Programming:** Refer to IMI66-110, *Programming Records*, and locate the toll restriction programming record–station restriction level work sheet. Use this work sheet to create eight station categories. Order these categories from those with the most dialing freedom to those with the least and then note the station ports that you plan to each category. Arrange the toll restriction numbers into these categories so that they correspond to the required dialing freedoms. Assign restriction level numbers to each category. Also, list those numbers that every station must be allowed to dial (such as 911) as “always allow” and list those numbers that should never be dialed, (such as 1-900) as “always deny”.

1. From main menu, select TOLL/ARS and press ENTER.
2. From toll restriction menu, select restriction tables and press ENTER.
3. From toll restriction level menu, type 1 and press ENTER.
4. Select entry line for programming and press ENTER.
5. Press TAB to position cursor to restriction level column.
6. Press SPACE BAR to select restriction level 1–8, allow all, or deny all.
7. Press ENTER and repeat step 7 for each entry line.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Press ENTER to end.

Assign restriction level to class of service with this procedure.

1. Use the work sheet to note the class of service for each restriction level entry.
2. Press CONTROL T for main menu.
3. From main menu, select stations and press ENTER.
4. From stations menu, select COS programming and press ENTER.
5. From COS programming, type class of service number (1–32) ENTER.
6. From COS programming menu, type item number for day/night restriction level and press ENTER.
7. Type restriction level number (1–8).
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Press ESCAPE to end.

## 11.5 Toll Groups Programming

---

**Description:** You must assign the individual lines, that you do not want users to use when they dial toll restricted numbers. Do this by first assigning the lines to toll groups and then assigning those toll groups to the restricted number. There are 32 toll groups available for line assignment. Assign one, several, or all lines to any desired toll group or combination of toll groups as needed.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From lines menu, select line programming and press ENTER.
4. Type line name or line number and press ENTER.
5. From line programming, type item number for toll groups and press ENTER.
6. Type group number (0-32) and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Press ESCAPE to end.

## 11.6 **Restricted Numbers Programming**

---

**Description:** Program restricted numbers as entries in the toll restriction table. The system will accept up to 400 entries. Each restricted number can be up to 16 digits long and can be comprised of the digits 0—9 plus the “match any” digit (@) if needed.

If you program the system to include the automatic route selection (ARS) feature, always fill out the restricted numbers with the @ digit as shown in the following examples:

for 1+ dialing, enter 1@@@@@@@@@,

for local dialing, enter @@@@@@,

for 1+ 7-digit dialing, enter valid exchanges and the @ digit—either enter 1555@@@@ or enter 555@@@@ with the 1 added by the ARS modify digit table.

When you make this arrangement, you ensure that ARS will wait until the user dials all the number’s digits before it determines if all routes are busy. This eliminates the possibility of the user accidentally dialing an intercom number or a feature code.

You can enter a pause at the end of a restricted number’s digit string to indicate that dialing is complete. Do this by typing a P or p after you type the digit string. The pause entry distinguishes this restricted number as unique. You can enter the same digits without the pause but instead followed by additional digits as another unique number. You can assign different routing and toll restriction parameters to each of these entries. There are several applications for this feature. One application is in international dialing where different toll restriction parameters apply depending upon whether the caller dialed 0 or 011. In this case, you can enter 0 **pause** to access local lines and 01 to access international lines. Another application is with tie line calling where a remote extension is the same digits as an office or area code that you need to enter in the restriction table. By entering nnn **pause** for tie line access and nnn@ for CO line access, the system can route the call over the proper line. A third application is brought forth with the advent of the new North American Numbering Plan (NANP). With NANP, an area code may be the same digits as a local office code. You can enter nnn@@@@ **pause** for local line access and nnn@@@@@ for long distance line access. In any application, the system resets its pause timer after receiving each caller dialed digit. If the timer expires before the caller dials another digit, the system routes the call based on the digits preceding the **pause**. If, instead, the system detects more digits instead of a **pause**, it routes the call based on the entire digit string.

You can enable the pause entry ability using the Section 6.10.5, *Toll/ARS Dialing Pause*, programming procedure; however, the following Section 11.6.1, *Restricted Number Programming Procedure*, procedure for entering the restriction number digits also includes the pause enabling procedure.

### 11.6.1 Restricted Numbers Programming Procedure

**Programming:** Refer to IMI66-110, *Programming Records*, and locate the *toll restriction programming record-dialing option table*. Use this table to make a list of all of the restricted numbers that the site requires. Include numbers on the list that should never be restricted, such as 911 (exception). Also include numbers that should never be dialed, such as 1-900 (always deny). Use the @ "match any" symbol to encompass a range of numbers wherever possible, such as 1@@ for any number beginning with a 1. You can enter up to 400 line items on this table.

To enable pause entry,

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. From system parameters menu, select toll/ARS dialing pause and press ENTER.
5. Press SPACE bar for feature setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

To enter restriction number digits,

1. Press CONTROL T for main menu.
2. From main menu, select TOLL/ARS and press ENTER.
3. From Toll/ARS menu, select restriction tables and press ENTER.
4. From toll restriction table menu, select entry line for programming and press ENTER.
5. Type restriction number entry and press ENTER  
(Entry can be 16 digits long and can include @ as match any symbol and P for pause.)
6. Repeat steps 5 and 6 for all entries.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Press ESCAPE to end.

## 11.7 Exception Number Programming

---

**Description:** Exception numbers allow stations to dial numbers that are not normally allowed by their restriction levels. When a user dials a number at his or her station, the toll restriction feature compares it to the toll restriction numbers, the toll groups, the restriction level, and to the exception number. If the feature makes a match, the station is not normally allowed to dial the number. However, if the exception number of the toll restriction table line entry matches one of the exception numbers assigned to the station, the feature allows the station to dial the number. The exception number values that you can assign are 1 through 32 and NONE. You can assign 32 exception numbers to each station. You can assign one exception number to each toll restriction table line entry. The feature provide you with separate line entries expressly for the purpose of specifying special dialing exceptions.

**Programming:** Assign exception number to toll restriction table line entry with this procedure.

1. Assign an exception number of 0 to 32 to each listed restriction number that may need it.
2. Press CONTROL T for main menu.
3. From main menu, select TOLL/ARS and press ENTER.
4. From toll restriction menu, select restriction tables and press ENTER.
5. From the restriction table menu, type row number and press ENTER.
6. Press TAB to position cursor to exception level column.
7. Type exception number 0-32.
8. Press ENTER and repeat step 7 for each line entry.
9. When finished, press ESCAPE twice.
10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

Assign exception number to station with this procedure.

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type intercom number or name of station.
5. From station programming menu, type item number for Day (or Night) exception number.
6. Type exception numbers 0-32 (n,nn or n-nn) or type 0 for none.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Press ESCAPE to end.

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**12**

## ***Enabling Automatic Route Selection***

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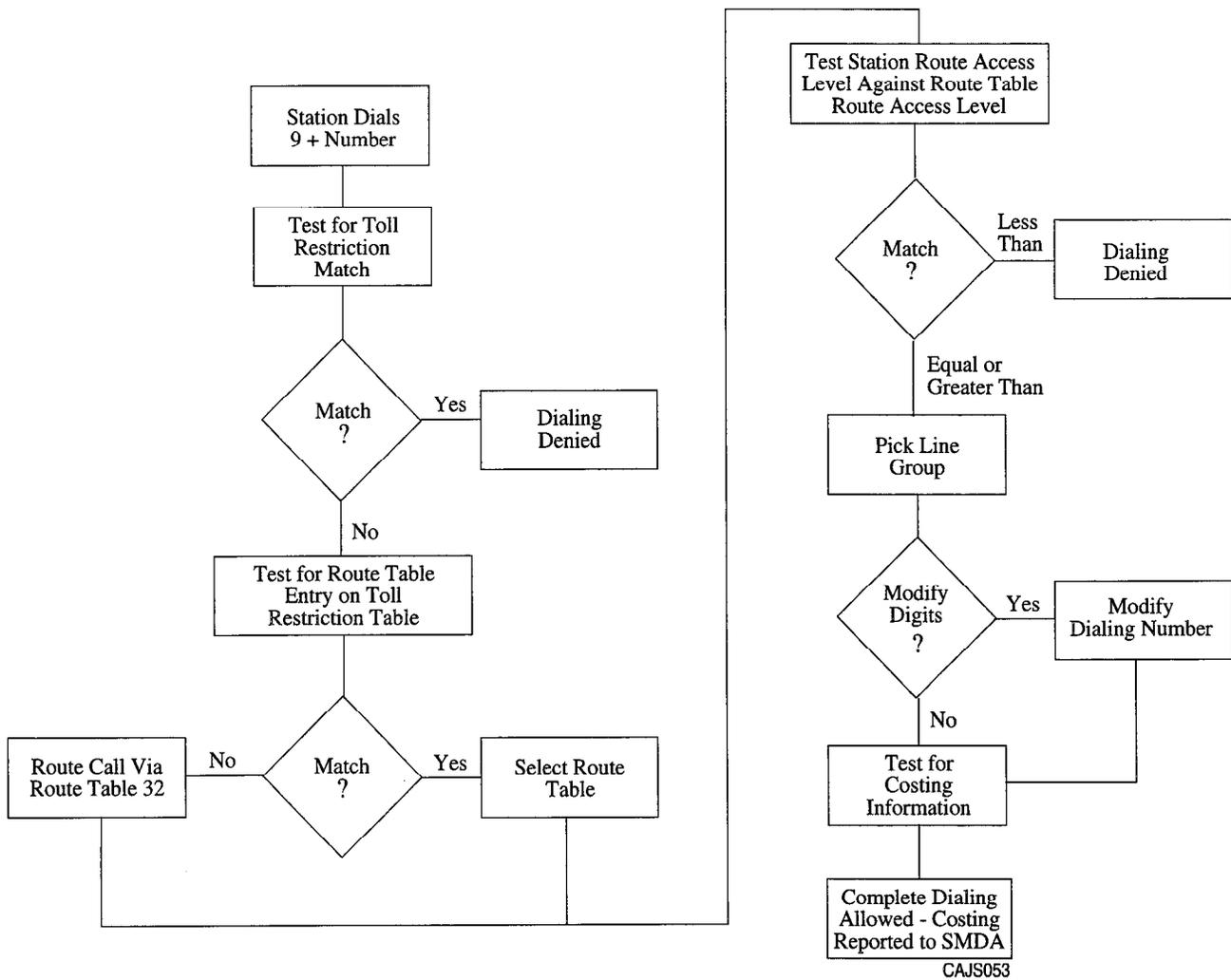
- Automatic Route Selection Diagram . . . . . 12.1
- ARS Enable . . . . . 12.2
- Line Groups for ARS . . . . . 12.3
- Route Tables (ARS) . . . . . 12.4
- Costing Information (ARS) . . . . . 12.5
- Automatic Route Selection for Speed Dial Numbers . . . . . 12.6

Automatic route selection (ARS) permits the system to select the least costly line group that is available to a station to route its outgoing call over. The system modifies the dialed number, if needed, to match the selected line group. Additionally, ARS provides the costing information for the dialed call that is reported by the station message detail accounting feature. ARS makes its routing decisions (which lines to route a call over, when and how to modify a number, and costing information) based entirely upon the programming of the system.

