STARPLUS™ Triad

XTS

Digital Key Telephone System

System Programming & Operation

Issue	Release Date	Changes
1	10-01	Initial Release
1.1	4-02	Incorporates features of enhanced flexible numbering

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1 Introduction

This manual provides the information necessary to operate and maintain the *XTS* System. The described features are based on the current software release. If any of these features do not work on your system, call your sales representative regarding upgrade of your system.

General Description

Allows Flexibility and Software Control

The XTS Digital Key Telephone System is a fully digital hybrid Key Telephone System, designed to meet the telecommunication needs of medium or large sized business offices.

The system has been designed to allow a high level of software control over the system's hardware. The software incorporates a vast array of features and capabilities including PC Database Administration, Least Cost Routing, ACD, etc.

The XTS achieves a high level of flexibility by:

- Employing a Universal Card Slot architecture with the 1st, the 2nd and 3rd cabinet to house plug-in Printed Circuit Boards, and
- Providing support for different types of instrumentation.

Incorporates Command Processing & Voice Switching

The XTS System incorporates state of the art digital technology for command processing and voice switching, using a Pulse Code Modulation/Time Division Multiplexing (PCM/TDM, "A" law or "U" law) distributed switching matrix.

Supports Multiple Devices

The XTS system supports a combination of Digital Keysets, various kinds of ISDN terminals, and wireless terminals as well as analog single line devices. With the keysets, commonly used features are activated by direct button selection. Additionally, many functions may be accessed by dialing specific codes or optionally, by assigning these dial codes to Flexible Buttons on the keyset. In addition to key telephones, an array of optional terminals is available.

With the flexibility of the XTS extensive feature content, and the capability to use an array of instruments, the XTS can be tailored to meet the short and long term needs of the most demanding customer requirements.

Provides for KSU Expansion

The KSU of the XTS is a wall-mounted cabinet that houses the MB (Mother Board) and card slots for the CO line/Key Station/SLT/ISDN/LAN interface boards, and other useful boards. The three-story KSU expansion system allows ample room for future growth.

System Features

This page displays a condensed list of the extensive features available in the XTS System:

911 Feature
Account Codes
Answering Machine Emulation
Attendant Assignment / Features
Automatic Call Distribution (ACD)
Automatic Privacy
Background Music
Battery Back-Up (Memory)
Baud Rate Assignments
Cabinet/Card Programming
Call Back
Call Coverage
Call Forward
Call Forward - Preset
Calling Forward Override
Calling Station Handsfree Mode Override
Calling Station Tone Mode / Override
Call Park - Station
Call Park - System
Call Pickup
Call Transfer
Camp On
Centrex/PBX
Class Of Service (COS)
CO Flexible Port Assignment
CO Line - Access
CO Line Attributes
CO Line DTMF Sending
CO Line Group
CO Line - Identification
CO Line - Incoming Ringing Assignment
CO Line Loop and Pool Buttons
CO Line - Loop Supervision
CO Line - Queue
CO Line - Ringing Options
CO Port Parameters
CO Ring Detect Timer
Conference
Cordless Key Telephone Unit Feature Button
Database Administration
Database Printout (Dump)
Dial By Name
Dial Pulse Sending
Direct Inward Dialing (DID)
Direct Inward System Access (DISA)
Direct Station Selection / Busy Lamp Field
Direct Transfer Mode
Directory Dial
Distinctive Ringing
Do Not Disturb
Executive Override
Executive / Secretary Pairs
External Day Ring
External Night Ring
Fixed Station/Port Number
Flash Rates (Programmable)
Flexible Button Assignment
Flexible Numbering
Group Listening
Headset Mode
Hold - Exclusive
Hold - Preference
Hold - System
Hot Keypad
Hot Line / Ring Down
Hunt Groups
ICLID / Caller ID
Idle Speaker Mode
Incoming Calling Line Identification
Initializing - System Parameters
Intercom
Inter-Digit Time-Out
ISDN / ISDN Programming
Keyset Mode
Last Number Redial
LCD - Contrast
LCD - Display
Least Cost Routing (LCR)
Message Wait
Message Waiting Reminder Tone
Music-On-Hold
Mute Key
Name In Display
Name / Number Translation Table
Networking Systems - Tables
Night Service
Off-Hook Signaling
Off-Hook Voice Over
Outside Calls
Paging
Pause Timer
PBX Dialing Codes
Personal Messages
Preferred Line Answer
Printing - System Parameters
Privacy Release
Private Line
Recall
Repeat Redial
Relay Programming
Remote Administration
Remote System Monitor And Maintenance
Ring Down/Hot Line/Off-Hook Preference
Save Number Redial (SNR)
Serial Number (MPB)
Single Line Telephone (SLT)
Software Identification (MPB)
Software Version (MPB)
Speakerphone
Speed Dial
Station Attributes
Station Identification
Station Message Detail Recording
Station Relocation
Station Speed Dial Numbers
System Parameters
System Reset
System Speed Bin Access
T-1 Trunking
T-1/ISDN Alarm Programming
Text Messaging (Silent Response)
Toll Restriction
Uniform Call Distribution (UCD)
Universal Day/Night Answer
Voice Mail
Voice Mail In-Band Features
Voice Mail One-Touch Recording
Voice Mail Outpulsing Table
Voice Over the Internet Protocol (VoIP)
Volume Control

Digital Keyset Telephones

Each *XTS* System provides all the keys, indicators, and features described.

Handset and Speaker are located at the left side of the front panel. A handset is provided to allow confidential conversation when desired. Lifting the handset from its cradle (going off-hook) disengages the station's built-in speaker. The speaker is located directly below the center portion of the handset. The station may be operated with the handset on-hook. When this occurs, audio is transmitted to the station user through the station's speaker.

Flexible Buttons provide access to idle outside lines, DSS/BLF for internal stations, access speed dial numbers and activate features. These buttons can be programmed by the individual station user. The default flexible feature buttons are described as follows:

» CALL BACK button lets you initiate a call back request to another busy station. As soon as that station becomes idle, the station that left the call back request is automatically signaled. A flexible button must be assigned to use this feature.

» PICK-UP button lets you pick up a tone ringing intercom call, transferred, incoming, or recalling outside call to a specific unattended station, by group or directed call pick-up.

» DND (DO NOT DISTURB) button lets the user place their telephone into Do Not Disturb mode to eliminate incoming outside line ringing, intercom calls, transfers and paging announcements. The station in DND can use the telephone to make normal outgoing calls. On Attendant stations, this button becomes the system Night Mode button. A flexible button must be assigned to use this feature.

» LINE QUEUE button lets you queue to an outside line when all lines in a group are busy. Your station is placed in queue, awaiting a line in the same group to become available.

Outside Calls are announced by a tone signal repeated every 3.2 seconds. The corresponding outside line indicator flashes slowly.

Intercom Calls can be tone ringing or voice announced. If voice announced, the receiving station receives three tone bursts prior to the announcement. If a tone ringing call, the receiving station hears a tone ring every 2.4 seconds.

Enhanced 8-Button Speakerphone

The Enhanced 8-button Digital Telephone is compact in size with many features normally found only in larger telephone. The 8 flexible, dual-color LEDs can be assigned as DSS,CO/PBX/Centrex or feature/function buttons. When used as DSS buttons, station status can be seen in a single glance. When used as CO/PBX/ Centrex buttons, line status is easily monitored.

The 4 fixed features include oversized on/off and hold buttons and fixed volume buttons. The 4 flexible buttons can be assigned as a CO/PBX line, DSS button, Speed Dial or Feature button.

To help manage calls more efficiently, this integrated speakerphone has call announce with hands-free intercom and a hot keypad that allows dialing while the phone is on-hook.

Executive 12-Button Speakerphone

The Executive 12-button Digital Telephone has 12 flexible buttons with dual color LEDs that can be assigned as DSS, CO/PBX/Centrex or feature/function buttons. Each flexible button can be assigned as a CO/PBX line, DSS button, Speed Dial or Feature button. As DSS buttons, station status can be seen in a single glance. When used as CO/PBX/Centrex buttons, line status is easily monitored.

The telephone also features 11 fixed feature buttons including on/off, mute and hold buttons, speed dial, message wait, forward and a volume control bar.

Executive 24-Button Speakerphone

The Executive 24-button Digital Telephone has 24 flexible, dual color LEDs that can be customized for each application.

When the flexible button are used as DSS buttons, station status can be seen in a single glance. When they are used as CO/PBX/Centrex buttons, line status is easily monitored.

This integrated speakerphone offers call announce with hands-free intercom and a hot keypad that allows dialing while the phone is on-hook.

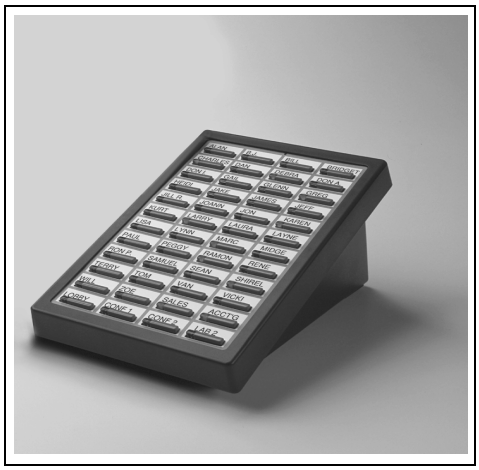
Elite 30-Button Large Screen Telephone

The Elite 30-Button Large Screen Display telephone provides one-touch access to an interactive menu of commonly used features such as DND, last number redial, voice mail, speed dial, and call park.

The large display telephone has 11 fixed-feature buttons and 30 flexible buttons that can be assigned as CO/PBX/Centrex lines, Station DSS, or feature/function buttons. This telephone also features an integrated speakerphone, call announce with handsfree intercom, a volume control bar, a 7-line by 16-character LCD with 10 softkeys, and long life LEDs.

Additional features include: on-screen name directory, a monthly calendar display, voice mail feature displays, and 11 message status options.

DSS Console



When the DSS Console is added, 48 additional buttons can be used to support an attendant or answering position.

Digital Keyset/Button Diagram

The following illustration and its corresponding table describe the fixed features of the Vodavi 24-Button Digital Display Telephone.

Programming Requirement

A 24-button display telephone is necessary when programming the system features and functions available with the *XTS* System.

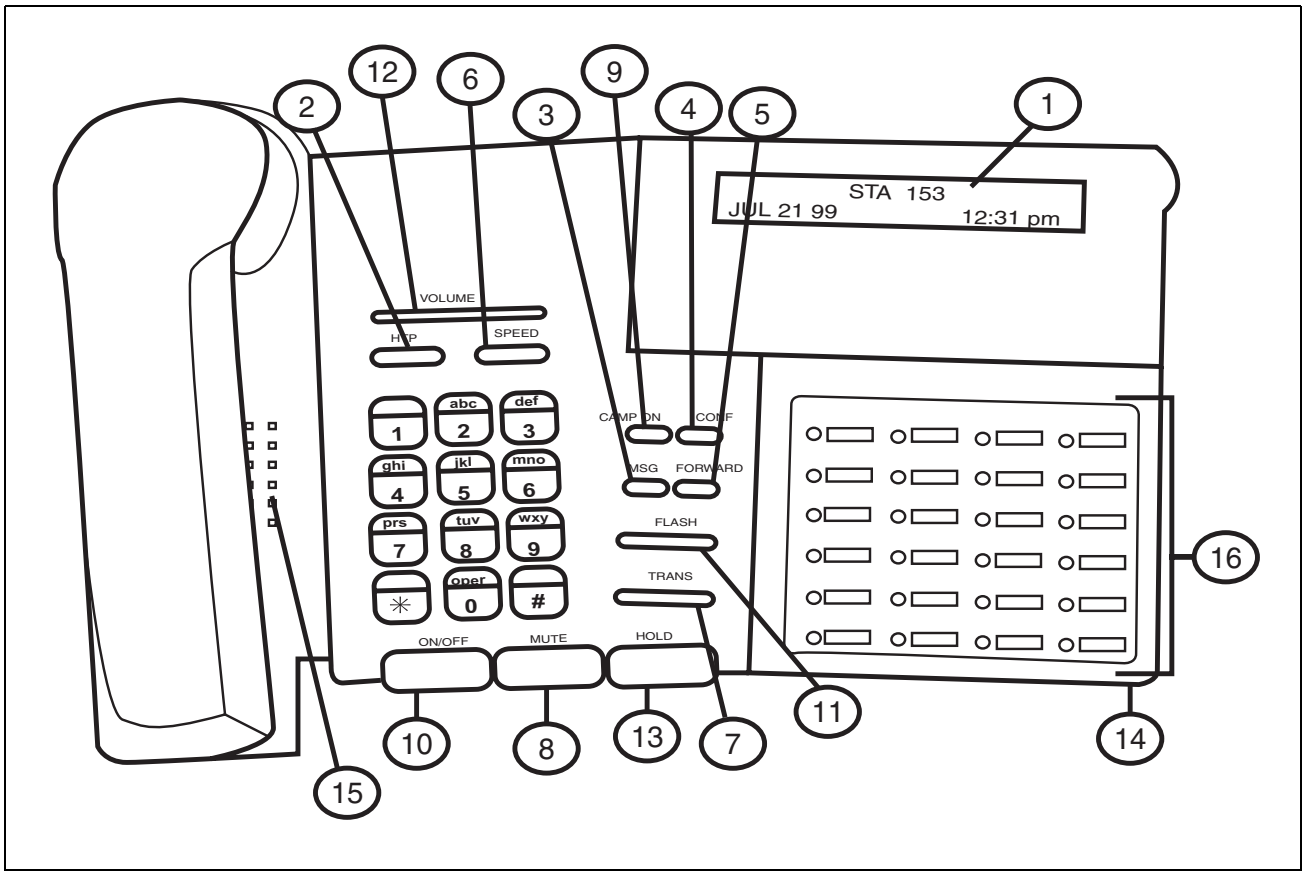


Figure 1-1: Digital Key Telephone

Table 1-1: Digital Key Telephone Buttons

NUMBER	FEATURE BUTTON	FUNCTION
1	Display (Executive Models only)	Displays information about telephone status, dialing directories, and text message information.
2	h.t.p.	Used to select mode of operation: Handsfree, Tone, or Privacy.
3	*msg* Key	Used for Auto-CallBack to a telephone which has left a text message or to access voice messages.
4	*conf* Key	Used to establish conference calls.
5	*forward* Key	Used to forward your calls to another destination, such as a station or voice mail.
6	*speed* Key	Used to access speed dialing, save number redial, and last number redial. This button also is used to access flex button programming.
7	*trans* Key	Used to transfer an outside call from one station to another.
8	*mute* Key	Used to activate/deactivate MUTE function. When activated, the party on the other end cannot hear you.
9	*camp-on* Key	Used to alert a busy station that an outside line is on hold and waiting for them.
10	*on/off* Key	Used to make a call without lifting the handset.
11	*flash* Key	Used to end an outside call and to restore dial tone without hanging up receiver.
12	*volume* Key	Used to adjust level of tones, background music, ringing, receiver volume, and display contrast.
13	*hold* Key	Used to place outside calls on hold or to retrieve held calls.
14	Microphone	Used to talk with other party without using the handset.
15	Speaker	Outputs tones and voice at your extension.
16	Flexible Button Keys	Used to access outside lines or access call-handling features.

2 Features and Operation

Detailed descriptions of the System and Station features are presented in alphabetical order. An abbreviated feature index, that is organized in Flash code numerical sequence, is provided in *Appendix F*.

About This Manual

Content Summary

Chapters

The following chapters contain the descriptions, programming steps, and operating procedures for the more commonly-used features and functions.

2 - Features & Operation

3 - Attendant Features & Operation

4 - Call Distribution - ACD / UCD

Appendices

These Appendix chapters contain detailed information on how to use the more complex features available.

A - ICLID / Caller ID

B - Least Cost Routing (LCR)

C - Networking Systems

D - Voice Over the Internet Protocol (VoIP)

Worksheets and Tables have been placed at the end of this book for easy access to specific customer system information and frequently-used flash and feature codes.

E - Customer Database Worksheets

F - Quick Reference Tables

- Flash Codes
- Default Numbering Plan
- Part Numbers

Manual Format & Description

This diagram explains how the Features/Operations are organized in the following chapters and appendices. The manual format follows the basic outline as shown, but omits those elements that do not apply to a particular Feature or Operation.

Feature / Operation

Narrative to explain the feature/operation.

Sub-Feature / Operation

Description

Narrative to explain the sub-feature/operation.

Related Information

Quick Reference		
➡ Flash XX	Button X	The xxxx function MUST also be enabled.

Programming Steps

Consists of those actions required of a system administrator to program single or multiple phones in the system or system features using a 24-button digital telephone.

This section assumes that you have already entered database administrative programming using the string of [✳][✳][3][2][2][6] (default password).

DEFAULT … Shows the system default setting.

Operation

Describes how the user operates the digital telephone.

☏ ELECTRONIC TELEPHONE

When the Electronic Telephone operation differs from digital, those differences are described.

☎ SINGLE LINE TELEPHONE

When the Single Line Telephone operation differs from the digital telephone, those differences are described.

Conditions

» Describes any special criteria that affects the programming or operation of the feature.

911 Feature

Description

The 911 Feature allows stations in the system to dial 911 without using an access code. 911 calls are placed on 911 marked lines. If all lines are busy, an existing call is dropped and the 911 call is placed.

When this feature is enabled, Trunk Group/LCR Access Code 9 is not available.

Related Information

Quick Reference		
➡ Flash 12		To insert [9] for Centrex 911 calls (Refer to *"PBX Dialing Codes" on page 2-57*.)

Programming Steps

To enable/disable the 911 feature:

1. Press the 911 FEATURE flexible button **(FLASH 06, Button #13)**. The following message displays:

```
911 FEATURE                    0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.
   [0] = Disabled
   [1] = Enabled

DEFAULT … Disabled

To designate the line(s) for 911 use:

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX  PAGE  A
ENTER  BUTTON  NUMBER
```

XXX-XXX = CO Line Range

4. Press **Button #15** to designate the line for 911 use.

```
911  TRUNK                    0-1
DISABLED
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Disabled

911 Alert

Description

Any station user or attendant who programs a flexible button for 911 ALERT (feature code 608) will be alerted of internal stations placing 911 calls. The system can store the sixteen most recent 911 calls. Calling information includes the time/date of the call, as well as the station number from which the call was placed.

The initial 911 Alert indications include:

- Audible ringing tone
- Green flashing 911 ALERT flexible button LED
- Automatic LCD display of 911 call information

```
E911 CALL      XX:       STA XXXX
MM/DD/YY                   HH:MM
```

XX = Index number (01-16)

Operation

Station users and attendants can press the 911 ALERT flexible button as necessary to view additional 911 calls' information in the stored list. After a station user or attendant views the information for all 911 calls in the system list:

- All users' LEDs change to a solid red indication.
- The audible ringing tone at all stations ceases.
- The LCDs at all stations revert to a normal display.

The list remains available for review by pressing the 911 ALERT flexible button as necessary, until after the messages are deleted.

To delete logged 911 Alert messages:

An attendant uses the following steps to delete the messages on a system-wide basis.

1. Press the 911 ALERT flexible button to display the 911 call information for deletion.
2. Press FLASH to delete that message.

Enhanced 911 Integration

Description

The E911 feature integrates the system to the Proctor PBX ANI-LINK product to provide enhanced 911 service. Loop Start lines can be connected to the Proctor unit and programmed to be 911 lines (FLASH 40, Page A, Button #15). When a 911 call is made from a station in the system, the system will send 911XXXX (XXXX=Station # that placed the 911 call) in DTMF format to the Proctor. If the station number is less than 4 digits, a leading 0 will automatically be added. The Proctor unit then accesses a call trunk and sends the information in the proper format to the 911 Center.

This feature also provides a means to identify a power failure signal from the Proctor Unit. If a power failure signal is detected, the KSU routes 911 calls via trunks other than those marked for 911 use until the signal is removed.

The E911 feature ensures access to 911 by freeing a CO Line, then making a call.

If you are using Centrex lines, a 2-second setting is recommended for Guard Timer programming (Flash 40, Page C, Button #6). This avoids situations where a line is seized by the 911 call before an existing call is dropped, causing the emergency call to be conferenced with the existing call.

Programming Steps

1. Press the ENHANCED 911 button **(FLASH 06, Button #14)**. The following message displays:

ENHANCED 911 DISABLED	0-1

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.

   [0] = Disabled

   [1] = Enabled

DEFAULT … Disabled

Conditions

» The 911 Feature (FLASH 06, Button #13) must also be enabled for the Proctor Integration to work.

» Only the lines connected to the Proctor should have the 911 Enable programmed (FLASH 40, Page A, Button #15).

» It is recommended to have a power failure procedure in place to ensure that 911 calls are always routed. Refer to FLASH 09, Button #7 for programming information.

Enhanced 911 Power Failure Station

Description

The power failure signal is designed to be used with the normally open (NO) power failure leads from the Proctor unit connected to an SLT port or SLA device. When the leads close in power failure, this is detected as an off hook and 911 routing ceases to the Proctor unit. 911 calls are sent via trunks other than those marked for 911 use until the power failure lead opens, which is detected as an on hook. 911 calls are then routed again to the Proctor unit.

Programming Steps

1. Press the E911 POWER FAILURE STATION button **(FLASH 09, Button #7)**. The following message displays:

```
PROCTOR 911 P/F              ####
####
```

2. Enter a valid SLT station number (100-8999) to be used as the power failure station.
3. Press HOLD to save the entry. A confirmation tone sounds.

Conditions

» During a power failure, 911 calls are sent via trunks other than those marked for 911.

» During a power failure, the station's digit information is not sent.

» The feature requires either an SLT port or an SLA port for the integration to work.

Account Code

Description

An account code is the last field within Station Message Detail Recording (SMDR), that provides tracking capabilities for specific calls by entering a verified/non-verified, variable length (up to 12 digits) identifier.

The use of forced Account Codes is optional, offered on a system-wide basis. SMDR must be enabled to use account codes.

Related Information

Quick Reference		
➡ Flash 21	Button 1	The SMDR function MUST be enabled (Refer to *"SMDR Enable / Disable" on page 2-271*.)

Operation

When connected to an outside line call:

1. Press the preprogrammed ACCOUNT CODE button (feature code 627 - refer to *"Flexible Button Assignment" on page 2-148*).
2. Dial account code up to 12 digits. (The other party does not hear the digits being dialed).
   - If account code is less than 12 digits, an [✳] must be entered to return to the call.
   - If account codes are forced, the account code must be entered prior to dialing the outside number.

SMDR must be enabled for the Account Code feature to operate. Also, SMDR must be enabled for the account code to become part of the SMDR record.

Account Codes - Forced

Description

The *XTS* allows arranging of the system so that station users must enter an account code before placing an outside call.

Account codes can also be used as a Traveling Class-of-Service to upgrade a restricted station's class-of-service for unrestricted dialing. Account codes must be entered before the call when forced.

The system can force account codes on all restricted calls.

- When the Forced Account Code option is enabled, and the account code is entered, a station's Class of Service is upgraded to day COS1, night COS1.
- If option is disabled, a station's COS is not upgraded but the account code continues to be part of the SMDR record.

Programming Steps

1. Press ACCOUNT CODES flexible button **(FLASH 05, Button #8)** to determine whether the use of Account Codes is forced or optional.
2. Enter a 0 or 1 that corresponds with the following entries:

   [0] = Disabled

   [1] = Enabled

FORCED ACCOUNT CODE	0-1
DISABLED	

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Account Codes are optional.

Operation

Prior to placing an outside line call:

1. Press the preprogrammed ACCOUNT CODE button.
2. Dial account code up to 12-digits.

SMDR must be enabled for the Account Code feature to operate. Also, SMDR must be enabled for the account code to become part of the SMDR record. Refer to "SMDR Enable / Disable" on page 2-271.

☎ SINGLE LINE TELEPHONE

To enter an Account Code before a call:

1. Lift the handset.
2. Dial [627].
3. Dial the account code.

If the account code contains fewer than 12 digits, dial [✳] to return to the intercom dial tone.

4. Dial [9] or CO Access code. Dial tone sounds.
5. Dial the desired number.

To enter an Account Code during a call:

1. Depress the hookswitch momentarily. Your call will be placed on executive hold while you enter your account code.
2. Dial [627].
3. Dial the account code.

If the account code contains fewer than 12 digits, dial [✳] to automatically return to the call.

Account Codes - Traveling COS (Verified)

Description

The Verified Account Code/Traveling Class of Service (COS) feature provides the ability to track specific calls by entering a verified, variable length (up to 12 digits) identifier. Each account code can be assigned a day and night Class of Service for determining the dialing privileges allowed by that account code.

This feature provides a means for users to override a restricted station. If the dialed account code matches the Verified Account code table, an intercom dial tone is returned, otherwise an error tone is presented.

Using verified Account Codes is optional, available on a system-wide basis. SMDR must be enabled for the account code to print as part of the SMDR record. The *XTS* allows up to 250 12-digit account codes for verification purposes.

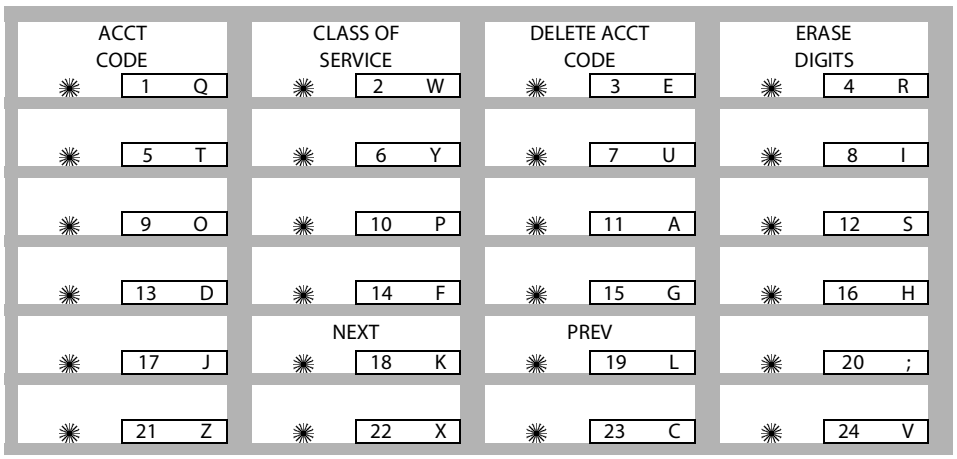


Figure 2-1: FLASH 31 Button Mapping

Related Information

Quick Reference		
➡ Flash 21	Button 1	The SMDR function MUST be enabled (Refer to *"SMDR Enable / Disable" on page 2-271*.)

Programming Steps

To enable or disable Verified Account Codes:

1. Press the VERIFIED ACCT CODES flexible button **(FLASH 06, Button #3)**. The following message displays:

```
VERIFIED ACCT CODES          0-1
DISABLED
```

2. Enter 0 or 1 on the dial pad to enable/disable Verified Account Codes.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Verified Acct Codes are disabled.

To assign Verified Account Codes:

1. Press **FLASH** and dial **[31]**. The following message displays:

```
ACCT                          COS
XXXXXXXXXXXX                   ##
```

ACCT = Up to 12-digit account code
COS = Class of Service for account codes

(Refer to Figure 2-1 on page 2-10 for FLASH 31 button mapping.)

2. Press the ACCT CODE flexible button **(FLASH 31, Button #1)**. Enter up to 12 digits (0-9, *, #). [*] represents a do not care digit. The system ignores all digits after this digit when entering an account code. The [#] represents a single do not care digit.
3. Press the CLASS OF SERVICE flexible button **(FLASH 31, Button #2)**. Enter a 2-digit Class of Service Number (1-7) that corresponds to Class of Service 1-7. The first digit represents Day COS and the second digit represents Night COS.
4. Press HOLD to complete the entry. A confirmation tone sounds.

*Existing account code entries display in numerical order from lowest to highest. If an existing account code displays on the LCD when FLASH 31 is initially entered, the programming procedure creates a new account code, but does not delete the account code initially shown. If the intent is to **change** an existing account code from one number to another, perform the assignment procedure and delete the undesired account code entry by following the procedure in the following section.*

DEFAULT … No Account Codes are assigned.

To delete the currently displayed Verified Account Code:

1. Press the DELETE CODE flexible button **(FLASH 31, Button #3)** to delete the entire account code entry.
2. To display the next account code on the LCD, press the NEXT flexible button **(FLASH 31, Button #18)**.
3. To display the previous account code on the LCD, press the PREVIOUS flexible button **(FLASH 31, Button #19)**.

To erase previously entered digits:

1. Press the ERASE DIGITS flexible button **(FLASH 31, Button #4)**
2. Each press of the button erases one digit. Continue until all desired digits are erased.
3. Re-enter the correct digits, then press HOLD to complete the entry. A confirmation tone sounds.

Operation

To use Verified Account Codes:

1. Press preprogrammed ACCOUNT CODE button before accessing a CO line.
2. Dial the account code up to 12-digits. If the account code matches a verified account code, intercom dial tone is returned. Otherwise an error tone is presented.
3. Access the outside CO line or dial the LCR code and dial the desired number.

SMDR must be enabled for the Account Code feature to operate. Also, SMDR must be enabled for the account code to become part of the SMDR record.

☎ SINGLE LINE TELEPHONE

To enter an Account Code before a call:

1. Lift the handset.
2. Dial [627].
3. Dial the account code.

If the Account Code contains fewer than 12 digits, dial [✳] to return to the intercom dial tone.

4. Dial [9] or CO Access code. Dial tone sounds.
5. Dial the desired number.

Conditions

» Verified Account Codes allow use of an account code as a traveling Class of Service.

» If LCR is activated in the system and verified account codes are activated, the user must enter the account code before dialing the LCR code.

» When verified account codes are activated, station MUST enter an account code to dial a number that is restricted through station COS and toll restriction. An account code is not required for calls that are unrestricted through station COS and toll restriction.

» When verified account codes are not forced, a station user may place a call without entering an account code. In this case, the station user's COS is based on their station COS. In this case, a user can enter a verified account code to upgrade their COS.

» The Redial feature does not support Verified Account Codes.

» Keyset users must preprogram an ACCOUNT CODE flexible button.

Initialize Verified Account Code Table

Description

The Verified Account Code Table may be initialized to set data fields to original values.

Table 2-1: Verified Account Code Table Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 31	VERIFIED ACCOUNT CODES		
	1	Account Code	None
	2	Class of Service	None
	3	Delete Code	N/A
	4	Erase Digits	N/A

Programming Steps

1. Press the INITIALIZE ACCT CODES flexible button (**FLASH 80, Button #14**). The following message displays:

```
INITIALIZE  ACCT  CODES
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print Verified Account Codes

Description

The Print Verified Account Codes command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

```
ACCOUNT CODE TABLE
ENTRY   COS    DGTS
-----   ---    ----
00      ##
01      ##
02      ##
03      ##
04      ##
05      ##
06      ##
07      ##
08      ##
09      ##
10      ##
11      ##
12      ##
13      ##
14      ##
15      ##
16      ##
17      ##
18      ##
19      ##
20      ##
21      ##
22      ##
23      ##
24      ##
25      ##
26      ##
27      ##
28      ##
29      ##
30      ##
31      ##
32      ##
33      ##
34      ##
35      ##
36      ##
37      ##
38      ##
39      ##
40      ##
... and so on through 249
```

Figure 2-2: Verified Account Codes Printout

Programming Steps

1. Press the PRINT ACCT CODES flexible button **(FLASH 85, Button #15)**. The following message displays:

```
PRINT ACCT CODES
PRESS HOLD
```

2. To print the VERIFIED ACCT CODES, press the HOLD button. The following message displays:

```
PRINTING ACCT CODES
```

   When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Answering Machine Emulation

Description

When a call is sent to a voice mailbox, the station associated with that can press a preprogrammed button to listen to the caller leaving the voice mail message. If the mailbox owner decides to speak with the caller, the owner can press the preprogrammed button to be connected to the caller.

Two methods of notification are available, Ring Mode or Speaker Mode. The preprogrammed button type (654+0=Ring Mode, 654+1=Spkr Mode) defines the operation mode.

EXAMPLE -- Station A user places their phone in the answering machine mode by pressing the flexible button programmed on the telephone. The button light is solid red. Whatever button type is assigned on the telephone defines the operation mode of the feature.

When an incoming CO call rings at a station and forwards (except busy type) to the station's voice mailbox:

- In RING MODE, the preprogrammed answering machine flexible button flashes at 480 ipm red while the caller is in the owner's mailbox. The mailbox owner presses the preprogrammed flashing button and the audio is broadcast over the speaker of the keyset. The mute key is enabled on the keyset at this point. The LED light is solid green.
- In SPKR MODE, the voice mail message is broadcast over the speaker. The mute key is enabled on the keyset and the LED light is solid red.

Display Messages

When a call is ringing the station in ring mode, this message displays:

```
        SCREENING RING
MMM DDYY            HH:MM am
```

When a station is monitoring the caller in VM, this message displays:

```
          SCREENING
MMM DD YY              HH:MM am
```

Answering Machine Emulation only operates on Station Forwarding.

Operation

To set the Operation Mode:

1. Press [SPEED] + [SPEED].
2. Press the desired flexible button for programming.
3. Dial [654] + [0] to select the ring mode or dial [654] + [1] to select the speaker mode.

   A confirmation tone sounds.

The Mailbox Owner has the following options when a call is sent to a voice mailbox:

To leave the caller in the voice mail and stop the speaker broadcast, press the ON/OFF button. The mailbox owner can continue to listen to the message being left without taking action at their keyset. When the caller disconnects after leaving the voice mail message, the button returns to solid red and the keyset returns to idle.

To talk to the party leaving the message, press the MUTE key. The station remains in the CONF mode, and the caller hears the voicemail and the station user.

To pick up the call, press the flexible button. When the call is picked up, the voice mail system disconnects from the call, and the voice mail port returns to the idle (waiting) state. The caller is in a normal talk state with the CO caller.

☎ SINGLE LINE TELEPHONE

Answering Machine Emulation cannot be used with Single Line Telephones.

Conditions

» The user must have an Electronic or Digital Keyset.

» Keyset users must preprogram an ANSWER MACHINE flexible button.

» After the in-band digits are sent to the voice mail, the station's flexible button status is checked. The feature is executed based on this check. The result of the check is as follows:

Inactive = no feature operation executed

Active = feature executed as per button function (ring mode or speaker mode)

» An idle station can press the flexible button to go to the inactive mode. The LED extinguishes and no answer machine calls are presented to the station.

» When button is programmed at the station, it is in the inactive mode (LED extinguishes).

» If the station user answers the call, the normal CO line LCD window displays. The call timer shows the elapsed time including the time the caller was in VM. The call timer does not start at 0 in this case.

Attendant Assignment / Features

Refer to *Chapter 3, Attendant Features and Operation*.

Automatic Call Distribution (ACD)

Refer to *Chapter 4, Call Distribution - ACD/UCD*.

Automatic Privacy

Description

Privacy is automatically provided on all calls. If one station is conversing, another station cannot intrude on that line.

The Automatic Privacy feature can be disabled, allowing up to seven other stations to join in on existing CO line conversations. Refer to *"Privacy Release" on page 2-238* for details.

Disabling of the privacy feature may be limited by federal, state or local law, so check the relevant laws in your area before disabling privacy.

Background Music

Description

Each digital telephone user may receive music over their speaker when an optional music source is connected to the system. The Background Music feature can be allowed or denied on a system-wide basis by programming. The system can be programmed to let stations activate their Background Music, in addition to Music-On-Hold.

Programming Steps

1. Press the BACKGROUND MUSIC flexible button **(FLASH 05, Button #6)**.
2. Enter a valid number (0 or 1) that corresponds with the following:

   [0] = Disabled

   [1] = Enabled

BACKGROUND MUSIC ENABLED	0-1

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Background Music channel is enabled.

Operation

1. Dial **[632]** on the dial pad,

   -or-

   Press the preprogrammed flexible button.

   The LCD display shows the following:

```
0:OFF      1/2/3: CH-1/2/3
MMM DD YY                  HH:MM am
```

2. Enter the desired channel on the dial pad. Confirmation tone sounds. Music is now issued through the speaker.
3. Press the Volume Bar to change the volume. The following message displays:

```
SPEAKER BGM              [#########]
MMM  DD  YY                HH:MM am
```

☎ SINGLE LINE TELEPHONE

The background music feature is not compatible with single line telephones.

Conditions

» When you pick up the handset or press the ON/OFF button, music automatically discontinues.

» When the headset is enabled, BGM discontinues.

» A music source must be connected to the BGM/MOH connector.

Battery Back-Up (Memory)

Description

A lithium battery is located on the Main Processing Board (MPB) to protect system memory in case of commercial power outage or the system power being turned off for a time period.

Battery Back-up Memory retains all system features including system and station speed dial during a power outage.

Baud Rate Assignments

Description

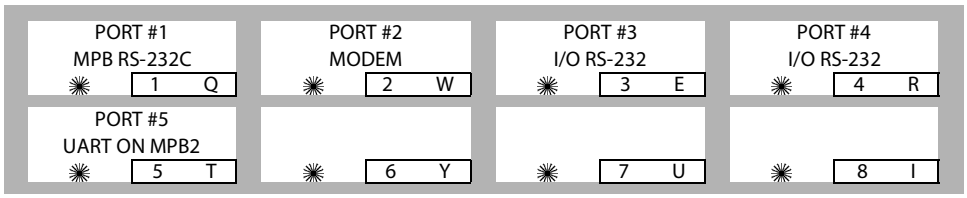
The System provides outputs such as SMDR or ICLID to the standard RS-232 connectors on the MPB or RS-232 on the optional SIU Modules.

PORT #1 -- RS-232C port labeled SCMI on the MPB (recommended for maintenance use only)

PORT #2 **--** 19.2K modem

PORT #3 and #4 -- RS-232 ports on optional SIU board on MISB (recommended for ACD, ICLID, and SMDR uses)

PORT #5 -- UART on MPB2 (recommended for ACD, ICLID, and SMDR uses)



Programming Steps

Press **FLASH** and dial **[15]**. The first button is lit and ready for programming Port #1. The following message displays:

PORT	BAUD
1	19.2K

PORT #1, #3, #4, #5 BAUD RATES

1. Press the desired PORT # flexible button **(FLASH 15, Buttons #1, #3, #4, or #5)** to determine the port to program.
2. Enter a 1-digit number for the baud rate:

   [1] = 150 Baud [5] = 2400 Baud
   [2] = 300 Baud [6] = 4800 Baud
   [3] = 600 Baud [7] = 9600 Baud
   [4] = 1200 Baud [8] = 19.2K Baud

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT . . . Port #1 = 19.2K, Ports #3, 4, & 5 = 9600.

PORT #2 BAUD RATE

Press the PORT #2 flexible button **(FLASH 15, Button #2)** to verify the baud rate of the modem. The following message displays:

PORT	BAUD
2	19.2K

DEFAULT . . . There is no default setting for Port #2. The baud rate for the system is determined by the connecting device (e.g., PC using Ecom or HyperTerminal) and is auto-negotiated by the system. The highest connection rate is 19.2K, but the system will connect at lower speeds if necessary.