*NOTE: When the ARS feature is active, never program a direct line appearance to a station. If a station user selects a line directly at his or her station, the system will not route the call using the ARS feature.*

For an overview of automatic route selection, refer to Section 12.1, *Automatic Route Selection Diagram*.

## 12.1 Automatic Route Selection Diagram



## 12.2 ARS Enable

---

**Description:** You can enable or disable automatic route selection on a system-wide basis. A defaulted system has ARS disabled.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From the system menu, select system parameters and press ENTER.
4. From the system parameters menu, select ARS feature and press ENTER.
5. Press SPACE BAR to toggle between enable and disable.
6. Press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

## 12.3 Line Groups for ARS

---

**Description:** Before automatic route selection can operate, you must group similar lines together into line groups. The system can have a total of 16 line groups with unlimited lines in each group. Be sure that you program similar line types together into the same line groups to take advantage of the efficiency and cost savings associated with automatic route selection. Some examples of lines that have similar characteristics and should be grouped together into line groups are as listed below:

- outgoing WATS lines to a particular area,
- FX lines to a frequently called area,
- similar AT&T long distance lines,
- similar MCI lines,

A line group can consist of only one line, (for example, if only one FX line exists, put it into a separate line group). Doing this allows the ARS feature to route calls over that group (FX line) for any calls to the FX line area.

*NOTE: To prevent system users from accessing non-ARS line groups, use the Section 6.13, Feature Renumbering, procedure to clear the dialing codes for all non-ARS line groups.*

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select lines and press ENTER.
3. From the lines menu, select line group programming and press ENTER.
4. Type line group number (1-16) and press ENTER.
5. Type a to add lines, r to remove lines, or c to change name of line group and press ENTER.
6. Type line to be removed, added, or changed then press ENTER.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
8. Repeat steps 4-7 for each line port or press ESCAPE to end.

## 12.4 Route Tables (ARS)

---

**Description:** The ARS feature interacts with the toll restriction feature. You must enter a number into the toll restriction table and assign a route table (1–32) to it before the system can perform ARS on the dialed number. The system will route only those numbers that you have both assigned a route number and entered on the toll restriction table.

The route table entry specifies the following parameters:

- over what line group the call will route,
- whether the station is permitted to make a call on that group,
- whether the dialed numbers must be modified to match that line group.

If a dialed number is not matched by an entry in the toll restriction table, it is routed by route table 32—the default route table. The system defaults table 32 to use line group 16 and it defaults line group 16 to use all lines. You must either remove all invalid lines from line group 16 or make table 32 inactive if you do not need default routing.

The entered numbers can be some of the same numbers that you enter as toll restriction numbers or other numbers that are in addition to them. Either way, you can enter a maximum of 400 toll restriction and/or ARS numbers. Each entered number can be up to 16 digits long and can be comprised of digits 0–9 plus the “match any” digit (@) if needed.

*NOTE: When the system accepts a number entry into the toll restriction table, it re-orders all of the table entries. The system places a 0 after all other digits in the entries. Also, it places a number with a leading 1 ahead of the same number without a leading 1.*

**Programming:** To enter a number in the toll restriction table and assign a route table to it, proceed as follows,

1. Make a list of the numbers to be routed.
2. Press CONTROL T for main menu.
3. From main menu, select TOLL/ARS and press ENTER.
4. From the toll restriction menu, select restriction tables and press ENTER.
5. Select line number and press ENTER. (Press CONTROL and type N for additional page of line numbers).
6. Type ARS number entry. Entry can be up to 16 digits long and can include @ as “match any” symbol.
7. Press TAB key to place cursor at route table entry column.
8. Type 1–32 to choose route table and press ENTER.
9. Repeat steps 5–8 for all required ARS numbers.
10. When finished, press ESCAPE twice.
11. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **12.4.1 Route Table Warning Tone**

**Description:** You can arrange for the system to sound a warning tone in the user's handset or station speaker if ARS routes a call on any route other than the least expensive. This tone indicates that the system has chosen a more expensive line group. If a station user hears this tone, he or she should hang up and try again later.

**Programming:** To enable route select warning tone,

1. Press CONTROL T for main menu.
2. From the main menu, select TOLL/ARS and press ENTER.
3. From the TOLL/ARS menu, select route table and press ENTER.
4. Type 1-32 to select route table to be programmed and press ENTER.
5. Type 1-6 to select route number and press ENTER.
7. Press TAB key to position cursor at route status column.
8. Press SPACE BAR for feature value and press ENTER.
9. Press ESCAPE.
10. Repeat steps 5 through 9 for all six routes.
11. When finished, press ESCAPE.
12. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
13. Repeat steps 4-12 for all route tables.
14. Press ESCAPE twice to return to main menu.

## **12.4.2 Routes**

**Description:** There are a total of 32 route tables that you can be program for the system. Each route table can contain up to 6 routes. Each of these routes convey the data listed as follows:

- the line group to route the call over,
- the access level of the route,
- the modify digit table,
- all costing information.

Program the six routes from the least costly routing method to the most costly routing method. The cost of the route is determined by the line group over which the call is routed. ARS will always try to select route 1 first, and then 2 through 6, when routing a call. If a station, through its class of service assignment, does not have a route access level high enough to allow it access the route selected by ARS, dialing is denied. If the route access level is high enough, ARS will route the call based on the routing information. If the system cannot route the call over the line group that ARS first selects, ARS will try the next route of the route table. Once again the route access level is tested. This process is repeated, up to a maximum of 6 times. If the station has access to at least the first route, but is unable to dial out (because all lines are busy), it will receive a busy tone in the handset or speaker. The station can then camp-on the route so it will ring when a line in the route table becomes available.

**Programming:** Assign line groups to routes as follows,

1. Form lines and program them as described Section 8.2, *Line Group Programming*.  
On a work sheet, note the line group for each route.
2. Press CONTROL T for main menu.
3. From the main menu, select TOLL/ARS and press ENTER.
4. From TOLL/ARS menu, select route tables and press ENTER.
5. Type 1-32 to select route table to be programmed and press ENTER.
6. Type 1-6 to select route and press ENTER.
7. Type 1-16 to choose line and press ENTER.
8. Press ESCAPE and repeat steps 6-8 for all six routes.
10. Press ESCAPE twice.
11. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
12. Repeat steps 5-11 for all 32 tables and press ENTER.
13. Press ESCAPE twice to return to main menu.

### **12.4.3 Route Access Level**

**Description:** Each of the six routes of a route table require a route access level of 1 to 4. ARS uses this route access level to determine if the dialing station has access to dial out on the route. Each station, through its class of service, is also assigned a route access level of 1 to 4. Before the system accepts a dialed number, ARS compares the route access level entries. If the station route access level is greater than or equal to the route access level assigned to the route, the station is allowed to access the route. Otherwise, the system will not accept the dialed number, and sounds an error at the station's speaker or handset. The route access level allows some stations to gain access to the more costly routes in a route table while denying it to others. Just as you program each route from least to most costly, you must also arrange the route access level to increase from a low level to a high level. This is necessary because once the system denies dialing because of the level, it will not try another route. The more costly the route is, the higher the access level needed to access it.

**Programming:** To program the access level for the route,

1. Press CONTROL T for main menu.
2. From the main menu, select TOLL/ARS and press ENTER.
3. From the TOLL/ARS menu, select route tables, press ENTER.
4. Type 1-32 to select route table to be programmed and press ENTER.
5. Type 1-6 to select route number and press ENTER.
6. Press TAB key to position cursor at route access column.
7. Type 1-4 to choose access level and press ENTER.
8. Press ESCAPE and repeat steps 5 through 8 for all six routes.
9. When finished, press ESCAPE.
10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
11. Press ESCAPE twice to return to main menu.

To program the access level for the station class of service,

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From the stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From the COS programming menu, type item number for day route access and press ENTER.
6. Press SPACE bar for feature setting.
7. Press ENTER for night route access level, and press SPACE bar for feature setting.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
10. Repeat steps 4-8 for each COS or press ESCAPE to end.

## **12.4.4 Modify Digit Table**

**Description:** Each of the six routes in each route table has a modify digit table. This modify digit table details any modifications that the system needs to do to the user dialed number. This need for modification is determined by the type of lines that you include in the line group for the route. If a line group requires that the dialed number be in a specific format, you must set up an appropriate modify digit table. You must program the index number of this table into the specifications of the route that the line group is found. The sole purpose of the index number and the corresponding table are to modify the number dialed by the station user.

### *Example*

Assume that a station dials 1-202-222-3456 (Washington D.C. area). Also, assume that the system has an FX line for the Washington D.C. area and that this is the way that ARS is going to route the call. Finally, assume that the route table route contains a modify digit table index number that points to the following modify digit table:

ADD AMOUNT = 0  
DIGITS TO ADD = n/a  
DELETE AMOUNT = 4

This situation results in the system deleting 1-202 (DELETE AMOUNT = 4), from the beginning of the number and adding 0 digits (ADD AMOUNT = 0). This modification allows the number 222-3456 to be dialed over the FX line to Washington D.C.

There are 16 modify digit tables in the system. Each modify digit table contains the following information:

- numerical sequence of the digits to be added (valid digits are 0-9 and the pause ,p, digit) in a digit string that can be up to 20 digits long,
- number of digits to be deleted from the dialed number (this value can be from 0 to 10).

*NOTE: When ARS modifies the dialed number, it first deletes from the beginning of the number and then adds to the beginning of the number.*

## ***Programming Modify Digit Tables***

**Description:** Use this procedure to program the modify digit table.

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select TOLL/ARS and press ENTER.
  3. From the TOLL/ARS menu, select modify digit table and press ENTER.
  4. Type line number for modify digit table to be programmed and press ENTER.
  5. Press TAB key to position cursor at digits to delete column.
  6. Type 0–10 for number of digits to delete.
  7. Press TAB key to position cursor at digits to add column.
  8. Type digits to add (0–9, pause). A maximum of 20 digits can be entered.
  9. Press TAB key to position cursor for next modify digits table.
  10. Repeat steps 6–9 until all modify tables are entered and press ENTER.
  11. When finished, press ESCAPE twice.
  12. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.
  13. Press ESCAPE to return to main menu.

## ***Assigning Modify Digit Table To Route***

**Description:** Use this procedure to assign modify digit tables to routes.

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select TOLL/ARS and press ENTER.
  3. From the TOLL/ARS menu, select route table and press ENTER.
  4. Type 1–32 to select route table to be programmed and press ENTER.
  5. Type 1–6 to select route number and press ENTER.
  6. Press TAB key to position cursor at modify table column.
  7. Type 1–16 ENTER to choose modify digit table needed.
  8. Press ESCAPE and repeat steps 5 through 8 for all six routes.
  9. When finished, press ESCAPE .
  10. Type y to accept entries, n to reject them, or r to resume editing and press ENTER.
  12. Repeat steps 4–11 for all needed route tables or press ESCAPE to end.
  13. Press ESCAPE twice to return to main menu.

## 12.5 Costing Information (ARS)

---

**Description:** Each route in every route table contains costing information. The costing information includes a surcharge, a first tier cost per minute, a second tier cost per minute, and the amount of time to cost the call at first tier cost before switching to the second tier cost. The surcharge is a dollars and cents value that the system adds to the total cost of a call. You can program both tier costs in one cent increments in the range of \$0.0 through \$99.99 per minute.

**Even if the system does not route a call through ARS, (for example, when a station user direct selects a line), the system will still access the costing information to cost the call.**

The system reports call costs as part of the SMDA report. Use Section 10.1 to set the SMDA costing parameters for this report.

**Programming:** To program call costing,

1. Press CONTROL T for main menu.
2. From the main menu, select TOLL/ARS and press ENTER.
3. From the TOLL/ARS menu, select route table and press ENTER.
4. Type 1-32 to select route table to be programmed and press ENTER.
5. Type 1-6 to select route number and press ENTER.
6. Press TAB key to position cursor at surcharge column.
7. Type dollar and cents value (\$nn.nn) of the surcharge.
8. Press TAB key to position cursor to tier 1 cost column.
9. Type tier 1 cost (\$nn.nn).
10. Press TAB key to position cursor to tier 1 time column.
11. Press SPACE BAR to select desired time.
12. Press TAB key to position cursor to tier 2 cost column.
13. Type tier 2 cost (\$nn.nn).
14. Press ENTER to accept entries.
15. Press ESCAPE.
16. Repeat steps 5-15 for each route number. When finished, press ESCAPE.
17. Type y to accept entries, n to reject them, or r to resume editing and press ENTER.
18. Repeat steps 4-11 for each route table. When finished, press ESCAPE twice to return to main menu.

### 12.5.1 Call Cost Display (Display Of Costed Calls)

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**Description:** If you have arranged for the system to employ call costing, you can use this procedure to arrange for an LCD speakerphone to display the cost of a call made from that station.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select COS programming and press ENTER.
4. Type class of service number (1-32) and press ENTER.
5. From COS programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each COS or press ESCAPE to end.

## **12.5.2 Cost Incoming**

**Description:** If you have arranged for the system to cost calls, you can arrange for it to also cost incoming calls on a per line basis. You can arrange for the costing to begin as soon as the call arrives in the system, begin after the user answers the call or begin after a programmed delay. Plus, you can pick the call rate table that you want the system to use when it costs the call.

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select lines and press ENTER.
  3. From the lines menu, select line programming.
  4. Type line port number (1-128) or name and press ENTER.
  5. From the line programming menu, type item number for feature and press ENTER.
  6. From cost incoming prompt, press SPACE bar for desired feature setting and press RETURN.
  7. From incoming cost delay prompt, press SPACE bar for desired feature setting and press ENTER.
  8. From incoming cost route prompt, type 1-32 for desired route table.
  9. When finished, press ESCAPE twice.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4-8 for each line port or press ESCAPE to end.

## **12.6 Automatic Route Selection for Speed Dial Numbers**

**Description:** You can arrange for the system to process the system speed dial, and any personal speed dial numbers, that you program for the users, through the automatic route selection (ARS) feature. If the users program their own personal speed dial numbers and you have enabled ARS processing of calls, they must prefix their personal speed dial numbers with the ARS preselect code. Instruct them to follow the procedure given here when they do this. See Section 6.7, *Speed Dial Programming*, for speed dial programming.

**Programming:** To arrange for the system to process the system speed dial numbers through the ARS feature.

1. From system menu, select speed dial and press ENTER.
2. From speed dial menu, type item number for desired speed dial number and press ENTER.
3. Press TAB to place cursor in preselect column.
4. Press SPACE bar to choose ARS.
5. Press TAB to place cursor in number column.
6. Type system speed dial number (max. 32 digits, P = pause, F = hookflash) and press ENTER.
7. Repeat steps 5 through 8 for all desired system speed numbers.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end

To arrange for the system to process each station's personal speed dial numbers through the ARS feature.

1. From the stations menu, select button mapping and press ENTER.
2. Type personal intercom number or previously assigned name for first station to be programmed and press ENTER. Button map with current assignment appears on screen.
3. Type button code (L1-L25, 0-9) for button to be arranged for personal speed dial use and to be processed through ARS and press ENTER.
4. Type SDIAL and press ENTER.  
(This action arranges the button as a personal speed dial button).
5. Type a and press ENTER.  
(This action arranges for the speed dial number to be processed through the ARS).
6. Type the speed dial number (max. 16 digits) and press ENTER.
7. Repeat steps 3-6 for all desired personal speed dial numbers.
8. Press ESCAPE and repeat steps 4-9 for all desired stations.
9. When finished press ESCAPE to end.

Instruct station users to program personal speed dial numbers per the following sequence when you have enabled ARS call routing for their use:

1. Press INTERCOM,
2. Dial \* \* 1,
3. Press speed dial button,
4. Dial 9 for ARS (on LCD speakerphones, dial 9 when prompted to enter line),
5. Dial personal speed dial number (max. 16 digits, HOLD = pause, TAP = hookflash),
6. Press TRNS/CNF to store number,
7. Repeat steps 3-6 for next button or press SPEAKER to end programming.

**13**

## Selecting System Printouts (Printer Interface)

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**Description:** The system makes a wide variety of printout records available. Use this programming procedure to choose the user's desired printout types and to direct the printouts to either the SMDA/SMDR data printer or the VDT screen.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select printouts and press ENTER.
3. From printouts menu, select desired printout category and press ENTER.
4. Type s for screen printout or p for hard copy printout through the SMDA/SMDR data printer and press ENTER.

*NOTE: Press CONTROL C to stop a printout to the VDT screen when necessary. This action will not stop printout to a data printer.*

5. When printout is finished, press any key to return to category menu and repeat steps 4 and 5 for next desired printout or press ESCAPE to return to printouts menu.
6. Repeat steps 3-6 for next desired printout or press ESCAPE to end.

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**14**

***Programming For  
Peripheral Devices***

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- Caller ID Programming . . . . . 14.1
- Tracker Paging System . . . . . 14.2
- Digital Voice Announce Programming . . . . . 14.3
- PC Attendant Position Programming . . . . . 14.4
- Voice Mail Programming . . . . . 14.5
- Modem Setup . . . . . 14.6

## **14.1 Caller ID Programming**

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The DXP caller ID feature supports an externally connected, customer-supplied caller ID device (product code CID08). This hardware device supports eight caller ID conditioned lines, and the installer can serially connect up to eight devices to give the DXP the ability to support a maximum of 64 caller ID conditioned lines. The caller ID unit interfaces with the DXP through any main or auxiliary serial data port (Section 6.5). Any proprietary digital LCD speakerphone can receive and display caller ID information. The display conveys all available caller ID information from the time the call rings at the station, through all line transitions, until the line disconnects. The system stores caller ID information in its SMDA storage and makes it available in the SMDA printout. In programming for caller ID support, you must match the data baud rate with that of the CID08, you must enable the caller ID lines, and you must assign them to ring on the telephones. You can set the caller ID options, and enter the local area codes and local exchange codes that you want the system to skip when it automatically dials a return call. You can also assign caller ID ring no-answer (RNA) capability to the telephones that are on caller ID lines. Users of these telephones have the ability to review this caller ID RNA information and return the call. They can also note if anyone else has already viewed a record thus preventing redundant returns.