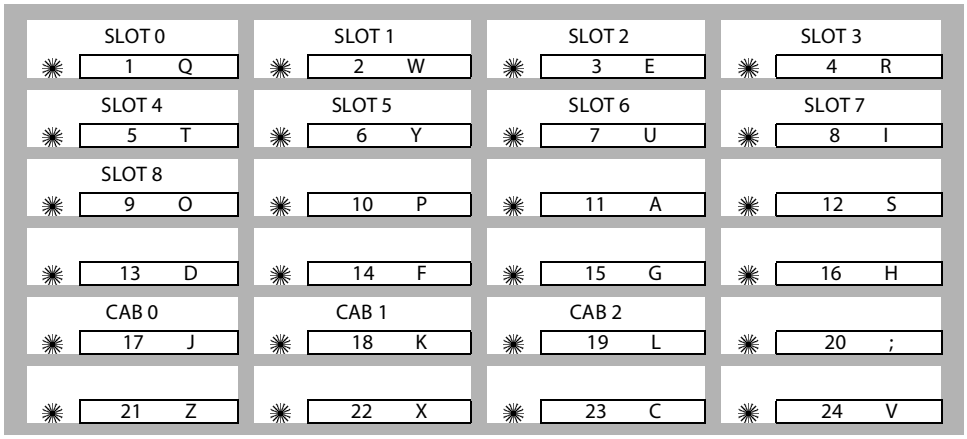
Cabinet/Card Programming

Description

The Cabinet/Card Programming feature provides a means to assign the peripheral cards to alternative peripheral card slots.

Flash 24 also allows for partial signaling over T1IBs (9) or PRIBs (8). For example, card slots ordinarily accommodate 24 CO line time slots each. This feature allows you to limit the amount of time slots per card to four (4), or multiples of four (4) up to 20. To use this feature, the card ID is programmed followed by the number of CO lines to be used in groups of four (4). A group of four (4) is known as a cluster. If the card number is programmed without a cluster number, all COs on that card are active.

When using partial signaling, the last channel in the cluster and the 24th channel are data channels (e.g., for partial signaling with one cluster, the 4th and 24th channels are data channels. If two clusters are used, then the 8th and 24th channels are data channels.)



Related Information

Quick Reference		
➡ Flash 80	Button #20	System Reset (Refer to *"System Reset" on page 2-281*.)

Programming Steps

1. Press **FLASH** and dial **[24]**. The following message displays on the display:

```
CABINET 0
ENTER BUTTON NUMBER
```

2. Press the button corresponding to the desired cabinet (CAB). Buttons #17-19 represent cabinets 0-2. The following message displays on the display:

```
CAB  X  SLOT  XX          00-14
DTIB
```

   Button #1 LED is lit to indicate that you are programming for peripheral card slot 0.

3. Press the button corresponding to the desired SLOT location. (Buttons #1-9 indicate peripheral card slots 0-8.)

Electrical bus configurations restrict the slots that can support T1 and PRI cards to slots 1-7 of Cabinet 0 and to slots 0-7 of Cabinets 1 and 2.

4. Enter a valid number for the type of card plugged into the current peripheral card slot.

[00] = None	[06] = GCOB	[12] = VOIP
[01] = ETIB	[07] = DIDB	[13] = SL12
[02] = DTIB	[08] = PRIB	[14] = LC08
[03] = DT24	[09] = T1IB	[15] = LCI8
[04] = SLIB	[10] = BRIB	[16] = SI12
[05] = LCOB	[11] = BR16	

5. If the PRIB or T1IB option is selected in step 4, then enter a valid number (1-5) to specify the desired cluster (partial) quantity; otherwise, skip to step 6.

[1] = cluster of 4	[4] = cluster of 16
[2] = cluster of 8	[5] = cluster of 20
[3] = cluster of 12	No Entry = All CO lines

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.
7. Press the reset button on the Main Processing Board (MPB).

DEFAULT … Cabinets 0-2 are identified as cabinet 0 and card slots 0-8 are identified as slot 0.

Conditions

» After programming card slots, a system reset must be performed.

Call Back

The two types of Call Back are Manual Call Back and Automatic Call Back.

Manual Callback

Description

A station can initiate a call back request to another busy station. Once that station becomes idle, the station that left the call back request is signaled.

The Call Back Button flash rate is the rate at which the Call Back button flashes when a station at which you left a call back request becomes available. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the CALL BACK BTN flexible button **(FLASH 07, Button #16)**. The following message displays:

```
CALL BACK BTN              00-28
RED 120 IPM FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Call Back Button flash rate is set for a Red 120 ipm Flash (10).

Operation

If you dial a telephone that is busy and want to activate Call Back:

1. Press the CALL BACK button.
2. Hang up.
   When the busy station hangs up, you are signaled.
3. Answer the call; station you called is then signaled. (If your station is busy when signaled, an automatic MSG is left at your phone).

A Call Back Request is automatically invoked anytime a user listens to the intercom busy tone for a preset period of time.

Only one Call Back request can be left at a station; the second request is converted to a message wait call back request.

☎ SINGLE LINE TELEPHONE

If you dial a telephone that is busy and want to leave a Call Back indication:

1. Briefly depress and release the hookswitch.
2. Dial [622] and replace the handset.

Only one Call Back request can be left at a station; the second request will convert to a message waiting request.

Automatic Call Back Timer

Description

The Automatic Call Back Timer invokes a call back anytime a user listens to a busy tone for a programmable period of time. The Automatic Call Back Timer can be set to 00-99 seconds.

A value of 00 disables the timer. An Automatic Call Back does not occur when the timer is disabled.

Programming Steps

1. Press the AUTO CALL BACK TIMER flexible button **(FLASH 01, Button #17)**. The following message displays:

```
AUTO CALL BACK          00-99
03
```

2. Enter a valid number on the dial pad that corresponds to 00-99 seconds in 1-second increments.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Automatic Call Back Timer is set for 03 seconds (enabled).

Auto Callback - DSS / BLF

Description

The Auto Callback DSS/BLF flash rate is the rate at which a DSS button of a station returning your call back flashes. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the AUTO CBCK – DSS/BLF flexible button **(FLASH 07, Button #7)**. The following message displays:

```
AUTO CBCK DSS / BLF     00-28
RED 120 IPM FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Auto Callback DSS/BLF flash rate is set for a Red 120 ipm Flash (10).

Message Callback - DSS / BLF Flash Rate

Description

The Message Call Back DSS/BLF flash rate is the rate at which a DSS button of a station returning your message flashes. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the MSG CBCK / DSS/BLF flexible button **(FLASH 07, Button #5)**. The following message displays:

```
MSG CBCK / DSS / BLF          00-28
RED  120  IPM  FLUTTER
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Message Callback DSS/BLF flash rate is set for a Red 120 ipm Flutter (11).

Call Coverage

Description

The Call Coverage feature provides the functionality for stations to answer calls for other stations by utilizing call coverage buttons. Visual and Audible status of ringing stations to an assigned coverage station are provided. Multiple coverage stations can have the same remote ringing station(s) programmed on their stations. Once a coverage station answers the call, other stations attempting to answer the call receive a busy tone and the call coverage button extinguishes on all appearances of that button.

Direct CO calls have ring and LCD priority over call coverage calls. The call coverage station must have a direct CO appearance or Loop button in order to pick up an external call. If the call coverage station is in DND, no audible ringing occurs, however visual and LCD information is presented.

This feature can be programmed by the station user or through admin programming.

DEFAULT … No call coverage buttons are assigned.

Operation

To assign a Call Coverage Button:

1. Press [SPEED] + [SPEED].
2. Press a desired flexible button.
3. Dial [647] for Non-Ringing or [646] for Ringing, followed by the station number to cover. A confirmation tone sounds.

Once the button is assigned on the station and a call rings in:

1. The coverage station receives audible and/or visual indications for the coverage station after a programmable period of time. The ring tone is the internal ring tone cadence. The flash rate is the same as the incoming CO line ringing rate.
   - Ringing option = ringing, flashing Call Coverage LED, LCD display as in following illustration.

     ```
     CALL FOR STA XXXX
     MMM DD YY              HH:MM am
     ```

   - Non-Ringing option = flashing Call Coverage LED only (no ringing or change to LCD).

2. The Coverage station user then presses their flashing COVERAGE flexible button,

   -or-

   Presses the ON/OFF button (only if the ringing option is selected).

   The call is answered and ceases to ring at any other stations that may have the same coverage appearance. One of the following messages display after the call is answered.

Non-network system or in same Node:

```
CALL FOR STA XXXX
FROM STA YYYY          HH:MM am
```

Network system with call passed across a switch:

```
XXXXXXXXX CALLING
YYYYYY                  HH:MM:SS
```

XXXXXXXXX = Name of calling party
YYYYYY = Specific CO Line type being used (e.g., PRI #23)
HH:MM:SS = Amount of time on the call

☎ SINGLE LINE TELEPHONE

This feature can cover SLT extensions, however an SLT cannot perform the call coverage function. The SLT extension need not be physically installed, only the SLT card must be installed.

Conditions

» Direct CO calls have ring and LCD priority over call coverage calls. The call coverage station must have a direct CO appearance or Loop button to pick up an external call. If the call coverage station is in DND, no audible ringing occurs, however visual and LCD information is presented.

» This feature can be programmed on any key station or DSS Console with an available flexible button. If the DSS with a call coverage button assigned is unplugged or moved, the station associated with that DSS stops ringing until the DSS is plugged in again.

» Only one button type (646 or 647) per covered station can be assigned on a keyset.

Call Coverage Ring Timer

Description

A Call Coverage Ring Timer enables the system administrator to set the amount of delay time before the call coverage feature provides an indication at the coverage station. When that station rings with an internal or external call, the DSS button for that station rings or flashes. The call coverage ring timer is a system-wide setting.

The Call Coverage Ring Timer setting is variable from 00-99 seconds.

Programming Steps

1. Press the CALL CVRG RING TIMER flexible button **(FLASH 02, Button #3).** The following message displays:

```
CALL COVERAGE RING          00-99
05
```

2. Enter a valid number on the dial pad that corresponds to 00-99 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Call Coverage Ring Timer is set for 5 seconds.

Call Forward

Description

When any type of station call forwarding is invoked, the LCD display normally indicates the call forwarding mode at all times. This feature has modified the LCD forwarding display to make the call forwarding mode display optional. This feature is enabled/disabled in admin programming on a system-wide basis. The call forward status is stored in a battery protected area of memory.

Call Forwarding

Description

Stations can be allowed or denied the ability to forward all incoming CO calls, intercom calls, and transferred outside lines to another station or group.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-131) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press the CALL FORWARD flexible button **(Button #10)**. The following message displays:

```
CALL FORWARD                0-1
ENABLED
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT …Call Forwarding is enabled at all stations.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

» Call Forward remains engaged until manually released. When released, the station number is returned to the LCD.

» Calls cannot be forwarded to a station in the DND mode.

» CO Line queues, a Message Waiting request, and pre-selected messages are canceled when a station is placed in the Forward mode.

» A Forwarded Call signals to the forwarded station in the Tone mode, regardless of the Intercom Signaling Switch mode selection.

» A station in the Forward mode can make outgoing calls.

» A station denied the use of Call Forwarding receives an error tone when pressing the CALL FORWARD button.

» If a CO Line rings into a station with manual Call Forward, the line sequences to the last station of the chain. If the last station is in DND mode or does not have a Direct appearance for the CO Line or a Loop button, the call reverts back to the first station.

» If a CO Line rings into a station with both Station and Preset Call Forwarding, Station Call Forwarding takes precedence. Once the Station Forward determines the station to be rung as per above, preset Call Forward may then apply at the new station.

» An unlimited number of stations can be set up in a Station Call Forward chain. However, a station cannot forward to a station that is already a member of their chain.

» If the last number of the Station Call Forward chain is in DND mode, the internal caller gets a DND response.

» If a private line rings into a station with Manual Call Forward the CO Line forwards, providing the forwarded station has a direct CO Line appearance or an available Loop button.

Call Forward - All Calls

Description

The Call Forward All Calls feature allows a station the ability to have all their calls (internal or external) forwarded immediately to a designated station, an ACD or UCD group pilot number, Voice Mail group number, Hunt group number, or speed dial bin number for off-net forwarding.

Operation

To activate All Call Forwarding:

1. Lift handset or press ON/OFF button.
2. Press the FWD button or dial [640].
3. Dial the All Calls code [6].
4. Press DSS button of desired station,

   -or-

   Dial the desired destination number where to forward calls, including a station number, ACD or UCD group number, Voice Mail, Hunt Group pilot numbers, and speed dial bins for off-net forwarding.
5. Replace handset; ON/OFF button extinguishes automatically, if used instead of handset.

To remove All Call Forwarding:

1. Lift handset or press ON/OFF button.
2. Press the FWD button or dial either [640] or [662]. A confirmation tone sounds and the FWD LED extinguishes.
3. Replace handset; ON/OFF button extinguishes automatically, if used instead of handset.

☎ SINGLE LINE TELEPHONE

The SLT operation uses the same procedures as used in Digital Telephone operation described above, except there is no FWD button. The user must use the feature codes as described in the keyset section above.

Conditions

» Conditions are the same as described in the Conditions section of *"Call Forwarding" on page 2-26* plus those noted in the following bullets.

» When in an All Call Forwarding mode, ACD/UCD calls cannot be received.

» Calls to a station in both Station Call Forward and DND mode follow the forward.

Call Forward - Busy

Description

The Call Forward Busy feature allows a station the ability to have their calls forwarded to a designated station, an ACD or UCD group pilot number, Voice Mail group number, or Hunt group when their station is busy or in DND.

Operation

To activate Busy Call Forwarding:

1. Lift the handset or press ON/OFF button.
2. Press the FWD button or dial [640] on the dial pad.
3. Dial the Call Forward Busy code [8] on the dial pad.
4. Dial the desired destination number where calls are to be forwarded. A confirmation tone sounds.
5. Replace handset; ON/OFF button extinguishes automatically, if used instead of handset.

To remove Busy Call Forwarding:

1. Lift handset or press ON/OFF button.
2. Press the FWD button or dial either [640] or [662]. A confirmation tone sounds and the FWD LED extinguishes.
3. Replace handset; ON/OFF button extinguishes automatically, if used instead of handset.

☎ SINGLE LINE TELEPHONE

The SLT operation uses the same procedures as used in Digital Telephone operation described above, except there is no FWD button. The user must use the feature codes as described in the keyset section above.

Conditions

» Conditions are the same as described in the Conditions section of *"Call Forwarding" on page 2-26* plus those noted in the following bullets.

» Calls to a station in both Station Call Forward and DND mode follow the forward.

Call Forward - Busy / No Answer

Description

The Call Forward Busy/No Answer feature allows a station the ability to forward a combination busy/no answer calls to a designated station, an ACD or UCD group pilot number, Voice Mail group number, or Hunt group. No answer calls forward when the system-wide no answer timer expires. Initial CO ringing, transferred CO ringing and intercom ringing calls can all be forwarded. Calls that ring to an idle station is call forwarded after expiration of the No Answer Ring Timer.

Operation

To activate Busy / No Answer Call Forwarding:

1. Lift the handset or press ON/OFF button.
2. Press the FWD button or dial [640] on the dial pad.

3. Dial the Call Forward Busy/No Answer code [9] on the dial pad.
4. Dial the desired destination number where calls are to be forwarded. A confirmation tone sounds.
5. Replace handset; ON/OFF button extinguishes automatically, if used instead of handset.

To remove Busy / No Answer Call Forwarding:

1. Lift handset or press ON/OFF button.
2. Press the FWD button or dial either [640] or [662]. A confirmation tone sounds and the FWD LED extinguishes.
3. Replace handset; ON/OFF button extinguishes automatically, if used instead of handset.

☎ SINGLE LINE TELEPHONE

The SLT operation uses the same procedures as used in Digital Telephone operation described above, except there is no FWD button. The user must use the feature codes as described in the keyset section above.

Conditions

» Conditions are the same as described in the Conditions section of *"Call Forwarding" on page 2-26* plus those noted in the following bullets.

» For Call Forward No Answer, the number of rings before the call is forwarded is determined by the system-wide Call Forward No Answer timer.

» Stations Call Forwarded/No Answer forward incoming CO calls according to the Preset Forward Ring Timer.

» ICM calls forwarded to a VM group receive ringback until a member of the VM group becomes available.

» If a station is denied Station Call Forwarding, then Off-Net Forwarding is not allowed.

Call Forward - Follow Me

Description

The Follow Me feature lets a user who is away from their station, activate/deactivate call forwarding from another station in the system. This lets the user forward their calls to their current location or into Voice Mail, ACD/UCD, Hunt Groups, or to any other station in the system. When this call forward is activated, all calls presented to the forwarded station forward to the destination station immediately.

Operation

To activate Follow Me Call Forwarding:

1. Lift the handset or press ON/OFF button.
2. Dial the Follow Me Forward code [642] on the dial pad.
3. Dial station number of the station from which forwarding is desired.
4. Dial the appropriate forwarding condition code.

   [6] = All Calls [8] = Busy

   [7] = No Answer [9] = Busy/No Answer

5. Dial the three- or four-digit destination number where calls are to be forwarded. (Station, Voice Mail, ACD/UCD, or Hunt Group.) A confirmation tone sounds.
6. Replace handset; ON/OFF button extinguishes automatically, if used instead of handset.

To remove Follow Me Call Forwarding:

1. Lift the handset or press ON/OFF button.
2. Dial the Follow Me Forward code [642] on the dial pad.
3. Dial the station number of the station that forwarding is to be cancelled.
4. Dial [6] (regardless of the forward condition).
5. Redial the same station number. Confirmation tone sounds and FWD LED extinguishes.

To establish Follow Me Call Forwarding (off-site location):

1. Dial into the system on a DISA or TIE trunk. Enter the DISA access code, if applicable.
2. Dial the Follow Me Forward code [642] on the dial pad.
3. Dial the station number of the station from which forwarding is desired.
4. Dial the appropriate forwarding condition code.

   [6] = All Calls [8] = Busy

   [7] = No Answer [9] = Busy/No Answer
5. Dial the three- or four-digit destination number where calls are to be forwarded. (System Speed Bin, Station, Voice Mail, ACD/UCD, or Hunt Groups.) A confirmation tone sounds; five seconds later a dial tone is received.

To remove Follow-me Call Forwarding (off-site location):

1. Dial into the system on a DISA or TIE trunk. Enter the DISA access code, if applicable.
2. Dial the Follow-Me Forward code [642] on the dial pad.
3. Dial the station number of the station that forwarding is to be cancelled.
4. Dial [6] (regardless of the forward condition).
5. Redial the same station number. Confirmation tone sounds; 5 secs later = dial tone.

Conditions

» If a Call Forward mode is currently active at the station where forwarding is desired, the new forward becomes active and cancels the previous forward.

» Both internal and external calls to the affected station forward to the designated location.

» Call forwarding must be allowed in programming for the affected station.

» When remote forward is activated, the forwarding is immediate.

» A station's Call Forward status is stored in a battery protected area of memory. A station's Call Forward status is returned after a power failure or system reset occurs.

» When a key telephone is forwarded remotely, the key station's forward button lights. The station user may cancel the forwarding at their station by pressing ON/OFF, then the FWD button. SLT users can cancel their forwarding by going off hook and dialing the forward code.

» DISA callers entering the code and making a mistake are given error tone for 3 seconds, silence for 2 seconds, then the dial tone is returned.

Call Forward - No Answer

Description

The Call Forward No Answer feature allows a station the ability to have their calls forwarded to a designated station, an ACD or UCD group pilot number, Voice Mail group number or Hunt group number when there is no answer at the station. No answer calls forward when the system-wide no answer timer expires.

Operation

To activate No Answer Call Forwarding:

1. Lift the handset or press ON/OFF button.
2. Press the FWD button or dial [640] on the dial pad.
3. Dial the Call Forward No-Answer code [7] on the dial pad.
4. Dial the desired destination number where calls are to be forwarded. A confirmation tone sounds.
5. Replace handset; ON/OFF button extinguishes automatically, if used instead of handset.

To remove No Answer Call Forwarding:

1. Lift handset or press ON/OFF button.
2. Press the FWD button or dial either [640] or [662]. A confirmation tone sounds and the FWD LED extinguishes.
3. Replace handset; ON/OFF button extinguishes automatically, if used instead of handset.

☎ SINGLE LINE TELEPHONE

The SLT operation uses the same procedures as used in Digital Telephone operation described above, except there is no FWD button. The user must use the feature codes as described in the keyset section above.

Conditions

» Conditions are the same as described in the Conditions section of *"Call Forwarding" on page 2-26* plus those noted in the following bullets.

» A Camp-On signal is allowed at the forwarded station if that station is busy.

» Idle keyset in handsfree mode does not follow no answer forwarding for internal calls.

Call Forward - External (Off-Net)

Description

Stations are allowed to forward intercom and transferred CO line calls to an off-net location. The Call Forward Off-Net feature allows a station to reroute calls that would normally be lost. Calls can be forwarded to home or another off-net site. Initially ringing CO calls cannot be forwarded with this feature.

Operation

To activate Off-Net Call Forwarding:

1. Lift handset or press ON/OFF button.
2. Press the FWD button or dial [640] on the dial pad.
3. Dial [✳] on the dial pad. Dial the speed bin number (9000-9019 or 9020-9999) that contains the number where calls are to be forwarded. A confirmation tone sounds and the FWD button LED is Red Steady On.
4. Replace handset; ON/OFF button extinguishes automatically, if used instead of handset.

To remove Off-Net Call Forwarding:

1. Lift handset or press ON/OFF button.
2. Press the FWD button or dial either [640] or [662]. A confirmation tone sounds and the FWD LED extinguishes.
3. Replace handset; ON/OFF button extinguishes automatically, if used instead of handset.

☎ SINGLE LINE TELEPHONE

The SLT operation uses the same procedures as used in Digital Telephone operation described above, except there is no FWD button. The user must use the feature codes as described in the keyset section above.

Conditions

» Forwarding is unconditional and occurs immediately when a station calls an Off-Net forwarded station.

» The call to a station is not answered until the outgoing CO Line is seized and the digits are out-pulsed. The calling Station receives ICM ringback until answered. Upon answer the Station receives whatever CO progress tones apply (Ringback, Busy, Error, Announcement, etc.).

» If a station is denied Station Call Forwarding, Off-Net forwarding is not allowed.

» Toll Restriction is based on the forwarding station's COS and the outgoing CO Line COS.

» The calling station must have an appearance (Direct, Loop) for the outgoing (Off-Net) line. The call is not forwarded if a Direct Appearance or LOOP key is unavailable.

» SMDR printout reflects transferred and outgoing calls like a DISA call record.

» Station users may use Station or System Speed Dial as the Speed Dial Bin used for Station Off-Net Forward.

» Call must be an intercom or transferred CO call.

» The attendant station must have access to the CO Line group used in the speed bin for the off-net forward to work.

Call Forward Button Flash Rate

Description

The Call Forward Button flash rate is the rate at which the Call Forward button flashes when any type of forward mode is used. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the CALL FORWARD BTN flexible button **(FLASH 07, Button #3)**. The following message displays:

```
CALL FORWARD BTN          00-28
RED  STEADY  ON
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Call Forward Button flash rate is set for a Red Steady On (01).

Call Forward Display

Description

When call forwarding is invoked, the LCD display normally indicates the call forwarding mode at all times.

This feature is enabled/disabled in administrative programming on a system-wide basis.

Programming Steps

1. Press the CALL FWD DISPLAY STATUS flexible button **(FLASH 06, Button #4)**. The following message displays:

```
CALL FWD DISPLAY          0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable Call Forward Display.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Call Forward Display is enabled.

Call Forward - Preset

Description

The Call Forward Preset feature allows the system database to be configured so that incoming CO Lines, which are programmed to ring at a particular station, can be forwarded elsewhere in the system predetermined by programming. This feature is active if the station ringing is not answered in a specified time, and is particularly useful in overflow applications in which a Voice Mail or Auto Attendant may be in use.

- A station may have one designated preset forward location defined in the database.
- Each station in the system may, independently, have incoming CO calls preset forwarded to the following destinations:

  Preset Call Forward - ACD, Voice Mail, UCD, or Hunt Groups -- CO Lines can be Preset Forwarded to ring to one of the group types in the system (ACD, Hunt Voice Mail, or UCD). CO lines do not Preset Forward to a busy ACD Group. Each time the Preset Forward Timer expires (a total of 5 attempts), the group is checked for an idle station.

  Preset Call Forward - Off-Net -- CO Lines can be preset forwarded to ring Off-Net via speed dial from any station. After the expiration of the preset forward timer, the system selects an idle CO line, dials the off-net location, then connects the two CO lines.

  Preset Call Forward - Per CO Line -- The Preset Call Forward feature allows each CO line to be preset call forwarded on a per CO line basis. This allows a CO line to initially ring at multiple stations and forward to a predetermined destination. The destination can be a station or Hunt Group. Each CO line has a Preset Forward Timer. Each CO line also has a VMID field to allow specific VM digits to be sent when a CO line forwards to a VM group. Feature applies to initial CO ringing lines only.

  If a forward destination is programmed in the CO line field, the CO call forwards to that destination after the CO Preset Forward timer expires. This forward occurs regardless of how many or how few stations the line is ringing on. Once the CO line is answered and transferred, station call forwarding rules are in effect.

  Calls still follow all call or busy forwards, however, CO preset forward forwards the call if the first forward destination has not answered the call. VMID digits per CO line override station VMID. Calls ringing into ACD, UCD or VM Groups continue to ring the group. The CO call does not forward when ringing one of these types of groups.

  Preset Call Forward - Stations -- Each station user may have Preset Call Forward in the database to direct incoming, transferred, as well as intercom calls to other destinations in the system. The system allows for different destinations based on a Busy or a No Answer condition, as wells as internal versus external (CO) call.

Preset Call Forward - Station

Description

The Preset Call Forward feature provides separate Busy and No Answer destinations for internal and external calls with a No Answer Timer associated to each station. External calls ringing that particular station, transferred calls, and internal calls follow this Preset Forward feature.

Valid destination entries are:

System Speed Bin Numbers
Flexible Station Numbers
Flexible Voice Mail Group Numbers
Flexible Hunt Group Numbers
Flexible ACD/UCD Group Numbers

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

To program internal and external calls with separate Busy and No Answer destinations, perform the following steps.

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

   If HOLD is pressed without entering a station range, ALL stations are selected.

   -or-

   Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press button #21. The display updates to reflect current programming for Page C.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE C
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE C
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

Internal No Answer Destination

1. Press **Button #1**. The following message displays:

```
INTERNAL NO ANSWER FWD
####
```

2. Enter a valid flexible destination number and press HOLD.
3. To delete the entry, press the [#] key and then press HOLD.

Internal Busy Destination

1. Press **Button #2**. The following message displays:

```
INTERNAL BUSY FWD
####
```

2. Enter a valid flexible destination number and press HOLD.
3. To delete the entry, press the [#] key and then press HOLD.

External No Answer Destination

1. Press **Button #3**. The following message displays:

```
EXTERNAL NO ANSWER FWD
####
```

2. Enter a valid flexible destination number and press HOLD.
3. To delete the entry, press the [#] key and then press HOLD.

External Busy Destination

1. Press **Button #4**. The following message displays:

```
EXTERNAL BUSY FWD
####
```

2. Enter a valid flexible number and press HOLD.
3. To delete the entry, press the [#] key and then press HOLD.

No Answer Timer

1. Press **Button #5**. The following message displays:

```
NO ANSWER TIMER          00-99
10
```

2. Enter a valid number (00-99) and press HOLD (00=disable).

DEFAULT … No Answer Timer is set at 10 seconds.

Conditions

» Station Forwarding overrides the Preset Forward settings.

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Preset Call Forward - CO Line

Description

The Preset Call Forward Destination feature enables a CO line to initially ring at multiple stations and forward to a pre-determined destination. The destination can be a station (EKT-SLT), Voice Mailbox, ACD/UCD group, or Hunt group. Each CO line has a Preset Forward Timer. Each CO line also has a VMID field to allow sending of specific VM digits when a CO line forwards to a VM group. Calls ringing into ACD/UCD Groups or Voice Mail Groups continue to ring the group. The CO line does not forward when ringing one of these types of groups.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible Button #19 (Page A) is lit.
4. Press the Page B flexible button (Button #20). The following message displays:

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

5. Press the PRESET FWD DESTINATION flexible button **(Button #5)**. The following message displays:

```
PRESET FORWARD DEST
####
```

6. Enter a valid forward destination on the dial pad.

   [9020-9999] = System Speed Bins

   [100-351] = Station Extensions

   [440-447] = Voice Mail Groups 1-8

   [450-457] = Hunt Groups 1-8

   [550-557] = UCD Groups 1-8

   [550-565] = ACD Groups 1-6
7. Press HOLD. A confirmation tone sounds and the LCD display updates.

DEFAULT … No destinations are assigned.

Preset Forward Voice Mail ID

Description

The Preset Forward Voice Mail ID feature allows a programmer to assign which digits are sent to voice mail when a CO line is programmed to Preset Forward.

Programming Steps

1. Press the PRESET FWD VMID flexible button **(FLASH 40, Page B, Button #6)**. The following message displays:

```
PRESET FORWARD VMID      0-9999
####
```

2. Enter a valid number on the dial pad that corresponds to 0-9999 for Voice Mail ID digits.
3. Press HOLD to complete the entry. A confirmation tone sounds and the display updates.

To delete numbers currently entered:

1. Press [#] button four times.
2. Press the HOLD button to update. (All information is erased.)

DEFAULT … No digits are sent.

Preset Forward Timer (Incoming Call to a Destination)

Description

The Preset Forward Timer determines the time an outside line rings before being forwarded to a predetermined destination as programmed in FLASH 50, Page C, Buttons 1-4. If a forward destination is programmed in the CO line field, the CO calls forward to that destination after the CO preset forward timer expires. This forward occurs regardless of how many stations the line is ringing.

This feature applies to initial CO ringing lines only and works with Preset Forward CO Line assignments. The CO Line Preset Forward Timer setting is variable from 00-99 seconds. A [00] entry disables the timer and the feature is disabled.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press Button #21 to select Page C. The display updates. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE C
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the PRESET FWD TIMER flexible button **(FLASH 40, Page C, Button #8)**. The following message displays:

```
PRESET FWD TIMER          00-99
10
```

5. Enter valid number on dial pad which corresponds to 00–99 seconds.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … CO Line Preset Forward Timer is set at 10 seconds.

Calling Forward Override

Description

The Call Forward Override feature allows a user to reach a station that is call forwarded. This allows the calling station to override the forwarding which allows the user to use Off Hook Voice Over (OHVO), Executive Override, Monitor, Message Wait Indication, Camp On, or Call Back Request at that station rather than forwarding to another destination.

Operation

1. Dial [5#] followed by the desired station extension.
2. Press the appropriate preprogrammed button.
   Call Back = [622]
   Camp On = [620]
   Executive Override = [625]
   Message Wait = [623]
   OHVO = [628]

Calling Station Handsfree Mode Override

Description

Enables a calling station to override a called station's T intercom setting.

Operation

When placing a call to a station and handsfree is desired:

1. Dial [7#] on the dial pad.
2. Dial the extension number,
   -or-
   Press DSS button of desired station (call connects to the station in handsfree mode).

Calling Station Tone Mode Override

Description

Enables a calling station to override a called station's H or P intercom settings.

Operation

When placing a call to a station and tone ringing is desired:

1. Dial [6#] on the dial pad.
2. Dial the extension number,
   -or-
   Press DSS button of desired station (call tone rings station).

Call Park

Call Park - System

Description

An outside line can be placed into one of eight system park locations and can be retrieved by any station that has a direct line appearance or an available Loop button. Parked calls have their own recall timer that recalls the originating station, and if still unanswered, the Attendant(s). An outside line may also be placed into a station park location. The station user then dials a code followed by their station number to retrieve the call.

Operation

To consult, page, or call an internal party while connected to an outside line:

1. Press the preprogrammed CALL PARK flexible button. A confirmation tone sounds.

   -or-

   Press TRANS button. The caller is put on hold. Dial parking location (430 to 437) or press the preprogrammed CALL PARK flexible button. A confirmation tone sounds.
2. If busy tone is received, press TRANS once to reconnect with the caller. Press TRANS again and dial another park location or press another CALL PARK flexible button for a different parking location.

Call Park Pickup - System

To retrieve a Parked Call:

1. Lift handset or press ON/OFF button.
2. Press the [#] button.
3. Dial parking location (430 to 437) where the call was parked or press the preprogrammed CALL PARK flexible button for that park location.

☎ SINGLE LINE TELEPHONE

To place an outside call on hold and consult with, page, or call an internal party before transferring the outside call:

1. Depress and release the hookswitch. The caller is put on Exclusive Hold.
2. Dial parking location (430 to 437). A confirmation tone sounds.
3. If busy, depress and release hookswitch twice, dial another park location, then hang up.

To retrieve a parked call:

1. Lift the handset.
2. Press the [#] button.
3. Dial parking location (430 to 437) where the call was parked.

Conditions

» Intercom calls cannot be parked on system park locations (430-437); intercom calls can be parked using the personal park location.

» A CO call parked in a system call park location recalls to the station that parked the call, when the call park recall timer expires. The CO call rings to this station until the system hold timer expires. The CO call then recalls the Attendant (both the Attendant and initiating stations are ringing), and the Attendant recall timer is initiated. When the Attendant recall timer expires, the CO call is disconnected.

Call Park Recall Timer

Description

The Call Park Recall Timer determines the time before a call placed in a Call Park location recalls the station placing the call in park. If unanswered by that station, the call recalls the attendant.

The Call Park Recall Timer setting is variable from 000–600 seconds. A 000 entry disables the timer and there is no recall.

Programming Steps

1. Press the CALL PARK RECALL TIMER flexible button **(FLASH 01, Button #8)**. The following message displays:

```
CALL PARK TIMER          000-600
180
```

2. Enter a valid number on the dial pad that corresponds to 001-600 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Call Park Recall Timer is set at 180 seconds.

Call Park - Personal

Description

Each telephone in the system can place a call into a personal park location and then later retrieve that call from the originating station. Intercom calls and CO line calls can be placed into the stations' personal park location. Calls parked in a personal park location are subject to the system call park recall timer (refer to *"Call Park Recall Timer" on page 2-43*. A station retrieving a personal parked CO call must have either a direct CO line appearance or an available loop button to retrieve the parked call.

Only one call can be parked in a Personal Call Park location at one time. When dialing the Personal Park location and the location is already occupied, the initiating station receives the previously parked call and the second call is then parked.

Operation

To park a call, while connected to an outside line:

1. Press the TRANS button. The caller is put on Exclusive Hold.
2. Dial the Personal Park location [438] on the dial pad,

   -or-

   Press the preprogrammed PERSONAL PARK button.

   Dial tone sounds.

To retrieve a parked call:

Dial the Personal Call Park location code [438] on the dial pad,

-or-

Press the preprogrammed PERSONAL PARK button.

A talk path is established between the two parties.

☎ SINGLE LINE TELEPHONE

While connected to first call:

1. Depress the hookswitch momentarily. Intercom dial tone sounds.
2. Dial [438]. Call is placed in personal park.
3. Dial desired number for second call.
4. Depress the hookswitch momentarily. Intercom dial tone sounds.
5. Dial [438]. The first call is returned and the second call is placed into personal park.

The user can alternately connect to the other call by doing a hook flash and dialing [438] as many times as necessary.

Conditions

» Intercom calls and CO line calls can be placed into the station's personal park location.

» Calls parked in a personal park location are subject to the system call park recall timer.

» A CO call parked in a personal call park location recalls to the station that parked the call, when the call park recall timer expires. The CO call rings to this station until the system hold timer expires. The CO call then recalls the Attendant (both the Attendant and initiating stations are ringing), and the Attendant recall timer is initiated. When the Attendant recall timer expires, the CO call is disconnected.

Call Park - Station

Description

Call park (by station number) allows calls to be parked at stations, thus allowing for expanded park locations.

Operation

While connected to an outside line:

1. Press TRANS button.
2. Dial [439] + [XXX] (XXX=station number). A confirmation tone sounds.

Call Park Pickup - Station

To retrieve a Station Park Call:

Dial [# 6] + user's station number, while at the user's telephone or from any telephone in the system.

-or-

Dial [438] from the user's station.

☎ SINGLE LINE TELEPHONE

The SLT operation uses the same procedures as used in Digital Telephone operation described above, except there is no TRANS button. The user must use hookflash before dialing feature code 439.

Conditions

» A flexible button may be assigned to Call Park feature code 439. The user can press that flexible button and dial a station number on the dial pad.

» 8-button telephones must assign a pickup button on the telephone to have the pickup feature.

» Only one call can be in a park location at a time. Multiple calls to the same station park location is not possible.

» The #6 code is flexible and can be assigned in Flash 52 programming.

» The call will be placed in the Station's Personal Park location.

Call Pickup

Description

Stations are assigned to pickup groups. Stations can be in any combination of the eight groups or in no group at all.

A station can pickup a call ringing to any specific unattended station by using the Directed Call Pickup procedure.

A station can pickup a call ringing to an unattended station within the same ACD/UCD group by using the Group Call Pickup Procedure.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the GROUP PICKUP flexible button **(Button #5)**. The following message displays:

```
PICKUP GROUPS                0-8
1
```

6. Enter a valid number (1-8) to program Pickup Groups.

[0] = No Group
[1] = Group 1
[2] = Group 2
[3] = Group 3
[4] = Group 4
[5] = Group 5
[6] = Group 6
[7] = Group 7
[8] = Group 8

7. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … All stations are in Group 1.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Directed Call Pickup

Description

A station user can pick up a call to another specific unattended station. The call must be a tone ringing call.

Operation

To create a Pickup Button:

1. Press [SPEED] + [SPEED].
2. Press the desired flexible button.
3. Dial #0.

To use Directed Call Pickup:

1. Dial the station number of the known ringing telephone. Receive ringback tone or call announce tone depending on the intercom selector switch setting.
2. Press the preprogrammed PICKUP button to answer the call.

☎ SINGLE LINE TELEPHONE

To use Directed Call Pickup:

1. Lift the handset.
2. Dial [#1].
3. Dial station number of ringing telephone.

Conditions

» User must have access to the specific outside line or a LOOP button for a Directed Call Pickup.

Group Call Pickup

Description

A station user can pickup a call to any unattended station within the same pickup group.

Operation

To create a Pickup Button:

1. Press [SPEED] + [SPEED].
2. Press the desired flexible button.
3. Dial #0.

To use Group Call Pickup:

1. Lift handset or press ON/OFF button.
2. Dial [#0] on the dial pad,

   -or-

   Press preprogrammed PICKUP button to connect to calling party.

☎ SINGLE LINE TELEPHONE

To use Group Call Pickup:

1. Lift the handset.
2. Dial [#0]. You will be connected to the incoming intercom or outside line call.

Conditions

» User must have access to the specific outside line or LOOP button to do a Group Call Pickup.

Call Transfer

Description

An outside CO line call can be transferred from one keyset to another within the system. The transfer can be screened (announced) or unscreened to an idle or busy station, ACD or UCD Group, or Hunt Group. The line being transferred rings on the keyset and provides Exclusive Hold flashing indication to the receiving party's keyset. Any number of attempts can be made to locate someone by calling different keysets without losing the call.