### **14.1.1 Deleting Viewed RNA Record (for Caller ID)**

**Description:** When the system makes caller ID RNA information available to a group of stations, any station user in the group can review the information by pressing the telephone's CID button. When he or she does this, the system removes the record from that telephone but continues to flash the CID button status light for other stations in the group. If you enable this feature, the system will remove the caller ID record from all telephones if any user in the group views a record.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select peripherals and press ENTER.
3. From peripherals menu, select caller ID and press ENTER.
4. From caller ID menu, select options and press ENTER.
5. From the options menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **14.1.2 Setting Absorb Ring Time (for Caller ID)**

**Description:** Use this procedure to specify the amount of time the system waits while it generates caller ID information before it generates system ringing.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select peripherals and press ENTER.
3. From peripherals menu, select caller ID and press ENTER.
4. From caller ID menu, select options and press ENTER.
5. From the options menu, type item number for feature and press ENTER.
6. Press SPACE bar for time (0-8 seconds) and press ENTER.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **14.1.3 Arranging Local Call Table (for Caller ID)**

**Description:** When telephone users review caller ID RNA calls, they press their SAVE button to return the call, and the system automatically dials the number. If the area code or office code part of the stored number matches the entries that you program with this procedure, the system will skip that part of the number as it dials.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select peripherals and press ENTER.
3. From peripherals menu, select caller ID and press ENTER.
4. From caller ID menu, select local call table and press ENTER .
5. From the local call table menu, enter area codes or office code and press ENTER.
6. Repeat step 4 for all desired codes (16 maximum)
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **14.1.4 Making Caller ID Active**

**Description:** When caller identification (ID) information is available from the central office, take this programming action to match the line port to the feature. You must also assign the caller ID lines to the stations and assign special-purpose station buttons to control the feature.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select lines and press ENTER.
3. From the lines menu, select line programming and press ENTER.
4. Type line port number (1-128) or name and press ENTER.
5. From the line programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for feature setting.
7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4 through 8 for each line port or press ESCAPE to end.
10. Assign caller ID lines to stations—refer to Sections 7.1.32, *Line Answer*, and 7.1.33, *Line Originate* for details.
11. Assign caller ID button (mnemonic CID) and SAVE button (mnemonic SAVE) to stations—refer to Section 7.3, *Square/Nonsquare System-Button Mapping By Station*, for details

### **14.1.5 Setting Caller ID Baud Rate**

**Description:** You must program the parameters of the main or auxiliary serial data port where the installer has connected the CID08 device. The serial data port parameters must match the data parameters of the CID08 device. Usually, this is 9600 baud, eight data bits, no parity bit, and one stop bit.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select serial ports and press ENTER.
  4. From serial ports menu, type item number for main port or for auxiliary port and press ENTER.
  5. From serial port type menu, select the serial port number and press ENTER.
  6. Press SPACE bar for feature setting
  7. Press TAB for next parameter.
  8. Repeat steps 6 and 7 for all parameters.
  7. Press ENTER to accept settings.
  9. When finished, press ESCAPE twice.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Press ESCAPE to end.

### **14.1.6 Arranging Caller ID Ring No-Answer (RNA)**

**Description:** This feature offers telephone users the ability to review calls that ring at their stations while they are away. The system stores caller ID RNA records and allows users to review them and use one-button dialing to return those calls that need returning. The feature also denotes the identification of the last station that reviewed the records thus helping prevent multiple call backs to the same number. After users review the caller ID RNA records, the system deletes the records from their telephones yet retains them in the SMDA storage so that they can look at them later if they must.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select station and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number or previously assigned name for station you wish to program and press ENTER.
  5. From station programming menu, type item number for feature and press ENTER.
  6. Press CONTROL E for edit table.
  7. Type *a* to add or *r* to remove and press ENTER.
  8. Enter caller ID line port numbers 1-128 (enter n, nn, nnn or n-*nnn*) to serve feature at this station and press ENTER.
  9. Press ESCAPE three times.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4-9 for each station or press ESCAPE to end.

## **14.2 Tracker Paging System Programming**

The Tracker Paging System is a paging device that interfaces a DXP system with Tracker pagers (personal pager devices). When the Tracker Paging System is installed, you must use the following programming routines to establish proper communications between the system and individual Tracker pager users.

### **14.2.1 Programming Tracker Paging System Options**

**Description:** Tracker Paging System options consist of selecting the serial port that you will use for connecting the base station, enabling or disabling Tracker Paging System operation, and selecting PC Attendant 1 through 4.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select peripherals and press ENTER.
3. From peripherals menu, select tracker and press ENTER.
4. From Tracker menu, select options and press ENTER.
5. Enter Tracker Paging System base station number (1 through 4) and press ENTER.
6. From tracker unit options menu, select the serial port where the Tracker base station will be connected (1 through 18) and press ENTER.
7. Toggle the second field with the SPACE bar to enable/disable the Tracker Paging System option and press ENTER.
8. Toggle the third field with the SPACE bar to select PC Attendant 1 through 4 (or none) and press ENTER.
9. When finished, press ESCAPE twice.
10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
11. Press ESCAPE to end.

*NOTE: After you have enabled the Tracker paging system and saved your programming selections, the DXP system connects with the Tracker base station and displays the following message:*  
Initializing TRACKER unit, please wait. . .

*If the Tracker base station is correctly installed and operational, the DXP system then displays the following message:*  
Installation complete, TRACKER is on line

*If, however, the Tracker base station is not installed or fails to connect, the DXP system displays the following message:*  
Installation error, verify programming or installation

## **14.2.2 Making Tracker Paging System Assignments**

**Description:** Use the following programming instructions to assign individual Tracker Pagers to a station extension number, select the pager types, and assign a block of pagers to a Tracker Paging System base station. Use this programming method for making minor modifications after the system has been installed and programmed per instructions in Section 14.2.3, *Making Initial Tracker Pager Assignments*.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select peripherals and press ENTER.
  3. From the peripherals menu, select tracker and press ENTER.
  4. From tracker menu, select pager assignment table and press ENTER.
  5. In the first field, enter intercom number and press TAB.
  6. In the third field, enter Tracker Pager number and press TAB. (The second field is the name field that is programmed in the intercom numbers screen.)
  7. In the fourth field, press the SPACE bar to enable/disable the Tracker Pager and press TAB.
  8. In the fifth field, press the SPACE bar to select Tracker Pager type P1000 through P4000.

*NOTE: Tracker pager designations are:*

- P1000 (numeric display only)*
- P2000 (1-line alphanumeric display)*
- P3000 (2-line alphanumeric display)*
- P4000 (4-line alphanumeric display)*

9. After making pager type selection, press TAB.
10. In the fifth field, type Tracker base station's number (1 through 4).
11. When finished, press ESCAPE twice.
12. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
13. Press ESCAPE to end.

## **14.2.3 Making Initial Tracker Pager Assignments**

**Description:** Use the following programming instructions to select intercom numbers, to assign pager types, and to assign individual pagers to a Tracker base station. Use this programming method to make many assignments quickly when first installing the system. This programming method overwrites any assignments previously made using the method described in Section 14.2.2, *Making Tracker Paging System Assignments*.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select peripherals and press ENTER.
  3. From the peripherals menu, select tracker and press ENTER.
  4. From tracker menu, select initialize pager assignments and press ENTER.
  5. From the initialize pager assignments menu, select Intercom Number(s) and press ENTER.
  6. Press CTRL-E to display Intercom Numbers Table.
  7. Select a to add or r to remove intercom numbers and press ENTER.
  8. Enter one intercom number or a group of intercom numbers (example: enter 101-150 to initialize those fifty intercom numbers at one time) and press ESCAPE.
  9. Select pager number and press ENTER.
  10. Enter pager number located on pager and press ENTER.
  11. Press SPACE bar to enable or disable the intercoms and press ENTER.
  12. Press SPACE bar until the pager model number you are using is displayed and press ENTER.
  13. Enter the Tracker base station number (1-4) and press ESCAPE twice.
  14. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  15. Press ESCAPE to end.

## **14.2.4 COS Programming For Tracker Access**

**Description:** Assign tracker access to a particular station intercom or group of intercoms using the following class of service (COS) programming. (The default is yes for COS1 and COS32.)

- Programming:
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select COS programming and press ENTER.
  4. From COS programming, type class (1-32) and press ENTER.
  5. From COS (class number) programming, select Tracker Access.
  6. Toggle the SPACE bar to select yes/no and press ESCAPE twice.
  7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  8. Press ESCAPE to end.

NOTE: To activate this feature, you must assign the COS type that you programmed to the desired intercom(s). See Section 7.2.3, Class Of Service.

## **14.3 Digital Voice Announce Programming**

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The digital voice announce device (DVA) is an optional line-powered unit that connects to a digital station port and plays pre-recorded voice prompts and dialing instructions to incoming callers on the direct inward system access (DISA) lines.

Currently, DISA is the only DXP feature to take advantage of the DVA's voice prompting capability; therefore, for the DVA to function, you **must** have DISA lines assigned and programmed. The maximum number of DVA units you can install is limited only by the number of DXP station ports (192). Once you or the installer connects the DVA to a digital station port, the DVA identifies itself to the DXP so you do not have any phone-type programming to do. Nor is it necessary for you to program the system to send DTMF or ringing signals to activate the DVA because DISA programming determines the DVA's actions. When you use a DVA in conjunction with DISA, the DXP automatically answers the DISA lines and guides the callers with DVA originated voice prompts.