The Direct Transfer Mode allows transferring of an outside CO line directly to the key station handset, if enabled in programming (refer to *"Direct Transfer Mode" on page 2-124*).

A system-wide database parameter can select music on hold or ringback tone to the CO caller when CO calls are transferred in the system.

Operation

To activate a Screened Transfer, (while connected to an outside line):

1. Press DSS button where to transfer call (if programmed on your telephone) or press TRANS button and dial the station number.

   The called extension signals according to the intercom position.
2. When that extension answers, announce the transfer.
3. Hang up to complete transfer.

If Direct Transfer Mode is enabled in admin programming, the supervised transfer is transferred directly to the key station handset.

To answer a Screened Transfer (your intercom will signal according to H-T-P position):

1. Answer the intercom and receive the transfer notice.
2. Press the outside line button or loop button flashing on hold.

To Transfer Search:

When attempting to locate a party, press a DSS button to signal the desired station or press the TRANS button and dial the desired station number.

If the party is not located:

1. Press another DSS button or press TRANS and dial another station number to continue the search.
2. When called party answers, hang up to complete the transfer.

To make an Unscreened Transfer:

When called extension begins to signal, hang up to transfer the call (Recall Timer starts).

☎ SINGLE LINE TELEPHONE

To activate a Screened Transfer (while connected to an outside line):

1. Briefly depress and release the hookswitch.
2. Dial desired intercom number.
3. Announce the call.
4. Hang up to complete transfer.

To make an Unscreened Transfer:

1. Briefly depress and release the hookswitch.
2. Dial desired intercom number.
3. Hang up to complete transfer.

To make a PBX/Centrex Transfer:

1. Briefly depress and release the hookswitch. Intercom dial tone sounds.
2. Dial [660]. A Flash command is presented to the PBX or Centrex CO Line (stutter tone sounds).
3. Dial desired telephone number.
4. Replace handset to complete transfer.

Ringback on Transfer

Description

The Ringback on Transfer feature provides on a system-wide basis music on hold or ringback tone to the CO caller when CO calls are transferred. Callers currently hear music.

Programming Steps

1. Press the RINGBACK ON TRANSFER flexible button **(FLASH 06, Button #11)**. The following message displays:

```
RINGBACK ON XFER          0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.

   [0] = Disabled (Music)

   [1] = Enabled (Ringback Tone)
3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Ringback on Transfer is disabled.

Unanswered CO Call Transfer

Description

The Unanswered CO Call Transfer feature provides station users the ability to transfer an incoming CO call that is currently ringing at their station without answering it. Only Incoming and Transferred calls can be forced. Calls may be forwarded to any available station, ACD/ UCD group, or VM Group.

A destination station must have a direct appearance for that CO Line or Loop button and not in DND, or an error tone is presented to the originator and the call continues to ring their station. If the station is busy, the current call must be placed on hold, the ringing transfer initiated, and then the station can return to their original call. This feature is unavailable to Single Line Telephone users.

Operation

When an incoming call rings an idle station:

1. Press the preprogrammed UNANSWERED CO CALL TRANSFER flexible button,

   -or-

   Dial the Unanswered CO Call Transfer code [639] on the dial pad.
2. Press a DSS, Group button, or dial the station number or group number. Call is automatically transferred to that destination.

When an incoming or transferred call rings a busy station:

1. Place the current call on hold.
2. Press the preprogrammed UNANSWERED CO CALL TRANSFER flexible button,

   -or-

   Dial the Incoming CO call transfer code [639] on the dial pad.
3. Press a DSS, Group button, or dial the station number or group number. Call is automatically transferred to that destination. The incoming transferred CO call receives Music-On-Hold during the transfer state.
4. Station user can return to call placed on hold.

☎ SINGLE LINE TELEPHONE

Not applicable

Conditions

» Attendant stations do not send ID digits.

» ACD agents are not allowed to transfer ACD calls using this feature.

» This feature only operates when the station is in an idle mode.

Camp On

Description

A station may alert a busy party that an outside line is waiting for them by using the CAMP ON button. To camp on a call, press the TRANS button to transfer the call to the desired busy station, then press the CAMP ON button. The busy party receives a muted ring over the keyset speaker, and a visual flashing CAMP ON LED. By pressing the CAMP ON button, the person called places their existing outside call on hold or drops an existing internal call, and is connected to the person placing the Camp On. They can then pick up the call on the appropriate line.

Operation

To alert a busy station of your call:

1. Press the CAMP ON button. The called station will receive one-burst of tone.
2. When the called party answers, consult with them or hang up to transfer call.

If a station is in DND, only the Attendant can Camp On using the Attendant override feature.

Camp On or Override drops any internal callers to which that station is talking.

To answer a call that is waiting:

When you hear one burst of muted ringing, press your flashing CAMP ON button.

Any outside line you are connected to is placed on hold. Converse with the station placing the call,

-or-

If a call is being transferred, press the flashing OUTSIDE LINE button.

If you do not have a CAMP ON button:

- Go on-hook with your present call, the Camp On call will ring through,

  -or-

- Place the present call on hold, then go on-hook, the Camp On call will ring through.

☎ SINGLE LINE TELEPHONE

To alert a busy station of your call:

1. Briefly depress and release the hookswitch.
2. Dial [620]. When the called line is alerted, they can choose to pick up your call or remain on original call.

*To answer a call that is waiting (*while on a CO line call*):*

1. Receive Camp on warning tone through the handset.
2. Choose desired call (hang up on present call and take new call, or ignore Camp On signal).

Conditions

» The CAMP ON button can be assigned on 8-button phones using code 620.

» Calls cannot be camped on when a station is in DND or in Conference.

» If the party that initiated the Camp On hangs up, then Camp On is canceled and the call is blind-transferred.

Camp On Button Flash Rate

Description

The Camp On button flash rate is the rate at which the Camp On button flashes when you receive a Camp On. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the CAMP ON BTN flexible button **(FLASH 07, Button #15)**. The following message displays:

```
CAMP ON BTN                    00-28
RED  120  IPM  FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Camp On Button flash rate is set for a Red 120 ipm Flash (10).

Camp On Recall

Description

When a station does not answer a Camp On, that call recalls the person placing the Camp On, and if unanswered by them, recalls the Attendant(s).

Centrex/PBX

The *XTS* provides features that are Centrex compatible so that Centrex users can utilize the *XTS* System to enhance their Centrex capabilities. The system actually simplifies and provides easier access to many Centrex features by offering the following features.

CO / PBX Programming

Description

Each individual outside line connected to the system may be programmed as a CO or PBX line. Use the PBX mark when identifying Centrex lines.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the CO/PBX flexible button **(Button #2)**.
5. Enter a 0 or 1 which corresponds with the following entries:
   [0] = PBX
   [1] = CO

```
PBX / CO                    0-1
CO
```

6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … All lines are assigned as CO lines.

Off-Hook Preference

Description

Telephones, key and SLT, may be programmed to have their personal Centrex line accessed automatically just by lifting the handset or pressing the ON/OFF button (Speaker Button on SLTs). Internal features to the *XTS* are still made available to digital telephones by accessing intercom before going off-hook. Refer to *"Ring Down/Hot Line/Off-Hook Preference" on page 2-247*.

Private Line Appearance

Description

The *XTS* allows for private line assignment on an unlimited basis. Each station may have sole access to a particular outside line if desired and may also be assigned to receive incoming ringing on that line. Refer to *"CO Line Group Programming" on page 2-74*, *"Line Group Access - Station" on page 2-72*, and *"Flexible Button Assignment" on page 2-148*.

Programming ✳, #, and Hook-Flashes into Speed Dial

Description

Many Centrex codes utilize a hook-flash followed by, in many cases, the digit [✳] and or [#]. The *XTS* allows programming of these codes as a part of system or station speed dial sequences. Refer to *"Speed Dial" on page 2-256*.

Centrex/PBX Flash

Description

Provides telephone users with the ability to terminate an outside call or transfer a call behind a PBX or Centrex and restore dial tone without hanging up the handset. A FLASH button is located on each digital telephone.

Operation

When connected to an outside line:

Press FLASH to disconnect outside line and reseize outside line dial tone.

☎ SINGLE LINE TELEPHONE

Depress the hookswitch briefly; or if equipped with a flash key, depress it.

Conditions

» 8-button telephones can assign a FLASH button by using code [660].

Centrex/PBX Flash Timer

Description

Flash is a programmable opening on a line for signaling. When using an outside line, flash lets a user obtain a new dial tone without losing the line. This is particularly useful behind a PBX or Centrex. Each CO line can be programmed for a flash time.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press Button #21 to select Page C. The display updates. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE C
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the FLASH TIMER flexible button (**Button #1)**.
5. Enter a valid number on the dial pad (01–20) which corresponds to 100 ms to 2 seconds.

```
FLASH TIMER                01-20
10
```

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Flash Timer is set for 10 (1.0 seconds) and is variable from 01-20 (100 ms to 2 seconds).

Centrex / PBX Transfer

Description

When Centrex or PBX lines are connected to the *XTS*, users may, by using the Flash button, transfer callers to other Centrex or PBX extensions. The Flash command may also be included within a Speed Bin and programmed onto a flexible button for one button transfer. Consult your Centrex user guide for further instructions after flashing the line. Refer to *"Centrex/PBX Flash Timer" on page 2-56*.

Operation

While connected to an outside line (PBX/Centrex):

1. Press the FLASH button. Receive transfer dial tone.
2. Dial a PBX/Centrex station number.
3. Hang up to complete the transfer.

PBX Dialing Codes

Description

Five 1- or 2-digit PBX access codes can be programmed into memory. When dialed, these codes signal the system so toll restriction is applied at the next dialed digit. When a single digit code [9] is entered, it must be followed by [#] as the second digit. Refer to *"911 Feature" on page 2-4*.

If 911 is enabled for a PBX trunk using Centrex, entry one in Flash 12 (of [9] + [#]) will insert the Centrex 9 (not LCR).

Quick Reference			
➡ Flash 40	Page A	Button #2	PBX/CO (Refer to *"CO / PBX Programming" on page 2-54*.)

Programming Steps

1. Press **FLASH** and dial **[12]**. The following message displays:

```
PBX DIAL CODES
##, ##, ##, ##, ##
```

2. Enter valid numbers (one right after the other) on the dial pad, up to ten digits. If a single digit code is required, enter the code followed by [#].
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.
4. To delete a code, enter [#] [#] and press HOLD.

DEFAULT … No PBX dialing codes are assigned.

Conditions

» Lines must be programmed as PBX lines before these codes apply.

Class Of Service

Description

Each station and each CO line is assigned a Class of Service (COS) which governs stations' dialing privileges. Day COS and Night COS assignments to stations provide the system administrator additional control over station dialing, preventing misuse of phones after hours.

Seven uniquely defined COSs are available for assignment to stations and five uniquely defined COSs are available for assignment to CO lines. Station COS works in conjunction with CO line COS to provide the most flexible means for offering custom toll restriction.

The following table depicts how the station and CO line COSs interact. After setting the station COS, any change to the CO line COS will result in a change in dialing privilege. For example, a station COS of 2 with a CO line COS of 5 gives the user an unrestricted calling privilege.

Table 2-2: Class of Service (COS)

STATION COS	CO Line Class of Service 1	2	3	4	5
1	Unrestricted	Unrestricted	Unrestricted	Canned Restricted*	Unrestricted
2	Table A	Table A	Unrestricted	Canned Restricted*	Unrestricted
3	Table B	Unrestricted	Table B	Canned Restricted*	Unrestricted
4	Table A and B	Table A	Table B	Canned Restricted*	Unrestricted
5	Canned Restricted*	Canned Restricted*	Canned Restricted*	Canned Restricted*	Unrestricted
6	Intercom Only	Intercom Only	Intercom Only	Intercom Only	Intercom Only
7	Canned Restricted*	Canned Restricted*	Canned Restricted*	Canned Restricted*	Unrestricted

** Canned Restriction: No [0], [1], [#], [*] as first dialed digit, and 7-digit dialing limitation; plus 1-800, 1-888, 1-866, 1-877, 1-911, 1-611 are allowed, and 411, 976, and 555 numbers are denied. COS 7 allows 10-digit dialing maximum.*

Related Information

Quick Reference	
➡ Flash 70	Toll Restriction (Refer to *"Toll Restriction" on page 2-296*.)

Class of Service - CO Line

Description

Through assignments of a CO Line Class of Service, the assigned CO line interacts with a station Class of Service.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the LINE COS flexible button **(FLASH 40, Page A, Button #9)**.
5. Enter a valid number on the dial pad (1-5) corresponding to one of five possible Classes of Service to which a CO line may be assigned:

   [1] = COS1; No restrictions

   [2] = COS2; Table A governs, Station COS 2 and 4 are monitored

   [3] = COS3; Table B governs, Station COS 3 and 4 are monitored

   [4] = COS4; Restricts [0], [1], [*], [#] dialed as first-digit and places a 7-digit dialing limitation. Allowed are: 1-800, 1-888, 1-866, 1-877, 1-911, and 1-611. Denied are: 411, 976, and 555.

   [5] = COS5; Overrides Station COS 1, 2, 3, 4, 5, and 7, and allows unrestricted dialing.

```
CLASS OF SERVICE          1-5
1
```

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Class of Service setting is 1.

Station Day Class of Service

Description

Each station must be assigned a certain COS for Day Mode operation and for Night Mode operation. Class of Service (COS) determines the station's dialing privileges.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE B ENTER BUTTON NUMBER	SXXX PAGE B ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

5. Press the DAY COS flexible button **(Button #2)**.

6. Enter a valid number on the dial pad (1-7) corresponding to one of seven possible Classes of Service to which a station may be assigned.

   The seven classes of service are:

   [1] = COS 1; No restrictions

   [2] = COS 2; Table A governs

   [3] = COS 3; Table B governs

   [4] = COS 4; Table A and B govern

   [5] = COS 5; Restricts [0], [1], [✳], [#] dialed as first-digit with a 7-digit maximum

   [6] = COS 6; Intercom Only (no CO line access - results in a 911 block unless 911 Feature is active)

   [7] = COS 7; Restricts [0], [1], [✳], [#] dialed as first-digit with a 10-digit maximum

7. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … All stations are assigned a COS 1 for Day Mode.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Station Night Class of Service

Description

Each station must be assigned a COS for Night Mode operation. The Night COS goes into affect when the system is manually or automatically placed into Night Mode. This prevents misuse of phones after hours. Class of Service (COS) determines the station's dialing privileges.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers

```
STATION ATTRIBUTES
SELECT A STATION RANGE
```

Flash 51 - Flexible Numbers

```
ENTER STATION NUMBER
```

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the NIGHT COS flexible button **(Button #3)**.

```
NIGHT COS                    1-7
1
```

6. Enter a valid number on the dial pad (1-7) corresponding to one of seven possible Classes of Service to which a station may be assigned.

   The seven Classes of Service are:

   [1] = COS 1; No restrictions.

   [2] = COS 2; Table A governs

   [3] = COS 3; Table B governs

   [4] = COS 4; Table A and B govern

   [5] = COS 5; Restricts [0], [1], [✳], [#] dialed as first-digit and places a 7-digit maximum.

   [6] = COS 6; Intercom Only (no CO line access - results in a 911 block (unless 911 Feature is active)

   [7] = COS 7; Restricts [0], [1], [✳], [#] dialed as first-digit with a 10-digit maximum.

7. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … All stations are assigned a COS 1 for Night Mode.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

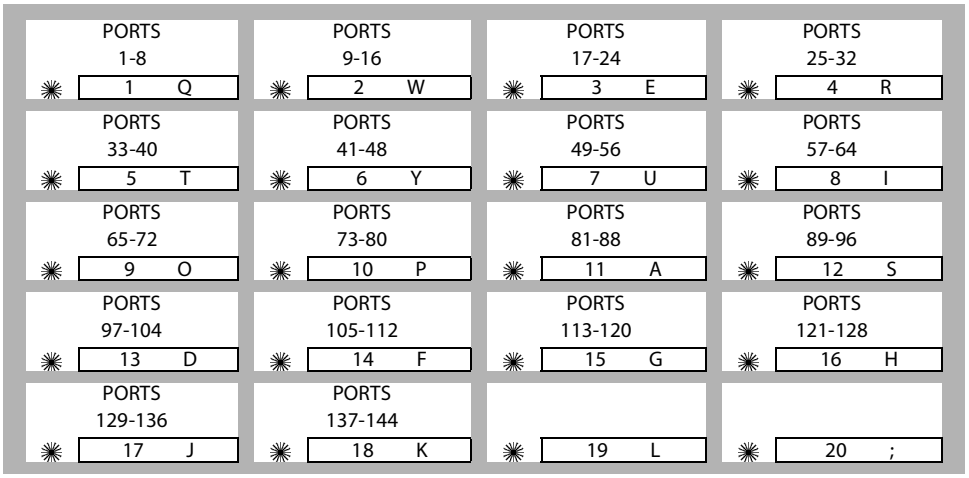
» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

CO Flexible Port Assignment

Description

The Flexible Port Assignment feature provides a means to assign CO line numbers to any CO line port in the system. This provides complete flexibility in determining CO line numbers within the system as long as they stay within the system numbering plan. A CO line can be assigned any number between 001and the maximum number of CO lines in your system.

The buttons on the digital telephone are defined as shown when entering the Flexible Port Assignment Feature programming area:



All CO line numbers entered are stored in a temporary database area which is uploaded to the main database when the system is reset.

Table 2-3: Flexible Port Assignments

Button #	CO Line #	Port #	Button #	CO Line #	Port #
1	001–008	1–8	10	073-080	73-80
2	009-016	9-16	11	081-088	81-88
3	017-024	17-24	12	089-096	89-96
4	025-032	25-32	13	097-104	097-104
5	033-040	33-40	14	105-112	105-112
6	041-048	41-48	15	113-120	113-120
7	049-056	49-56	16	121-128	121-128
8	057-064	57-64	17	129-136	129-136
9	065-072	65-72	18	137-144	137-144

Note: Shaded area of the Table identifies MPB1capability.

Programming Steps

If the CO Line numbers need to be relocated to different ports, press **FLASH** and dial **[42]**. The following message displays:

```
CO 001  002  003  004  005
006  007 008
```

Buttons 1 through 18 indicate Ports 1 through 144. When the relocation program is initially entered, Button #1 is lit to indicate that the user is programming the CO Line numbers.

To change the CO Line number assigned to any port:

1. Dial the position number on the display (01 through 08).
2. Then dial the CO Line number desired and press HOLD.

   EXAMPLE 1 **--** If [01003] is dialed and the HOLD button is pressed, the CO line number of the first entry on the display changes to [003]. Since [003] was shown as the third entry on the display, that entry is blank (###).

```
CO 003  002  ###  004  005
006  007 008
```

   EXAMPLE 2 -- If Button #3 (CO Ports 17-24) is pressed, the following display appears:

```
CO 017  018  019  020  021
022  023 024
```

   EXAMPLE 3 -- If [03020] is dialed, the CO line number of the third entry on the display changes to [020]. Since [020] was shown as the fourth entry on the display, that entry is blank (###).

```
CO 017  018  020  ###  021
022  023 024
```

When all the CO Line numbers desired have been programmed, a system reset is required to update the data. This is done so that the programming of CO Lines can be done while the system is in use.

CO Line - Access

Description

Through programming, telephones are allowed or denied access to particular outside lines or line groups. Refer to *"Line Group Access - Station" on page 2-72*, *"Flexible Button" on page 2-149*, and *"CO Line Group Programming" on page 2-74*.

Operation

To access an outside line:

1. Press idle CO line button, POOL button,

   -or-

   Dial CO line group access code or LCR code: 9, 801-823, 88+LLL (*LLL = CO Line number*).
2. Dial desired number for outside call.
3. Lift handset to converse or use speakerphone.

☎ SINGLE LINE TELEPHONE

To access an outside line:

1. Lift the handset.
2. Dial access code: 9, 801-823, 88+LLL (LLL = CO line number).
3. Dial telephone number.

Conditions

» Access to trunk group must be programmed by installer/administrator.

» The CO line must be idle.

CO Line Attributes

Initialize CO Line Attributes

Description

CO Line parameters may be initialized to set all data fields to their original, default values. The following data fields are returned to their default value upon initializing the CO Line Attributes.

Table 2-4: CO Line Attribute Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 40 PAGE A	1	DTMF/Dial Pulse Programming	DTMF
	2	CO/PBX Programming	CO
	3	Universal Night Answer (UNA)	Enabled
	4	DISA CO-to-CO (Per CO Line)	Enabled
	5	Privacy	Enabled
	6	Loop Supervision Programming	4=400 ms
	7	DISA Programming	None
	8	CO Line Group Programming	Group 01
	9	Class of Service (COS) Programming	COS 1
	10	CO Line Ringing Assignments	STA 100
	11	CO Line Identification Display	Line XXX
	12	CO Direction	Incoming/Outgoing
	13	Display Ring Assignments	100A
	14	DID/TIE Signal Type	Wink
	15	911 Attendant Alert	Disabled
	16	EKTS	Disabled
FLASH 40 PAGE B	1	T-1 Signaling Type	Loop Start
	2	T-1 Ringback	Enabled
	3	T-1 Dial Tone	Disabled
	4	Transmit Volume	5=0 db
	5	Preset Call Forward Destination	None
	6	Preset Forward Voice Mail ID	None
	7	Universal Day Answer (UDA)	Disabled
	8	Music-On-Hold (per CO Line)	Channel 1
	9	Ring Tone (per CO Line)	Tone # 00
	10	Directory Number	None
	11	SPID	None

Table 2-4: CO Line Attribute Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 40 PAGE C	1	Flash Timer Programming	10=1.0 sec
	2	Ring Delay Timer	00=Disabled
	3	Wink Timer	140 ms
	4	Release Timer	020=200 ms
	5	Reseize Timer	200=200 ms
	6	Guard Timer	05=.5 sec
	7	Seize Timer	010=0.1 sec
	8	Preset Forward Timer	10 sec
	9	DID Collect Timer	015=150 ms
	10	T-1 Collect Timer	015=150 ms

Programming Steps

1. Press the CO LINE ATTRIBUTES flexible button (**FLASH 80, Button #2**). The following message displays:

```
INITIALIZE  CO  LINES
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print CO Line Attributes

Description

The Print CO Line Attributes command dumps the entire database as a permanent record which can serve as a hardcopy of the database The system baud rate must match that of the printer or receiving device.

When printing the CO Line attributes the following data prints:

- All CO Line parameters within the specified range.
- CO Line ringing assignments within the specified range.
- Dial Pulse Ratio and Speed settings

```
CO LINE ATTRIBUTES
------------------
CO  01                                  CO 02
------                                  -----
DIAL PULSE/DTMF - DTMF                  DIAL PULSE/DTMF - DTMF
PBX/CO - CO                             PBX/CO - CO
UNIVERSAL NIGHT ANS - ENABLED           UNIVERSAL NIGHT ANS - ENABLED
DISA TRK TO TRK - ENABLED               DISA TRK TO TRK - ENABLED
PRIVACY - ENABLED                       PRIVACY - ENABLED
LOOOP SUPERVISION - 4                   LOOP SUPERVISION - 4
DISA TYPE - NONE                        DISA TYPE - NONE
LINE GROUP - 1                          LINE GROUP - 1
CLASS OF SERVICE - 1                    CLASS OF SERVICE - 1
LINE IDENTIFICATION - LINE 01           LINE IDENTIFICATION - LINE 02
CO DIRECTION - INCOMING-OUTGOING        CO DIRECTION - INCOMING-OUTGOING
RING ASSIGNMENTS                        RING ASSIGNMENTS
                 100A                                    100A
T-1 SIGNAL TYPE - LOOP START            T-1 SIGNAL TYPE - LOOP START
T-1 RINGBACK - ENABLED                  T-1 RINGBACK - ENABLED
T-1 DIALTONE - DISABLED                 T-1 DIALTONE - DISABLED
TRANSMIT VOLUME - 0DB                   TRANSMIT VOLUME - 0DB
PRESET FORWARD DEST - NONE              PRESET FORWARD DEST - NONE
PRESET FWD VMID - NONE                  PRESET FWD VMID - NONE
UNIVERSAL DAY ANSWER - DISABLED         UNIVERSAL DAY ANSWER - DISABLED
MOH CHANNEL - 1                         MOH CHANNEL - 1
RING TONE - 0                           RING TONE - 0
DID/TIE SIGNALLING - WINK               DID/TIE SIGNALLING - WINK
911 TRUNK - DISABLED                    911 TRUNK - DISABLED
FLASH TIMER - 10                        FLASH TIMER - 10
RING DELAY TIMER - 0                    RING DELAY TIMER - 0
WINK TIMER - 140                        WINK TIMER - 140
RELEASE TIMER - 20                      RELEASE TIMER - 20
RESEIZE TIMER - 200                     RESEIZE TIMER - 200
GUARD TIMER - 50                        GUARD TIMER - 50
SEIZE TIMER - 10                        SEIZE TIMER - 10
PRESET FWD TIMER - 100                  PRESET FWD TIMER - 100
DID COLLECT TIMER - 15                  DID COLLECT TIMER - 15
T1 COLLECT TIMER - 15                   T1 COLLECT TIMER - 15

                                        ... and so on through all CO lines
```

Figure 2-3: CO Line Attributes Printout

Programming Steps

1. Press the CO LINE ATTRIBUTES flexible button **(FLASH 85, Button #2)**. The following message displays:

```
PRINT CO LINES
PRESS HOLD
```

2. To print data for:
   - ALL CO Lines, press the HOLD button.
   - A specified CO Line Range, enter 6 digits (3 digits for the first line and 3 digits for the last line in the range):
   - One CO Line, enter that line twice: [001001]
3. Then press the HOLD button. The following message displays and the CO Line data prints:

```
PRINTING CO LINES
```

When the system finishes sending the requested information to the printer, a confirmation tone sounds.

CO Line DTMF Sending

Each CO interface circuit for outside lines can be individually programmed to send DTMF (tone) or dial pulse signals.

DTMF / Dial Pulse Programming

Description

Each individual outside line can be programmed to be DTMF (tone) or dial pulse.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the DTMF/DIAL PULSE flexible button **(FLASH 40, Page A, Button #1)**.
5. Enter a 0 or 1 that corresponds with the following entries:

   [0] = Dial Pulse

   [1] = DTMF

```
PULSE / DTMF                    0-1
DTMF
```

6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … All lines are set for DTMF.

DTMF On/Off Time Operation

Description

The DTMF On/Off Time feature lets the installer select the DTMF On/Off Time on a system-wide basis. This lets the installer customize the system for certain applications that require more than the standard DTMF Time of 100ms on and 100ms off.

Programming Steps

1. Press the DTMF TIME OPERATION flexible button **(FLASH 02, Button #6)**. The following message displays:

```
DTMF ON/OFF TIME                1-9
1
```

2. Enter a valid number (1-9) on the dial pad for the DTMF On and Off Times (100-900 ms).
3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … DTMF Time Operation is set for 100 ms On and 100 ms Off.

CO Line Group

Description

Outside lines can be placed in one of twenty-four groups if the customer's business requires such grouping. Stations are then individually assigned access to these groups and given the ability to dial on particular lines.

Line Group Access - Station

Description

A station can access any combination of outside line groups, or a station may not be allowed access to outside lines. CO line groups are used primarily by single line telephones or for flexible buttons assigned as pooled group buttons on a Key Telephone.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the CO LINE GROUP ACCESS flexible button **(Button #8)**. The following message displays:

```
LINE GROUP ACCESS          1-23
1
```

6. To add a Line Group, enter a valid number (00, or 01–23) to designate the outside line groups that the station can access, press 1, and then press HOLD to save the entry. A confirmation tone sounds and the display updates.

00+1+HOLD = No Access (911 calls are blocked unless 911 Feature is active).

01+1+HOLD = Access to Group 1 by dialing Code 9 or 801(Code 800 if 911 Feature is active).

Users access Line Groups 2-23 by dialing 802-823, respectively.

7. To delete a Line Group, enter a valid number (00, or 01-23), press 0, and then press HOLD. A confirmation tone sounds and the display updates.

DEFAULT … Stations are allowed access to Group 1.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

CO Line Group Programming

Description

Twenty four line groups are available for CO line assignment. Groups should be assigned according to type (local, FX, WATS, etc.). All unassigned CO lines should be programmed into a different group so they are not accessed by Line Queuing, Pooled Group access (Pool Buttons), Speed Dial, or LCR features.

Any Line Group can be used for programming a line(s) as private; for private lines, assign Line Group access to only one station in Flash 50/51, Page B, Button #8. Ordinarily, use Line Group 0 as a private line. Also, all unused CO Lines should be placed in Line Group 0.

CO Lines assigned to a Line Group 0 can only be accessed by stations with a direct CO appearance (button) on their phone.

When tying multiple systems together, use the Networking Table (FLASH 16).

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the CO LINE GROUP flexible button **(FLASH 40, Page A, Button #8)**.
5. Enter a valid number on the dial pad (0-23) which corresponds to Groups 0-23.

```
LINE GROUP                    0-23
1
```

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … All lines are placed in Line Group 1.

CO Line - Identification

Description

The CO Line Identification feature allows entering a name into the database for each individual line (trunk) connected to the system. The name may be entered in any combination up to 12-characters in length (this represents 24 digits entered). When the CO line identification field is programmed, display telephones receive the identification field in place of the default field (LINE XXX).

SMDR always print the line number in place of the programmed name. A programmable data field is available for each line in the system.

CO Line Identification Display

Description

The Co Line Identification Display feature allows the entry of a name for each line (trunk) connected to the system. Once entered into the database, LCD phones, including the Attendant stations, receive the programmed line name in place of the default LINE XXX message. This applies to all line call processing conditions where the current LINE XXX message displays. SMDR continues to print out the line number in place of the programmed name. If the line name was not programmed, the current LINE XXX display is the default. A programmable data field is available for each line in the system. Line names may be assigned using the range programming.

A message similar to the following display is used for all CO Line displays when a name is programmed for a CO Line.

```
LINE  RINGING
nnnnnnnnnnn              HH:MM am
```

Entries can be made using a keyboard by following the same outlined procedures using Figure E-1: Data Terminal Program Codes Cross Reference.

Programming Steps

Each CO line can be programmed to have a name associated to it in database programming.

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the CO LINE IDENTIFICATION flexible button **(FLASH 40, Page A, Button #11)**. The following message displays:

```
LINE IDENTIFICATION
LINE 001
```

5. Enter the name by using keys on the dial pad as follows. Valid alphanumeric characters are: [A-Z], [0-9], [✳], [#], [-] [spaces] and other ASCII characters as listed in *Figure 2-4* .

   Any combination up to 12 characters may be entered (this represents 24 digits entered).

Other Codes			
1 = 1#	8 = 8#	" = 01	* = *#
2 = 2#	9 = 9#	, = 02	(= #1
3 = 3#	0 = 0#	? = 03	) = #2
4 = 4#	Space = 11	/ = 04	+ = #3
5 = 5#	: = 12	! = *1	= = #4
6 = 6#	- = 13	$ = *2	# = ##
7 = 7#	' = 14	& = *4	. = 24

Figure 2-4: Dial Pad Keys

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

If an error is made while entering digits, press HOLD to save the erroneous entry. Key in digits over the old name; if excess characters remain, use the digits [11] to transpose spaces over the undesired characters.

CO Line - Incoming Ringing Assignment

Description

Each CO line may be programmed (in database admin) so that incoming ringing on the specified CO line(s) may be assigned initial ringing to one of the following destinations:

- One or more stations (Keyset or SLT)
- An ACD, UCD, Voice Mail or Hunt Group
- Off-Net (via Speed Dial)

The ring-in follows Day Ring assignments unless Night Service mode is active, in which case all incoming CO calls follow Night Ring assignments.

When ringing is assigned to a keyset, a direct line appearance or an idle LOOP button must be available to receive the call. Station call forwarding of the initial ringing CO call is possible and can be directed to other keysets with an available LOOP button or direct appearance.

- If the initial ringing CO call cannot ring at the destination assigned, the call rings at the first Attendant station.
- If all ringing assignments are deleted, calls continue to ring at Station 100.

CO Line Ringing Assignments

Description

Each CO Line may be assigned to ring any station in the system; UCD, Voice Mail or Hunt Group, or Off-Net (via speed dial). CO Line ringing is programmed on a per CO Line destination basis. Each destination may be designated to ring during the day, during the night, or receive both Day and Night ringing. Stations that are assigned for initial ring-in **must have** a LOOP button(s) to answer calls if a direct CO appearance is unavailable.

An incoming CO line may be programmed to any number of stations but it cannot be programmed to ring a mixture of stations and groups in the same time period. Incoming calls directed Off-Net are connected to an outgoing system speed bin. CO lines assigned to ring multiple stations do not follow any station's forwarding.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX  PAGE  A
ENTER  BUTTON  NUMBER
```

XXX-XXX = CO Line Range

4. Press the RING ASSIGNMENT flexible button **(FLASH 40, Page A, Button #10)**. The display shows the following information:

```
RING  ASSIGNMENTS
ENTER  DDDR
```

The actual LCD displays a 3-digit destination field (DDD), but both a 3- or 4-digit entry is possible.

5. Enter a valid Destination (DDD) or (DDDD) and Ring type (R) followed by the HOLD button. A confirmation tone sounds and the display updates.

Table 2-5: CO Line Ringing Assignments

Valid 3- and 4-Digit Destinations (DDD) and (DDDD)	Valid Ring Types (R)
System Speed Bins [9020–9999], for Off-Net Ringing	[0] = No Ring; unassigned; or to delete a destination
Flexible Extension Numbers*	[1] = Day Ring [D]
Flexible Numbers for Voice Mail Groups 1–8* [a]	[2] = Night Ring [N]
Flexible Numbers for Hunt Groups 1–8*	[3] = Day/Night Ring [DN]
Flexible Numbers for Direct Ringing to Modem*	[4] = Special Only [S]
Flexible Numbers for ACD Groups 1–16*	[5] = Day/Special [DS]
Flexible Numbers for UCD Groups 1–8*	[6] = Night/Special [NS]
Remote Device Numbers**	[7] = All Modes [Day/Night/Special [A]

** Internal flexible numbers range = 100-8999*

*** Remote device numbers can be any numbers between 1000-8999, excluding those numbers assigned for internal use.*

[a] *For Remote Voice Mail Ring Assignment, refer to Flash 67.*

To add multiple stations:

Enter: DDDDR HOLD DDDDR HOLD DDDDR HOLD...etc.

(Example: 10073 HOLD, 10083 HOLD, 10093 HOLD)

To delete a single station:

Enter: DDDD0 HOLD

(Example: 10080 HOLD)

To delete multiple stations:

Enter: DDDD0 HOLD DDDD0 HOLD...etc.

(Example: 10080 HOLD, 10090 HOLD)

DEFAULT … All CO lines ring at the Attendant, Station 100 during Day and Night Modes.

Incoming CO Line Ringing - Setting Flash Rate

Description

The Incoming CO Line Ringing flash rate is the rate at which an Incoming CO line or Loop Button flashes. This flash rate can be programmed to 29 different options identified in the flash rate table, which enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the INC CO RING flexible button **(FLASH 07, Button #1)**. The following message displays:

```
INC CO RING                 00-28
RED 480 IPM FLUTTER
```

2. Enter a valid number (00-28) on the dial pad that correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Incoming CO Ringing flash rate is set for RED 480 ipm Flutter (08).

Display Ring Assignments

Description

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press **FLASH 40, Page A, Button #13** to display ring assignments. Assignments are displayed in sets of six, up to the number programmed. The following format displays the assignments.

```
XDDDDRR XDDDDRR XDDDDRR
XDDDDRR XDDDDRR XDDDDRR
```

XDDDD = Destination type ID letter fllowed by number to be dialed:
[F]] plus Fixed Number, e.g., F102
[H] plus Hunt Group Number, e.g., H6700
[M] plus Modem Extension Number, e.g., M6099 (default = M499N)
[R] plus Recorded Announcement Extension Number, e.g., R6020
[S] plus Station Number, e.g., S6002
[U] plus UCD/ACD Group/Agent Number, e.g., U6034
[V] plus Voice Mail Group Number, e.g., V6899
[B] plus Speed Bin Number, e.g., B9990
RR:
[0] = No Ring
[D] = Day Ring
[N] = Night Ring
[DN] = Day/Night Ring
[S] = Special Only
[DS] = Day/Special
[NS] = Night/Special
[A] = All Modes (Day/Night/Special)

5. Press **FLASH 40, Page A, Button #13** additional times to cycle to the next group of six ring assignments. Ring assignments are displayed in numerical order, from the lowest to the highest number.

Release Timer

Description

The Release Timer option allows the user to adjust the release timer on a per CO Line basis. The release timer is used on ground start type trunks.

This timer is a lead filter timer. The CO must remove ground from the tip lead for longer than this timer in order for the system to recognize it.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press Button #21 to select Page C. The display updates. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE C
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the RELEASE TIMER Button **(FLASH 40, Page C, Button #4)** in the flexible button field. The following message displays:

```
RELEASE TIMER              000-255
020
```

5. Enter a valid number on the dial pad which corresponds to 000-255 ms.
6. Press HOLD button to save entry. A confirmation tone sounds and the display updates.

DEFAULT … Release Timer is set for 200 ms.

Reseize Timer

Description

The Reseize Timer option lets the user adjust the Reseize Timer on a per CO Line basis. The Reseize Timer can be used on any trunk type. This timer sets the time period that a trunk is held disconnected after receiving a disconnect before being reseized when a device is queued for a member of the trunk group.

Programming Steps

1. Press the RESEIZE TIMER Button **(FLASH 40, Page C, Button #5)** in the flexible button field. The following message displays:

```
RESEIZE TIMER              000-255
200
```

2. Enter a valid number on the dial pad that corresponds to 000–255 (0 ms to 2.55 seconds).
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Reseize Timer is set for two seconds.

Guard Timer

Description

The outgoing Guard Timer is used to set the length of time a CO is held busy to outgoing seizure after a valid release is detected. If a user attempts to access a CO line before the Guard Timer expires, their LED illuminates to indicate that the line is seized, however the CO line is not actually seized until the timer expires. The user gets a busy tone, and may receive a delayed CO dial tone if the timer is set to a large value.

Programming Steps

1. Press the GUARD TIMER button **(FLASH 40, Page C, Button #6)** in the flexible button field. The following message displays:

```
GUARD TIMER                1-60
05
```

2. Enter a valid number on the dial pad which corresponds to 1–60 (100 ms to 6 seconds).
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT …Guard Timer is set for .5 seconds.

Seize Timer

Description

The Seize Timer option allows the user to adjust the Seize Timer on a per CO Line basis. The Seize Timer is used on ground start type trunks. This Seize Timer is a lead filter timer. The CO must provide ground at the tip lead for longer than this timer in order for the system to recognize it.

Programming Steps

1. Press the SEIZE TIMER Button **(FLASH 40, Page C, Button #7)** in the flexible button field. The following message displays:

```
SEIZE TIMER                 000-255
010
```

2. Enter a valid number on the dial pad which corresponds to 000–255 (100 ms to 2.55 seconds).
3. Press the HOLD button to save the entry. A confirmation tone heard and the display updates.