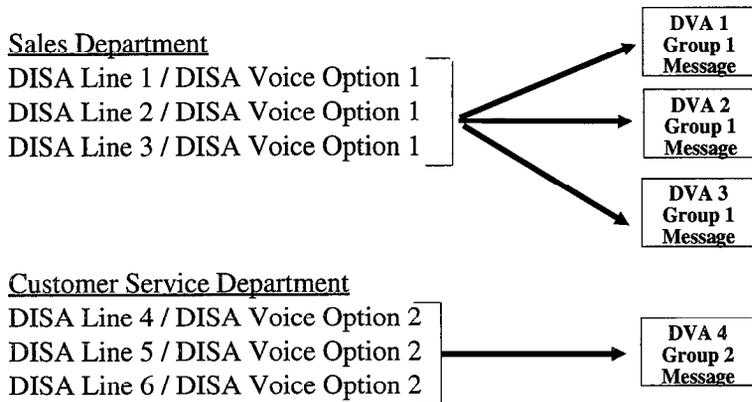
A DVA accepts and stores up to four recorded messages, with a total maximum recorded time for all messages of two minutes. Using system attendant programming, you can divide this two-minute period as necessary among the four messages or use the entire two minutes for one message. These pre-recorded messages play during an in-process call and prompt callers to dial a single digit to reach a particular intercom number or feature code. For each message type, you can assign up to ten intercom numbers or feature codes and assign a single access digit to each of these intercom numbers.

Each message type has a two-digit system index number (for example: 10 = Welcome Greeting 1, 11 = Welcome Greeting 2, and so forth). You use this index number to identify the messages when you record them. Many of the messages have a single-digit group option number appended to their names (for example: Welcome Greeting 1, Day Main Menu 1, and so forth). You use this message group number to place messages for a particular category of caller together (all group 1 messages for sales calls, all group 2 messages for service calls, and so forth). You assign a message group to a DISA line based on the line's DISA voice option. Group 1 messages correspond with DISA voice option 1, group 2 messages with DISA voice option 2, group 3 messages with DISA voice option 3 and group 4 messages with voice option 4. You assign a voice option, and thus a message group, to a DISA line using programming procedures given in Section 8.8.2, *Enabling Or Disabling DISA Lines*.

### 14.3.1 Understanding The Line/Voice Option/DVA Relationships

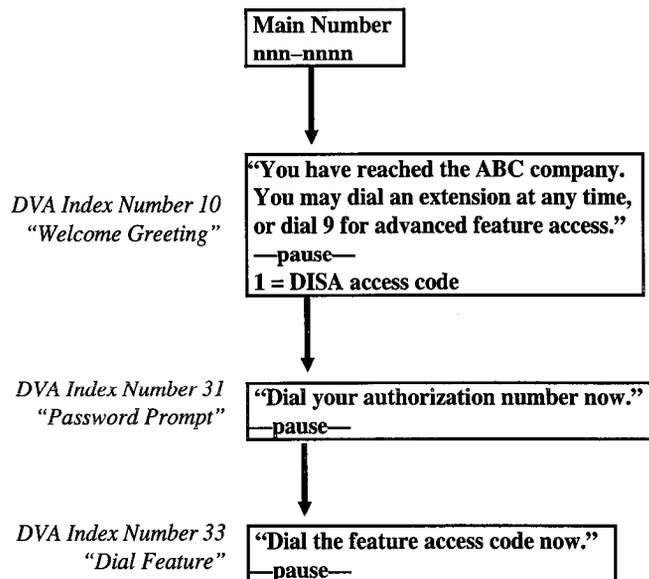
#### DVA Application

A company with several departments reserves all group 1 messages for the sales department and reserves all group 2 messages for the customer service department. The company attendant records the group 1 and 2 message to have meaning for the sales and customer service departments. The system programmer assigns DISA lines 1, 2, and 3 to the sales department and DISA line 4, 5, and 6 to the customer service department. He or she also programs DISA line 1-3 to have voice option 1 and DISA line 4-6 to have voice option 2. All of this allows callers to DISA line 1-3 to receive and respond to messages associated with the sales department and callers to DISA line 4-6 to receive and respond to messages associated with the customer service department.



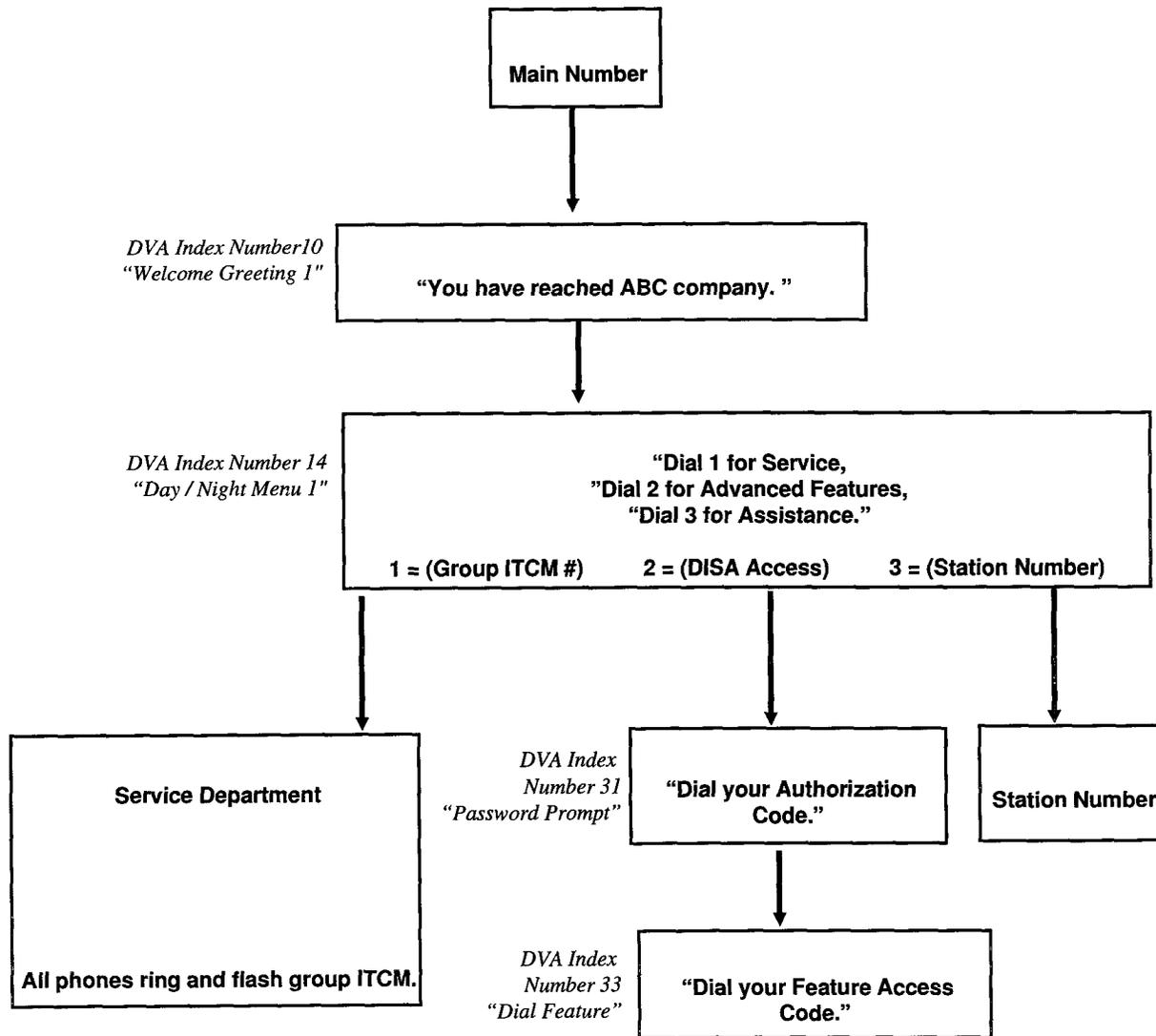
#### DVA/DISA Application

You can enhance the security of DISA by using the DVA. The DXP connects to the incoming call based on the programmed DISA parameters and the DVA plays the appropriate prompts to cause the caller to dial the following codes: DISA access code, authorization code, feature access code.



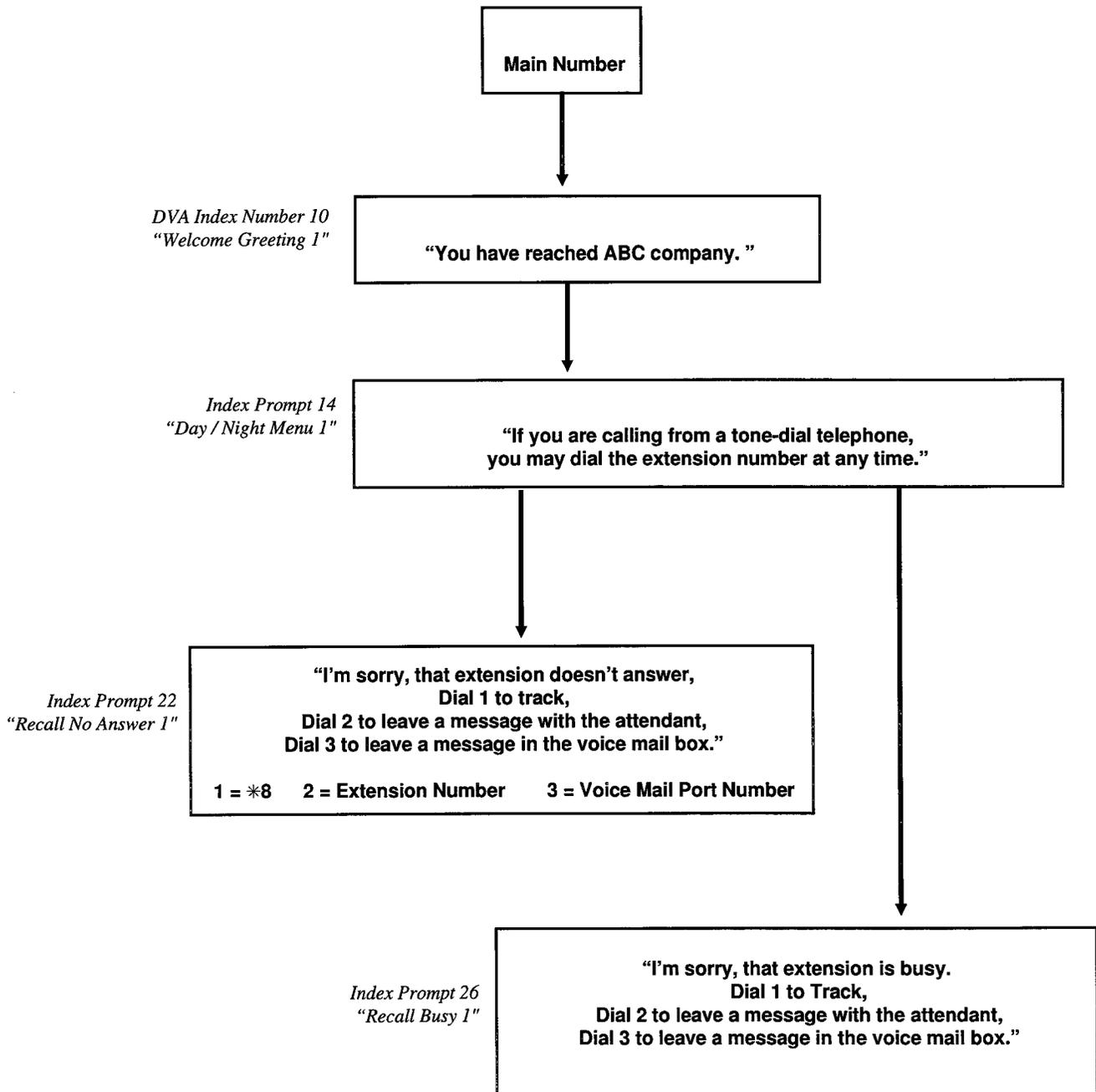
### DVA Auto Attendant With Single Digit Menu Application