DEFAULT … Seize Timer is set for 0.1 seconds.

Transmit Volume

Description

Up to ten volume levels are available for each CO Line in the system.

Do NOT adjust this option without consulting Technical Support first. The default settings were set to apply to most applications. Have the dB readings on all CO lines available when calling Technical Support.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible Button #19 (Page A) is lit.

4. Press the Page B flexible button (Button #20). The following message displays:

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

5. Press the TRANSMIT VOLUME flexible button **(FLASH 40, Page B, Button #4)**. The following message displays:

```
TRANSMIT VOLUME              0-9
0 DB
```

6. Enter a valid number (0-9) for the desired volume level.

[0]	-15 dB	[5]	0 dB
[1]	-12 dB	[6]	+3 dB
[2]	-9 dB	[7]	+6 dB
[3]	-6 dB	[8]	+7.5 dB
[4]	-3 dB	[9]	+9.0 dB

7. When the desired level is selected, press HOLD to complete the entry. A confirmation tone sounds and the display updates.

DEFAULT … All CO lines are programmed for level 5 (0 dB).

CO Line Loop and Pool Buttons

Description

A station not having a direct appearance for a CO line receives incoming CO calls and transferred CO calls under the LOOP button. Only one call at a time can be connected to a keyset on the LOOP button.

- If more than one LOOP button is on a key set, the LOOP buttons may be conferenced together.
- If all programmed LOOP buttons on a keyset are busy or have a CO call on hold, the party attempting to transfer a CO line to that station receives a busy tone and cannot transfer the call to that station.
- If a transfer is attempted, the CO line recalls the initiator immediately.

CO lines are also presented to a Loop when dialing out using LCR or when using speed dial to dial out and the line chosen does not appear on the key station.

The Pool Group feature is used primarily to access CO lines that do not appear on a station, so that outgoing calls may be made. Pooled group keys are associated to CO line groups and may be programmed for use on any of the flexible buttons. CO lines are accessed in descending order of priority starting with the highest numbered available (not busy) CO line in a CO line group. Stations may have as many POOL buttons as there are CO line groups. Multiple POOL buttons for the same group are also allowed.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press the CO LOOP POOL flexible button (**Button #17)**. The following message displays:

```
CO LOOP POOL FLEX          0-1
DISABLED
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disable

   [1] = Enable

6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … CO Loop Pool is disabled.

Operation

To make a Loop button:

1. Press the SPEED button twice.
2. Press the desired flexible button.
3. Dial [89].
4. Press HOLD.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

In-Use Hold (I-Hold) Flash Rate

Description

The In Use-Hold (I-Hold) flash rate is the rate at which a CO Line button or Loop button flashes when a call is placed on In-Use Hold (I-Hold). This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the IN-USE HOLD flexible button **(FLASH 07, Button #14)**. The following message displays:

```
IN-USE HOLD                    00-28
GREEN 60 IPM FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … In-Use Hold (I-Hold) flash rate is set for a Green 60 ipm Flash (17).

CO Line - Loop Supervision

Description

The *XTS* can be programmed to monitor CO lines while on-hold or connected to RAN devices or Voice Mail systems, or in Trunk-to-Trunk connections for disconnect signal provided by the Telco. After a disconnect signal is detected, the *XTS* releases the CO lines and automatically place them back in service.

Loop Supervision Programming

Description

Loop Supervision is used primarily with DISA, Voice Mail/Auto Attendant and with unsupervised conference applications. It lets the system detect when loop current is broken and an outside line is no longer being used. To determine timer value for loop supervision, consult your local central office for type and duration of loop supervision signal.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the LOOP SUPV flexible button **(FLASH 40, Page A, Button #6)**.
5. Enter a valid number (1-9) on the dial pad which corresponds to 100-900 ms. (0 = disabled).

```
LOOP SUPERVISION              0-9
4
```

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Loop Supervision is set for 400 ms for all CO Lines.

CO Line - Queue

Description

When all outside lines in a group are busy, stations can be placed in queue awaiting a line in the same group to become available. If a station doesn't answer the queue signal within 15 seconds, that station is dropped from the queue. A station can queue only one line at a time.

Line Queuing

Description

Stations can be allowed or denied the ability to manually queue for a busy group of CO lines. Even when disabled, stations have automatic LCR queuing privileges.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press the QUEUING flexible button **(Button #7)**. The following message displays:

```
LINE QUEUING                0-1
ENABLED
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … CO Line Queuing is enabled at all stations.

Operation

If you see that a particular outside line is busy and you wish to be placed on a list waiting for that line to become available:

1. Press desired busy OUTSIDE LINE button,
   -or-
   Press the POOL button. (Busy tone sounds.)
2. Press the preprogrammed CO LINE QUEUE button (621).
3. Replace handset or press ON/OFF button.

To answer a queue:

If you hear ringing and an outside line of the line group or a LOOP button you queued onto is rapidly flashing:

1. Lift handset or press ON/OFF button.
2. Press flashing OUTSIDE LINE button or LOOP button to answer.

☎ SINGLE LINE TELEPHONE

1. Dial outside line access code. Receive busy tone.
2. Briefly depress and release the hookswitch.
3. Dial [621]. Confirmation tone sounds.

Conditions

» A LOOP button or direct appearance of the queued line is required.

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

CO Line Queue Button Flash Rate

Description

The Line Queue Button flash rate is the rate at which the Line Queue button flashes after queueing onto a busy line. This button flashes when the busy line becomes available. This flash rate can be programmed to 29 different options identified in the flash rate table which enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the LINE QUEUE BTN flexible button **(FLASH 07, Button #17)**.

```
LINE QUEUE BTN              00-28
RED 480 IPM FLUTTER
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Line Queue Button flash rate is set for a Red 480 ipm Flutter (08).

CO Line - Ringing Options

Description

When a CO call rings at a busy station, the call rings at the station using a muted ring signal. This option allows a user to receive a reminder ring at their busy station, instead of muted ringing. A reminder ring timer is also available to provide the reminder ring every time the timer expires, as long as the incoming CO line remains connected.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

   If HOLD is pressed without entering a station range, ALL stations are selected.

   -or-

   Enter a valid **flexible** number (100-8999) to be programmed.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press the RINGING OPTIONS flexible button **(Button #14)**. The following message displays:

   CO RING OPTIONS 0-1
   MUTED RING

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Reminder Ring

   [1] = Muted Ring
6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Muted Ringing is allowed at all stations.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Transfer CO Ringing

Description

The Transfer CO Ringing flash rate is the rate at which a CO Line button or Loop button flashes when a call is transferred to you. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the TRANSFER CO RING flexible button **(FLASH 07, Button #9)**. The following message displays:

```
TRANSFER CO RING          00-28
RED 120 IPM FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Transfer CO Ringing flash rate is set for a Red 120 ipm Flash (10).

Recall CO Ringing

Description

The Recall CO Ringing flash rate is the rate at which a CO Line button or Loop button flashes when a call recalls to your station. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the RECALL CO RING flexible button **(FLASH 07, Button #10)**. The following message displays:

```
RECALL CO RING            00-28
RED 480 IPM FLUTTER
```

2. Enter a valid number on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Recall CO Ringing flash rate is set for a Red 480 ipm Flutter (08).

Queued CO Ringing Flash Rate

Description

The Queued CO Ringing flash rate is the rate at which a CO Line button or Loop button flashes when a queued line becomes available. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the QUEUED CO RING flexible button **(FLASH 07, Button #11)**. The following message displays:

```
QUEUED CO RING              00-28
GREEN 480 IPM FLUTTER
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Queued CO Ringing flash rate is set for a Green 480 ipm Flutter (22).

Reminder Ring Timer

Description

When a CO line rings at a busy station, the call rings at the station using muted ringing. The CO Line Ringing Option feature enables a user to receive a reminder ring instead of muted ring. This timer provides a reminder ring every time the timer expires, as long as the incoming CO line remains connected.

If the user continues their present conversation and the CO party does not hang up, the Reminder Ring timer expires and the user receives another ring burst. When the key set user ends the existing call, ringing for the CO call reverts to normal ringing.

The Reminder Ring Timer setting is variable from 00-99 seconds in 1-second increments.

Programming Steps

1. Press the REMINDER RING flexible button **(FLASH 01, Button #18)**. The following message displays:

```
REMINDER RING               00-99
00
```

2. Enter a valid number on the dial pad that corresponds to 00-99 seconds in 1-second increments. A value of 00 disables the timer, therefore the user only receives one ring burst at the beginning of the call.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Reminder Ring Timer is set to 00 second.

CO Direction

Description

CO Lines can be programmed on a per CO Line basis for the type of CO Line desired:

Incoming

- Incoming restricts the CO Line for incoming calls only.
- Users can place call on hold, park the call, and other stations can pick up the call.

Outgoing

- Outgoing restricts the CO Line to outgoing calls only.
- Users can place call on hold, park the call, and other stations can pick up the call.

Incoming and Outgoing

- Incoming and outgoing type allow calls to be received or dialed out.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the CO DIRECTION flexible button. **(FLASH 40, Page A, Button #12)**. The following message displays:

```
CO DIRECTION                    0-3
INCOMING - OUTGOING
```

5. Enter a valid number (0-3) on the dial pad which corresponds to the desired CO type:
   [0] = Out-of-Service (OOS)
   [1] = Incoming Only
   [2] = Outgoing Only
   [3] = Both Incoming and Outgoing
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … All CO Lines default to both incoming and outgoing type.

Conditions

» For PRI cards, the 24th channel must be marked as Out-of-Service (OOS). This is true on all PRI cards, not just for networking.

CO Port Parameters

Initialize CO Port Assignments / Flexible Numbering Assignments

Description

CO Port Parameters and Flexible Numbering Assignments can be initialized to default values as shown in *"FLASH 42" on page E-17* and *"FLASH 52" on page E-20*, both within *Table E-1*.

Programming Steps

1. Press the CO PORTS/COD flexible button (**FLASH 80, Button #4**).
2. The following message displays:

```
INITIALIZE  CO  PORTS/COD
PRESS  HOLD
```

3. Press the HOLD button. A confirmation tone sounds.

Print CO Port Parameters and Feature Codes

Description

The Print CO Port Parameters and Feature Codes command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

```
CO PORT NUMBERS
 001   002   003   004   005   006   007   008
 009   010   011   012  ...through 144
STATION PORT NUMBERS
FIXED  FLEX   NAME
 100   100  STATION 100
 101   101  STATION 101
  ::    ::   ::
 131   131  STATION 131
 430   430  CALL PARK GROUP 1
  ::    ::   ::
      (...actual printout includes all feature codes)
```

Figure 2-5: CO Port Attributes Printout

Programming Steps

1. Press the CO PORT flexible button **(FLASH 85, Button #4)**. The following message displays:

```
PRINT CO PORTS/CODES
PRESS HOLD
```

2. To print the CO Port Parameters and Feature Codes, press the HOLD button. The following message displays:

```
PRINTING CO  PORT
```

When the system finishes sending the requested information to the printer, a confirmation tone sounds.

CO Ring Detect Timer

Description

The CO Ring Detect Timer controls the time necessary to detect an outside line ringing into the system. The duration of the ringing signal from the CO or the PBX is matched with ringing detection circuitry in the *XTS*. The ring detect can range from 200 ms to 900 ms programmed in 100 ms increments. This timer helps prevent false ringing.

Programming Steps

1. Press the CO RING DETECT TIMER flexible button **(FLASH 01, Button #11)**. The following message displays:

```
CO RING DETECT              2-9
3
```

2. Enter a valid number on the dial pad that corresponds to 2-9 (200 ms to 900 ms).
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … CO Ring Detect Timer is set at 3 (300 ms).

Conference

Description

The two types of conferencing are the multi-party conference and the unsupervised conference.

Multi-party conference - can include up to eight parties. A maximum of five external parties can be conferenced.

Unsupervised Conference - the conference initiator can exit a conference with two outside parties and leave them in an unsupervised conference. The initiator can re-enter the conference at any time. The *XTS* can automatically terminate the call when both parties hang up, when Loop Supervision is provided by the Telco and enabled in the database. A programmable conference timer disconnects the unsupervised conference if the initiator does not re-enter.

Conference Enable/Disable

Description

The Conference Enable/Disable feature allows administering of the system conference feature on a per station basis for the ability of a station to initiate a conference.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press the CONFERENCE flexible button **(Button #3)**. The following message displays:

CONFERENCE ENABLED	0-1

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Conference is enabled.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Conference / DISA Timer

Description

The Conference/DISA Timer determines the time an unsupervised conference can continue after the initiator of the conference has exited.

The Conference/DISA Timer setting is variable from 01-99 minutes. A 00 entry disables the timer and no automatic disconnect occurs.

The Conference Timer also allows the system administrator to control the time a DISA caller is allowed after establishing a Trunk-to-Trunk call. At the expiration of the Conference Timer, a tone is presented to both DISA parties, then one minute later the system automatically releases both trunks.

The Conference Timer does not affect or control a DISA-to-Station call.

Programming Steps

1. Press the CONFERENCE/DISA TIMER flexible button **(FLASH 01, Button #9)**. The following message displays:

```
CONFERENCE TIMER          00-99
10
```

2. Enter a valid number on the dial pad that corresponds to 01-99 minutes.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Conference/DISA Timer is set at 10 minutes.

Conference Combinations

Description

Only stations that have conference enabled can institute a conference.

- Add-On Conference -- Up to eight internal parties can engage in a conference, or seven internal parties with one external party.
- Multi-Line Conference -- One internal station can engage in a conference with up to four outside parties.

Capacities

The total number of conferences that can be conducted simultaneously system-wide depends upon several factors. The following table shows the system capacity for conferences using specific amounts of parties per conference. Multiple conference capacity configurations are possible. For example, you could have one 8-party conference and five 3-party conferences simultaneously.

Parties per Conference	Maximum Conferences
3 or 4	10
5	5
6	3
7 or 8	2

A maximum of eight parties can be included in a conference.

Operation

To establish a Conference:

1. Lift handset.
2. Select intercom station or dial desired outside party.
3. When called party answers, press the CONF button.
4. Add next conference party by selecting another outside line or intercom station.
5. If the next conference party is an outside line and a busy or wrong number is encountered, press one of the conference parties on hold. This drops the busy or wrong number party. Press the conference button again and repeat step 4.
6. When last party answers, press the CONF button twice. (All parties are connected.)

To exit a Conference (controller only) perform ONE of the following:

1 -- Press the ON/OFF button to ON, press MUTE, then replace the handset (to monitor a conference).

To exit a multi-line conference in progress:

2 -- Press the HOLD button to place outside parties on hold. The Hold Timer starts. If one of the two parties is internal, that party is dropped.

3 -- Press CONF and hang up or press the ON/OFF button to leave the other conference parties still connected in an unsupervised conference. The CONF button flashes and the timer starts. There is a warning tone before the other parties are dropped.

To re-enter a Conference:

When the controller re-enters the conference, the disconnect timer is reset.

1. Lift handset to re-enter a monitored conference.
2. To re-enter a conference placed on hold, repeat steps for establishing a conference.
3. To re-enter an unsupervised conference, lift handset and press flashing CONF button. The CONF button lights steady and a confirmation tone sounds.

To terminate a Conference, a conference initiator who is active in the conference must:

Replace handset or push ON/OFF button to OFF.

To terminate an Unsupervised Conference:

Press the flashing CONF button while on-hook, all parties are dropped.

To terminate a party from a Conference (while in conference):

1. Press line button of party to drop.
2. Replace handset or press ON/OFF button.
3. Lift handset or press ON/OFF button.
4. Press flashing CONF button.

☎ SINGLE LINE TELEPHONE

To set up a Conference with one external and one other internal station:

1. Make outside call.
2. Briefly depress and release the hookswitch to put the call on hold.
3. Dial number of internal station you wish to add.
4. When that station answers, briefly depress and release hookswitch again. All three parties will be connected.

To set up a Conference with Personal Park:

1. While connected to an outside line, depress the hookswitch momentarily. The intercom dial tone sounds.
2. Dial [438]. The first call is placed in personal park.
3. Dial desired number for second call.
4. Depress the hookswitch momentarily. The Intercom dial tone sounds.
5. Dial [664]. All three parties are conferenced.
6. Hang up to terminate the conference.

Conditions

» 8-button digital/electronic telephones can assign a Conference button by using feature code 624.

Cordless Key Telephone Unit Feature Button

Description

If a Cordless Key Telephone Unit (CKTU) is associated with the station, the FEAT Button on the CKTU may be assigned to function as any one (1) of the 24 Flexible Buttons on the telephone. This programming area defines which Flexible Button on the telephone is applied to the CKTU FEAT Button. Not all features are available to be assigned to the CKTU FEAT button.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the CORDLESS KEY flexible button (**Button #17**) to assign the FEAT Buttons. The following message displays:

```
CORDLESS KEY BTN          00-30
XX
```

XX = Assigned FEAT Button (01-24 = Button 1-24, 01-30 for Large Screen Display telephone)
00 = None

DEFAULT … No button (00) is assigned to the FEAT.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Database Administration

Administration Access

Description

The Administration Access feature allows a station to access Database Administration. Each station can be enabled/disabled for system programming.

Station 100 always has programming access regardless of this setting.

Related Information

Quick Reference	
➡ Flash 86	Upload/Download Routine (Refer to *"Database Upload/ Download Routine" on page E-6*.)

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	Flash 51 - Flexible Numbers
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	Flash 51 - Flexible Numbers
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press the ADMIN ACCESS flexible button (**Button #18)**. The following message displays:

ADMIN ACCESS DISABLED	0-1

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disable
   [1] = Enable
6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … This feature is disabled.

Conditions

» A 24-button digital display telephone must be used for programming.

» The Elite 30-Button Display Telephone cannot be used for programming.

» The Electronic Telephone cannot be used for admin programming.

» The Single Line Telephone cannot be used for admin programming.

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Administration Password

Description

The password used to enter customer database programming can be customized by the programmer. This lets the system administrator block unauthorized personnel from entering database admin.

Care should be taken when changing the programming password so authorized personnel are not locked out, which could prevent or delay them from making necessary programming changes.

Programming Steps

1. Press the ADMIN PASSWORD flexible button **(FLASH 20, Button #2)**. The following message displays:

```
ADMIN PASSWORD
3226
```

2. Enter a valid number on the dial pad that corresponds with 0000-9999.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Admin Password is set for 3226.

Operation

On the dial pad, press [✳][✳] plus dial the valid Admin Password. A confirmation tone sounds.

Database Printout (Dump)

Description

Through a system programming command, either portions of or a complete database dump can be printed using the RS-232C connector located on the Master Processor Board (MPB), on the *XTS*.

The Print System Database command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

Printing the entire database takes a while to print. The database is printed in the following order:

1. All System Parameters
2. All CO Line Programming
3. All CO Ports
4. All Station Attributes
5. All Station Ports
6. Exception Tables (Allow/Deny/Special)
7. System Speed Dial Numbers
8. ICLID Ringing Assignment Table
9. Directory Dialing Table
10. Hunt Group Parameters (Bins 9020–9999)
11. LCR Tables
12. ICLID Parameters and Table(s)
13. ACD* or UCD Group Parameters
14. Voice Mail Group Parameters
15. DID Translation Table
16. DID-TIE Timers
17. Verified Account Codes Table

**This feature is available with optional software.*

Programming Steps

1. Press the ENTIRE SYSTEM flexible button **(FLASH 85, Button #8)**. The following message displays:

```
PRINT DATABASE
PRESS HOLD
```

2. To print the entire database, press the HOLD button. The display updates to indicate what portion of the database is printing.
3. When the system finishes sending the database to the printer, a confirmation tone sounds.

Dial Pulse Sending

Description

Each CO interface circuit for outside lines can be programmed to send dial pulse or DTMF signals. Dialing speed and break/make ratios are programmable.

Dial Pulse Parameters

Description

The Dial Pulse option lets the installer adjust the dial pulse ratio and speed when using dial pulse (rotary) type signaling. By default, all lines are DTMF (tone) signaling. If pulse dialing is required, the individual outside line must be programmed for Dial Pulse (DP). When Dial Pulse is selected, this system-wide parameter must be set to determine the break/make ratio and the dial speed of the dial pulse signal.

This program code is only used when an outside (CO) line is programmed for Dial Pulse.

Programming Steps

1. Press the DIAL PULSE flexible button **(FLASH 41, Button #1)**. The following message displays:

```
DIAL PULSE
60 / 40  10 PPS
```

2. Enter a valid number (0–3) which corresponds with the following entries:

   [0] = 60/40 (RATIO), 10 pps (SPEED)

   [1] = 66/33 (RATIO), 10 pps (SPEED)

   [2] = 60/40 (RATIO), 20 pps (SPEED)

   [3] = 66/33 (RATIO), 20 pps (SPEED)

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … 60/40 10 pps

Pulse Dial Inter-Digit Timer

Description

This governs the inter-digit time of the Pulse Dial Digits, rotary dial mode. The Pulse Dial Ring Timer setting is variable from 300-600 ms.

Programming Steps

1. Press the PULSE DIAL I/D TIMER flexible button **(FLASH 02, Button #5)**. The following message displays:

```
INT DIGIT PULSE          300-600
300
```

2. Enter a valid number on the dial pad that corresponds to 300-600 ms.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Pulse Dial Ring Timer is set for 300 ms.

Pulse-to-Tone Switchover

Description

When commanded, the system changes the signaling on an outside line from dial pulse to DTMF (tone), allowing the use of common carriers behind a dial pulse outside line. This can be done manually when dialing, or can be stored within a speed dial number.

Operation

To perform the change-over:

Dial [✳] on the dial pad. The remaining digit(s) is sent using DTMF.

(The Pulse-To-Tone Switchover command may also be included in a speed dial bin.)

Direct Inward Dialing

Description

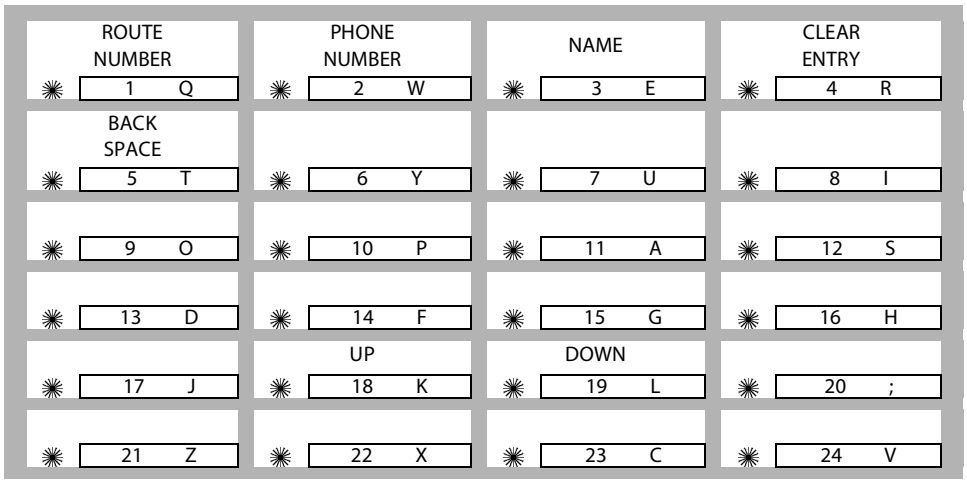
This feature allows the number and name field of the LCD display on a direct inward dialing (DID) call to be presented to the ICLID port. Calls are identified in the SMDR field as Answered (I) or Unanswered (U) followed by the DID number. At least one DTMF receiver must be installed on the system.

DID calls are treated as an incoming call and follow the same rules established for CO lines. DID information transferred from the network is captured and translated to direct a specific DID number to a specific station, ACD or Hunt group of stations, or Voice Mail group. The DID call appears at the destination station under an assigned LOOP or CO button.

When receiving a DID call, the destination station hears the CO line ringing and the assigned CO or LOOP button flashes at the incoming CO line flash rate. The destination station then presses the flashing CO or LOOP button, is connected to the incoming DID call, and CO line ringing stops and the LED for the CO or LOOP button lights steady.

If the outside caller disconnects from a two-party conversation, the Central Office opens the loop and returns the line to idle state. The *XTS* Digital System detects the disconnect signal, release the line, and provides a busy tone to the keyset/SLT (unless the SLT is a VM port), and disconnects from the DID line. If the extension called hangs up the phone, the central office detects disconnects, and returns the line to the idle state.

When entering DID Table programming, buttons on a digital phone are defined as shown:



By default, all entries in the DID Table (000-999) have phone numbers assigned. Refer to *Table 2-6: DID & ICLID Default Table Entries* for additional information.

The DID feature provides one-way direct inward dialing access to specific stations on specific DID lines from the public telephone network, without going through an Attendant answering position. DID capabilities refer to incoming calls only.

The DID feature requires the DID Interface Board (DIDB) which provides four one-way DID circuits on the *XTS*. The system can accept from two to seven digits from the Central Office (CO).

By default, all entries in the DID Table (000–999) have phone numbers assigned. The following table shows the default configuration for the DID Table entries and the ICLID Ringing assignments.

Table 2-6: DID & ICLID Default Table Entries

DID Translation Table		ICLID Translation Table	
DID Table Entry	Default Route(s)	ICLID Table Entry	Default Destination
000-098 099 100-198 199 200-298 299 300-398 399 400-498 499 500-598 599 600-698 699 700-798 799 800-898 899 900-998 999	100-198 199 100-198 199 100-198 199 100-198 199 100-198 199 100-198 199 100-198 199 100-198 199 100-198 199 100-198 199	100-198 199 100-198 199 100-198 199 100-198 199 100-198 199 100-198 199 100-198 199 100-198 199 100-198 199 100-198 199	100A-198A 499A 100A-198A 499A 100A-198A 499A 100A-198A 499A 100A-198A 499A 100A-198A 499A 100A-198A 499A 100A-198A 499A 100A-198A 499A 100A-198A 499A

Route 000 in the ICLID Ringing Assignment Table is used as the intercept route. Calls to numbers not contained in the DID table follow Route 000. If Route 000 is defaulted to None, the call follows Route 001.

Route 001 is used as the Busy DID Route. DO NOT program any entries in this Route if you intend to provide a busy tone to callers dialing a busy DID/DVIS number.

Programming Steps

Press **FLASH** and dial **[44]**. The following message displays:

```
DID RRR XXXXXXX
n.....n
```

[RRR] = Route Number (000-499)
[###] = DID Number (Directory # from Central Office)
[n...n] = Name Assigned to DID Number

The top left button (ROUTE) in the flexible button field is lit for programming the Route number. The LEDs for the UP Button **(FLASH 44, Button #18)**, the DOWN Button **(FLASH 44, Button #19)** is also lit.

To change to a different DID Route Number:

1. Press either the UP Button **(FLASH 44, Button #18)**,

   -or-

   Press the DOWN Button **(FLASH 44, Button #19)**.
2. Enter a valid Route Number (000-499) to be associated with the DID Number.

   This Route Number is the same Route Number in the ICLID Ringing Assignments Table **(FLASH 43)** and determines the destination of the DID number associated with this Route Number. The display shows the route number as it is entered.
3. Press the HOLD button to save the entry. A confirmation tone sounds.

DID Phone Number

Programming Steps

1. Press the PHONE NUMBER flexible button **(FLASH 44, Button #2)** to program the DID Number.
2. Enter the DID Number to be associated with a valid Route Number (000–499). Up to 7 digits can be entered.

   By default, only the last three digits are used for routing which is determined in Flash 45.
3. Use the BACK SPACE flexible button **(FLASH 44, Button #5)** to erase the current number or to correct for errors.
4. Press HOLD to save the entry. A confirmation tone sounds.

   If the DID number is already in the DID Translation Table, the Route Number associated with the DID number displays.

By default, the DID Table is filled with numbers. If error tone is received when the HOLD button is pressed, the DID Table is full and an entry needs to be deleted to make room for this new phone number.

Name Assigned to DID Number

Programming Steps

1. Press the NAME flexible button **(FLASH 44, Button #3)** to enter the desired name for the DID trunk. Maximum length is 8-characters.
2. Press the HOLD button to update the database. A confirmation tone sounds.
3. Use the BACK SPACE flexible button **(FLASH 44, Button #5)** to erase the current letter to correct for errors.

DID Name and Number Codes

The display shows the DID name or number as it is entered.

Other Codes			
1 = 1#	8 = 8#	" = 01	* = *#
2 = 2#	9 = 9#	, = 02	(= #1
3 = 3#	0 = 0#	? = 03	) = #2
4 = 4#	Space = 11	/ = 04	+ = #3
5 = 5#	: = 12	! = *1	= = #4
6 = 6#	- = 13	$ = *2	# = ##
7 = 7#	' = 14	& = *4	. = 24

Figure 2-6: DID Name/Number Codes

Erasing a DID Table Entry

Programming Steps

To clear entries from DID Table:

1. Press the CLEAR ENTRY Button **(FLASH 44, Button #4)** to clear an entire Phone Number, Name and Route from the DID Table.
2. Press the HOLD button to save the entry. A confirmation tone sounds.

To change to a different DID Route:

Press the UP button **(FLASH 44, Button #18)** to advance to the DID Route Number,

-or-

Press the DOWN button **(FLASH 44, Button #19)** to return to a previous DID Route Number.

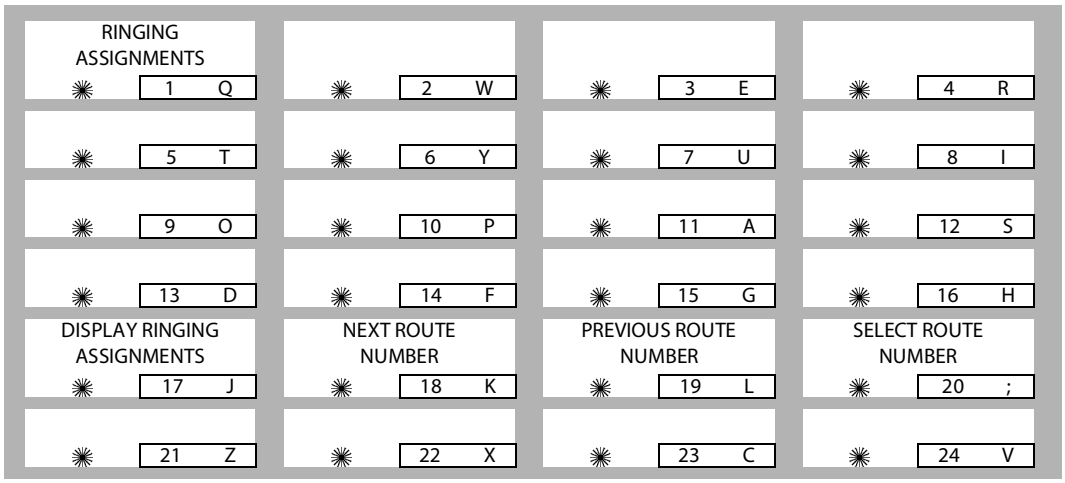
DID/ICLID Ringing Assignments

Description

ICLID Ringing Assignments let you change the ring assignment based on the incoming number received. This feature permits you to select from 500 ringing routes for each entry in the name to number translation table and DID table (**Flash 55**). For example, this feature could be used to reroute selected customers to a specific ACD or UCD group and bypass the general Attendant.

The Direct Inward Dialing (DID) feature permits one-way direct inward dialing access to stations on specific DID lines from the public telephone network, without going through an Attendant answering position. DID capabilities refer to incoming calls only.

The system accepts 3-7 digits from the Central Office. This lets the number and name field of the LCD display on a DID. Calls are identified in the SMDR field as answered (I) or Unanswered (U) followed by the DID number. At least one DTMF receiver must be installed.



Programming Steps

1. Press **FLASH** and dial **[43]**. The following message displays:

```
ROUTE 000  DDDDR
```

000 = Route Number (000–499)
DDDD = 3- or 4-Digit Ringing Destination Number
R = Ringing Type

2. Press the RING ASSIGNMENT flexible button **(FLASH 43, Button #1)**. LED #1 is lit indicating Route 000 is ready for programming.

3. Enter a valid Destination (DDD) or (DDDD) and Ring type (R) followed by HOLD. A confirmation tone sounds and the display updates.

Table 2-7: DID/ICLID Ringing Assignments

Valid 3- and 4-Digit Destinations (DDD) and (DDDD)	Valid Ring Types (R)
System Speed Bins [9020–9999], for Off-Net Ringing	[0] = No Ring; unassigned; or to delete a station
Flexible Extension Numbers*	[1] = Day Ring [D]
Flexible Numbers for Voice Mail Groups 1–8* [a]	[2] = Night Ring [N]
Flexible Numbers for Hunt Groups 1–8*	[3] = Day/Night Ring [DN]
Flexible Numbers for Direct Ringing to Modem*	[4] = Special Only [S]
Flexible Numbers for ACD Groups 1–16*	[5] = Day/Special [DS]
Flexible Numbers for UCD Groups 1–8*	[6] = Night/Special [NS]
Remote Device Numbers**	[7] = All Modes [Day/Night/Special [A]
Local Number/Name Translation Table Number [600-799]	

** Internal flexible numbers range = 100-8999*
*** Remote device numbers can be any numbers between 1000-8999, excluding those numbers assigned for internal use.*
[a] *For Remote Voice Mail Ring Assignment, refer to Flash 67.*

View DID/ICLID Ringing Assignments

Description

Keysets designated to ring on an incoming CO line but not designated to ring on the DID/ICLID ring, may receive a ring cycle before the call is moved. The same ringing restrictions applied to CO line ringing are applied to DID/ICLID ringing.

Programming Steps

1. Press **FLASH 43, Button #17** to display ring assignments. Assignments are displayed in sets of five, up to the number programmed. Press **FLASH 43, Button #17** additional times to cycle to the next group of five ring assignments.

```
ROUTE  000  XDDDDRR  XDDDDRR
XDDDDRR  XDDDDRR  XDDDDRR
```

XDDDD = Destination type ID letter fllowed by number to be dialed:
[F]] plus Fixed Number, e.g., F102
[H] plus Hunt Group Number, e.g., H6700
[M] plus Modem Extension Number, e.g., M6099 (default = M499N)
[R] plus Recorded Announcement Extension Number, e.g., R6020
[S] plus Station Number, e.g., S6002
[U] plus UCD/ACD Group/Agent Number, e.g., U6034
[V] plus Voice Mail Group Number, e.g., V6899
[B] plus Speed Bin Number, e.g., B9990
RR:
[0] = No Ring
[D] = Day Ring
[N] = Night Ring
[DN] = Day/Night Ring
[S] = Special Only
[DS] = Day/Special
[NS] = Night/Special
[A] = All Modes (Day/Night/Special)

Multiple station assignments are accomplished by assigning another destination with ring status, DDDDR, and pressing HOLD. This can be done for up to the maximum number of stations on the system.

To advance to the next route:

Press the NEXT flexible button **(FLASH 43, Button #18)** to advance to the next DID/ICLID Route number.

To return to a previous route:

Press the PREVIOUS flexible button **(FLASH 43, Button #19)** to return to the previous DID/ICLID Route number.

To select a different route:

1. Press the SELECT ROUTE NUMBER flexible button **(FLASH 43, Button #20)** to select the desired route number.
2. Enter a valid DID/ICLID route number ([000–499] for *XTS* systems).
3. Press HOLD to change to the different route entered. A confirmation tone sounds.

DEFAULT … No destinations or ringing assignments exist.

DID Digits

Description

The DID Digits option allows the installer to adjust the amount of DID Digits received from the CO. This amount is used by all DID trunks in the system.

The DID Translation table can be programmed to determine the number of digits used for the routing of a DID call.

At least one DTMF receiver MUST be installed in the system

Programming Steps

To change the number of DID Digits:

1. Press the DID DIGITS flexible button **(FLASH 41, Button #3)**. The following message is shown on the display phone:

```
DID DIGITS                    3-7
3
```

2. Enter a valid number (3–7) on the dial pad which corresponds to the number of digits used for the routing of the DID Number.
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Number of DID digits is set to 3.

DID Incoming Signaling

Description

The DID Incoming Signal option allows the installer to determine the type of incoming signaling used by all T-1 trunks in the system.

Programming Steps

DTMF is the DID Signaling type used for DID Trunks. Do not change the default setting of DTMF unless instructed to do so by technical support.

1. Press the DID INCOMING SIGNALING flexible button **(FLASH 41, Button #5)** for programming the type of DID signaling desired.

   The following message is shown on the display phone:

```
DID INC SIGNALING             0-1
DTMF
```

2. Enter a 0 or 1 on the dial pad.

   [0] = Not applicable (reserved for future use)

   [1] = DTMF

3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … DID Incoming Signaling type is set for DTMF.

DID/TIE Signaling

Description

The DID/TIE Signaling feature can be programmed for one-way direct access inward dialing access to specific stations on specific DID lines without going through an Attendant answering position.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press **FLASH 40, Page A, Button #14**. The following message displays:

```
DID/TIE SIGNALING              0-2
WINK
```

5. Dial a valid number (0-2) on the dial pad.
   [0] = Immediate Start
   [1] = Wink Start
   [2] = Delay Start
6. Press HOLD to save the entry.

DEFAULT … DID/TIE Signaling is set to Wink Start.

DID Collect Timer

Description

The DID Collect Timer is only used when the DID Incoming Signaling is set for dial pulse. This is a time-out timer that looks at the incoming digits one digit at a time. If a second digit isn't detected within the 150ms, the telephone system attempts to process that digit. If a second digit is detected, the system waits 150ms to see if a third digit is received. Otherwise, the telephone system attempts to process the two digits already received. This process continues until no additional digits are received and the time-out timer expires. The DID Collect Timer setting is variable from 100ms to 2.0 seconds.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press Button #21 to select Page C. The display updates. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE C
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the DID COLLECT TIMER Button **(FLASH 40, Page C, Button #9)** in the flexible button field. The following message displays:

```
DID COLLECT TIMER        010-200
015
```

5. Enter a valid number on the dial pad that corresponds to 010–200 (100 ms to 2.0 seconds).
6. Press HOLD button to save entry. A confirmation tone sounds and the display updates.

DEFAULT … DID Collect Timer is set for 150 milliseconds.

Initialize DID-TIE Parameters

Description

The DID-TIE Parameters and Timers may be initialized, setting all data fields to their original default values.