The DVA functions as an automatic attendant by giving callers single-digit dialing options. The DXP connects to the incoming call based on the programmed DISA parameters and the DVA plays the appropriate voice prompts to the caller such as: welcome greeting, day main greeting—menu choices, recall busy, recall no answer.



### DVA/Tracker Paging System Application

The DVA gives callers single digit dialing access to the Tracker Paging System. The DXP connects to the incoming call based on the programmed DISA parameters and the DVA plays the appropriate voice prompts to the caller such as: welcome greeting, day main greeting—menu choices, recall busy, recall no answer.



### 14.3.2 Defining DVA Messages

The available DVA messages include the following categories

<i>DVA Index Number</i>	<i>Message Type</i>	<i>Message Definition</i>
10-13	Welcome Greetings 1-4	Messages that identify company or department to caller.
14-17	Day Main Menus 1-4	System plays these messages during normal business hours.
18-21	Night Main Menus 1-4	System plays these these messages during close of business hours.
22-25	Recall No Answer 1-4	System plays these messages when the called station does not answer.
26-29	Recall Busy 1-4	System plays these messages when called station does not answer.
30	Please Hold	System plays this message callers when they page their called party.
31	Password Prompt	This message prompts callers to enter password for access to advanced DISA features
32	Account Code	System plays this message to callers who request line groups on systems that require forced account code entry
33	Dial Feature	This message plays after the caller enters password for advanced DISA features
34-37	Day Routing 1-4	If system can not provide DISA callers with the requested service, it plays this message.
38-41	Night Routing 1-4	
42	Reminder Prompt	DISA Callers who are allowed to access advance system features receive this message if they are making a line to line connection through the DXP. The message periodically prompts them to dial a code to continue the connection.
43	Digit Collection	This message prompts callers to dial a code before the system routes their call. When used with telephony services, this dialed code causes a screen showing caller's identification and data to appear on computer at called station's location. System plays the message requesting the dialed entry after a welcome message and before a day menu message. Digit collection message plays first if there is no welcome message and plays after the default routing extension if there is no day menu message. The caller dialed digits also show on the called station's display

### **14.3.3 Programming For DVA Operation**

To program the interaction between DVA and DISA, there are several steps that you must take.

1. Program the day 1, day 2, and night ringing begin and end times using the programming procedure given in Section 6.10.18. When the system is in the night mode, the night menu message plays versus the day menu message; likewise, the night routing message plays versus the day routing message. The system goes into the night mode either manually by attendant action or automatically when the programmed times occur.
2. Program the DISA specific parameters using the Section 8.8.1, *DISA Specific Programming*, procedure.
3. Use the Section 8.8.2, *Enabling or Disabling DISA Lines*, procedure to assign DISA capability and a DISA voice option to a line.
4. Use procedures in this section to program the DVA parameters.

### ***Programming Intercoms For DVA Messages***

**Description** For each message type, you can assign up to ten intercom numbers and assign a single access digit to each of these intercom numbers. You can assign feature codes as well as intercom numbers. For example, if you have installed the Tracker Paging System option, you can program the Tracker Pager access code (S8) to an appropriate message and assign a single-digit dialing code to the access code. This allows DISA callers to track their called party by dialing the appropriate single-digit when prompted by voice message. The caller then enters his or her call-back number and the # symbol to complete the page.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select peripherals and press ENTER.
3. From peripherals menu, select voice/DVA and press ENTER.
4. Enter voice message number and press ENTER.

NOTE: You may need to refer to step 5 of the following programming instructions to obtain the voice message number for the message type.

5. Make a single digit selection from the list (1 through 0) and press ENTER.
6. Enter intercom number or feature code that you wish to assign to this message and press ENTER.
7. Press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Press ESCAPE to end.

### ***Obtaining DVA Status Reports***

**Description:** Use this programming procedure to obtain DVA status information (voice digit translation, voice allocation by DVA, voice allocation by message, and voice resource analysis).

**Programming:**

1. Press CONTROL T for main menu
2. From main menu, select printouts and press ENTER.
3. From printouts menu, select peripherals and press ENTER.
4. From peripherals menu, select voice/DVA and press ENTER.
5. Make a selection from the voice/DVA menu for the desired status printout and press ENTER.

NOTE: If you select the voice resource analysis you get a list of all message types. You may need this information to complete step 4 in the preceding programming instructions.

6. For printout type, press s for screen or p for printer and press ENTER.
7. Press any key to return to voice programming printouts menu.

## Recording The DVA Messages

**Description:** You or the system attendant must record the messages that the DVA plays to the callers. You do this in one of two ways: either by delivering them from the telephone handset at the attendant station or by playing the contents of a professionally-supplied tape recording into the DVA memory. Each DVA stores up to four unique messages. The total message storage time is two minutes and you can divide this time as necessary among the four messages or use the entire two minutes for one message if needed. Because of the time constraints, it is a good practice to script your messages ahead of time so that you can read them aloud in a clear and concise manner as you store them in the DVA memory.

*NOTE: When recording messages in a newly installed DVA, be sure to first format the DVA (clear all its current entries).*

### **CAUTION**

***It is important to keep in mind that the system shares the messages among all installed DVAs. You do not control which DVA stores which message. For example, if you make eight different recordings with two DVAs, the system distributes the messages in both units. If someone later removes one unit from service, the only messages that will play are those stored in the remaining DVA. To locate which DVA stores which message, use the preceding programming instructions to obtain a DVA status report.***

**Programming:** To format the DVA (completely erase all DVA messages),

1. Press INTERCOM and dial \* #0 \*065.
2. Dial 1-192 to choose DVA port.
3. Dial 937 to confirm formatting dial \* to deny formatting.
4. Dial 1-192 to choose next DVA port to format.

To record a DVA message,

1. Press INTERCOM and dial \* #0 \* 061.
2. Choose voice source,
  - dial 1 to speak message into handset,
  - dial 2 to play tape recorded message into music-on-hold jack,
  - dial 3 to play tape recorded message into background music jack,
  - dial 10-43 to choose message type.

*NOTE: As soon as you perform the next step, the two-minute timer starts running. Be ready to speak your message or press the PLAY button on the tape recorder as soon as you dial the replicate choice.*

3. Dial 1-9 to choose number of times to replicate message.
4. Speak your message,
  - or-
  - press the PLAY button on the tape recorder to start pre-recorded message).
5. Press # to end message.
6. Listen as system automatically plays the message for verification at the attendant station.
7. Press # to stop verification playback.
8. Repeat steps 2-8 until you've recorded all messages.

## *Editing The DVA Messages*

**Description:** After DVA messages exist, you can play them, copy them, and delete them as necessary using the following attendant programming.

**Programming:** To play a previously recorded DVA message,

1. Press INTERCOM and dial \* #0 \* 062.
2. Dial 10-43 to choose message type.
3. Listen as system automatically plays the message for verification at your attendant station.
4. Press # to stop verification playback.
5. Dial 10-43 to choose next message type to hear.

To copy a previously recorded DVA message,

1. Press INTERCOM and dial \* #0 \*063.
2. Dial 10-43 to choose message type.
3. Dial 1-9 to choose number of times to copy message.
4. Dial 10-42 to choose next message type to copy.

*NOTE: If your installer has connected more than two DVAs to the system, the system automatically selects the DVA that will receive the copied message. Likewise, the system automatically selects the DVA that it uses for playing back the message to a caller. Additional DVAs become a shared resource for the system's memory and are not dedicated to particular lines.*

To delete a previously recorded DVA message,

1. Press INTERCOM and dial \* #0 \*064
2. Dial 10-43 to choose message type.
3. Dial 937 to confirm delete or dial S to deny delete.

## **14.4 PC Attendant Position Programming**

The computerized attendant operating position consists of a DOS-based personal computer, a proprietary interface circuit board (factory-installed in the computer expansion slot), a customized keyboard, a program diskette, and all necessary cables for connecting the equipment to the system.

The system will accept four PC attendant positions. Each PC attendant position replaces one telephone from the system because a telephone cannot be connected to the same station location that the programmer assigns to the Total Control PC attendant position.

Use the following procedures to program the system to operate with the PC attendant position.

NOTE: Follow these procedures in the order that this manual presents them as they provide a logical progression of the programming.