Table 2-8: DID-TIE Parameter Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 41	MISCELLANEOUS CO PARAMETERS		
	1	Dial Pulse Parameters	60/40 10 pps
	3	DID Digits	3
	5	DID Incoming Signal	DTMF
	6	T-1 Incoming Signal	DTMF
	7	T-1 Framing Type	D4SF-AMI

Programming Steps

1. Press the DID-TIE PARAMETERS flexible button (**FLASH 80, Button #13**). The following message displays:

```
INITIALIZE DID-TIE TMRS
PRESS HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print DID-TIE Parameters

Description

The Print DID-TIE command dumps the entire database as a permanent record which can serve as a hard copy of the database. The system baud rate must match that of the printer or receiving device.

When printing the DID-TIE Timers, the following data is printed:

- DID Parameters and Timers
- TIE Line Parameters and Timers

```
DID SIGNALING - WINK
DID DIGITS - 3

TIE SIGNALING - WINK
DID INC SIGNALING - DTMF
TIE INC SIGNALING - DTMF
T1 INC SIGNALING - DTMF
```

Figure 2-7: DID-TIE Parameters Printout

Programming Steps

1. Press the DID-TIE PARAMETERS flexible button **(FLASH 85, Button #14)**. The following message displays:

```
PRINT DID/TIE TMRS
PRESS HOLD
```

2. To print the DID-TIE Parameters, press the HOLD button. The following message displays:

```
PRINTING DID/TIE TMRS
```

When the system has finished sending the requested information to the printer, confirmation tone sounds.

Direct Inward System Access (DISA)

The *XTS* allows programming of an unlimited number of outside line calls to provide direct access to the system. DISA callers may access LCR, All Internal/External Paging, All Call Paging, Call Park Pick-Up, and Meet-Me Paging. A DTMF receiver must be available for DISA operation. The duration of a trunk-to-trunk DISA call can be set by system administrator.

Incoming DISA callers may access all line groups such as FX or WATS lines or other outgoing services while away from the office.

DISA callers may dial any station directly without going through the Attendant.

Vodavi has taken precautions to prevent fraud by requiring a security code for this feature. However, it is may still be vulnerable to fraud.

DISA Access Code

Description

The DISA Access Code feature permits assigning a 3-digit access code to the system. Anyone calling on a DISA line must use this code to gain access to system features. To disable the DISA access code, enter (#) three times. Use of this feature with or without access code can be abused by callers.

Programming Steps

1. Press the DISA ACCESS CODE flexible button **(FLASH 20, Button #1)**. The following message displays:

```
DISA ACCESS CODE
100
```

2. Enter a valid number (000–999) on the dial pad for the DISA access code.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … 100 is the assigned access code.

DISA Programming

Description

Each CO can be assigned as a DISA line using 1 of the 5 DISA types available.

- DISA can be programmed using Range programming.
- DISA callers are subject to the Class of Service placed on the line accessed for out dialing.
- The system administrator can control the call duration after establishing a Trunk-to-Trunk call.
- After expiration of the Conference Timer, a tone is presented to both DISA parties, then one minute later the system automatically releases both trunks.
- The Conference Timer does not affect or control a DISA-to-Station call.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines (001-144) are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the DISA flexible button **(FLASH 40, Page A, Button #7)**.

5. Enter a valid number (0-5) on the dial pad to indicate type of DISA desired.
   [0] = No DISA
   [1] = 24-Hour DISA
   [2] = Night DISA
   [3] = 24-Hour DISA with forwarding
   [4] = Night DISA with forwarding
   [5] = Telecenter 24-Hour DISA with forwarding (requires optional software)

```
DISA TYPE                    0-5
NONE
```

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … No outside lines are assigned as DISA lines.

DISA Call Forwarding

Four options are available for a DISA line: 1) 24-hour, 2) night, 3) 24-hour with forwarding, 4) or night with forwarding. The CO line ringing at a station follows preset forward or no-answer call forward using the preset forward timer the same as an initially ringing CO line does. It follows direct forward and busy forward the same as an initially ringing CO line. If the preset forward timer is set to 00 (disabled) the first forward of the DISA ringing call at a station takes 15 seconds.

DISA CO-to-CO

Description

The DISA CO-to-CO (or Conference) option on the CO line governs a DISA caller's ability to access other outside lines. CO lines must have DISA CO-to-CO enabled to allow a DISA caller to establish an outgoing CO-to-CO connection. This allows for specific CO line access restriction on DISA calls. A station with Conference enabled can initiate a conference on CO lines regardless of the CO line conference marking.

The CO line conference flag affects a DISA caller's ability to access outgoing CO lines as shown in the following table:

Table 2-9: CO Line Conference Flag

Incoming DISA CO	DISA Caller Attempts to Access	
	CO-to-CO Enabled	CO-to-CO Disabled
CO-to-CO Enabled	Call Allowed	Call Denied
CO-to-CO Disabled	Call Denied	Call Denied

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the DISA CO-TO-CO flexible button **(FLASH 40, Page A, Button #4)**.
5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled

```
DISA CO-TO-CO                0-1
ENABLED
```

6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … DISA CO-to-CO is enabled for all CO lines.

Operation

1. Call the phone number the system administrator specified as the DISA line. The system answers and returns internal dial tone.
2. Enter the DISA access code specified by the system administrator, if applicable. Dial tone returns.

To place an outgoing call:

1. Dial a group access code: 9, 801–823. CO Dial tone returns.
2. Dial the desired telephone number.

*The conference timer monitors a DISA **trunk-to-trunk** call and release the lines one (1) minute after the time expires.*

To reach an internal station:

Dial the desired station number. (Ringback tone sounds.)

If the station dialed is unattended, busy or in DND, intercom dial tone returns, (after the Preset Call Forward Timer expires).

WARNING: Toll fraud can occur if DISA is not properly implemented.

Direct Station Selection / Busy Lamp Field

A user with Direct Station Selection (DSS) buttons assigned at their Key Station can call an intercom station or transfer a CO call by pressing the appropriate DSS button.

When a button on a Digital Telephone is assigned as a DSS, it also serves as a Busy Lamp Field (BLF) to display the status of that telephone. Refer to *"Flexible Button Assignment" on page 2-148* for additional information.

Direct Transfer Mode

Description

An outside CO line can be transferred from one keyset to another. By using the TRANS button, a screened (announced) transfer can be transferred directly to the handset on any key station. Any number of attempts can be made to locate someone by calling different keysets without losing the call. If a line is transferred to a busy station, it receives muted ringing.

When enabled, supervised transfers (screened transfers) to stations in the handset mode connect calls directly to the handset. The station user must have a direct appearance of that CO line or a Loop button. This feature is programmed on a system-wide basis in admin programming.

Programming Steps

1. Press the DIRECT TRANSFER flexible button **(FLASH 06, Button #7)**. The following message displays:

```
DIRECT XFER                    0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Direct Transfer Mode is enabled.

Directory Dial

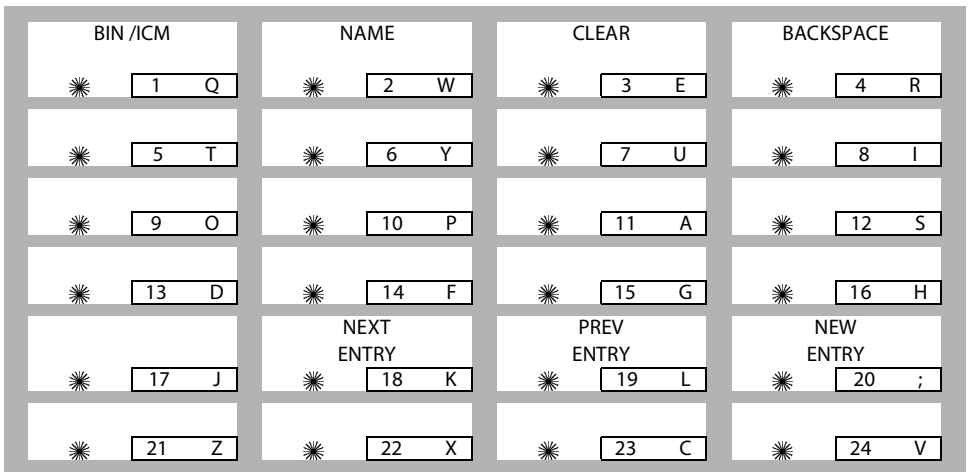
Description

Directory Dial enables display telephone station users to obtain a directory of station users and have the system dial the extension currently displayed. The *XTS* provides locations for up to 200 names (000-199). Directory dial also lets users program a name with a speed dial bin for use in later locating a speed dial number. When prompted, the system displays the name associated with a speed dial number so when the desired name is shown, the user may then have the system dial the number.

Directory Dial allows users to associate a name with an entry in the local number/name translation table. When prompted, the system displays the name associated with the table so when the desired name is shown, the user may then have the system dial the number.

Directory Dial also includes the following functions:

- The Directory Dial list may be programmed and maintained at the first assigned Attendant station. However, this admin routine lets the system programmer maintain the list locally (at Attendant) or remotely via modem access.
- May be used to transfer a call from one station to another.



Related Information

Quick Reference		
➡ Flash 55		Name/Number Translation Table (Refer to *"Name / Number Translation Table" on page 2-216*.)

Programming Steps

To enter, change, erase or view entries in the Directory Dial List:

Press **FLASH** and dial **[23]**.The following message displays

```
DIR  LST   AAA  /  ICM :  XXXX
nnnnnnnnnnnnnnnnnnnnnnnnnnnn
```

AAA = Directory list entry number (000-199)
XXXX = Either:
A 3-digit station number (100-351)
-or-
A 3-digit local number/name translation table number (600-799)
-or-
A 4-digit remote device number (1000-8999)
-or-
A 4-digit system speed bin number (9020-9999)
nnn = programmed name (blank if none)

To select a Directory List entry:

1. Press Flexible button #20 for a directory list entry.
2. Dial a valid directory list entry number (000–199).
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To scroll through the Directory List:

- Press the NEXT flexible button **(FLASH 23, Button #18)** to scroll up (next entry).
- Press the PREV flexible button **(FLASH 23, Button #19)** to scroll back (previous entry).

To associate a number to an Intercom number or System Speed Dial Bin:

1. Press the BIN/ICM flexible button **(FLASH 23, Button #1)**.
2. Enter one of the following: a Station Intercom number, a System Speed Dial number, or a Local Number/Name Translation Table number.

   100-351 = Extension Numbers

   1000-8999 = Remote Device Numbers

   9020–9999 = System Speed Numbers

   600-799 = Local Number/Name Translation Table
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

   BIN/ICM – Each entry in the directory dialing list must be associated to a system speed dial bin (for calling a destination outside of the system), to an intercom station (for calling internal station including CO line transfers), or to a Local Number/Name Translation Table.

To enter/change current name shown on the display:

1. Press the NAME flexible button **(FLASH 23, Button #2)**.
2. Enter the name (up to 24 characters may be entered) by using keys on the dial pad as illustrated on the following page:

3. If an error is made while entering the name, press the BACK SPACE flexible button **(FLASH 23, Button #4)**. This button backspaces one character at a time.

Other Codes			
1 = 1#	8 = 8#	= 01	* = *#
2 = 2#	9 = 9#	, = 02	(= #1
3 = 3#	0 = 0#	? = 03	) = #2
4 = 4#	Space = 11	/ = 04	+ = #3
5 = 5#	: = 12	! = *1	= = #4
6 = 6#	- = 13	$ = *2	# = ##
7 = 7#	‘ = 14	& = *4	. = 24

Figure 2-8: Directory List Keypad Map

4. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

   Name – A name up to 24 characters may be entered into each directory dial list entry. The names display alphabetically when accessed by a station user. It is possible to have multiple entries that are associated to the same station number or system speed dial bin. This lets the same name be entered into the list several times.

   For example, by last name and by first name, pointed to a station number and a speed dial bin (home, or mobile phone number), or several different names associated to the same speed dial bin.

To clear an entry:

1. Press the CLEAR flexible button **(FLASH 23, Button #3)**.
2. Press HOLD to save the entry. A confirmation tone sounds and the display updates. The entry is erased (both the BIN/ICM assignment and the programmed name).

   Clear – Entries in the table may be erased and cleared which allows placement of another entry into the list. When a system speed dial bin is deleted or changed, the name associated to the bin must also be erased. When a multiple table listing is associated to one system speed dial bin it may be necessary to clear more than one entry.

Operation

To view the Directory List:

1. Dial the Directory List dial code [680] on the dial pad,

   -or-

   Press flexible button programmed as a directory dialing button.
2. Press a button on the keypad, once, twice or three times, that represents the letter of the alphabet to begin viewing the list of names (e.g., when 2 is first pressed, it produces names starting with A. When 2 is pressed a second time, names that start with B display.

Pressing 2 a third time displays names that start with C). The alphabet is represented on the keypad as shown below.

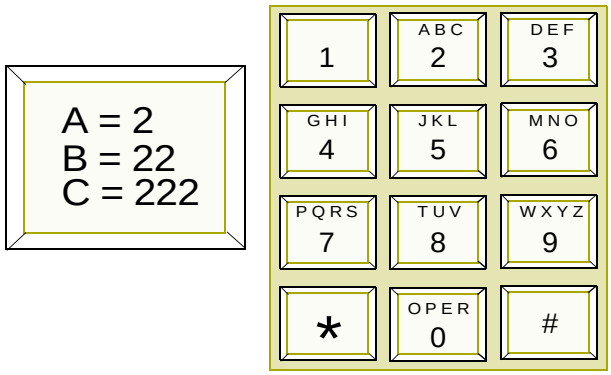


Figure 2-9: Directory Dialing Keypad Map

Names beginning with the letter chosen display on the LCD display.

If there are no names in the Directory List beginning with the desired letter, a name with the next higher letter displays on the LCD display.

The letters "Q" and "Z" are not marked on many telephone keypads; however, the illustration above shows the correct keys used to access these letters.

3. Dial [✳] to scroll up (next entry) through the list,

   -or-

   Dial [#] to scroll down (previous entry) through the list,

   -or-

   Press another key to view the list for a different letter of the alphabet.
4. When the desired name displays on the LCD, press the SPEED button to automatically dial the destination station or outside phone number (via speed dial).

To transfer a call using Directory Dialing while on a call:

1. Press the TRANS button.
2. Dial the Directory Dial Code [680] on the dial pad,

   -or-

   Press the flexible button programmed for directory dialing.
3. Press the digit associated with the person's name and when it displays, press SPEED to automatically dial the destination station.
4. Hang up to complete the transfer.

Calls may be transferred to internal stations only. An attempt to transfer a call off-net (via a speed dial bin) results in the call recalling upon going on-hook.

☎ SINGLE LINE TELEPHONE

Not applicable

Conditions

» If the desired party is an intercom station, that station is signaled according to their intercom selector/H-T-P switch (SLT stations tone ring).

» If the desired party is associated to a speed dial bin, the system selects a CO line and dials the number programmed into the speed dial bin. Call progress tones are then heard.

» If station is in Directory Dial mode and a CO or intercom call rings in, the station must exit Directory Dial mode to answer the call.

Initialize Directory Dial Table Parameters

Description

The Directory Dial Table Parameters may be initialized setting all data fields to their original default values.

Table 2-10: Directory Dial Table Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 23	DIRECTORY DIAL TABLE		
	1	Bin/ICM/RDN	None
	2	Name	
	3	Clear	

Programming Steps

1. Press the DIRECTORY DIAL TABLE flexible button (**FLASH 80, Button #9**). The following message displays:

```
INITIALIZE DIR - DIAL
PRESS HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print Directory Dial Table Parameters

Description

The Print Directory Dial Table command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

This is an example of the Directory Dial Table database printout.

```
LST   BIN            NAME            049   149
---   ---                            050   150
000   100                            051   151
001   101                            052   152
002   102                            053   153
003   103                            054   154
004   104                            055   155
005   105                            056   156
006   106                            057   157
007   107                            058   158
008   108                            059   159
009   109                            060   160
010   110                            061   161
011   111                            062   162
012   112                            063   163
013   113                            064   164
014   114                            065   165
015   115                            066   166
016   116                            067   167
017   117                            068   168
018   118                            069   169
019   119                            070   170
020   120                            071   171
021   121                            072   172
022   122                            073   173
023   123                            074   174
024   124                            075   175
025   125                            076   176
026   126                            077   177
027   127                            078   178
028   128                            079   179
029   129                            080   180
030   130                            081   181
031   131                            082   182
032   132                            083   183
033   133                            084   184
034   134                            085   185
035   135                            086   186
036   136                            087   187
037   137                            088   188
038   138                            089   189
041   141                            090   190
042   142                            093   193
043   143                            094   194
044   144                            095   195
045   145                            096   196
046   146                            097   197
047   147                            098   198
048   148                            099   199
```

Figure 2-10: Directory Dialing Table Printout

Programming Steps

1. Press the DIRECTORY DIAL TABLE flexible button **(FLASH 85, Button #10)**. The following message displays:

```
PRINT DIR - DIAL
PRESS HOLD
```

2. To print the Directory Dialing Table parameters, press the HOLD button. The following message displays:

```
PRINTING DIR - DIAL
```

When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Dial-By-Name

Description

The system allows station users to dial extension numbers, or speed bins, by entering the name of a person that has been programmed for that station. The system database allows entry of a name (alphanumeric) up to 24 characters in length for each station. The programmed name can be used for dial-by-name station users and in directory dialing. This feature should not be confused with the *Name In Display* feature.

Operation

1. Dial the Dial-By-Name code [6✳] on the dial pad,

   -or-

   Press the preprogrammed DIAL-BY-NAME flexible button.
2. Dial person's last name on the keypad as shown:

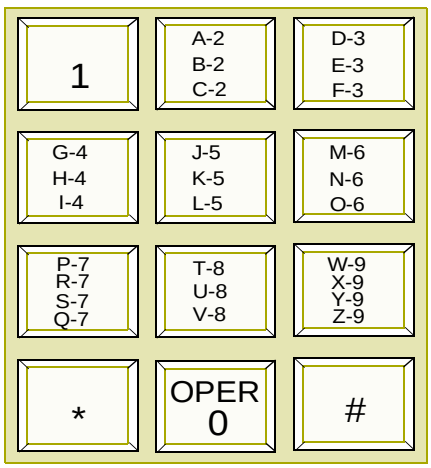


Figure 2-11: Dial-By-Name Keypad Map

EXAMPLE -- To search for the name BROWN, press [2][7][6][9][6].

- When the system finds a unique numeric match to the name being dialed, the call is placed to the station matching the name.
- The intercom call signals the station according to the H-T-P button.
- If fewer than 8 digits are dialed, the numeric match is dialed after a 10-second interdigit time-out occurs, or if [#] is pressed.

Conditions

» The system dials the station that matches the dialed name when a unique match is found. If multiple names are located (found) after eight digits, the first one is dialed.

» Names are entered as part of the system attributes database. Numbers may be entered as part of a name. To avoid conflicts, all names must have a unique numerical sequence.

Distinctive Ringing

CO Line Distinctive Ring Tone

Description

The ring tone signal used to notify stations of an incoming call can be changed in administrative programming to provide distinctive ringing on a per CO line basis. A distinctive ring tone can be programmed for each CO line that is used to ring each station. The system provides 36 different ring tones that can be selected for each CO line in the system.

Distinctive CO Ring Tone overrides station distinctive ring tone.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible Button #19 (Page A) is lit.

4. Press the Page B flexible button (Button #20). The following message displays:

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

5. Press the RING TONE flexible button **(FLASH 40, Page B, Button #9)**. The following message displays:

```
RING TONE                    00-35
00
```

6. Enter a valid number on the dial pad to change this feature.

Table 2-11: Ringing Tones

Tone#	Freq	Tone#	Freq	Tone#	Freq	Tone #	Freq
00	697/770	10	770/1209	20	852/0	30	1336/1477
01	697/852	11	770/1336	21	941/1209	31	1336/1633
02	697/941	12	770/1477	22	941/1336	32	1336/0
03	697/1209	13	770/1633	23	941/1477	33	1477/1633
04	697/1336	14	770/0	24	941/1633	34	1477/0
05	697/1477	15	852/941	25	941/0	35	1633/0
06	697/1633	16	852/1209	26	1209/1336		
07	697/0	17	852/1336	27	1209/1477		
08	770/852	18	852/1477	28	1209/1633		
09	770/941	19	852/1633	29	1209/0		

Tone Duration = 50 ms/50 ms

7. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Ring Tone is set for 00 (697/770).

Enabling/Disabling Distinctive Ring Tone

Description

The distinctive ring tone feature must be enabled and disabled in admin programming.

Programming Steps

1. Press the CO RING TONE flexible button **(FLASH 06, Button #2)**. The following message displays:

```
CO RING TONES                0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the tone ring signal.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … CO Ring Tones is enabled.

Ring Tone - Station (User Selectable)

Description

The ring tone signal that notifies stations of an incoming call can be changed by each station user to provide distinctive ringing among a group of stations. Each station user may select a distinctive ringing tone used to ring their station. The system provides 36 different ring patterns from which station users may select.

Operation

To select a distinctive ring tone for a station:

1. Dial the Ring Tone program code [695] on the dial pad. The following message displays:

```
ENTER RING TONES             00-36
XX PRESS SPEED TO SAVE
```

2. Enter a valid tone number. The telephone speaker sounds a steady tone that correlates to the 2-digit entry. The 2-digit tone number displays in the lower left corner of the LCD display.
3. When the desired tone is selected (default ringing code is set to 00), press the SPEED button to save it as the tone to present when the station is tone rung. A confirmation tone sounds.

The ringing choices are as follows:

Table 2-12: Ringing Tones

Tone#	Freq	Tone#	Freq	Tone#	Freq	Tone #	Freq
00	697/770	10	770/1209	20	852/0	30	1336/1477
01	697/852	11	770/1336	21	941/1209	31	1336/1633
02	697/941	12	770/1477	22	941/1336	32	1336/0
03	697/1209	13	770/1633	23	941/1477	33	1477/1633
04	697/1336	14	770/0	24	941/1633	34	1477/0
05	697/1477	15	852/941	25	941/0	35	1633/0
06	697/1633	16	852/1209	26	1209/1336	36	No Ring
07	697/0	17	852/1336	27	1209/1477		
08	770/852	18	852/1477	28	1209/1633		
09	770/941	19	852/1633	29	1209/0		

Tone Duration = 50 ms/50 ms

Conditions

» Station users may listen to all tones by dialing the 2-digit codes one after another. The tone that is sounding when the SPEED button is pressed is saved as that station's tone ringing selection.

» A station's tone ringing selection is maintained in a battery protected area of memory. Therefore, if a system experiences a power failure or a soft or hard restart, the tone ringing selection is restored.

» The tone selected provides TONE ringing normal or muted to the station whenever the station is commanded to tone ring (i.e., this excludes Camp On tone programming confirmation tones or other specific tones not considered TONE ringing).

» The selected tone is used to notify the station in the following cases:

- Incoming CO Call
- Incoming Intercom Call
- Transferred CO Line
- Recalling CO Line
- Call Back Notification
- Message Wait Call Back
- All Types of Forwarded Calls
- Executive/Secretary calls
- Line Queue Call Back
- LCR Queue Call Back

» Distinctive ringing (per CO Line) supersedes station ring tone.

Do Not Disturb

Description

Placing a keyset in Do Not Disturb (DND) eliminates incoming outside line ringing, intercom calls, transfers and paging announcements. A ringing station may go into DND to silence ringing. The Attendant can override a station in DND. Stations in DND can continue to make normal outgoing calls.

Stations can be individually allowed or denied the ability to place their telephone in Do Not Disturb. By default, Do Not Disturb is enabled at all stations. Attendants cannot utilize DND.

One-time do not disturb allows a station user to turn off muted ringing that occurs while off hook (handset or ON/OFF) on another call. Useful when having an important conversation and do not wish to be disturbed by ringing. The station, while off hook, (ON/OFF or handset) depresses the DND button which eliminates muted ringing. When the station goes on-hook the DND button is extinguished and DND is cancelled.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

   If HOLD is pressed without entering a station range, ALL stations are selected.

   -or-

   Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press the DO NOT DISTURB flexible button **(Button #2)**. The following message displays:

```
DO NOT DISTURB                0-1
ENABLED
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Do Not Disturb is enabled at all stations.

Operation

To activate Do Not Disturb:

Press the preprogrammed DND button (DND button lights steady), or dial [631] on the 8-button keyset. The DND button can be pressed while the phone is ringing to stop the ringing.

To remove Do Not Disturb:

Press the preprogrammed DND button or dial either [631] or [662]. The button LED extinguishes and DND cancels.

☎ SINGLE LINE TELEPHONE

To activate Do Not Disturb:

1. Lift the handset.
2. Dial [631].
3. Replace the handset.

To remove Do Not Disturb:

1. Lift the handset.
2. Dial [631] or [662].
3. Replace the handset.

Conditions

» Calling stations receive a DND audible tone.

» Attendants do not have DND capability.

» DND capability is programmable on a per-station basis.

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

One-Time Do Not Disturb

Description

Prevents calls from ringing at your station while you are on a call. The One-Time DND condition automatically cancels when you end your call.

Stations can be individually allowed or denied the ability to place their telephone in Do Not Disturb. Attendants cannot utilize DND.

Operation

To activate One-time Do Not Disturb:

Press the preprogrammed DND button while you are off-hook and connected to a CO line or intercom call. The DND button LED lights and off-hook tones at your station cancel.

To cancel One-time Do Not Disturb:

Replace handset. The DND button LED extinguishes and DND cancels.

Do Not Disturb Button Flash Rate

Description

The Do Not Disturb Button flash rate is the rate at which your Do Not Disturb button flashes when you place your station in a Do Not Disturb mode. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the DND BTN flexible button **(FLASH 07, Button #18)**. The following message displays:

```
DND BTN                    00-28
RED STEADY ON
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Do Not Disturb Button flash rate is set for Red Steady On (01).

Do Not Disturb - DSS / BLF Flash Rate

Description

The Do Not Disturb DSS/BLF flash rate is the rate at which a DSS button of a station flashes when you are in a Do Not Disturb mode. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the DND – DSS/BLF flexible button **(FLASH 07, Button #6)**. The following message displays:

```
DND  DSS / BLF                 00-28
RED  60  IPM  DBL  WINK
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Do Not Disturb DSS/BLF flash rate is set for a Red 60 ipm Double Wink (04).

Executive Override

Description

The Executive Override feature lets certain stations be designated as Executive stations with the ability to override and barge-in on other key sets engaged in a CO line or intercom conversation. If Supervisor Monitor with barge-in function is allowed, this feature MUST be disabled. An optional warning tone is programmed on a system-wide basis to enable or disable the tone. This tone is presented to all parties prior to actual cut through of the third party.

The Executive Override Blocking feature (FLASH 50, Page A, Button #13) allows or disallows an Executive to override an extension. This prevents an extension with override capability from overriding designated stations.

Supervisor Barge-In can be programmed in [FLASH 50, Page A, Button #12].

Executive Override - Enable/Disable

Description

This system programmable option enables or disables a warning tone when the station marked as an executive is cut-thru to the conversation. This is useful for ACD agent supervisors or training personnel who require a service observing option.

A separate condition has been added to this feature which allows or disallows an Executive to override an extension. This prevents an extension with override capability from overriding an Executive's station.

Use of this feature when the Executive Override warning tone is disabled may be interpreted as a violation of federal, state or local laws, and an invasion of privacy. Check applicable laws in your area before intruding on calls using this feature.

A change in volume may occur on the CO line or intercom call after the barge-in occurs.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

   If HOLD is pressed without entering a station range, ALL stations are selected.

   -or-

   Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press the EXECUTIVE OVERRIDE flexible button **(Button #4)**. The following message displays:

```
EXEC OVERRIDE                0-1
DISABLED
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

6. Press HOLD to save the entry. A confirmation tone sounds.

Use of this feature when the Executive Override Warning Tone is disabled may be interpreted as a violation of federal, state, or local laws, and an invasion of privacy. Check applicable laws in your area before intruding on calls using this feature.

A change in volume may occur on the CO line or intercom call after the barge-in occurs.

DEFAULT … Executive Override is disabled for all stations.

Operation

To use Executive Override, when calling a busy station:

1. Press the preprogrammed EXECUTIVE OVERRIDE button (The programming code is 625). Executive station is bridged onto the CO line conversation in progress at the called station. An optional warning tone is presented to all parties prior to cut-through.
2. Replace handset at Executive station to terminate the override.

Conditions

» An error tone occurs when the called party:

- Is in a conference.
- Is already on an OHVO call.
- Has a Camp On at their station.

» If Executive joins a call and one of the members does a hook-flash or presses their transfer button, the Executive is dropped.

» If Executive does a hook-flash or presses Transfer button, it is ignored.

» When the Executive joins an intercom call or CO call and the Executive is not in a mute state, and any member of the party hangs up, the call is converted to a two-party conversation.

» When the Executive joins an intercom call or CO call and the Executive is in the mute state, and either of the two parties in the intercom call hang up, the call is dropped. If the Executive hangs up, the call remains a two-party conversation.

» Certain forwarding types affect override operation; except to override forwarding, dial [5#] + extension number.

» Intercom button disallows Executive Override.

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Executive Override Blocking

Description

The Executive Override Blocking feature allows or disallows override of an extension. This prevents a user with override capability from overriding a station.

The Executive Override Blocking feature also blocks an ACD Supervisor Monitor with Barge-In.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press the EXECUTIVE OVERRIDE BLOCK flexible button **(Button #13)**. The following message displays:

```
EXEC OVERRIDE BLOCK          0-1
DISABLED
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Executive Override Blocking is disabled at all stations.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Executive Override Warning Tone

Description

The Executive Override Warning enables Executive stations to override and barge-in on other key sets engaged in conversation on a CO line. Prior to actual cut through of the third party, a warning tone is presented to all parties notifying them of the barge-in. This warning tone, however, is a programmable option on a system-wide basis, that either enables or disables the tone. When the tone is disabled, no audible signal is presented to the parties to signal the barge-in.

Use of this feature when the Executive Override Warning Tone is disabled may be interpreted as a violation of federal, state, or local laws, and an invasion of privacy. Check applicable laws in your area before intruding on calls using this feature.

A change in volume may occur on the CO line or intercom call after the barge-in occurs. This feature also affects ACD Supervisor Barge-in warning tone.

Programming Steps

1. Press the EXEC OVER WARN TONE flexible button **(FLASH 05, Button #4)**.
2. Enter a valid number (0 or 1) that corresponds with the following entries:

   [0] = Disabled

   [1] = Enabled

```
EXECUTIVE WARNING            0-1
ENABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Executive Override Warning Tone is enabled.

Barge-In Warn Tone

Description

When the Barge-in Warn Tone feature is enabled, it produces a tone to notify a station that another station is about to use Executive Override or the Barge-in feature to cut into the existing conversation.

Programming Steps

1. Press the BARGE IN WARN TONE flexible button **(FLASH 06, Button #1)**. The following message displays:

```
BARGE IN WARN TONE          0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the conference tone.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Display stations continue to receive the CONFERENCE display regardless of the warning tone setting.

Privacy is ensured on all communications in the system. If desired, the user may elect to disable the Barge In feature, thus allowing up to seven other stations to join existing CO Line conversations.

Disabling of the Barge In feature may be limited by federal, state, or local law, so check the relevant laws in your area before disabling privacy.

Table 2-13: CO Line Barge In Flag

Station Attempting to Access CO Line	CO Line in Use by Another Station	
	Privacy Enabled	Privacy Disabled
Privacy Enabled	Private (no cut-through)	Private (no cut-through)
Privacy Disabled	Private (no cut-through)	Privacy Release (cut-through allowed)

DEFAULT … Barge-in Warn Tone is enabled.

Executive / Secretary Pairs

Description

There are four Executive/Secretary pairs available. When an Executive station is busy or in DND, intercom calls and transfers are automatically routed to the designated Secretary.

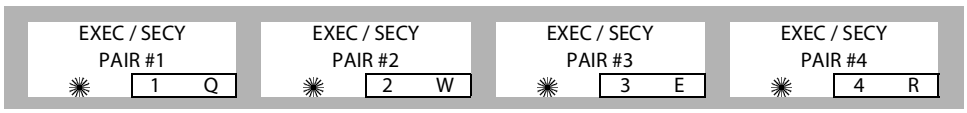
The assigned secretary may Camp On to the Executive Station when the station is busy or in Do-Not-Disturb. There can be only one pairing of stations, with no duplicates. You cannot pair Executive 100 to Secretary 101, then pair Secretary 101 to Executive 100. The same Secretary station can be specified for more than one Executive station (101-105 and 102-105). Entering [#] six times removes the assignments. Individual pairs may be changed by pressing the associated flexible button.

Programming Steps

1. Press **FLASH** and dial **[13]**. The following message displays:

```
EXEC SECY PAIRINGS
####, ####        PAIR 1
```

   The first button is lit indicating the first pair may be programmed.
2. Enter a valid Executive flexible station number, followed by a “1” to add or a “0” to delete.
3. Press HOLD to save the data. A confirmation tone sounds and the display updates.
4. Enter a valid Secretary station number, followed by a “1” to add or a “0” to delete.
5. Press HOLD to save the data. A confirmation tone sounds and the display updates.
   - ☐ To program a second pair, press the second flexible button in the flexible button field and enter station numbers as in steps 2-5.



   - ☐ To program a third pair, press the third button in the flexible button field and enter station numbers as in steps 2-5.
   - ☐ To program a fourth pair, press the fourth button in the flexible button field and enter station numbers as in steps 2-5.

DEFAULT … No Executive / Secretary pairs are assigned.

Conditions

» If you are designated the Executive station and your phone is busy or in DND, all calls are routed to the Secretary station.

» If you are the designated Secretary station, you can signal the Executive that is busy or in DND by using the Camp On feature.

External Day Ring

Description

The system can be programmed so CO lines marked for UDA provides ringing out of the external page ports when the system is in the Day Mode.

Programming Steps

1. Press the EXT DAY RING flexible button **(FLASH 06, Button #5)**. The following message displays:

```
EXTERNAL DAY RING          0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable External Day Ring.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … External Day Ring is disabled.

External Night Ring

Description

The system can be programmed so that CO lines marked for UNA provides ringing out the external page ports when the system is placed into Night mode.

When External Night Ring is set to yes, it activates External Night Ring which produces a tone that is sent over all external page groups.

When outside lines are marked UNA, ringing activates a tone over external paging when an incoming call occurs on those lines during night service.

Programming Steps

1. Press the EXT NIGHT RING flexible button **(FLASH 05, Button #3)**.
2. Enter a valid number (0 or 1) that corresponds with the following entries:
   [0] = Disabled
   [1] = Enabled

```
EXTERNAL NIGHT RING        0-1
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … External Night Ring is disabled.

Fixed Station/Port Number

Description

When a station dials the feature code 611 on a display telephone, it will display the Fixed Station/Port Number for that telephone. For example, when using flexible numbering some programming steps require the "FIXED" code. This code allows you to dial 611 and quickly determine the fixed port for that station.