### **14.4.1 Enabling The PC Attendant Position**

**Description:** Each PC attendant position requires a station port, two line ports, a serial data port, and a dedicated line group for operation. You must identify these items through this programming action for each PC attendant position before the equipment will function properly.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select peripherals and press ENTER.
3. From peripherals menu, select PC attendant and press ENTER.
4. Type PC attendant number (1-4) and press ENTER.
5. Type item number for station port and press ENTER, then type 1-192 for station port .  
Important—disconnect any telephone that is currently installed there.
6. For line pair, type odd/even number pair that corresponds to location where cable was connected on common equipment (for example, enter 1,2 or 15,16 or 119,120 and so forth).  
Special instruction—Always type the odd line number first. Remember, the line numbers on each line board ascend from bottom line jack (lines 1,2) to top line jack (lines 7,8), and the line ports on the main and expansion cabinets ascend from right to left based on the board slot (line ports 1-8, 9-17, 18-26 and so forth).

NOTE: The lines that you assign here are exclusively for PC attendant position use and cannot be used for out-going call operations. Do not assign them for any other system use.

7. For line group, type line group number (1-16).
8. For serial port, type 1 or 2 for RS-232 port 1 or 2 on the system central processor board where you connected the PC attendant position.
9. Press ESCAPE twice.
10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
11. Press ESCAPE twice to end.

## **14.4.2 Programming A Hunt List For PC Attendant Use**

**Description:** Assign eight intercom numbers to an intercom hunt list for the PC attendant position's use. The assigned numbers must include the personal intercom number of the PC attendant position (the number for the station location that the PC attendant position occupies) and seven group intercom numbers that are set aside for its exclusive use (group intercom numbers range from 3101-3292, 4110-4292, 5000-5023). When you assign group intercom numbers to the hunt list, the system automatically adds them to the group intercom access list for the PC attendant position.

*NOTE: Do not assign the same group intercom to more than one station's intercom hunt list.*

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number of PC attendant position or previously assigned name and press ENTER.
5. From station programming menu, type item number for intercom hunt list and press ENTER.
6. Type personal intercom number for PC attendant position first then type seven group intercom numbers and press ENTER.  
Separate each entry with a comma (nnn,nnn,nnn,nnn)

*NOTE: Reserve these group intercom numbers for exclusive use by the PC attendant position. Do not assign them to any other station.*

7. When finished, press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Press ESCAPE to end.

### **14.4.3 Assigning Lines For PC Attendant Use**

**Description:** Choose several lines that the PC attendant position can use for call origination; assign them to line group 16; assign line group 16 to a particular class of service; and assign that particular class of service to the PC attendant position. The line key on the keyboard is fixed to select line group 16. You must assign lines to line group 16 before the attendant can select a line for use.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select lines and press ENTER.
  3. From lines menu, select line group programming and press ENTER.
  4. Type 16 and press ENTER.
  5. Type a to add lines and press ENTER.
  6. Type lines to be added and press ENTER.
  7. Press ESCAPE once.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  9. Press ESCAPE to return to main menu.
  10. From main menu, select stations and press ENTER.
  11. From stations menu, select station COS programming menu and press ENTER.
  12. Type class of service number (1-32) and press ENTER.
  13. From the COS programming menu, type item number for line group access and press ENTER. Remember—use CONTROL N to find the correct screen.
  14. Type 16 and press ENTER.
  15. When finished, Press ESCAPE twice.
  16. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  17. Press ESCAPE to return to main menu.
  18. From main menu, select stations and press ENTER.
  19. From stations menu, select station programming menu and press ENTER.
  20. Type personal intercom number of PC attendant position or previously assigned name and press ENTER.
  21. Type number for class of service and press ENTER.
  22. Type class of service number that has line group 16 assigned and press ENTER.
  23. When finished, press ESCAPE twice.
  24. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  25. Press ESCAPE to end.

### **14.4.4 Assigning The PC Attendant Position Text Messaging Buttons**

**Description:** Use this programming procedure to assign special text messaging functions to system telephone buttons. User's can press these buttons to access the text messaging feature provided by the PC attendant position. Program the telephone to provide the following button functions:

**Text Message** button for the user to press to step forward through the fields of a message that shows in the telephone's display window,

**Print** button for the user to press to send the displayed message to an attendant selected data printer for hard copy printout,

**Next** button for the user to press to sequence through a group of stored messages,

**Previous** button for the user to press to back-up through the fields of a message that he or she has already read,

**Delete** button for the user to press to erase a message after he or she has read it or sent it to the data printer,

**Quit** button for the user to press to end a text messaging session.

- Programming:**
1. Press CONTROL T for main menu.
  2. From the main menu, select stations and press ENTER.
  3. From the stations menu, select button mapping and press ENTER.
  4. Type prime intercom number or previously assigned name and press ENTER. The VDT presents a button map of the current button functions for the requested station shown for your review.
  5. Type code (L1-L25) for button that you wish to program.
  6. Type one of the following mnemonics and press ENTER.
    - OAI59 = Delete button
    - OAI60 = Print button
    - OAI61 = Previous field button
    - OAI62 = Next message button
    - OAI63 = Quit button
    - OAI64 = Text message/next field button
  7. Repeat steps 5 and 6 until you have assigned all test messaging buttons and press ENTER.
  8. Press ESCAPE and repeat steps 4 through 7 for each station.
  9. When finished, press ESCAPE twice.

### **14.4.5 Mapping PC Attendant Position Function Keys**

**Description:** The DXP adds programmable function keys to the PC Attendant Position. The programmable features are in addition to the fixed features currently provided by function keys F1 through F12. You can assign a different feature to each function key from the list of functions shown in Section 7.3.1, *Feature Mnemonic List*.

**Programming:**

1. Press CONTROL T for main menu,
2. From main menu, select stations and press ENTER,
3. From stations, select PC attendant and press ENTER,
4. Type attendant number (1-4) and press ENTER,
5. From PC attendant menu, select button mapping and press ENTER,
6. Press CONTROL E for button map of function keys and press ENTER,
7. Type button number (L1-L12) and press ENTER,
8. Type mnemonic (type ? for a description of mnemonic if you need it) for desired feature and press ENTER,
9. Repeat steps 7 and 8 until all feature button are programmed,
10. When finished, press ESCAPE twice,
11. Type y to accept changes, n to reject them, or r to resume editing and press ENTER,
12. Press ESCAPE to end.

**Operation:** To access the programmed functions on the PC Attendant Position, the user must press and hold the CTRL button while pressing the desired function button on the keyboard.

## **14.5 Voice Mail Programming**

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After connecting an voice mail system to the DXP system per the information provided in IMI89-080, *Installation Instructions For Installing Voice Mail Equipment On The DXP Digital Communications System*, program the DXP to operate properly with it using the procedures detailed below. They are presented here in a typical order of progression but you can perform them in any order that is convenient. Also refer to the Section 7.1.5, *Call Forward*, programming procedure.

### **14.5.1 Arranging Station Ports For Voice Mail Use**

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**Description:** After you or your installer has connected voice mail ports to the system station ports through the appropriate interface devices (for example, the VMI-X interface device used with analog station ports, the ATI-D-1PT interface device used with the digital station ports, or the DXIST station board used with industry-standard telephone ports), you must identify the station ports where these devices are connected.

**Programming:**

1. Press CONTROL T for main menu.
2. From the main menu, select stations and press ENTER.
3. From station menu, select phone types and press ENTER.
4. Type row number for station port type  
(ExecuTech = analog, DigiTech = digital, IST = industry standard)  
and press ENTER.
5. Type row number for device connected to station port (VMI-X or ATI-D-1PT)  
and press ENTER. (This step not required for IST.)
6. Type number of station port (1–192) and press ENTER.
7. Repeat steps 1–6 for each station port used to interface with the voice mail system.

## **14.5.2 Assigning Intercom Numbers To Voice Mail Connections**

**Description:** You must identify the station intercom number of each voice mail connection and link these numbers together to form a circular hunt group for call handling purposes. For example, assign intercom numbers 121, 122, 123, and 124 to voice mail ports 1, 2, 3, and 4 then link 121 to 122, 122 to 123, 123 to 124, and 124 to 121.

**Programming Hint:** To make the LCD readouts at the system telephones more descriptive during call transfers, use the Section 7.2.2, *Display Name/Full Name*, programming procedure to assign a descriptive name to the personal intercom numbers. If you do this, be sure to name each voice mail port differently. For instance, you can name them VM1, VM2, VM3, and VM4; however, do not name each port VM without personalizing it further with a unique suffix (such as 1, 2, 3, 4 or A, B, C, D for example).

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select voice mail and press ENTER.
4. From voice mail menu, type the row number for the voice mail port (1-32) and press ENTER.
5. Type the personal intercom number for the station port that this voice mail port is connected to.
6. Press TAB for linked station column and type personal intercom number for station port to be linked to the station port named in step 5.
7. Press ESCAPE and repeat steps 4-6 for next row number.
8. When finished, press ESCAPE twice.
9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER to end.

### **14.5.3 Arranging Voice Mail Call Transfer Parameters**

#### ***Automatic Attendant Transfer On Busy***

**Description:** You can enable automatic attendant transfer on busy for individual station ports if you wish. With this feature enabled, the system will ring a busy telephone when the voice mail system is attempting to transfer a call to it thus giving the user the option of leaving his or her present call and taking the new one. With the feature disabled, the busy telephone is not signalled by the presence of a new call and voice mail will automatically route it to the busy telephone's voice mail box.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select stations and press ENTER.
3. From stations menu, select station programming and press ENTER.
4. Type personal intercom number or previously assigned name of station being programmed and press ENTER.
5. From station programming menu, type item number for feature and press ENTER.
6. Press SPACE bar for desired setting and press ENTER.
7. When finished press ESCAPE twice.
8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
9. Repeat steps 4-8 for each station or press ESCAPE to end.

#### ***Immediate Transfer***

**Description:** You should choose the automatic attendant immediate transfer mode for voice mail transfers. It allows the system to transfer a call as soon as it answers. However, if you turn on the voice mail screen and confirm options (see the voice mail programming manual for details), do not turn on the DXP immediate transfer mode. Immediate transfer is a system-wide parameter and affects all telephones in the system.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select system parameters and press ENTER.
4. From system parameters menu, type item number for feature and press ENTER.
5. Press SPACE bar for feature setting and press ENTER.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

### **14.5.4 Assigning Transfer-To-Voice Mail Button**

**Description:** A system user can use a pre-programmed button to transfer an incoming call directly to a voice mail box so the caller can leave a message. You must use the button mapping programming procedure to assign this Transfer-To-Voice Mail button at a system telephone.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select button mapping and press ENTER.
  4. Type prime intercom number or previously assigned name and press ENTER.  
The VDT presents a button map with current button functions for requested station shown for review.
  5. Type code (L1-L25) for button that you wish to program and press ENTER.
  6. Type mnemonic for transfer-to-voice mail button and press ENTER.

*NOTE: Type XVM plus a two-digit code (0-32) that equals one of the voice mail ports. Usually, you will enter the code for the first voice mail port and let the extension number linking (that you have previously arranged) decide which voice mail port actually handles the call. However if you have arranged voice mail ports into groups for department answering, enter the voice mail port code for the group that also includes the telephone that you are button mapping.*

7. When finished, press ESCAPE twice.

### **14.5.5 Arranging Voice Mail Ringing Options**

**Description:** The DXP system automatically enables ringing line preference at the voice mail station ports. With this feature enabled, the voice mail system's automatic attendant will answer calls. You can use direct, delayed, or night ringing features to determine how quickly or when it does this. With direct ringing, calls ring at the voice mail port immediately. With delayed ringing, the calls wait before ringing the voice mail port. This gives you the flexibility of having calls direct ring at a telephone where they can be answered by a human operator before they delay ring and the automated attendant answers them.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select stations and press ENTER.
  3. From stations menu, select station programming and press ENTER.
  4. Type personal intercom number of voice mail station port and press ENTER.
  5. From station programming menu, type item number for desired ringing and press ENTER.
  6. Press CONTROL E.
  7. Type a for add or type r for remove and press ENTER.
  8. Type line port number for lines assigned to voice mail port  
1-128 (n,nn,nnn, or n-*nnn*) and press ENTER.
  9. When finished press ESCAPE twice.
  10. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  11. Repeat steps 4-10 for each voice mail port or press ESCAPE to end.

### **14.5.6 Assigning Voice Mail Identification (ID) Number**

**Description:** As an option, you can assign an identification number to each DXP line so that the voice mail system can provide customized call handling on a per line basis. Use voice mail system programming to match this ID number to a particular personal directory or transaction box within the voice mail system. When the DXP routes a call that is ringing at a particular line to the voice mail system to be answered, it routes it with the ID number. The voice mail system then sends the call to the box that corresponds to the line's ID number. You can use voice mail system programming to construct customized answering prompts for the individual boxes. This allows the IDed DXP lines to be answered in a customized manner by the voice mail system's automatic attendant.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select line and press ENTER.
3. Type port number of line to be programmed (1-128) and press ENTER.
4. From the line menu, select item number for feature and press ENTER.
5. Type the identification (ID) number and press ENTER.
6. Press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
8. Repeat steps 3-7 for each line or press ESCAPE to end.

### **14.5.7 Enabling Extended DTMF Tones For Voice Mail Use**

**Description:** The system provides a means by which you can set the length of the DTMF tones that it generates when a user dials a number from his or her telephone. Since the voice mail system may require a different DTMF tone length than that which you have provided for the telephones, the system provides a means for you to set a separate DTMF tone length for voice mail station ports. It defaults the length to 80 msec, but you can program other lengths as needed.

**Programming:**

1. Press CONTROL T for main menu.
2. From main menu, select system and press ENTER.
3. From system menu, select timing and press ENTER.
4. From system timing menu, type item number for feature and press ENTER.
5. Press SPACE bar for time and press ENTER to accept setting.
6. When finished, press ESCAPE twice.
7. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

## 14.5.8 Setting The Voice Mail Integration Digits

**Description:** You can choose the DTMF digits that the DXP sends to a voice mail system. A voice mail system uses these DTMF digits to determine system and station status so that it can properly process a call. You must be versed in your voice mail's requirements before you can assign DTMF integration digits in the DXP. The system defaults the voice mail parameters to match the Comdial voice mail system. Certain applications in countries with dialing plans different than the United States may require different integration digits. The default digits are shown in the following list and discussed below:

Follow Extension ID = 2	Intercom/Answer Confirmation = 1
Busy = 2	Do Not Disturb = 3
Incoming Intercom Answer = 9	Disconnect = A

**Follow Extension ID** – When the voice mail system receives a forwarded call from a ring no-answer (RNA) or busy station, the DXP sends to the voice mail system the extension number of the forwarded call followed by this DTMF digit (n). The DXP sends this digit within 500 ms of the time the voice mail system answers the call. For example, if extension 101 is forwarded to voice mail and voice mail answers a forward RNA or busy forwarded call, the DXP sends 101n to the voice mail system within 500 ms of the answer time.

**Intercom/Answer Confirmation** – The DXP sends this DTMF digit to the voice mail system to confirm that an intercom path (without dial tone) is available for the voice mail system's call transfer or dialing use. The DXP sends this digit within 500 ms of the time it detects the voice mail system's off-hook or hookflash condition. The DXP also immediately sends this digit to the voice mail system when a station answers a voice mail transferred call. This action can alert the voice mail system to disconnect and leave the parties connected.

**Busy** – If the voice mail system transfers a call to a station that is busy on a call, the DXP sends this DTMF digit to the voice system. When the voice mail system receives this digit, it can abandon the transfer, reconnect to the call, and offer the caller whatever options the voice mail system has available in its programming. If the DXP's auto attendant transfer on busy feature is active, the DXP will not send the DTMF digit to the voice mail system thus allowing the system to transfer a second call to the station.

**DND** – If the voice mail system transfers a call to a station that is in the do not disturb (DND) mode, the DXP sends this DTMF digit to the voice system. Receiving this digit allows the voice mail system to distinguish between a busy and a DND condition and offer the caller the appropriate choices.

**Incoming Intercom Answer** – The DXP sends this DTMF digit to the voice mail system when a station user makes an intercom call to the voice mail system. This action allows the voice mail system to distinguish between internal and external calls and offer the caller appropriate prompts and dialing options.

**Disconnect** – When an outside line or intercom party hangs up, the DXP sends this DTMF digit to the voice mail system to command an immediate disconnect. For outside calls, the central office (CO) must provide disconnect supervision to the DXP and you must program the DXP line for abandon hold release and disconnect supervision (see *Section 8.1* for details). At default, the DXP sends the DTMF tone for the A character as the disconnect digit. Since a caller cannot dial an A from a telephone. This feature eliminates callers from causing an accidental disconnect by dialing this digit on their telephone's dial pad.

## ***Programming The Voice Mail Integration Digits***

- Programming:***
1. Press CONTROL T for main menu.
  2. From main menu, select peripherals and press ENTER.
  3. From peripherals menu, select voice mail and press ENTER.
  4. From the voice mail menu select integration digits and press ENTER.
  5. From the integration digits menu, type row number for item and press ENTER.
  6. Type entry and press ENTER.
  7. Repeat step 6 until finished.
  8. When finished, press ESCAPE twice.
  9. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.
  10. Press ESCAPE twice to return to main menu.

## 14.6 Modem Setup

**Description:** The system supports the operation of the DXMDM serial data modem. The DXMDM is a general-purpose, Hayes\*-compatible, 300, 1200, and 2400 automatic baud detect, serial data modem that receives its operating power and configuration programming from the DXP system. After you install and connect the DXMDM per the details described in IMI89-139, Installation Instructions For The DXMDM Modem, you must program the modem port number into the system memory. Since the serial data port default for both the modem and the SMDR serial data printer is main port 2, it is a good practice to choose a different modem port if the site employs both devices.

*NOTE: The main serial data ports are 1 and 2, and the serial data ports on the first DXAUX board are 3-6 (upper slot) and 7-10 (lower slot). The serial data ports on the second DXAUX board are 11-14 (upper slot) and 15-18 (lower slot). The port numbering of the auxiliary serial data ports are fixed. This means that if the system provides only one DXOPT-COM located in the lower slot on the first DXAUX board, the auxiliary serial data ports are 7-10.*

The DXMDM modem depends upon the DXP for both its power and its configuration, and you must set switch SW7, located on the CPU board, to its ON setting to ensure continuous modem operation. This setting ensures that the modem will reset properly if you cycle the DXP power. You should leave this switch set to its ON position for continuous modem operation.

If you disconnect the modem power cord from the DXP precharge port, you must reset the modem after you reconnect the power cord. Reset the modem by switching SW7 to OFF and then to ON. (Alternately, you can use the system manager programming from the programming station to reset the modem. To do this, enter the system manager programming mode, and dial 18#.)

Normally, you do not program the initialize string because it defaults with the necessary values for DXMDM operation; however, you may adjust the rings-before-answer value if necessary. To do this, set the S0= value to the desired number (1 = one ring, 2 = two rings, and so forth). The initialize string characteristics are the following standard Hayes\*-compatible values:

AT	attention modem command
S0=1	number of received rings before modem answers (one)
M0	speaker completely off
Q1	result codes not sent
E0	echo off

Regardless of which port you choose for modem connection, the system arranges for that port to automatically match the baud rate and serial data parameters of the modem.

- Programming:**
1. Press CONTROL T for main menu.
  2. From main menu, select system and press ENTER.
  3. From system menu, select serial ports and press ENTER.
  4. From serial ports menu, select modem setup and press ENTER.
  5. From modem setup menu, type item number for port and press ENTER.
  6. Type number for modem port and press ENTER to accept setting.
  7. When finished, press ESCAPE twice.
  8. Type y to accept changes, n to reject them, or r to resume editing and press ENTER.

\* Hayes is a registered trademark of Hayes Microcomputer Products.

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