```
STATION PORT:
XXX
```

☎ SINGLE LINE TELEPHONE

Not applicable

Flash Rates (Programmable)

Description

Fixed and flexible button flash rates can be programmed. Nineteen features/functions can be programmed to use on of 14 different red or 14 different green flash rate options. These are set up in FLASH 07 of admin programming. Refer to section that covers the feature/function for the detailed programming steps.

All other flash rates in the system are fixed (defaulted).

When in FLASH 07, the buttons on the digital telephone are mapped as shown in the following illustration.

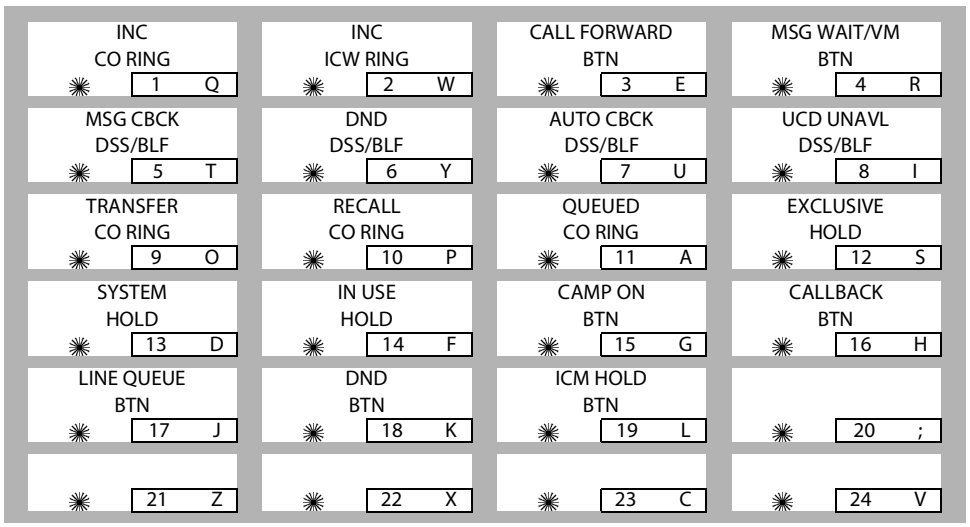


Table 2-14: Flash Rates

Red LED Flash Rates		Green LED Flash Rates	
00	Off	15	Steady On
01	Steady On	16	30 ipm Flash
02	30 ipm Flash	17	60 ipm Flash
03	60 ipm Flash	18	60 ipm Dbl Wink Off
04	60 ipm Dbl Wink Off	19	240 ipm Flash
05	240 ipm Flash	20	240 ipm Flutter
06	240 ipm Flutter	21	480 ipm Flash
07	480 ipm Flash	22	480 ipm Flutter
08	480 ipm Flutter	23	15 ipm Flash
09	15 ipm Flash	24	120 ipm Flash
10	120 ipm Flash	25	120 ipm Flutter
11	120 ipm Flutter	26	30 ipm Dbl Flash
12	30 ipm Dbl Flash	27	480 ipm Dbl Wink
13	480 ipm Dbl Wink	28	480 ipm Dbl Flash
14	480 ipm Dbl Flash		

Flexible Button Assignment

Description

If you have buttons on your telephone, you may program them to suit your own needs. This feature also allows programming of flexible buttons from a remote location (off-site). Range programming can also assign these buttons to multiple stations.

The possible functions you may assign to these buttons include:

- **Outside Line** -- Automatically accesses assigned line. (User programmable)
- **DSS/BLF** -- Automatically signal assigned station and provides BLF for off-hook and DND. (User programmable)
- **Feature** -- Any feature with a dialing code (Personalized Messages, Paging, Account Code, Call Park, Music, etc.) can be assigned to a flexible button. (User programmable)
- **Group Access** (ACD, UCD, Hunt, Voice Mail group pilot numbers) -- User programmable.
- **Speed Dial** -- Automatically dials Speed number. (System, Station, Saved Number Redial, Last Number Redial) (User programmable)
- **Pooled Group Access** -- Some or all outside lines can be grouped; pressing this button accesses the highest numbered unused CO line in that group.(User programmable)
- **Loop** -- Used to answer a transferred call on a line for which a user does not have a button assigned. (User programmable)
- **Unassign** (Locked-Out) -- Specific buttons may be designated as unused or locked out. When a button is programmed as unused, the button may not be programmed by the station user using flexible button programming procedures.
- **Flexible Port Assignments** -- Allows assignment of stations and CO line numbers to any station or CO line port in the system, and complete flexibility within the system numbering plan. A station can be assigned a number between 100-8999.

A CO line can be assigned a number between 001 and the maximum number of CO lines in the system. Additional stations can be added to the system by reducing the number of CO lines.

Flexible Button

Description

Each Digital Telephone has 8, 12, or 24 flexible buttons that can be programmed. One of the following six operations can be selected in programming for each button.

To assign a Flexible Button (user programmable):

Enter [BB], [0], [HOLD]

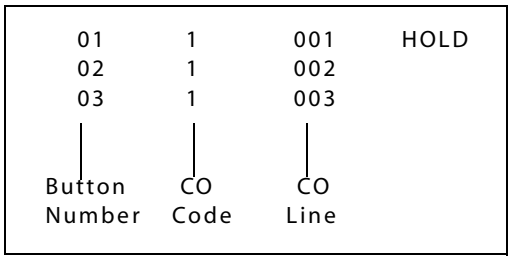
When a button is assigned as a flexible button [0], the user can program any features or functions on the buttons to which they have access.

To assign a CO Line Button:

Enter [BB], [1], [LLL], [HOLD]

LLL = CO Line Number

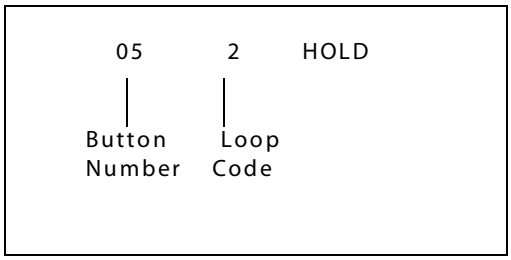
Buttons assigned as specific CO lines provide direct access and appearance of the CO line at a station. The station receives call status indications such as LED flash rates for incoming ringing when the line is placed on HOLD, etc. CO Line ringing is programmed in CO Line Attribute programming.



To assign a Loop Button:

Enter [BB], [2], [HOLD]

Used for a station without direct CO line appearance to answer the line ringing in or transferred to the station. It is recommended that all stations be given a loop button so they can receive a transferred call on a line for which they have no button access.

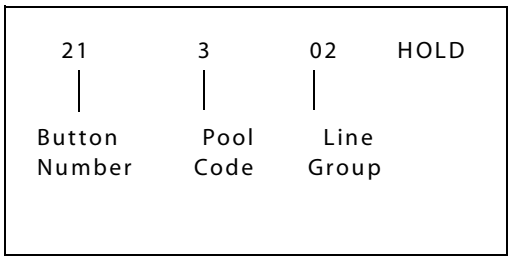


To assign a Pool Group Button:

Enter [BB], [3], [GG], [HOLD]

GG = Line Group Number (00-23)

Some or all outside CO lines may be grouped together and accessed via a POOL button for the purpose of placing an outgoing CO call. Pressing this button accesses the highest numbered unused CO line in that CO line group.



To assign a Feature Button (admin programmable):

Enter [BB], [4], [XXX], [HOLD]

This feature enables flexible buttons to be programmed from a remote location (refer to *"Default Numbering Plan" on page F-16*). Range programming can be used to assign these buttons to multiple stations. When a button is assigned as a feature button [4], the programmer can program any features on the buttons.

To unassign (lock out) a button:

Enter [BB], [#], [HOLD]

If SLT stations must be programmed for off-hook preference, program the desired CO line, or CO line group the SLT must access when going off-hook.

To assign a CO Line for an SLT (with off-hook preference)

Enter [01], [1], [LLL], [HOLD]

LLL = CO Line Number

To assign a CO Line Group for an SLT (with off-hook preference):

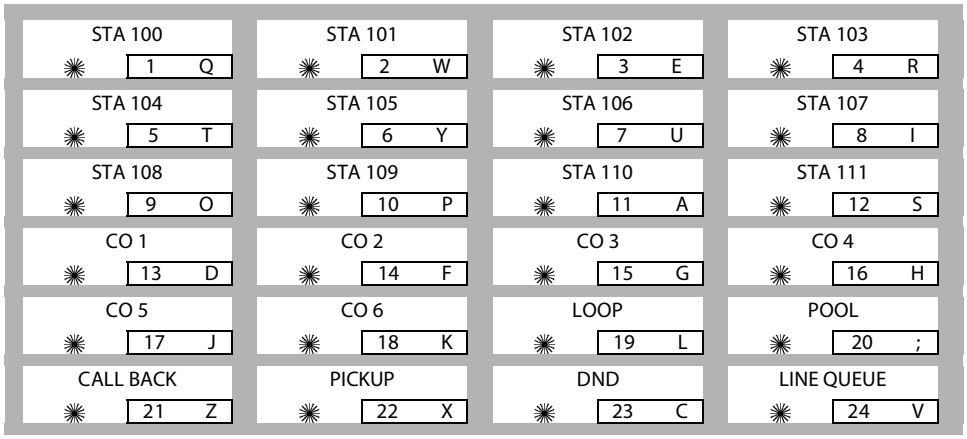
Enter: [01], [3], [GG], [HOLD]

GG = Line Group Number (00-23)

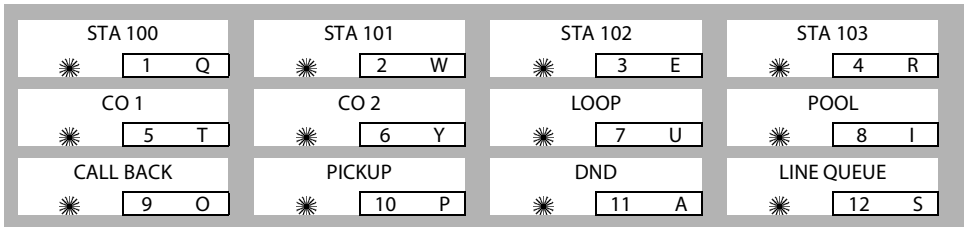
Digital Keysets

Specific buttons may be assigned as unused or locked out. When a button is programmed as unused, the button may not be programmed by the station user using flexible button programming procedures.

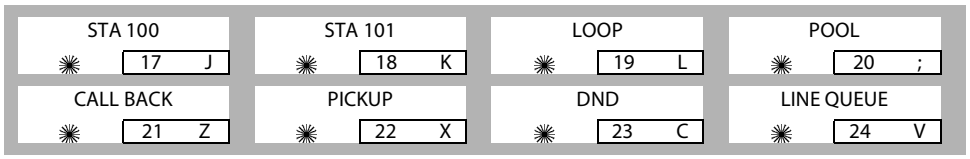
24-BUTTON DEFAULT



12-BUTTON DEFAULT



8-BUTTON DEFAULT



Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the BUTTON ASSIGN flexible button **(Button #11)**. The following message displays:

```
FLEX BUTTON PROG
ENTER BUTTON DATA
```

6. Enter a valid button number [01-24] to program followed by the desired button function:
   [0] = Flexible/user changeable
   [1] = CO line
   [2] = Loop button/all-purpose CO appearance
   [3] = Pool for specific groups
   [4] = Direct feature programmable (for DSS/BLF, use [4] + the flexible station number)
   [#] = Locks button

Operation

To program a user-programmable Flexible Button:

1. Press the SPEED button twice.
2. Press the assigned button to program (it must be programmed in the database as a multi-function button).
3. Dial the desired feature code. Refer to *"Default Numbering Plan" on page F-16*.

To erase a user programmable Flexible Button:

1. Press the SPEED button twice.
2. Press the button to erase.
3. Press the FLASH button. Confirmation tone sounds.
4. Replace handset or press ON/OFF button.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Display Flexible Buttons

Description

Each time the DISPLAY BUTTONS flexible button is subsequently pressed, the next four buttons display starting with the lowest button number.

- When a button is assigned as flexible button [0], the user can program any features or functions on the buttons to which they have access.
- When the buttons are programmed with user programmed functions, the display shows the function assigned to the button.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the DISPLAY BUTTONS flexible button **(Button #14)** to display programming assignments. The following message displays:

```
BUTTONS   BBS0100   BBS0101
BBS0102    BBS0103   BBS0104
```

BB = Button Number

LCD above is an example. Refer to the following table for additional legend information.

Table 2-15: Flexible Button Display Designations

Flex Button	Designation	Flex Button	Designation
1LGIN	Agent Primary Login	LOOP	Loop
1LOUT	Agent Primary Logout	LNR	Last Number Redial
2LGIN	Agent Secondary Login	MMP	Meet Me Page
2LOUT	Agent Secondary Logout	MON	Monitor Key
A[AAAA]	ACD Group with Pilot Number	MRVM	Voice Mail Mailbox (Remote)
ACALM	Attendant Clear Alarm	MSG	Message Wait Key
ACCT	Account Code Enter	MUSIC	Background Music
AMEM	Agent Member Display	MUTE	Mute Key
ANS	Answering Mach. Emulation Mode	MVM[B]	Voice Mail Mailbox 1-8
AOVR	Attendant Override	M[ZZ]	Personalized Message w/ Msg Nbr
APAGE	All Call Page	NTS	Night Service
AUNA	Attendant DND	ODND	ACD Overflow Station Avail/Unavail
AUTOR	Auto Redial	OFW	Offnet Forward
AVL	ACD or UCD Avail/Unavail	OHP	Off-Hook Preference
B[9BBB]	Speed Dial Button with Bin Number	OHVO	Off-Hook Voice Over
C[XXXX]	Call Coverage (w/o ringing)	PARK[CCCC]	Call Park with Park Location
CAMP	Camp-On	PKUP	Pickup
CBAK	Call Back	PL[GG]	Pool with CO Line Group Number
CID	Caller ID Name/Number Toggle	PPARK	Personal Park
CIQ	ACD or UCD Calls in Queue	R[RRRR]	Remote Device
CLCRQ	Cancel LCR Queue	REL	Release Key
CONF	Conference Key	RPARK	Station Call Park
CQD	ACD Calls in Queue Display	SLGIN	Supervisor Login
CSM	Custom Message	SLOUT	Supervisor Logout
D[XXXX]	Call Coverage (with ringing)	SNR	Save Number Redial
DIALN	Dial By Name	SPD	Speed Directory Dial
DISCO	Disable CO Line Outbound	SPEED	Speed Key
DND	Do Not Disturb	STRC	Stop Internal Trace
DRG	Distinctive Ringing	STS	Supervisor Status Display
E911	E911 List	S[XXXX]	Station DSS / BLF
EAC	External All Call	U[UUUU]	UCD Group with Pilot Number
EOR	Executive Override	UNA	Universal Answer
EP[N]	External Page with Zone	VMREC	VM Record (One Touch Record)
FFW	Incoming Transfer CO Line	VOL	Gain Key
FLASH	Flash Key	V[VVVV]	VM Group with Pilot Number
FWD	Call Forward Key	XFER	Transfer Key
GPU	Group Pickup	---------- *LEGEND* ----------	
H[HHHH]	Hunt Group with Pilot Number	*[B]*	*Mailbox Number*
HELP	Agent Help	*[9BBB]*	*Speed Dial Bin Number*
HFREE	Headset Mode	*[AAAA]*	*ACD Group Pilot Number*
HOLD	Hold Key	*[CCCC]*	*Call Park Location*
HPT	Handsfree/Private/Tone toggle btn/switch	*[GG]*	*Pool or CO Line Group Number*
IAC	Internal All Call Page	*[HHHH]*	*Hunt Group Flexible Number*
IANS	ICLID Answered Call	*[LLL]*	*CO Line Number*
ICM	Intercom	*[N]*	*Page Zone Number*
IP[N]	Internal Page with Zone	*[RRRR]*	*Remote Device Number*
IUANS	Display ICLID Unanswered Calls	*[UUUU]*	*UCD Group Pilot Number*
LCR	LCR Access	*[VVVV]*	*Voice Mail Group Flexible Number*
LINEQ	CO Line Queue Key	*[XXXX]*	*Flexible Station Number*
L[LLL]	CO Line Button (CO Line [LLL])	*[ZZ]*	*Personalized Message Number*

Conditions

» Only one station at a time can be programmed when using a flexible station number.

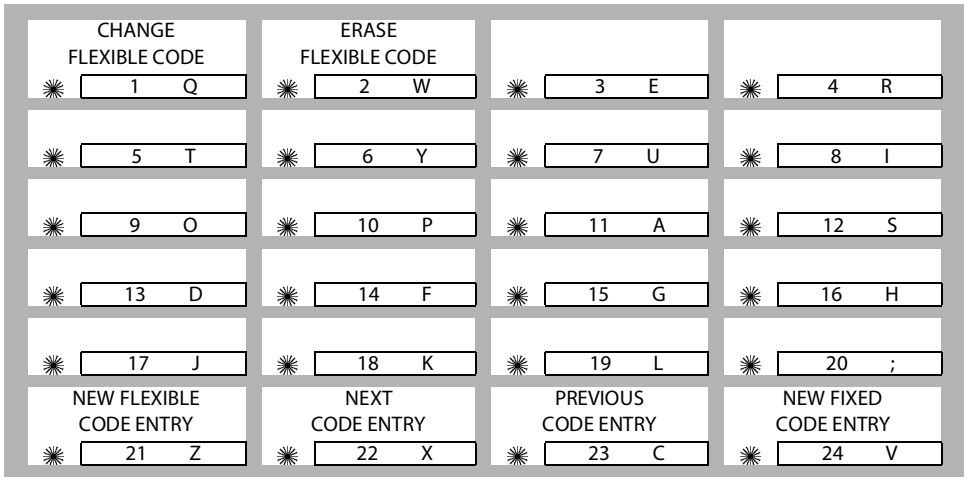
» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Flexible Numbering

Description

The Flexible Numbering feature allows the system numbering plan to be modified from its default value (refer to *"Default Numbering Plan" on page F-16*) to accommodate specific customer requirements. Station, Pilot, and Feature Access Code numbers may be changed with this feature. The length of these numbers may also be modified to meet specific customer applications.

The buttons on the key telephone are defined as shown when entering the Flexible Numbering Assignment feature programming area:



Programming Steps

Press **FLASH** and dial **[52]**. The following message displays:

```
FIX: 100                    FLEX: 100
NAME: STATION 100
```

To select a Fixed or Flexible Code:

1. Press Button 24 (Fixed) or Button 21 (Flexible).
2. Enter the desired code to change.

3. Press HOLD. The fixed and flexible number, as well as a description of the code, displays on the LCD.

You can scroll through the codes by using the PREVIOUS button (23) or the NEXT button (22).

To change a Flexible Code:

1. Select the desired code.
2. Press Button 1. The red LED illuminates.
3. Delete the flexible number by pressing button 2 and then pressing HOLD. The flexible number field will be blank
4. Enter the new code (2-4 digits).
5. Press HOLD.

Station/Pilot numbers can only contain 0-9.
*Feature codes can contain 0-9, *, #.*

To erase a Flexible Code:

1. Select the desired code.
2. Press Button 1 (must be lit).
3. Press Button 2.
4. Press HOLD.

Conditions

» Feature access codes cannot conflict with station numbering.

» CO line numbers are fixed and cannot be changed other than the current FLASH 42 reassignment.

» If no VM ID digits are programmed in the station field, the flexible number assigned to the station will be sent to the VM unit.

» Flash 06, Button #15 is the programming area to automatically assign the VMID digits to be the same as the flexible station numbering.

» The SMDR will output 4-digit numbers in the station field. If less than 4 digits is selected in the numbering plan, leading spaces will be added in place of the numbers. The 3-4 digit SMDR programming area will be removed from programming.

» The Discovery ACD event trace source and destination fields will be 4 digits. Station numbers less than 4 digits will be prefixed with leading zeros.

» The programming will print out as part of the CO-STA port programming area. The flexible numbering can be initialized in the CO-STA initialization area.

Station Port Inquiry

Description

When using flexible numbering, some programming steps require the fixed code. This feature allows you to dial a feature code to reveal the fixed port for your station.

Operation

Dial feature code [611]. The fixed Station/Port Number for your station displays.

```
STATION PORT:
XXX
```

Group Listening

Description

All digital key stations have a built-in speakerphone. Station users may use the speaker to monitor a call while using the handset to converse with the outside party. This enables other people in the room to listen to both parties in the conversation.

This feature is not available when the station is in headset mode.

Programming Steps

1. Press the GROUP LISTENING flexible button **(FLASH 05, Button #9)**.
2. Enter a 0 or 1 that corresponds with the following entries:

   [0] = Disabled

   [1] = Enabled

```
GROUP LISTENING          0-1
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Group Listening is disabled.

Operation

To activate Group Listening while conversing on the handset:

Press the ON/OFF button. Both parties can then be heard on the digital station's speaker. The speakerphone microphone is muted while the handset is off-hook.

To deactivate Group Listening while off-hook:

Press the ON/OFF button.

Conditions

» While using the speakerphone, lifting the handset turns off the speakerphone. To activate group listening, press the ON/OFF button (to ON) while the handset is off-hook.

» While in group listening mode, pressing the MUTE button causes the transmit from the handset to be muted (the speakerphone microphone is already muted). However, the distant end is still heard over the handset receiver and the station speaker.

» If full speakerphone operation is desired while in group listening mode, simply set the handset on-hook.

» Group listening is unavailable when the station is in headset mode.

» When placing the handset on-hook to full speakerphone operation, it is normal to hear a squeal caused by audio feedback. To eliminate this noise, press MUTE prior to initiating speakerphone operation.

» Must be enabled in System Features Programming.

Headset Mode

Description

Each digital telephone can be individually programmed for headset operation. When programmed, an industry-standard, electret-mic-compatible, modular headset with its adapter box may be connected to a digital telephone for headset use. This allows handset or headset operation by switching the selector switch on the adapter box. Speakerphone operation and call announce on intercom are disabled while a station has enabled headset mode.

Once programmed in station programming, the user may then select between headset mode or normal handset/speakerphone mode by simply dialing a code or pressing a user programmable flexible button.

Related Information

Quick Reference			
➡ Flash 50	Page B	Button #4	The Headset function MUST be enabled (Refer to *"Speakerphone Options" on page 2-254*

Operation

The user connects the modular headset to the handset jack on the telephone leaving the handset in place. The ON/OFF button on the Digital Telephone is used to initiate and end calls while using the headset.

To activate Headset Mode:

Dial [634] on the dial pad,

-or-

Press preprogrammed HEADSET MODE button. LED lights steady.

While Headset mode is active, the ON/OFF button activates the headset and disables speakerphone and intercom call announce operation at your station. To install the headset, see the Installation Manual.

To deactivate Headset Mode:

Dial [634] on the dial pad,

-or-

Press the preprogrammed HEADSET MODE button. LED extinguishes.

Station must be programmed in database programming for headset operation before the flexible button can be programmed.

☎ SINGLE LINE TELEPHONE

Not applicable

Hold - Exclusive

Description

When a line is placed on Exclusive Hold, no other station in the system can retrieve the call.

Operation

Exclusive Hold may be programmed and activated on the first or second depression of the HOLD button. CO Lines, while in a transfer hold, are always placed in an Exclusive Hold condition.

☎ SINGLE LINE TELEPHONE

While connected to an outside line, to place a call on Exclusive Hold:

Briefly depress and release the hookswitch. Handset must stay off-hook.

To retrieve the call:

Briefly depress and release the hookswitch again.

Exclusive Hold Flash Rate

Description

The Exclusive Hold flash rate is the rate at which a CO Line button or Loop button flashes when a call is placed on Exclusive Hold. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the EXCLUSIVE HOLD flexible button **(FLASH 07, Button #12)**. The following message displays:

```
EXCLUSIVE HOLD              00-28
GREEN 120 IPM FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Exclusive Hold flash rate is set for a Green 120 ipm Flash (24).

Exclusive Hold Recall Timer

Description

The System Hold Recall Timer determines the time before a call placed on Exclusive Hold recalls the station placing the Hold. If unanswered by that station, the call recalls the attendant.

The Exclusive Hold Recall Timer setting is variable from 000-300 seconds. An entry of 000 disables the timer and there is no recall.

Programming Steps

1. Press the EXCLUSIVE HOLD RECALL TIMER flexible button **(FLASH 01, Button #2)**. The following message displays:

```
EXC HOLD RECALL             000-300
180
```

2. Enter a valid number on the dial pad that corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Exclusive Hold Recall Timer is set for 180 seconds.

Hold - Preference

Description

The Hold Preference feature allows either System or Exclusive hold as the primary hold on the first depression of the HOLD button, depending upon programming. A second depression invokes the second hold preference.

Programming Steps

1. Press the HOLD PREF flexible button **(FLASH 05, Button #2)**.
2. Enter a valid number (0 or 1) that corresponds with the following entries:

   [0] = Exclusive Hold

   [1] = System Hold

```
HOLD PREFERENCE              0-1
SYSTEM
```

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Hold Preference is System Hold.

Hold - System

When a line is placed on System Hold, any station in the system with an appearance of that line can retrieve the call.

System Hold Flash Rate

Description

The System Hold flash rate is the rate at which a CO Line button or Loop button flashes when a call is placed on System Hold. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the SYSTEM HOLD flexible button **(FLASH 07, Button #13)**. The following displays:

```
SYSTEM HOLD                  00-28
RED 60 IPM DBL WINK
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … System Hold flash rate is set for a Red 60 ipm Double Wink (04).

System Hold Recall Timer

Description

The System Hold Recall Timer determines the time before a call placed on System Hold recalls the station placing the hold. If unanswered by that station, the call recalls the attendant.

The System Hold Recall Timer setting is variable from 000-300 seconds. An entry of 000 disables the timer and there is no recall.

Programming Steps

1. Press the SYSTEM HOLD RECALL TIMER flexible button **(FLASH 01, Button #1)**. The following message displays:

```
SYSTEM HOLD RECALL      000-300
060
```

2. Enter a valid number on the dial pad that corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … System Hold Recall Timer is set for 60 seconds.

Hot Keypad

Description

The Hot Keypad feature enables a station user to activate the telephone by dialing digits or pressing telephone buttons without going off hook.

Hot Line / Ring Down

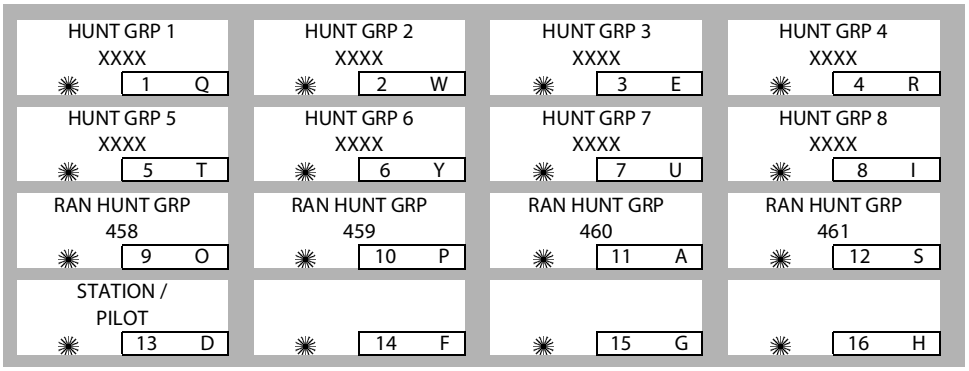
Description

Stations may be programmed to immediately call or ring down a particular station or outside number upon going off hook. This is done by programming the stations Off-Hook preference to activate a DSS or Speed dial feature key (refer to *"Ring Down/Hot Line/Off-Hook Preference" on page 2-247*. This feature can be overridden if the station user selects a CO line first when going off-hook.

Hunt Groups

Description

The system can be programmed for up to 12 Hunt Groups. Each Hunt Group can contain up to 8 stations each. Each Hunt Group can be independently arranged to use a pilot hunting or station hunting technique. If a station is in DND or is forwarded in any manner, it is considered busy.



Programming Steps

1. Press **FLASH** and dial **[30]**. The following message displays:

```
HXXXX       ####,  ####,  ####
####,  ####,  ####,  ####,  ####,
```

   The top left button in the flexible button field is lit for programming Hunt Group 1 (XXXX = flexible hunt group number).

2. To change Hunt Groups or enter a different Hunt Group, press the appropriate flexible button 1-8. Hunt Groups 458-461 are only used for RAN applications in UCD/ACD (refer to *Chapter 4, Call Distribution - ACD/UCD*).
3. Enter a valid 3- or 4-digit flexible station number, or flexible station numbers up to eight stations per group, followed by a “1” to add or a “0” to delete. Hunt groups are joined or chained together by entering another Hunt Group Pilot Number as the last entry of the group.
4. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Station / Pilot / Pilot All Ring -- Hunting Assignments

Description

Pilot Hunting -- Incoming CO, transferred CO, and intercom calls can be directed to a pilot number of a hunt group. The system searches sequentially (in the order the extensions were entered in the database programming) for an idle station in the group and rings that station. Calls directly to stations (by calling the extension number) within the hunt group do not hunt but receive call progress tones from the extension.

Pilot All Ring Hunting -- rings all idle stations in a particular Hunt group at one time.

"All Ring" *hunt groups cannot be chained together.*

Station (Circular) Hunting -- Transferred CO, and intercom calls that are presented to a busy, or DND station, that are members of a Station Hunt Group, search sequentially (in the order the extensions were entered in database programming) for an idle station in the group and rings that station. Direct ringing CO Line calls to the station number ring at the station. If station hunting is desired on a direct ringing call, program the station hunting pilot number in the CO Line ring assignment list. This lets the member of the hunt group to receive private/hunt group calls.

Programming Steps

1. Press **FLASH** and dial **[30]**.
2. Press the flexible button (1-8) representing the group to be assigned a new hunting assignment.
3. Press the STATION/PILOT flexible button **(FLASH 30, Button #13)** to indicate Pilot, Pilot All Ring Hunting, or Station Hunting.

HXXXX	0-2
PILOT RING ONE	

4. Dial a valid number (0-2):

   [0] = Pilot (Default; shown on LCD as PILOT RING ONE)

   [1] = Pilot All Ring Hunting (shown on LCD as PILOT RING ALL)

   [2] = Station Hunting (shown on LCD as CIRCULAR HUNT)

Fixed Hunt Group numbers 458-461 are ONLY for RAN applications.

Initialize Hunt Group Parameters

Description

Hunt Group Parameters may be initialized setting all data fields to their original, default value.

Table 2-16: Hunt Group Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 30	HUNT GROUPS		
	1-12	Hunt Group Programming	None
	13	Station/Pilot Hunting Assignment	Pilot

Programming Steps

1. Press the HUNT GROUPS flexible button (**FLASH 80, Button #10**). The following message displays:

```
INITIALIZE HUNT GROUP
PRESS HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print Hunt Group Parameters

Description

The Print Hunt Group command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

```
HUNT GROUPS                          RAN HUNT GROUPS
-----------                          ---------------
HG 0..450  PILOT RING ONE            HG 8..458  PILOT RING ONE
HG 1..451  PILOT RING ONE            HG 9..459  PILOT RING ONE
HG 2..452  PILOT RING ONE            HG10..460  PILOT RING ONE
HG 3..453  PILOT RING ONE            HG11..461  PILOT RING ONE
HG 4..454  PILOT RING ONE
HG 5..455  PILOT RING ONE
HG 6..456  PILOT RING ONE
HG 7..457  PILOT RING ONE
```

Figure 2-12: Hunt Group Parameters Printout

Programming Steps

1. Press the HUNT GROUPS flexible button **(FLASH 85, Button #11)**. The following message displays:

```
PRINT HUNT GROUP
PRESS HOLD
```

2. To print data for Hunt Group Parameters, press the HOLD button. The following message displays:

```
PRINTING HUNT GROUP
```

When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Idle Speaker Mode

Description

The Idle Speaker Mode feature allows you to select whether the first digit dialed is audible over the digital telephone speaker. This feature is allowed or denied on a system-wide basis in programming.

When this feature is enabled, there can be some idle speaker noise.

Programming Steps

1. Press the IDLE SPEAKER MODE flexible button **(FLASH 05, Button #10)**.
2. Enter a 0 or 1 that corresponds with the following entries:
   [0] = First digit dialed is audible (Disabled)
   [1] = First digit dialed is Muted (Enabled)

```
IDLE SPEAKER MODE          0-1
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Idle Speaker Mode is disabled.

Incoming Calling Line Identification

For information about Incoming Calling Line Identification (ICLID), refer to *Appendix A, "ICLID / Caller ID."*

Intercom

Description

The Intercom Button feature provides station users the function of ringing a busy station via the intercom without using the Camp On or Executive Override features. This also allows stations to place intercom calls on hold. If calls are ringing on intercom buttons and a Handsfree call is received, the Handsfree call is allowed and the calls ringing continue with muted ringing. Multiple intercom path buttons can be assigned to a single station, however up to five internal parties can be placed on hold per station. Music-On-Hold is provided to intercom callers on hold.

This feature can be programmed on any key station or DSS Console with an available flexible button. If there is an available intercom button, a station calling that station cannot OHVO, Camp On, or Override that station. Depending on the key station programming, intercom ringing is muted or reminder ringing.

If all intercom buttons are in use, then the station may utilize the Camp On or Executive Override features. By default, no intercom buttons are assigned to any key stations.

Operation

To program a Flexible Button as an Intercom Button:

1. Press the SPEED button twice.
2. Press the desired flexible button to program.
3. Dial [645] on the dial pad. A confirmation tone sounds. If an error was made during entry, error tone sounds.

When an intercom call rings a busy station (with intercom button):

1. The calling station receives ringback tone instead of busy tone. The called station hears muted or reminder ring and their intercom button LED starts flashing at the incoming CO line rate. This indicates an incoming intercom call.
2. The called station can place the current CO call on hold by pressing the HOLD button,

   -or-

   Place the current intercom call on hold by pressing the HOLD button. The intercom call is placed on hold on the available intercom button.
3. The called station then presses the flashing intercom button to answer the incoming intercom call. Once the call is answered, the following message displays on the called station LCD:

   ```
   CALL FROM STA XXX
   MMM DD YY                HH:MM am
   ```

   Sta XXX can be a programmed station name.

☎ SINGLE LINE TELEPHONE

Not applicable

Conditions

» If calls are ringing on intercom buttons and a Handsfree call is received, the Handsfree call is allowed and the calls ringing continue with muted ringing.

» Multiple intercom path buttons can be assigned to a single station, however up to five internal parties can be placed on hold per station. Music-On-Hold is provided to the intercom caller on hold.

» Once an intercom button is set up on the keyset, callers dialing that station always receive ringback tone as long as an available intercom button is idle. If all intercom buttons are in use, the station may use the Camp On or Executive Override features to reach the station. Internal callers are dropped after the Camp On is answered.

» This feature can be programmed on any key station or DSS Console with an available flexible button. If there is an available intercom button, the following actions cannot be performed: Executive Override, ACD Supervisor Barge-In, OHVO, Camp On or Override.

» A call ringing to a station on an intercom button rings muted or reminder ringing, depending on the stations tone ringing cadence.

» Up to five internal parties can be placed on hold. No recall timers apply to Intercom buttons. Internal callers can be placed and removed from hold when they appear on an Intercom button.

» To utilize the capability of intercom buttons, busy forward cannot be active at the station.

» A call ringing to a station on an intercom button and the DND button is pressed, returns DND tone to the caller and the call is dropped.

Intercom Calling

Description

The system's architecture allows non-blocking of intercom calls. A station is reached on intercom by dialing the associated station number.

Operation

To place an Intercom Call:

1. Press the DSS button of the party to be called (if programmed at your phone),

   -or-

   Dial the extension number.

   Dialing a number in the numbering plan activates the telephone automatically.

   (You hear ringing if the called station is in the T answering mode; or three bursts of tone if called station is in the H or P position.)
2. Lift handset or use the speakerphone after the tone bursts stop.
3. Hang up to end the call.

To answer an Intercom Call:

In the T mode, you hear repeated bursts of intercom tone ringing and the HOLD button slow flashes.

Lift the handset or press the ON/OFF button to answer,

-or-

Press the H-T-P button to the H mode to reply.

In the P mode, you hear three bursts of tone and one-way announcement. The calling party cannot hear conversations in progress.

Lift the handset or press the ON/OFF button to answer,

-or-

Press the H-T-P button to the H mode to reply.

In the H mode, you hear three bursts of tone and an announcement.

Reply handsfree or lift the handset for privacy.

☎ SINGLE LINE TELEPHONE

To place an intercom call:

1. Lift the handset.
2. Dial the intercom number.
   You will hear ringing if the called station is in the "T" answering mode or two bursts of tone if the called station is in the "H" or "P" positions.
3. Hang up to end the call.

To answer an intercom call:

Lift the handset,

-or-

If your SLT is equipped with a speakerphone, press the Speaker button to converse in a handsfree mode.

Incoming Intercom Ringing Flash Rate

Description

The Incoming Intercom Ringing flash rate is the rate an Incoming DSS button flashes if you have a DSS appearance for the calling station. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the INC ICM RING flexible button **(FLASH 07, Button #2)**. The following message displays:

```
INC ICM RING                 00-28
RED 120 IPM FLUTTER
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. Refer to *Table 2-14 on page 2-148*.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Incoming Intercom Ringing flash rate is set for Red 120 ipm Flutter (11).

Intercom Hold Button Flash Rate

Description

The Intercom Hold Button flash rate is the rate at which your Hold button flashes when you receive an intercom call and your station's intercom mode selector switch is in the *T* position. This flash rate can be programmed to 29 different options identified in the Flash Rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the ICM HOLD BTN flexible button **(FLASH 07, Button #19)**.

```
ICM HOLD BTN              00-28
RED 15 IPM FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Intercom Hold Button flash rate is set for a Red 15 ipm Flash (09).

Intercom Signaling Select

Description

Users can control the method by which they receive intercom calls and signals. A convenient intercom signal switch (electronic telephones) or HPT button (digital telephones) is located on each telephone for easy selection. The choices are:

- Handsfree (H) -- The station user, upon hearing a tone burst and voice announcement over the speaker, can reply handsfree.
- Privacy (P) -- The station user receives a burst of tone and a voice announcement over their speaker. The microphone is deactivated for privacy. The called party must lift the handset or press the MUTE button to answer the call.
- Tone Ringing (T) -- A standard tone ring notifies the party of an incoming intercom call. The called party answers by lifting the handset or moving the switch to the handsfree (H) position or pressing the ON/OFF button.

Conditions

» Use feature code 667 to select an H, P, or T mode for 8-button digital telephones. Each use of this feature code acts as a rotary through the three options.

Intercom Transfer

To use Intercom Transfer without DSS Buttons:

1. Receive or make an intercom call.
2. Press the TRANS button. Intercom dial tone sounds.
3. Dial the station.
4. When the second station answers, you are in a supervised transfer mode (first station is staged for transfer).
5. Hang up (stations 1 and 2 are connected).

To use Intercom Transfer with DSS Buttons:

1. Receive or make an intercom call using a DSS button.
2. Press the TRANS button. Intercom dial tone sounds.
3. Press the DSS button where to transfer the call.
4. Hang up (stations 1 and 2 are connected).

Inter-Digit Time-Out

The Inter-Digit Time-Out feature allows programming of the inter-digit time-out on a system-wide basis. This feature applies to intercom and LCR calls. DISA inter-digit time-out remains unaffected by this timer. The Inter-Digit Time-out setting is variable from 1-99 seconds.

Programming Steps

1. Press the INTER-DIGIT TIMEOUT flexible button **(FLASH 01, Button #20)**. The following message displays:

```
INTERDIGIT T/O              01-99
05
```

2. Enter a valid number on the dial pad that corresponds to 01-99 seconds in 1-second increments.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Inter-Digit Time-out is set for 5 seconds.

ISDN

Description

Current *XTS* software supports Primary Rate Interface (PRI) and Basic Rate Interface (BRI) Integrated Services Digital Network (ISDN) circuits. The PRI provides 23 bearer channels and one data channel (23B+D). The BRI provides two bearer channels and one data channel (2B+D).

Calling Number and Called Number services are supported with the PRI and BRI. Calling Number services will be routed in the same manner as ANI/ICLID calls using the ICLID route table and name/number translation table.

The rules and conditions of ANI/ICLID are the same, and still apply to Calling Number service on ISDN lines. Called Number services will be routed using the DID/DNIS route table. The rules and conditions of DID and DNIS are the same, and still apply to ISDN Called Number service on ISDN lines.

Channels

- The bearer channels (B channels) transport voice information to and from the Central Office.
- The data channel (D channel) controls all signaling information for the bearer channels.

PRIB/BRIB

- The PRIB only supports the NI-2 standard. The BRIB only supports the NI-1 standard.
- Neither the PRIB nor the BRIB will support the trunk features of paging, reseize, queuing, or RAN support.
- Vodavi has successfully integrated its BRI ISDN with the Lucent 5 ESS and DMS 100 Central Office and its PRI ISDN with the Lucent 5 ESS, Siemens, Stromburg Carlson, and the DMS 100 Central Offices. Vodavi ISDN should interface with all Central Office switches, but this has not been verified. Therefore some delays in service may be experienced.

Extended Key Telephone Service

Description

Extended key telephone service (EKTS) is a feature that can be provided on BRI ISDN to simulate standard analog DID lines. This allows several different numbers to be shared by a single BRI circuit.

Due to the decline in telephony tariffs, there is an increasing demand for BRI ISDN features. A BRI circuit allows two simultaneous calls to be handled, due to its technical specification. BRI circuits have two B-channels at 64 kilobytes per second and one D-Channel at 16 kilobytes per second.

The Bearer (B) Channels are designed for PCM (voice) and the Data (D) Channel is designed to carry information specific to each incoming and/or outgoing call.

The EKTS feature allows a single ISDN Service Profile Identifier (SPID) or B-channel to support multiple directory numbers. A SPID is a number that telephone company switching equipment uses to track configuration information for each terminal adapter connected to an ISDN telephone line. The telephone company should provide SPIDs at the same time that the ISDN directory numbers are assigned. A directory number is another term for a telephone number.

If an application requires EKTS, be aware that BRI ISDN handles a busy number differently than a DID circuit. When the called number is busy, BRI will issue a busy signal, but a DID circuit will ring another line in the circuit. The busy signal is provided by the telephone company, therefore the call is not presented to the Vodavi telephone switch and it is not forwarded to voice mail. For example, a caller dials 480-443-6000 and is connected to the extension. While the first caller is still connected, a second caller dials the same number. The second caller will receive a busy signal that is provided by the telephone company.

In a normal BRI application, two numbers are assigned to each BRI circuit, which consists of 2 channels. There can be a maximum of 4 circuits equipped to handle 8 channels per BRIB. This is a direct number-to-channel relationship without hunting capability. Most circuit providers offer an optional "hunting" feature capability on BRI circuits. This optional feature allows numbers to hunt for idle channels on the BRIB up to a maximum of 8 channels per BRIB, assuming four BRI circuits were installed.

In EKTS applications, you can have a maximum of 64 DID numbers hunt to one BRIB. Hunting cannot be accomplished between BRIBs, nor will the hunting feature allow calls to be routed to a busy DID number.

Programming Steps

1. Press **FLASH 40, Page A, Button #16** to enable or disable extended key telephone service. The following message displays:

```
EKTS                          0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.
4. Reset the KSU,

   -or-

   Reset only the card using "config" without resetting the whole telephone switch. To do this, type *config* at the *Enter Password* prompt. Then type *r<space>k* (*k* = slot number). For example, *r<space>2* indicates that the BRI card is in slot 2.

Shared numbers are routed using the standard DID tables (Flash 43 and 44). Numbers that are not shared will only ring on the designated channel. If the designated channel is busy, the caller will receive a busy signal.

DEFAULT … EKTS is disabled.

Conditions

- To support EKTS, telephone switch software must be 3.0G or higher and BRIB firmware must be 0.1G or higher.
- When ordering EKTS, request basic EKTS, not cache EKTS. Vodavi supports Basic EKTS. The EKTS caching option is not supported by Vodavi. Caching is normally used when an ISDN telephone instrument is used on the customer premise.
- Order only one SPID and one primary directory number per channel.
- Secondary directory numbers (e.g., DID numbers) are shared across each channel to a maximum of 32 channels.
- Sharing can only be done between circuits on one card.
- Like DID, EKTS can be programmed to route calls using up to 7 digits. By default, only the last three digits are analyzed for routing.

Directory Number - BRI

Description

The Directory Number feature is used for BRI programming on a per-channel basis. Initializing terminals are required to store a 7-digit Directory Number in order to perform the compatibility checking procedures that are part of call termination. In addition, this Directory Number is desirable in call originations in order to remain in synchronization with the Stored Program Control Switching System (SPCS).

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible Button #19 (Page A) is lit.
4. Press the Page B flexible button (Button #20). The following message displays:

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

5. Press the DIRECTORY NUMBER flexible button **(FLASH 40, Page B, Button #10)**. The following message displays:

```
DIRECTORY NUMBER
```

6. Enter the directory number (Up to 24 digits (0-9, *, #)

The Directory number is provided by the Central Office. The number must be entered on the correct line for proper operation.

7. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

SPID

Description

When you order an ISDN line, your phone company will give you a Service Provider Identifier (SPID) for every phone number that you have. Each ISDN BRI line typically has two phone numbers and thus two SPIDs. The SPID is an eight to 24-digit number that identifies the services that you ordered.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible Button #19 (Page A) is lit.
4. Press the Page B flexible button (Button #20). The following message displays:

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

5. Press the SPID flexible button **(FLASH 40, Page B, Button #11)**. The following message displays:

```
SPID NUMBER
```

6. Enter the SPID number (Up to 24 digits (0-9, *, #).

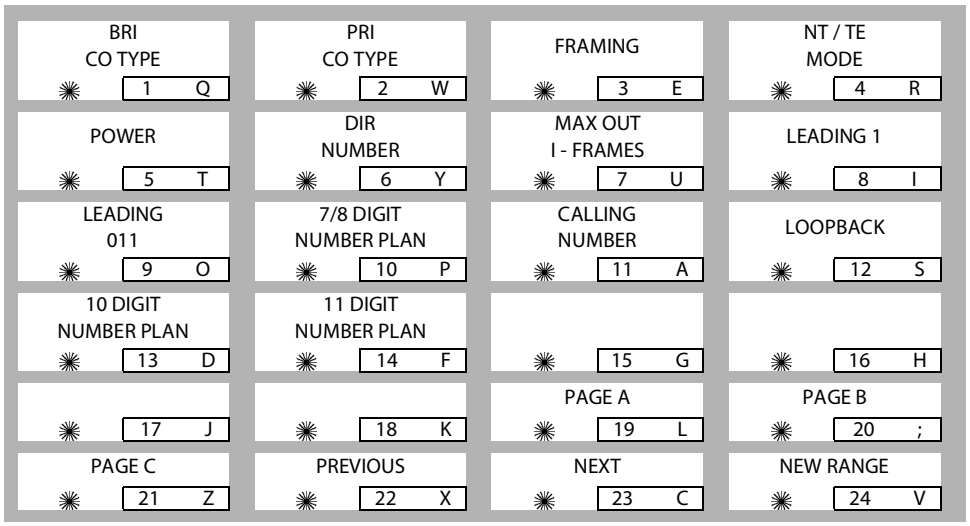
The SPID number is provided by the Central Office. The number must be entered on the correct CO line for proper operation.

7. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

ISDN Programming - Page A

Description

This section describes the procedures and steps necessary to program ISDN attributes. When entering the ISDN attributes portion of the database, the programmer may decide to enter information for a range of slots or one specific slot. Range programming lets the programmer change a specific parameter or a few parameters for an entire range of slots, leaving intact the remaining data fields that do not require change. Those data fields continue to operate with the previously programmed data. By default, Page A is shown.



Programming Steps

1. Press **FLASH** and dial **[45]**. The following message displays:

```
ISDN ATTRIBUTES
SELECT A SLOT RANGE
```

2. Enter a valid number for the range of slots being programmed. If only one slot is being programmed, enter that number twice (02 02 = Slot 2, Cabinet 0).
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that slot or group of slots:

```
XY - XY PAGE A
ENTER BUTTON NUMBER
```

XY-XY = Slot Range
X = Cabinet (0, 1, 2)
Y = Slot (0-8)
NOTE -- Slot 8, Cabinet 0 is reserved for the MISB

Basic Rate Interface (BRI) CO Type

Description

Changes to BRI CO Type area are not possible at this time (setting = NI1).

Programming Steps

1. Press **FLASH** and dial **[45]**. The following message displays:

```
ISDN ATTRIBUTES
SELECT A SLOT RANGE
```

2. Enter a valid number for the range of slots being programmed. If only one slot is being programmed, enter that number twice (02 02 = Slot 2, Cabinet 0).
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that slot or group of slots:

```
XY - XY PAGE A
ENTER BUTTON NUMBER
```

XY-XY = Slot Range
X = Cabinet (0, 1, 2)
Y = Slot (0-8)
NOTE -- Slot 8, Cabinet 0 is reserved for the MISB

4. Press BRI CO TYPE flexible button **(FLASH 45, Page A, Button #1)**.

```
BRI CO TYPE                    0-0
NI1
```

Primary Rate Interface (PRI) CO Type

Description

Changes to PRI CO Type area are not possible at this time (setting = NI2).

Programming Steps

1. Press PRI CO TYPE flexible button **(FLASH 45, Page A, Button #2)**.
2. To view a CO type setting, enter a valid number (1-4).

```
PRI CO TYPE                    1-4
NI2
```

1 = NI2
2 = PPNI2 (point-to-point NI2)
3 = Future feature (5 ESS Custom)
4 = Future feature (Nortel)

DEFAULT … NI2 is the PRI CO type.

Framing

Description

Framing options include T1, ESF, and D4.

Programming Steps

1. Press the FRAMING flexible button **(FLASH 45, Page A, Button #3)**.
2. To view a Framing setting, enter a valid number (0-2).

```
FRAMING                        0-2
ESF
```

0 = T1
1 = ESF
2 = D4

DEFAULT … ESF is the framing setting.

NT / TE Mode

Description

The mode can be set for either network termination (NT) or terminal equipment (TE). Use the NT setting only when using the PRI as the Hub of a multi-system network. Refer to *Appendix C* for additional information about network programming.

Programming Steps

1. Press the NT/TE MODE flexible button **(FLASH 45, Page A, Button #4)**.
2. To view an NT/TE setting, enter a valid number (0-1).

```
NT / TE  MODE                    0-1
TE
```

0 = NT

1 = TE

DEFAULT … TE is the mode setting.

Power

Do not change the Power setting unless advised to do so by Technical Support.

Programming Steps

1. Press the POWER flexible button **(FLASH 45, Page A, Button #5)**.

```
POWER                            0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT - Power is disabled.

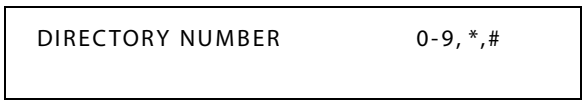
Directory Number - PRI

Description

The Directory Number is the main number of the PRI lines and it will be viewed by the called party on their caller ID display.

Programming Steps

1. Press the DIRECTORY NUMBER flexible button **(FLASH 45, Page A, Button #6)**.



2. Enter a valid number (0-9,*,#) on the dial pad (up to 24 digits). This number is sent as the calling party number on all channels of the selected PRIB.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

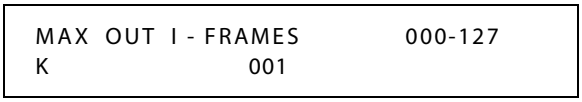
Max Out I-Frames

Description

The Max Out I-Frames feature controls the maximum number of sequentially numbered I-Frames that may be outstanding/unacknowledged at any given time. This is a system parameter which shall not exceed 127. Do not change the Max Out I-Frames setting unless advised to do so by Technical Support.

Programming Steps

1. Press the MAX OUT I-FRAMES flexible button **(FLASH 45, Page A, Button #7)**.



2. Enter a valid number (000-127) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Leading 1

Description

0 disables the leading 1 from being sent to the CO when users dial national long distance numbers. 1 enables the leading 1 to be sent to the CO on national long distance numbers. If enabled, and the user does not dial a 1, the 1 will automatically be applied.

Programming Steps

1. Press the LEADING 1 flexible button **(FLASH 45, Page A, Button #8)**.

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Leading 1 is enabled.

Leading 011

Description

0 disables the leading 011 from being sent to the CO when users dial international numbers. 1 enables the leading 011 to be sent to the CO on international numbers. If enabled, and the user does not dial a 011, the 011 will automatically be applied.

Programming Steps

1. Press the LEADING 011 flexible button **(FLASH 45, Page A, Button #9)**.

```
LEADING 011                    0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Leading 011 is enabled.

BRI 7/8 Digit or PRI 7/11 Digit Number Plan

Description

The BRI 7/8 Digit Number Plan is the specific plan that a particular Central Office uses for 7-digit and 8-digit BRI calls. The PRI 7/11 Digit Number Plan is the specific plan that a particular Central Office uses for 7- to 11-digit PRI calls.

Programming Steps

1. Press the BRI 7/8 - PRI 7/11 DIG flexible button **(FLASH 45, Page A, Button #10)**.

```
BRI 7/8 - PRI 7/11 DIG         0-1
ITU
```

2. Enter a 0 or 1 on the dial pad to select the desired Number Plan.
   [0] = Selects ITU number plan
   [1] = Selects CO number plan
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … ITU (ISDN plan)

When connecting a PRI to a Nortel DMS 100, enter a 1 for the number plan.

Nortel DMS 100 Only

1. Change Flash 45, button 10 (Numbering Plan) to CO by dialing 1 HOLD.
2. Set the definition in the DMS 100 Central Office Switch.
   - The DMS 100 Office refers to this switch as National or N12 Standard so they know not to look at this parameter in their switch.
   - LTDEF should be set to NI PRI N12 V1.

Calling Number

Description

0 disables the calling party number from being sent to the CO. 1 will enable the calling party number feature and the number will be sent to the CO.

Programming Steps

1. Press the CALLING NUMBER flexible button **(FLASH 45, Page A, Button #11)**.

CALLING NUMBER ENABLED	0-1

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Calling Number is enabled.

Loopback

Description

Do not change the Loopback setting unless advised to do so by Technical Support.

Programming Steps

1. Press the LOOPBACK flexible button **(FLASH 45, Page A, Button #12)**.

LOOPBACK NORMAL	0-2

2. Enter a valid number (0-2) on the dial pad.
   [0] = Normal mode
   [1] = Near end mode
   [2] = Far end mode
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Loopback setting is normal.

BRI 10-Digit Number Plan

Description

The BRI 10-Digit Number Plan is the specific plan that a particular Central Office uses for 10-digit BRI calls.

Programming Steps

1. Press the BRI 10 DIGIT No PLAN flexible button **(FLASH 45, Page A, Button #13)**.

2. Enter a 0, 1, or 2 on the dial pad to select the desired Number Plan.
   [0] = Selects ITU number plan
   [1] = Selects CO number plan
   [2] = Unknown
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … BRI 10-Digit Number Plan setting is ITU.

BRI 11-Digit Number Plan

Description

The 11-Digit Number Plan is the specific plan that a particular Central Office uses for 11-digit BRI calls.

Programming Steps

1. Press the BRI 11 DIGIT No PLAN flexible button **(FLASH 45, Page A, Button #14)**.

2. Enter a 0, 1, or 2 on the dial pad to select the desired Number Plan.
   [0] = Selects ITU number plan
   [1] = Selects CO number plan
   [2] = Unknown
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … BRI 11-Digit Number Plan setting is ITU.

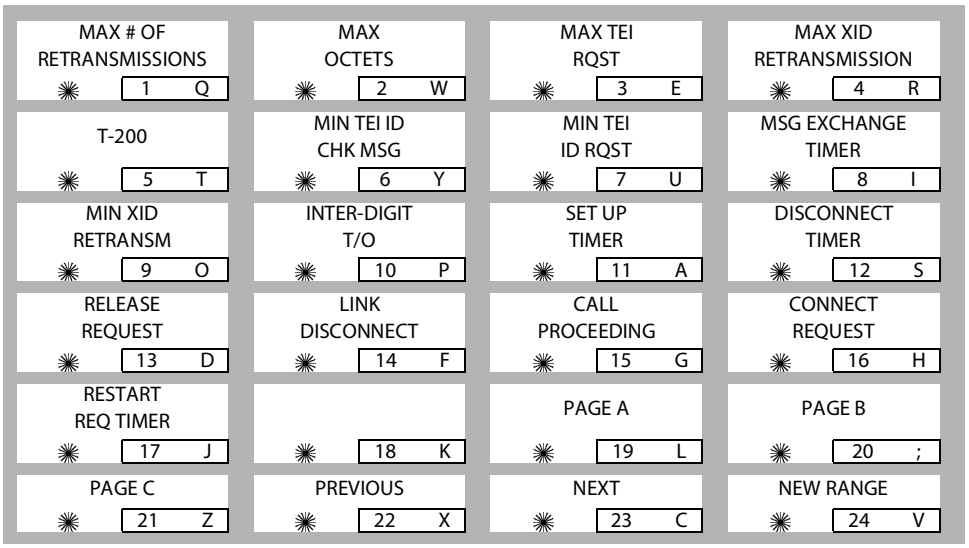
ISDN Programming - Page B

Description

When entering the ISDN attributes portion of the database, the programmer may decide to enter information for a range of slots or one specific slot. Range programming lets the programmer change a specific parameter or a few parameters for an entire range of slots, leaving intact the remaining data fields that do not require change. Those data fields continue to operate with the previously programmed data.

IMPORTANT --

*These timers **should not be adjusted** UNLESS working with Technical Support or your telephone company.*



Programming Steps

1. Press **FLASH** and dial **[45]**. The following message displays:

```
ISDN ATTRIBUTES
SELECT A SLOT RANGE
```

2. Enter a valid number for the range of slots being programmed. If only one slot is being programmed, enter that number twice (02 02 = Slot 2, Cabinet 0).
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit.

4. Press button #20 to select Page B. The following message displays to indicate current programming of that slot or group of slots:

```
XY - XY PAGE B
ENTER BUTTON NUMBER
```

XY-XY = Slot Range
X = Cabinet (0, 1, 2)
Y = Slot (0-8)
NOTE -- Slot 8, Cabinet 0 is reserved for the MISB

Maximum Number Retransmission

Description

The Maximum Number of Retransmissions of a frame (N200) is a system parameter. Do not change the Maximum Number Retransmission setting unless advised to do so by Technical Support.

Programming Steps

1. Press the MAX # RETRANSMSN flexible button **(FLASH 45, Page B, Button #1)**.

```
MAX # RETRANSMSN          0-9
N200            3
```

2. Enter a valid number (0-9) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Maximum Number Retransmission is 3.

Maximum Octets

Description

The maximum number of octets in an I-Frame/information field (N201) is a system parameter. Do not change the Maximum Octets setting unless advised to do so by Technical Support.

Programming Steps

1. Press the MAX OCTETS flexible button **(FLASH 45, Page B, Button #2)**.

```
MAX OCTETS                000-999
N201          260
```

2. Enter a valid number (000-999) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates. (000 = Disable)

DEFAULT … Maximum Octet setting is 260.

Maximum TEI Request

Description

This feature is reserved for future use.

Programming Steps

1. Press the MAX TEI RQST flexible button **(FLASH 45, Page B, Button #3)**.

```
MAX TEI RQST              000-999
N202          003
```

2. Enter a valid number (000-999) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Maximum TEI Request setting is 003.

Maximum XID Retransmission

Description

Do not change the Maximum number of XID Retransmissions setting unless advised to do so by Technical Support.

Programming Steps

1. Press the MAX XID RETRANSMISSION flexible button **(FLASH 45, Page B, Button #4)**.

```
MAX XID RETRANSMSN          0-9
N204              3
```

2. Enter a valid number (0-9 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Maximum XID Retransmission setting is 3 seconds.

T-200

Description

The T-200 timer is used to set the time to wait for an I-Frame acknowledgement. Do not change the T-200 timer setting unless advised to do so by Technical Support.

Programming Steps

1. Press the T-200 flexible button **(FLASH 45, Page B, Button #5)**.

```
T200                          00-99
01
```

2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … T200 setting is 1 second.

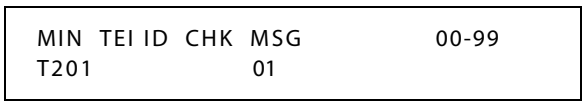
Minimum TEI ID Check Message

Description

The Minimum TEI ID Check Message feature sets the minimum time between retransmission of the TEI identity check messages. Do not change the Minimum TEI ID Check Message setting unless advised to do so by Technical Support.

Programming Steps

1. Press the MIN TEI ID CHK MSG flexible button **(FLASH 45, Page B, Button #6)**.



2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Minimum TEI ID Check Message setting is 1 second.

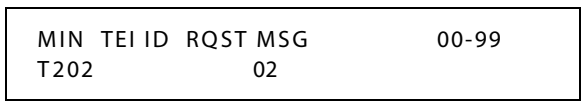
Minimum TEI ID Request

Description

This feature is reserved for future use.

Programming Steps

1. Press the MIN TEI ID RQST flexible button **(FLASH 45, Page B, Button #7)**.



2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Minimum TEI ID Request setting is 2 seconds.

Message Exchange Timer

Description

The Message Exchange Timer setting establishes the maximum time allowed without frames being exchanged. Do not change the Message Exchange Timer setting unless advised to do so by Technical Support.

Programming Steps

1. Press the MSG EXCHANGE TIMER flexible button **(FLASH 45, Page B, Button #8)**.

```
MSG EXCHANGE TIMER          00-99
T203              15
```

2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Message Exchange Timer setting is 15 seconds.

Minimum XID Retransmission

Description

The Minimum XID Retransmission setting establishes the minimum time between XID messages. Do not change the Minimum XID Retransmission setting unless advised to do so by Technical Support.

Programming Steps

1. Press the MIN XID RETRANSMSN flexible button **(FLASH 45, Page B, Button #9)**.

```
MIN XID RETRANSMSN            0-9
T204                3
```

2. Enter a valid number (0-9 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Minimum XID Retransmission setting is 3 seconds.

Inter-Digit T / O

Description

Do not change the Inter-digit time out setting unless advised to do so by Technical Support.

Programming Steps

1. Press the INTER-DIGIT T/O flexible button **(FLASH 45, Page B, Button #10)**.

```
INTER-DIGIT T/O             00-99
T302              25
```

2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Inter-digit Timeout setting is 25 seconds.

Set-Up Timer

Description

The Set-up Timer setting establishes the response time to setup message. Do not change the Set-up Timer setting unless advised to do so by Technical Support.

Programming Steps

1. Press the SET UP TIMER flexible button **(FLASH 45, Page B, Button #11)**.

```
SETUP TIMER                    00-99
T303            10
```

2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Set-up Timer setting is 10 seconds

Disconnect Timer

Description

The Disconnect Timer setting establishes the response time to a disconnect message. Do not change the Disconnect Timer setting unless advised to do so by Technical Support.

Programming Steps

1. Press the DISCONNECT TIMER flexible button **(FLASH 45, Page B, Button #12)**.

```
DISCONNECT TIMER               00-99
T305            04
```

2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Disconnect Timer setting is 4 seconds.

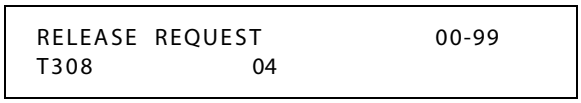
Release Request

Description

Do not change the Release Request setting unless advised to do so by Technical Support.

Programming Steps

1. Press the RELEASE REQUEST flexible button **(FLASH 45, Page B, Button #13)**.



2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Release Request Timer setting is 4 seconds.

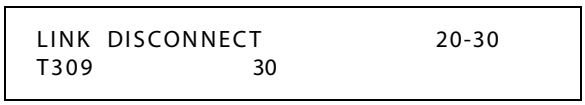
Link Disconnect

Description

Do not change the Link Disconnect Timer setting unless advised to do so by Technical Support.

Programming Steps

1. Press the LINK DISCONNECT flexible button **(FLASH 45, Page B, Button #14)**.



2. Enter a valid number (20-30 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Link Disconnect setting is 30 seconds.

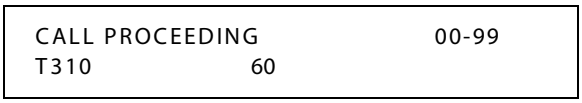
Call Proceeding

Description

Do not change the Call Proceeding setting unless advised to do so by Technical Support.

Programming Steps

1. Press the CALL PROCEEDING flexible button **(FLASH 45, Page B, Button #15)**.



2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Call Proceeding setting is 60 seconds.

Connect Request

Description

Do not change the Connect Request Timer setting unless advised to do so by Technical Support.

Programming Steps

1. Press the CONNECT REQUEST flexible button **(FLASH 45, Page B, Button #16)**.

```
CONNECT REQUEST              00-99
T313            04
```

2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Connect Request setting is 4 seconds.

Restart Request Timer

Description

Do not change the Restart Request Timer setting unless advised to do so by Technical Support.

Programming Steps

1. Press the RESTART REQ TIMER flexible button **(FLASH 45, Page B, Button #17)**.

```
RESTART REQ TIMER            0-200
T316            120
```

2. Enter a valid number (0-200 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … Restart Request Timer setting is 120 seconds.

Initialize ISDN/VoIP Parameters

Description

The ISDN/VoIP Parameters may be initialized setting all data fields to their original, default values.

Table 2-17: ISDN Parameter Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 45	ISDN PARAMETERS		
PAGE A	1	BRI CO Type	NI1
	2	PRI CO Type	NI2
	3	Framing	ESF
	4	NT/TE Mode	TE
	5	Power	Disabled
	6	Directory Number	None
	7	Max Out I-Frames	K 001
	8	Leading 1	Enabled
	9	Leading 011	Enabled
	10	BRI 7/8 Digit or PRI 7/11 Digit Number Plan	ITU
	11	Calling Number	Enabled
	12	Loopback	Normal
	13	BRI 10 Digit Number Plan	ITU
	14	BRI 11 Digit Number Plan	ITU

Table 2-17: ISDN Parameter Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
PAGE B	1	Maximum Number Retransmission	3
	2	Maximum Octets	260
	3	Maximum TEI ID Request	003
	4	Maximum XID Retransmission	3 sec
	5	T-200	01 sec
	6	Minimum TEI ID Check Message	01 sec
	7	Minimum TEI ID Request	02 sec
	8	Message Exchange Timer	15 sec
	9	Minimum XID Retransmission	3 sec
	10	Inter Digit T/O	25 sec
	11	Set-up Timer	10 sec
	12	Disconnect Timer	04 sec
	13	Release Request	04 sec
	14	Link Disconnect	30 sec
	15	Call Proceeding	60 sec
	16	Connect Request	04 sec
	17	Restart Request Timer	120 sec
FLASH 46	VOIP NETWORK PROGRAMMING		
	1	IP Address	None
	2	Subnet Mask	None
	3	Router IP Address	None
	4	Domain Name	None
	5	Vocoder Value	G.723.1

Programming Steps

1. Press the ISDN/VOIP flexible button (**FLASH 80, Button #15**). The following message displays:

```
INITIALIZE  ISDN / VOIP
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print ISDN/VoIP Parameters

Description

The Print ISDN / VOIP command dumps the entire database as a permanent record which can serve as a hard copy of the database. The system baud rate must match that of the printer or receiving device.

When printing the ISDN Timers, the following data is printed:

- ISDN Parameters and Timers
- ISDN Line Parameters and Timers

```
VOIP ATTRIBUTES
---------------

SLOT 1
------
IP ADDRESS FOR CARD      - 102.38.56.1.............
SUB NET MASK VALUE       - 255.255.255.............
ROUTER ADDRESS           - 102.38.56.1.............
DOMAIN NAME              - VODAVI.COM
VOCODER                 - G.723.1

SLOT 2
------
IP ADDRESS FOR CARD      - 102.38.56.1.............
SUB NET MASK VALUE       - 255.255.255.............
ROUTER ADDRESS           - 102.38.56.1.............
DOMAIN NAME              - VODAVI.COM
VOCODER                 - G.723.1

SLOT 3
------
IP ADDRESS FOR CARD      - 102.38.56.1.............
SUB NET MASK VALUE       - 255.255.255.............
ROUTER ADDRESS           - 102.38.56.1.............
DOMAIN NAME              - VODAVI.COM
VOCODER                 - G.723.1

SLOT 4
------
IP ADDRESS FOR CARD      - 102.38.56.1.............
SUB NET MASK VALUE       - 255.255.255.............
ROUTER ADDRESS           - 102.38.56.1.............
DOMAIN NAME              - VODAVI.COM
VOCODER                 - G.723.1

SLOT 5
------
IP ADDRESS FOR CARD      - 102.38.56.1.............
SUB NET MASK VALUE       - 255.255.255.............
ROUTER ADDRESS           - 102.38.56.1.............
DOMAIN NAME              - VODAVI.COM
VOCODER                 - G.723.1
```

Figure 2-13: ISDN/VoIP Attributes Printout

Programming Steps

1. Press the ISDN / VOIP flexible button **(FLASH 85, Button #16)**. The following message displays:

```
PRINT ISDN / VOIP
PRESS HOLD
```

2. To print the ISDN Parameters, press the HOLD button. The following message displays:

```
PRINTING ISDN/ VOIP
```

When the system has finished sending the requested information to the printer, confirmation tone sounds.

Keyset Mode

Description

The Keyset Mode feature (digital KTU only) allows the station user to determine the mode in which the Digital Telephone with CTI Box and Wanderer (optional) operates. The six modes are: Inactive mode, PC Phone mode, ATD Command mode, ATH Command mode, CKTU mode, and SPI mode. Through the use of a dial code, the station user can also determine the baud rate for each mode selected. This setting is stored in back-up memory in the event of a power outage or system reset.

The following Modes are described:

- Inactive -- No CTI information is sent/received by the telephone.
- PC Phone -- CTI information used with Vodavi Discovery Desktop and Discovery PC Phone software must be set to 4800 baud rate.
- ATD **--** This is the modem dialing command. The telephone recognizes the ATD and accepts digits after the command. This allows the PC connection to the telephone to use the AT Ringing command. (Available baud rates are: 1200, 2400, and 4800.)
- ATH or ATHX (X = 0 or 1) -- This is the modem on hook/off hook command. ATH or ATH0 forces the telephone to the on hook state from its current state. ATH1 forces the telephone to the off hook state from its current state.

If the handset is off hook (lifted), these commands are discarded and no action is taken by the telephone.

- CKTU -- Cordless Key Telephone Unit. This mode is used when the optional *Wanderer* is connected to the station. (Refer to the *Wanderer User Guide* for additional information.)
- SPI -- Service Provider Interface. This mode is used in conjunction with TAPI applications such as Discovery Link.
- TAPI -- For future use.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE B ENTER BUTTON NUMBER	SXXX PAGE B ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

5. Press the KEYSET MODE flexible button **(Button #12)**. The following message displays:

```
KEYSET MODE                    0-6
INACTIVE MODE
```

6. Enter a valid number (0-6) to change the mode of a digital telephone:
   [0] = Inactive Mode (normal mode without CTI box)
   [1] = PC Phone (*Discovery Desktop*) Mode at 4800 baud
   [2] = ATD Command Mode at 4800 baud
   [3] = ATH Command Mode at 4800 baud
   [4] = CKTU Mode at 4800 baud
   [5] = SPI Mode at 4800 baud
   [6] = TAPI Mode at 4800 baud
7. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Keyset is set for Inactive Mode.

Operation

At an idle station:

1. Dial the Keyset Mode code [648] on the dial pad,
   -or-
   Press preprogrammed KEYSET MODE button, the following displays:

```
INACTIVE                    2400
MODE=✳   SAVE=HOLD   BAUD=#
```

2. Press [✳] to scroll through the keyset modes.
3. Press [#] to scroll through the baud rates.
4. Press the HOLD button to save the desired entries.

☎ ELECTRONIC TELEPHONE

Not applicable

☎ SINGLE LINE TELEPHONE

Not applicable

Conditions

» Telephone must be in AT command mode to process AT commands.

» CTI information is still sent out the RS-232 port in AT command mode.

» The ATD command is always accepted by the telephone while it is in the AT command mode. ATHX is accepted only if enabled.

» ATZ is always enabled if station is in the ATD or ATH command mode.

» ATD accepts W to indicate a pause command (ATDT9W9982200).

» ATH or ATH0 causes an on hook event. ATH1 must be specified to go off hook.

» AT or ATZX (X = 0 or 1) is the modem reset/initialize command. When these commands are sent to the keyset, it returns OK in ASCII format.

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Last Number Redial

Description

The Last Number Redial (LNR) feature permits the automatic redialing of the last telephone number dialed on an outside line. Up to 24-digits can be stored. Outside line selection of the same line used is automatic.

Operation

1. Press the SPEED button.
2. Press [#]. The last number dialed over an outside line is automatically redialed.
   - The system automatically selects the original line used to place the call and redials the number.
   - If that line is busy, the system automatically selects another line from the same group and redials the number.
   - If no lines are available in the same group, the station receives busy tone and can queue for a line.
   - If the station user preselects a line before activating LNR, the preselection overrides the line that was used originally.

☎ SINGLE LINE TELEPHONE

Not applicable

LCD

LCD Display - Contrast

Description

There are four contrast adjustments available to adjust the LCD for different lighting levels.

Operation

At idle phone:

Press volume bar up or down for desired effect.

☎ SINGLE LINE TELEPHONE

Not applicable

Conditions

» BGM must be inactive.

» Handset must be in cradle.

» ON/OFF button must be set to OFF.

LCD Interactive Display

Description

The Executive Digital Telephone provides the user with visual indication of call status. Calls to and from other extensions, number dialed, line used, and Camp On are some of the features displayed.

Each display is arranged into **upper** and **lower** fields.

- The **upper** field shows the current activity of the telephone.
- The **lower** field is divided into two sections:

  - The *left* section of the **lower** field shows either the date, speed bin number, connected intercom station, or outside line number.

  - The *right* section of the **lower** field shows the current time or elapsed time on an outside call.

This table shows LCD displays based on the function performed.

Table 2-18: Liquid Crystal Displays (LCD)

Function	CALLING Station Display	CALLED Station Display
Idle Station	STATION XXX MMM DD YY HH:MM am STA XXXNAME MMM DD YY HH:MM am	STATION XXXNAME MMM DD YY HH:MM am
Manually Dialing Outgoing Calls	18005551212 LINE XXX HH:MM:SS	
Recalling Line from Hold	LINE XXX RECALLING MMM DD YY HH:MM am	
Recalling Line from Another Station	RECALL FROM STA XXX LINE XXX HH:MM:SS	RECALL FROM ..(name).. LINE XXX HH:MM:SS
Connected to an Incoming CO line		STATION XXX LINE XXX 00:00:10
Intercom Call	CALL TO STA XXX MMM DD YY HH:MM am CALL TO ..(name).. MMM DD YY HH:MM am	CALL FROM STA XXX MMM DD YY HH:MM am CALL FROM ..(name).. MMM DD YYY HH:MM am

** Features available with optional software*

Table 2-18: Liquid Crystal Displays (LCD)

Function	CALLING Station Display	CALLED Station Display
Camp On	CALL TO STA XXX MMM DD YY HH:MM am CALL TO ..(name).. MMM DD YY HH:MM am	CAMP ON BY STA XXX MMM DD YY HH:MM am CAMP ON BY ..(name).. MMM DD YY HH:MM am
Conference	CONFERENCE MMM DD YY HH:MM am	CONFERENCE MMM DD YY HH:MM am
Internal Page	INTERNAL PAGE ZONE X HH:MM am	PAGE FROM STA XXX MMM DD YY HH:MM am PAGE FROM ..(name).. MMM DD YY HH:MM am
External Zone Page and External All Call Page	EXTERNAL PAGE ZONE X HH:MM am EXTERNAL PAGE MMM DD YY HH:MM am	
All Call Page	ALL CALL PAGE MMM DD YY HH:MM am	PAGE FROM STA XXX MMM DD YY HH:MM am
Meet Me Page	ALL CALL PAGE MMM DD YY HH:MM am CALL FROM XXX MMM DD YY HH:MM am	PAGE FROM XXX MMM DD YY HH:MM am CALL TO XXX MMM DD YY HH:MM am
Station Call Forward (originating station and name in display)	FORWARDED TO STA XXX MMM DD YY HH:MM am FORWARDED TO ..(name).. MMM DD YY HH:MM am	
Station No-Answer Call Forward (originating station)	NO ANS FWD TO STA XXX MMM DD YY HH:MM am NO ANS FWD TO ..(name).. MMM DD YY HH:MM am	

** Features available with optional software*

Table 2-18: Liquid Crystal Displays (LCD)

Function	CALLING Station Display	CALLED Station Display
Station Busy/ No-Answer Call Forward (originating station)	BSY/NA FWD TO STA XXX MMM DD YY HH:MM am BSY/NA FWD TO ..(name).. MMM DD YY HH:MM am	
Station Busy Call Forward (originating station)	BUSY FWD TO STA XXX MMM DD YY HH:MM am BUSY FWD TO ..(name).. MMM DD YY HH:MM am	
Forwarded Call (name in display)	FORWARDED TO STA XXX VIA STA XXX HH:MM am FORWARDED TO ..(name).. VIA STA XXX HH:MM am	CALL FROM STA XXX VIA STA XXX HH:MM am CALL FROM ..(name).. VIA STA XXX HH:MM am
Forwarded Intercom Call	FORWARDED TO STA XXX VIA STA XXX HH:MM am	CALL FROM STA XXX VIA STA XXX HH:MM am
Station Forwarded to Voice Mail Group (station idle)	FORWARDED TO VOICE MAIL MMM DD YY HH:MM am	
Station Forwarded to ACD* or UCD Group (station idle)	FORWARDED TO ACD 55X MMM DD YY HH:MM am	
Preset Forward		FORWARD RING LINE XXX HH:MM am
Station Call to Station Forwarded to a Voice Mail Group*	FORWARDED TO VOICE MAIL VIA STA XXX HH:MM am	FORWARDED TO VOICE MAIL MMM DD YY HH:MM am
Call Pick-Up	CALL TO STA XXX PICKED UP BY STA XXX HH:MM am	CALL TO STA XXX FROM STA XXX HH:MM am TRANSFER FROM STA XXX LINE XXX HH:MM am

** Features available with optional software*

Table 2-18: Liquid Crystal Displays (LCD)

Function	CALLING Station Display	CALLED Station Display
Exclusive Hold	LINE HOLDING LINE XXX HH:MM am	
Do Not Disturb	DO NOT DISTURB STA XXX MMM DD YY HH:MM am DO NOT DISTURB ..(name).. MMM DD YY HH:MM am	STA IN DO NOT DISTURB MMM DD YY HH:MM am
Call Back	CALL BACK FROM STA XXX MMM DD YY HH:MM am CALL BACK FROM ..(name).. MMM DD YY HH:MM am	CALL FROM STA XXX MMM DD YY HH:MM am CALL FROM ..(name).. MMM DD YY HH:MM am
Outside Line Transfer	TRANSFER FROM STA XXX LINE XXX HH:MM am TRANSFER FROM ..(name).. LINE XXX HH:MM am	
Message Waiting		MSG: XXX XXX XXX XXX XXX MMM DD YY HH:MM am
Reply to a Message Waiting	CALL TO STA XXX MMM DD YY HH:MM am CALL TO ..(name).. MMM DD YY HH:MM am	CALL BACK FROM STA XXX MMM DD YY HH:MM am
Programmed Flash Command (F)	F*1	
Programmed Pause Command (P)	950777P1234567 SPEED XXXX HH:MM am	
Programmed Pulse-To-Tone Switchover (S)	950777S1234567 SPEED XXXX HH:MM am	

** Features available with optional software*

Table 2-18: Liquid Crystal Displays (LCD)

Function	CALLING Station Display	CALLED Station Display
CO Line Queuing	PLACED IN QUEUE FOR LINE XXX HH:MM am QUEUE CALL BACK LINE XXX HH:MM am	
Hunt Groups	CALL TO STA XXX VIA HUNT HH:MM am CALL TO ..(name).. VIA HUNT HH:MM am	
ACD* or UCD Groups	CALL TO STA XXX VIA ACD HH:MM am CALL TO ..(name).. VIA ACD HH:MM am	
Ringing CO Lines		LINE RINGING LINE XXX HH:MM am
Display Security	DISPLAY SECURITY LINE XXX HH:MM:SS	
Station Forwarding Off-Net	FORWARDED TO SPEED XXXX MMM DD YY HH:MM am	
Call to Station Forwarded Off-Net (before and after a call is answered)	FORWARDED OFF NET LINE XXX CALLED 102 2331234 LINE XXX HH:MM:SS	FORWARDED TO SPEED XXXX MMM DD YY HH:MM am
Calls in Queue (supervisor)	55X: CIQ: XX AGENT(S): XX OLDEST CALL HH:MM:SS	
Calls in Queue (using dial code) ACD* or UCD	ACD 55X 02 CALLS IN QUEUE MMM DD YY HH:MM am	

** Features available with optional software*

Table 2-18: Liquid Crystal Displays (LCD)

Function	CALLING Station Display	CALLED Station Display
Unavailable Mode (Agent Station) ACD* or UCD	UNAVAILABLE ACD * XXX * MMM DD YY HH:MM am	
Station Call to Voice Mail Group Pilot Number	CALL TO VOICE MAIL MMM DD YY HH:MM am	
Dial By Name	DIAL NAME: MMM DD YY HH:MM pm	
Off-Hook Voice Over (OHVO)	ANNOUNCE TO STA XXX MMM DD YY HH:MM am	ANNOUNCE FROM STA XXX MMM DD YY HH:MM am
Executive Override	MONITORING STA XXX MMM DD YY HH:MM am	
Voice Mail* Transfer with ID Digits	CALL TO VOICE MAIL VIA XXX MMM DD YY ENTER VM ID: MMM DD YY HH:MM pm	
Repeat Redial	ENTER RPT REDIAL TIMER XXX 066-999 RPT REDIAL CALLBACK: MMM DD YY HH:MM pm	
Call Coverage Station (after call is answered at coverage station in a non-network system or within same Node) (after call is answered at coverage station in a network with a call passed across a switch)		CALL FOR STA XXXX MMM DD YY HH:MM am CALL FOR STA XXXX FROM STA YYYY HH:MM:SS XXXXXXXXX CALLING YYYYYY HH:MM:SS
Name/Number Display at Idle	STA YYYXXXXXXXX MMM DD YY HH:MM pm	

** Features available with optional software*

Table 2-18: Liquid Crystal Displays (LCD)

Function	CALLING Station Display	CALLED Station Display
Scrollable Canned Messages	XXXXXXXXXXXXXXXX NEXT=# PREV=* SAVE=HOLD	
ACD* Transfer Display	TRANSFER FROM ACD 55X LINE XXX HH:MM am	
ACD* Overflow Station receives Overflow Call	TRANSFER VIA ACD 55X LINE XXX HH:MM	
Answering Machine Emulation (when a call rings the station in ring mode)	VM SCREENING RING MMM DD YY HH:MM pm	
Answering Machine Emulation (when station monitors caller in VM)	VM SCREENING MMM DD YY HH:MM pm	

** Features available with optional software*

Leading Digit

Description

System administrators can tailor the system numbering plan to change all 3-digit numbers into 4-digit numbers that begin with a desired digit 0-8.

Programming Steps

1. Press FLASH and dial [09]. The following message displays:

```
SYSTEM PARAMETERS
ENTER BUTTON NUMBER
```

2. Press Button #9. The following message displays:

```
LEADING DIGIT                0-8
0
```

3. Dial a valid number (0-8) to identify the desired leading digit.
4. Press HOLD to save the entry.

Only 3-digit codes will be changed to include a leading digit, e.g., 2-digit codes such as group call pickup (#0) are not affected.

Least Cost Routing

For information about Least Cost Routing (LCR), refer to *Appendix B, "Least Cost Routing."*

INTENTIONALLY BLANK

Message Wait

Description

Stations that are busy, unattended, or in DND can be left a message indication by other stations in the system. Up to five messages can be left at one keyset. Upon return to the station, the user can press the flashing MSG WAIT button to ring each party in sequential order.

Operation

To leave a message waiting indication:

If you dial a station that is busy, unattended, or in DND, you can leave a message waiting indication.

1. Lift handset or press ON/OFF button.
2. Dial the desired intercom station.
3. Press the MSG button. A confirmation tone sounds. Called party's MSG button slow flashes.
4. Replace the handset or press the ON/OFF button to end the call.

Up to five messages can be left at any Station.

To answer a message waiting indication:

If your MSG button is lit, you have a message waiting for you. The first message left is the first one called.

1. Press MSG. Station that left message is signaled with tone ringing.
2. If called station does not answer, press MSG once to leave message.

☎ SINGLE LINE TELEPHONE

To leave a message waiting indication:

1. Lift the handset.
2. Dial the desired intercom station. Receive no answer or DND tone sounds.
3. Briefly depress and release the hookswitch.
4. Dial [623].
5. Hang up.

To answer a message waiting indication (your message waiting lamp is flashing or there is an interrupted dial tone when you lift the handset):

1. Lift the handset.
2. Dial [663]. Station that left message will ring.

Conditions

» 8-button phones use code 623 to assign a MESSAGE WAITING button.

Message Waiting Reminder Tone

Description

The Message Wait Reminder Timer determines the time between repeated reminder tones to a key telephone with a message waiting. Digital station users may be reminded of a message waiting on their telephone with an audible signal presented at a timed interval. The Message Wait Reminder Tone setting is variable from 000-104 minutes.

Programming Steps

1. Press the MESSAGE WAIT REMINDER TONE flexible button **(FLASH 01, Button #13)**.

```
M / W  TONE  TIMER          000-104
000
```

2. Enter a valid number on the dial pad that corresponds to 000-104 minutes.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Message Wait Reminder Tone is set at 000 (disabled).

Music-On-Hold

A music source, when connected to the system, provides music to all lines on Hold, parked calls, transferred calls and calls waiting to be answered by Automatic Call Distribution (ACD) or Uniform Call Distribution (UCD).

This feature can be allowed or denied on a system-wide basis in database programming. This feature can also allow or deny Music-On-Hold heard on each CO line and is programmable on a per CO line basis. This feature also allows the system to assign CO line circuits as additional music inputs. This increases the capacity of music channels beyond the two available on this system. A total of eight channels is available for use on the system.

MOH Assignments

Description

The MOH Assignments feature enables the system to assign CO line circuits as additional 5 music-on-hold inputs. This increases the capacity of music channels beyond the 2 available on the MISU board for use by MOH sources.

A maximum of 8 channels are available for use on the system. By default, no channels are assigned.

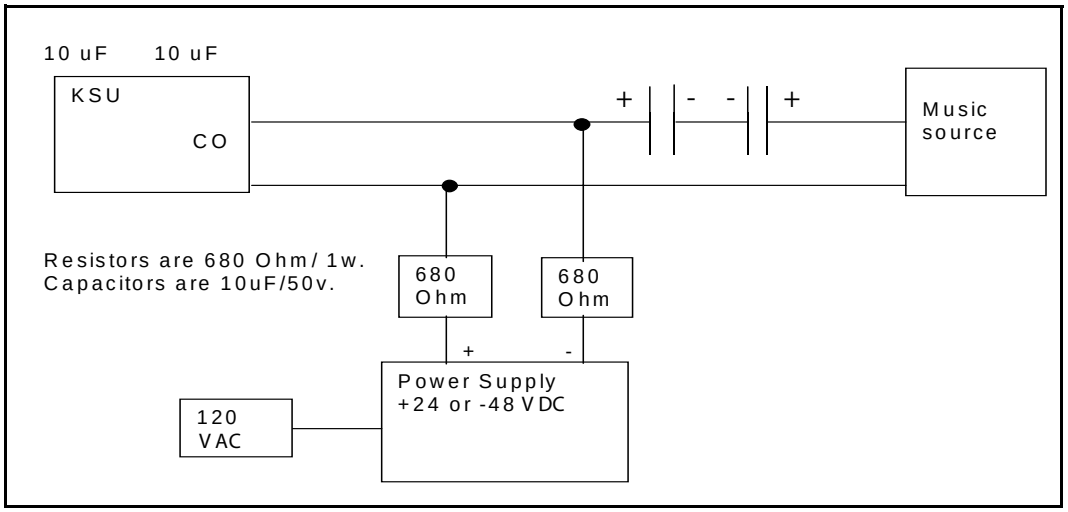


Figure 2-14: Wiring - Music Source to a CO Line

Programming Steps

1. Press the MUSIC CH # flexible button **(FLASH 09, Button #1 through #6)**. The following message displays:

```
MUSIC CHANNEL X          001-XXX
YYY
```

X= 4-8

XXX = Maximum CO Lines in your system

YYY = CO Line number selected for use with channel X

2. Enter a valid number (001-XXX) that corresponds to the CO line number desired.
3. Press HOLD to save the entry. A confirmation tone sounds.

Music-On-Hold - Enable/Disable

Description

When connected to the system, a music source provides music to all lines on Hold, parked calls, transferred calls and calls waiting to be answered by Automatic Call Distribution (ACD) or Uniform Call Distribution (UCD).

This feature is allowed or denied on a system-wide basis in programming.

Programming Steps

1. Press MUSIC-ON-HOLD flexible button **(FLASH 05, Button #12)**. Feature toggles on/off each time button is pressed; and the display updates.

   [0] = Disabled

   [1] = Enabled

```
MUSIC ON HOLD                0-1
ENABLED
```

2. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Music-On-Hold is enabled.

Music-On-Hold (per CO Line)

Description

The Music-On-HOLD feature allows a user to select the Music-On-Hold channel for each CO line. This feature lets the system assign CO line circuits as additional music inputs. This increases the capacity of music channels beyond the two available on the MISB and the one on the MPB2 to be used for MOH sources. Up to eight channels are available for use on the system. The CO line can be assigned to NOT PLAY music for callers on hold.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible Button #19 (Page A) is lit.
4. Press the Page B flexible button (Button #20). The following message displays:

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

5. Press the MUSIC-ON-HOLD flexible button **(FLASH 40, Page B, Button #8)**. The following message displays:

```
MOH CHANNEL                    0-8
1
```

6. Enter a valid number on the dial pad to change this feature.
   [0] = No Music-On-Hold
   [1] = Channel 1
   : : : : :
   [8] = Channel 8
7. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Table 2-19: MOH Programming Codes

Program Code	Flexible Button	Feature	Default (after initialization)
FLASH 09	2 3 4 5 6	Music Channel #4* Music Channel #5* Music Channel #6* Music Channel #7* Music Channel #8*	## ## ## ## ##
** Music Channels 4-8 can only be used for Music-On-Hold functions*			

DEFAULT … Channel 1 is used for Music-On-Hold.

Mute Key

Description

Pressing the MUTE button while in the speakerphone mode or using the handset disables the microphone but does not affect the speech coming over the speaker or handset. Pressing the illuminated MUTE button again reactivates the microphone.

Operation

To disable the microphone:

1. Press MUTE while off-hook on speakerphone or handset to activate.
2. Press MUTE again to deactivate. Mute automatically deactivates upon call termination.

Conditions

» Changing from handset to speakerphone (or the reverse) cancels the Mute function.

» 8-button digital/electronic phones use feature code 629 to make the required button.

Name In Display

Description

The Name in Display feature allows every extension (electronic/digital/SLT) the capability to program the users name, for that station, so that people using display telephones see the name instead of the station number on their display. The name is programmed at each station by the user and may be up to seven letters in length.

Operation

To create your name:

1. Dial [690] on the dial pad.
2. Enter the name (up to 7 characters may be entered) by using keys on the dial pad.

Other Codes			
1 = 1#	8 = 8#	" = 01	* = *#
2 = 2#	9 = 9#	, = 02	(= #1
3 = 3#	0 = 0#	? = 03	) = #2
4 = 4#	Space = 11	/ = 04	+ = #3
5 = 5#	: = 12	! = *1	= = #4
6 = 6#	- = 13	$ = *2	# = ##
7 = 7#	' = 14	& = *4	. = 24

Figure 2-15: Name In Display Keypad Map

3. Press the SPEED button to complete the programming process.

To erase your name:

1. Dial [690] on the dial pad.
2. Press the SPEED button to complete the erasing process.

☎ SINGLE LINE TELEPHONE

To create your name:

1. Dial [690] on the dial pad.
2. Enter the name (up to 7 characters may be entered) by using keys on the dial pad.
3. Briefly depress the hookswitch and release to complete the programming process.

To erase your name:

1. Dial [690] on the dial pad.
2. Briefly depress the hookswitch and release to complete the erasing process.

Name / Number Display At Idle

Description

The Name/Number Display feature allows the programmed seven-digit name and station number to display together. This option is programmable on a per station basis, however the feature must be enabled/disabled in admin programming. If a station has this feature enabled but has not programmed a name, the name portion of the LCD is blank. The priority of the idle display is UCD/ACD, Hunt, Station/Name, or Station alone.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

   If HOLD is pressed without entering a station range, ALL stations are selected.

   -or-

   Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press the NAME/NUMBER DISPLAY flexible button **(Button #15)**. The following message displays:

```
NAME AT IDLE LCD          0-1
NAME
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Extension Number
   [1] = Name
6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Name displays on the LCD.

Conditions

» Not applicable to Single Line Telephones.

» Only one station at a time can be programmed when using a flexible station number.

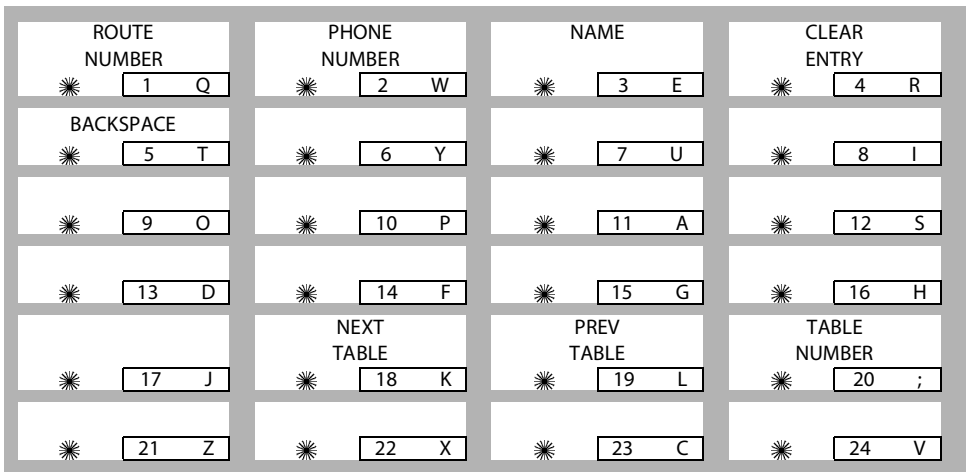
» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Name / Number Translation Table

Description

An administrable table in the KSU provides a local translation from a received calling number to a name. This can be administered by the customer from the attendant console. This table is also shared by the ICLID features. In cases of conflict between the name delivered from the CO and that in the local translation table, the local translation table rules. 200 entries are provided in this table for the system.

An option was added to the Local Number/Name translation table to route an ICLID or Caller Entered ID Digits, based on a partial compare with the number entered in the translation table.



If a match is found between a number in the translation table and an incoming call record, the translated name is displayed and/or stored in the unanswered call table.

Programming Steps

1. Press **FLASH** and dial **[55]**. The following message displays:

```
S - XXX ### ,
```

XXX = Table Number 600-799
= Route Number 000–499

The Route Number LED (Button #1) is lit.

2. Enter a Route Number (000–499) from what was entered in program code, **FLASH [43]**.

To program a phone number into the translation table:

1. Press the PHONE NUMBER flexible button **(FLASH 55, Button #2)** to enter the desired phone number into the translation table. Maximum length of a phone number is 14 characters, including spaces and dashes. For example, to enter 1-480-443-6000, press: [**1**]+[#]+[**1**]+[**3**]+[**4**]+[#]+[**8**]+[#]+[**0**]+[#]+[**1**]+[**3**]+[**4**]+[#]+[**4**]+[#]+[**3**]+[#]+[**1**]+[**3**]+[**6**]+[#]+[**0**]+[#]+[**0**]+[#]+[**0**]+[#] (Refer to *Figure 2-4 on page 2-76* for a description of keystroke combinations necessary for digit and other character entries.)

   Your entry must be 14 character entries in length. If the desired phone number is less than 14 characters, use leading spaces as necessary. For example, to enter 443-6000, press:
   [**1**]+[**1**]+[**1**]+[**1**]+[**1**]+[**1**]+[**1**]+[**1**]+[**1**]+[**1**]+[**1**]+[**4**]+[#]+[**4**]+[#]+[**3**]+[#]+[**1**]+[**3**]+[**6**]+[#]+[**0**]+[#]+[**0**]+[#]+[**0**]+[#]

2. Press HOLD to update the database. The BACK SPACE flexible button **(FLASH 55, Button #5)** erases current number for error correction.

To program a name into the translation table:

1. Press the NAME flexible button **(FLASH 55, Button #3)** to enter the desired name into the translation table. Maximum length is 24 characters. (Refer to *Figure 2-4 on page 2-76* for dial pad keys.)
2. Press HOLD to update the database. The BACK SPACE flexible button **(FLASH 55, Button #5)** erases the current letter for error correction.

To erase a current phone number/name entry:

- Press the CLEAR ENTRY flexible button **(FLASH 55, Button #4)** to clear an entire phone number and name from the current index.
- Press the NEXT TABLE flexible button **(FLASH 55, Button #18)** to advance to the next index and continue entering information into the translation table.
- Press the PREV TABLE flexible button **(FLASH 55, Button #19)** to return to a previous index that is already programmed.

To locate an existing index for editing:

1. Press the TABLE NUMBER flexible button **(FLASH 55, Button #20)**. The following message displays:

```
ENTER TABLE NUMBER
```

2. Enter a valid number that corresponds to the table numbers 600-799.
3. Press HOLD to complete the entry.

Networking Tables

Description

The Networking Table identifies the system number, the CO group, the range of station numbers, and the IP address. Details on Networking Tables programming is contained in *Appendix C, "Networking Systems,"* and in *Appendix D, "Voice Over the Internet Protocol."*.

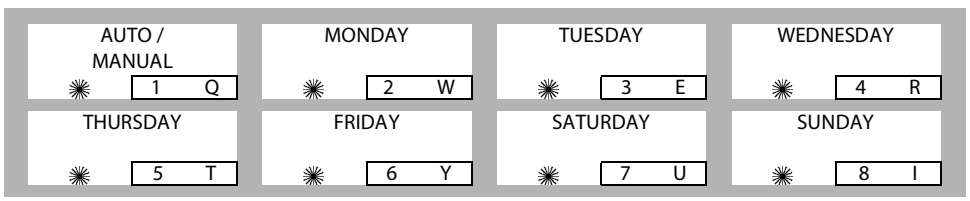
Night Service

Description

The *XTS* can be programmed so it is automatically placed into and out of night mode. A programmable weekly time schedule lets the system administrator preset the time the system goes into night mode, and the time night mode is removed on a daily basis, including weekend operation.

The Attendant Night Service feature [631] provides a means to put the system in night mode from any keyset or remove the system from night mode from any keyset as long as the system was put in night mode by the NIGHT SERVICE flexible button [604]. If the system was placed in night mode by the Attendant using the DND button or if the system was placed in night mode by the automatic schedule, the NIGHT SERVICE flexible button cannot remove the system from night mode.

Digital Voice Mail (DVM) -- The DVM Day/Night Operation can be set up to follow the same path as the Day/Night/Special Mode for the telephone system.



Operation

To enter Night Service Mode, from an idle station:

Press the preprogrammed NIGHT SERVICE flexible button [604]. The system is now in the Night Service Mode.

To remove Night Service Mode:

Press the preprogrammed NIGHT SERVICE flexible button [604] again. The system is now removed from the Night Service Mode.

Automatic / Manual Operation

Description

If the system is operated in the automatic night mode the attendant(s) can override the automatic mode by pressing the night key on the attendant(s) phone. The schedule does not go into effect until the attendant(s) press the night key again. When the system is placed into night mode, CO line ringing follows the night ringing assignments and stations are governed by their respective night COS.

The default times for automatic night mode are:

- Monday to Friday 08:00 17:00 (Daytime operation 8:00 am to 5:00 pm)
- Saturday and Sunday ##:## ##:## (24-hour night-mode operation)

  - An entry of 00:00 23:59 indicates 24 hours of day mode.

  - An entry of ##:## ##:## directs the system to ignore these days.

Programming Steps

1. Press **FLASH** and dial **[22]**. The following message displays:

```
DAY   END    START  AUTO
MON   0800   1700    NO
```

2. Press the AUTO/MANUAL flexible button **(FLASH 22, Button #1)**. This feature toggles on and off each time the button is pressed. The display updates with each toggle.

   LED On = Automatic Night Mode

   LED Off = Manual operation

3. If no other changes must be made, press HOLD to save the entry. A confirmation tone sounds.

Once enabled, this feature addresses the entire week.

Day of Week Programming

Programming Steps

The MONDAY flexible button (Button #2) LED is lit. To change days of the week:

1. Press the appropriate DAY OF WEEK flexible button **(FLASH 22, Buttons 2-8)**.
2. Enter a valid number to indicate the hour and minutes to end night mode.
3. Press HOLD to save the entry. (Example: 07301830 [HOLD]) A confirmation tone sounds and the display updates.

Automatic Night Mode Operation

The *XTS* can be programmed in database administration to place the system into Automatic Night Mode. The Attendant(s) can override the Automatic Night Mode schedule simply by pressing the NIGHT (DND) button [631].

External Night Ringing

The system can be programmed so that CO lines marked for UNA rings on the external page speakers. Refer to *"Universal Day/Night Answer" on page 2-308*.

Manual Operation

The Attendant(s) can control the use of Night Mode manually by pressing the NIGHT (DND) button [631]. An LED indicates when the system is in Night Mode operation (flashing = Special Mode, off = Day Mode).

Night Class of Service (COS)

The system allows each station to be assigned a different COS for night operation. The night COS goes into effect when the system is put into night mode manually or via the automatic schedule. Prevents the misuse of phones after hours.

Night Ringing Assignments

Each CO line may be individually programmed for Night Ringing to other stations, to Hunt/ACD/UCD/Voice Mail groups, or off-net via Speed Dial. When the system is placed into night mode, manually or automatically, ringing follows the Night Ringing Assignments for each CO line.

Universal Night Answer (UNA)

Incoming CO lines can be programmed for Universal Night Answer (UNA). Stations that do not have access to a line during the day can answer that line while the system is in the Night Mode by dialing a UNA code. Refer to *"Universal Night Answer (UNA)" on page 2-220*.

Weekly Night Mode Schedule

A programmable weekly night mode schedule provides for 24 hour, 7 day a week automatic night mode operation. The system can be put into and out of night mode automatically on a daily basis.

Digital Voice Mail (DVM) -- The DVM Day/Night Operation can be set up to follow the same path as the Day/Night/Special Mode for the telephone system.

Conditions

» A station using the night key [604] can put the system into night mode.

» The automatic schedule will override the station night key [604].

» The attendant DND setting [631] overrides both the automatic schedule and the station night key [604].

Off-Hook Signaling

Description

If a station has been programmed to receive direct outside line ringing and is busy on another call, the call rings at the station using either a muted ring signal or reminder ring depending on how the option is programmed (refer to *"CO Line - Ringing Options" on page 2-90*). A Reminder Ring Timer provides the reminder ring every time the timer expires, as long as the incoming CO line remains connected.

The system defaults this option to muted ringing. CO calls may also be camped-on to a busy station and receive muted ringing.

Off-Hook Voice Over

Description

Off-Hook Voice Over (OHVO) enables station users, off-hook on a CO or intercom call, to receive a voice announcement through the handset receiver without completely interrupting the existing call. Your voice is only heard through the handset of the called party's telephone. The Voice Over is muted so it does not override or drown out the existing conversation. The called party can connect to the two parties and carry on two independent conversations using the handset. The called party can also respond using the text messaging feature which sends messages to the calling party's display.

Another method provides for the receiving station to respond to an OHVO announcement using the MUTE feature button. This button is pressed to carry on a two-way conversation with the OHVO initiator while still listening to the original call.

The calling station is placed in a one-time DND mode upon initiating the Voice Over. One-time DND cannot be toggled during the OHVO call. The station receiving the OHVO call must be off-hook and in the H mode.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press the OHVO flexible button **(Button #9)**. The following message displays:

```
OFF HOOK VOICE OVER          0-1
DISABLED
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Off-Hook Voice Over is disabled for all stations.

Operation

To place an Off-hook Voice Over call:

When an OHVO station calls a busy OHVO station and a busy tone is received, the calling OHVO station must press a preprogrammed OHVO button [628] to initiate an OHVO announcement, and the following occurs:

- The HOLD button LED flashes at the called OHVO station.
- The OHVO receiving station receives a one-beep warning tone. The station receiving the OHVO call must be off-hook and in H or P mode, then the calling OHVO party may begin the voice announcement to the called OHVO party. The called OHVO station's existing conversation is uninterrupted and the voice over announcement does not drown out the existing conversation. If the receiving station is call forwarded, use 5# to override forwarding.
- The calling OHVO station is not connected or able to hear the called station's conversation (the connection only allows the calling station to transmit to the called station).

The calling station is placed in a one-time DND mode upon initiating the Voice Over. One-Time DND cannot be toggled during the OHVO call. The station receiving the OHVO call must be off-hook and in H mode.

To respond to an Off-hook Voice Over:

After receiving an OHVO announcement, **three options** are available to respond to the caller:

Option 1 -- This method lets the receiving station respond to an OHVO announcement utilizing the MUTE feature button. This button is pressed to carry on a two-way conversation with the OHVO initiator while still listening to the original call.

Option 2 -- The OHVO receiving station may respond to the calling station by using the Silent Text Messaging (this feature is only available to digital key telephones, and the calling station must be a digital display telephone).

The OHVO receiving station may press a preprogrammed Message button to respond to the voice over announcement without being released from the current call (e.g., by pressing a flexible button preprogrammed for the message IN MEETING, the calling station receives this message on the LCD display). Refer to *"Personal Messages" on page 2-231* and to *"Text Messaging (Silent Response)" on page 2-295*.

Option 3 -- The OHVO receiving station may respond to the calling OHVO station by using the Camp On feature. The OHVO receiving station presses the flashing HOLD button to consult with the calling station. The existing call (CO line) goes on Exclusive Hold automatically. This method then follows Camp On procedures and operation.

☏ ELECTRONIC TELEPHONE

Not applicable

☎ SINGLE LINE TELEPHONE

Not applicable

Conditions

» The station must be in H or P mode to enable this feature.

» The station receiving the OHVO call MUST be off-hook and in H mode.

» The receiving station must have OHVO enabled.

» When the receiving station responds via Camp On, all conditions and options available to Camp On apply. (Refer to *"Camp On" on page 2-52* for more information).

» OHVO may be used to notify the receiving station of a transferred call (CO Line or Intercom) by announcing the call, then releasing to complete the transfer. When this occurs, the receiving station need not respond to the OHVO.

» When a call is transferred via OHVO, the receiving station receives muted ringing after the transfer is complete.

» Any messages including Canned, Custom, or Silent Response text messaging may be used to respond to an OHVO call. The message appears on the calling station and receiving station LCD displays.

» If the calling station is a non-LCD telephone, the receiving station receives an error tone when responding via text messaging.

» The called station may press a flexible button programmed as a Text Message button, [633+#]. Press this flexible button and dial the 2-digit message number (31-51) to respond to the calling station. DTMF digits are not heard by either party.

» When silent messaging is used to respond to an OHVO call, the existing call on the receiving station is not disconnected while the messages are being sent to the calling station.

» The calling station of an OHVO call must remain off-hook to receive silent messages. The calling station's voice transmit remains connected to the receiving station and may respond verbally to the text messages. The OHVO call ends when calling station goes on-hook.

» If the receiving station is on-hook in speakerphone mode and a calling station initiates OHVO, the receiving station receives a Camp On warning tone and normal Camp On procedures are followed.

» The receiving station may send a message, and then press MUTE to talk to the calling station. Each time a message is sent, the splash tone sounds and both displays are updated.

» LEDs follow Camp On LED lamp sequences.

» OHVO does not function if receiving station is in Group Listening Mode.

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Outside Calls

Operation

To answer an outside call:

1. Lift handset or press ON/OFF button.
2. Press slow flashing OUTSIDE LINE button or LOOP button. (If your phone is programmed with Preferred Line Answer, you may answer an outside line by lifting the handset or pressing the ON/OFF button.)

To make an outside call:

1. Press OUTSIDE LINE or POOL button. ON/OFF button LED lights and dial tone sounds.
2. Dial the desired party.
3. When called party answers, lift handset to converse or use speakerphone.

   (A station user can also dial an individual trunk group access code to access an outside line.)

-or-

1. Dial CO line group code or LCR access code (9, 801-823, 88+LLL) (LLL= CO Line Number).
2. Dial desired telephone number.
3. When called party answers, lift handset or use speakerphone to converse.

To place an outside call on hold:

If your system is programmed for Exclusive Hold Preference:

Press HOLD button once for Exclusive Hold, twice for System Hold.

If your system is programmed for System Hold Preference:

Press HOLD button once for System Hold, twice for Exclusive Hold.

Paging

Description

Stations can individually be allowed or denied the ability to make pages. This applies to all internal and external zone paging. A station denied access to paging may still answer a Meet-Me Page announcement. (Station COS 6 does not deny a station the ability to make a page.)

There are three External Paging Zones available. External paging requires a three-digit dialing code and an externally provided amplifier and paging system. Each zone can have a relay contact associated to it.

There are eight internal paging zones available. A station can be in any or all zones or in no zone at all. Stations not assigned to a page group can still make page announcements, if allowed in station programming. Stations can be assigned to a page group in order to receive pages but not allowed to make page announcements.

Operation

If you were given the ability to make page announcements:

1. Lift handset or press ON/OFF button.
2. Press preprogrammed PAGE button,

   -or-

   Dial the paging code.

   [700] = All Call - Internal and External

   [701- 708] = Internal Zone 1-8

   [709] = Internal All Calls

   [760] = External All Calls (All Ext Zones)

   [761-762] = External Zone 1-2

   [763] = External Zone 3 (MPB2 only)
3. Stations receiving a Page Announcement can press the Volume Bar to change the paging volume. The following message displays:

SPEAKER PAGE	[##########]
MMM DD YY	HH:MM am

Stations off-hook or in DND do not hear internal page announcements.

When making a zone page or All Call page and the zone is busy, the page initiator receives ring back tone until the zone becomes available. You then hear a warning tone and can make the page announcement.

External paging requires optional hardware.

☎ SINGLE LINE TELEPHONE

If you were given the ability to make page announcements:

1. Lift the handset or press the Speaker button.
2. Dial the paging code.

   [700] = All Call - Internal and External

   [701- 708] = Internal Zone 1-8

   [709] = Internal All Calls

   [760] = External All Calls (All Ext Zones)

   [761-762] = External Zone 1-2

   [763] = External Zone 3 (MPB2 only)
3. Speak in normal tone of voice to deliver message.
4. Replace handset to terminate the page announcement.

Paging Access

Description

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press the PAGE ACCESS flexible button **(Button #1)**. The following message displays:

PAGE ACCESS 0-1 ENABLED

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Paging is enabled at all stations.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Paging - Meet Me

Description

Users may answer a page call from any phone in the system by dialing [770]. The party who initiated the page must remain off-hook.

Operation

To request another party meet you on a page:

1. Dial the desired internal or external paging code.
2. Request that party meet you on the page.
3. Do not hang up, wait for the requested party to answer. As soon as the paged party answers and is connected to you, the page circuit releases.

To answer a meet me page:

1. Go to the nearest telephone.
2. dial [770] on the dial pad,

   -or-

   Press the preprogrammed MEET ME button.

   You are connected to the paging party.

Paging Time-Out Timer

Description

The Paging Time-Out Timer determines the maximum length of a page announcement (internal, external or all call). The system automatically disconnects the page at the end of this time unless the person making the page has already hung up.

The Paging Time-out Timer setting is variable from 01–60 seconds. A 00 entry disables the timer and pages are not limited in length. *This affects the use of the Meet Me Page feature.*

Programming Steps

1. Press the PAGING TIMEOUT TIMER flexible button **(FLASH 01, Button #10)**. The following message displays:

```
PAGING TIMEOUT              00-60
15
```

2. Enter a valid number on the dial pad that corresponds to 01-60 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Paging Time-out Timer is set at 15 seconds.

Page Warning Tone

Description

The Page Warning Tone determines whether a page warning tone sounds over the Key Telephone speakers or external paging speakers, prior to a page announcement.

Programming Steps

1. Press the PAGE WARN TONE flexible button **(FLASH 05, Button #5)**.
2. Enter a valid number (0 or 1) that corresponds with the following:

   [0] = Disabled

   [1] = Enabled

PAGE WARNING TONE 0-1 ENABLED

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Page Warning Tone is enabled.

Paging Zone(s)

Description

Stations are assigned to Page Zones. At least one station must be assigned to a Zone for that Zone to be active. Stations can be in any combination of the eight zones or in none of the zones.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers

STATION ATTRIBUTES SELECT A STATION RANGE

Flash 51 - Flexible Numbers

ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the PAGE ZONE flexible button **(Button #6)**. The following message displays:

```
PAGE ZONE                    0-8
1
```

6. Enter a valid number (1-8) to program Paging Zone(s).

[0] = No Zone	[5] = Zone 5
[1] = Zone 1	[6] = Zone 6
[2] = Zone 2	[7] = Zone 7
[3] = Zone 3	[8] = Zone 8
[4] = Zone 4	

7. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … All stations are in Zone 1.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Pause Timer

Description

When dialing a speed number, a timed pause between digit sending can be placed in the number. The length of this pause can be programmed in the system database.

The Pause Timer determines the length of the pause when programmed for use with speed dialing and LCR Insert Tables. The Pause Timer setting is variable from 1–9 seconds. There is no 0 entry. Using this feature may affect Centrex transfers.

Programing Steps

1. Press the PAUSE TIMER flexible button **(FLASH 01, Button #7)**. The following message displays:

```
PAUSE TIMER                    1-9
2
```

2. Enter a valid number on the dial pad that corresponds to 1-9 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Pause Timer is set at 2 seconds.

Personal Messages

Description

There are various types of personal messages that a station user can use to display on the LCD of the digital key telephone calling that station. Message types include pre-assigned messages, customized messages, date and time messages, and scrollable canned messages.

Pre-assigned Messages

Description

Each station can select a pre-assigned message to display on the LCD of any key telephone calling that station. There are ten messages available.

Operation

To select a pre-assigned message:

1. Dial [633] on the dial pad,

   -or-

   Press a preprogrammed PERSONAL MESSAGES button.

2. Dial the 2-digit code for the message that displays. A confirmation tone sounds and the DND button LED flashes.

00 = (clears messages)	06 = On Trip
01 = On Vacation	07 = In Meeting
02 = Return AM	08 = At Home
03 = Return PM	09 = On Break
04 = Return Tomorrow	10 = At Lunch
05 = Return Next Week	

To cancel a pre-assigned message:

1. Either dial the Personal Messages code [633] + [00], dial [662], or press the DND button.
2. Replace handset. DND button LED extinguishes.

Conditions

» This feature is unavailable at Attendant stations.

» Stations cannot be call forwarded or in DND and have this feature active.

Custom Messages

Description

Each station can select from ten possible custom messages to display on the LCD of a key telephone calling that station. These messages are programmed from the first attendant station for system-wide use.

Each station can also program three unique custom messages.

Operation

To select a custom message:

1. Dial [633] on the dial pad,

   -or-

   Press a preprogrammed PERSONAL MESSAGES button.
2. Dial a valid message number (21-30) for the desired custom message. The first Attendant should provide a list of messages to each station user.

To program a unique custom message:

1. Dial [633] on the dial pad.
2. Dial a valid message number (18-20) for the desired custom message.
3. Enter a custom message, up to eight characters.
4. Press HOLD to save.

To use a unique custom message:

1. Dial [633] on the dial pad.

   -or-

   Press a preprogrammed PERSONAL MESSAGES button.
2. Dial a valid message number (18-20) for the desired custom message.

To cancel a custom message:

1. Either dial the Personal Messages code [633] + [00], dial [662], or press the DND button.
2. Replace handset. DND button LED extinguishes.

☎ SINGLE LINE TELEPHONE

SLT users can use custom messages (21-30) as described above. Unique custom messages (18-20) are not applicable. SLT users cancel the use of a custom message by using feature code 662.

Conditions

» This feature is not available to attendant stations.

Date and Time Entry Messages

Description

Station users can activate certain messages that let users enter a specific time or return date. These messages appear on the calling station's display to alert them of the desired party's return time or date.

Operation

To activate a message with a custom return time or date:

1. Dial the Message Access code [633] on the dial pad.
2. Then dial the desired message number [11 - 17].

   Users may activate the following messages and be prompted to enter a return time or date:

   [11] = Vacation Until: *MM/DD*

   [12] = Return: *HH:MM xm* or *MM/DD*

   [13] = On Trip Until: *MM/DD*

   [14] = Meeting Until: *HH:MM xm*

   [15] = At Home Until: *HH:MM xm*

   [16] = On Break Until: *HH:MM xm*

   [17] = At Lunch Until: *HH:MM xm*

3. Enter the date/time using buttons on the dial pad as shown in the following table.

Other Codes			
1 = 1#	8 = 8#	" = 01	* = *#
2 = 2#	9 = 9#	, = 02	(= #1
3 = 3#	0 = 0#	? = 03	) = #2
4 = 4#	Space = 11	/ = 04	+ = #3
5 = 5#	: = 12	! = *1	= = #4
6 = 6#	- = 13	$ = *2	# = ##
7 = 7#	' = 14	& = *4	. = 24

Figure 2-16: Other Keypad Codes (Date and Time)

4. Press HOLD to enter message. A confirmation tone is received and the DND button LED flashes.

To cancel the message:

1. Either dial the Personal Messages code [633] + [00], dial [662], or press the DND button.
2. Replace handset. DND button LED extinguishes.

☎ SINGLE LINE TELEPHONE

Not applicable

Scrollable Canned Messages

Description

The Scrollable Canned Message feature allows the user to use a single digit [#] or [✳] to scroll through the canned messages and select one. When the desired message is displayed, pressing the hold button places that message on the station LCD. This feature operates when the phone is in the idle mode only. This feature cannot be activated if the station is in the Call Forward or DND mode(s). This feature is not available to Attendant stations.

Operation

To select a Scrollable Canned Message:

1. Dial [633]+[#] on the dial pad,

   -or-

   Press the PERSONAL MESSAGES button. Clear Messages is always first. The following message displays:

   ```
   CLEAR MESSAGES
   NEXT=#     PREV=*   SAVE=HOLD
   ```

2. Press [#] to scroll through the messages or press [✳] to scroll backward through the list.
3. Scroll forward through the messages in the following order. The scroll is a rolodex-type scroll.

   1 - (Clear Messages)
   2 - At Home
   3 - At Lunch
   4 - In Meeting
   5 - On Break
   6 - On Trip
   7 - On Vacation
   8 - Return AM
   9 - Return PM
   10 - Return Next Week
   11 - Return Tomorrow

4. When the desired message is shown on the LCD display, pressing the HOLD button activates that message on your station. Confirmation tone sounds and the DND button LED flashes.

To cancel the message:

1. Either dial the Personal Messages code [633] + [00], dial [662], or press the DND button.
2. Replace handset. DND button LED extinguishes.

☎ SINGLE LINE TELEPHONE

Not applicable

Conditions

» The telephone receiving the message must be a display telephone.

» When a message displays by a key telephone, the DND button LED flashes at 15 ipm.

» When DND is invoked on the telephone the message cancels.

» Message Access (with a desired message) may be assigned to a flexible button.

» Messages may be entered while off-hook on a call if an intercom call is camped onto the station. This causes the station calling to see the message.

» Messages are retained in battery protected area of memory in the event of power failure or system reset.

Personal Messages Flexible Button

Description

You can program the code [633] onto a flexible button to speed access to select and use messages.

Operation

To program the Personal Messages Flexible Button:

1. Press the SPEED button twice.
2. Press the desired flexible button. LED flashes.
3. Dial [633]+[#] on the dial pad. A confirmation tone sounds.

To use the flexible button, press that flexible button, then either:

Dial the 2-digit message number (00-10 or 18-30) to activate the message. Confirmation tone sounds and DND button LED flashes.

-or-

Press [#] to scroll forward or [✳] to scroll backward through the list. When desired message is shown on the LCD, press HOLD to activate that message on your station. Confirmation tone sounds and DND button LED flashes

☎ SINGLE LINE TELEPHONE

Not applicable

Preferred Line Answer

Description

A station with Preferred Line Answer can answer any assigned outside, transferred, or recalling line, or queue callbacks by lifting the handset or pressing the ON/OFF button. The station MUST be physically ringing, to function properly.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

   If HOLD is pressed without entering a station range, ALL stations are selected.

   -or-

   Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press the PREF LINE ANSWER flexible button **(Button #8)**. The following message displays:

```
PREF LINE ANSWER          0-1
ENABLED
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Preferred Line Answer is enabled on all stations.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Privacy Release

Description

Privacy is insured on all communications in the system. If desired, the customer may elect to disable the Automatic Privacy feature, thus allowing up to seven other stations to join in on an existing CO Line conversations.

Disabling of the privacy feature may be limited by federal, state or local law, so check the relevant laws in your area before disabling privacy.

Per CO Line Option

Description

The Per CO Line feature allows programming of each CO line individually for privacy. This feature is useful for maintaining security on such lines as data lines, private lines, or special circuits requiring privacy. If privacy is disabled on a CO line then, while in use, another station may enter the conversation simply by pressing the CO line button. A programmable warning tone is presented to all parties prior to actual cut-thru. The station attempting to enter the conversation must also have privacy disabled.

Table 2-20: CO Line Privacy Flag

Station Attempting to Access CO Line	CO Line in Use by Another Station	
	Privacy Enabled	Privacy Disabled
Privacy Enabled	Private (no cut-through)	Private (no cut-through)
Privacy Disabled	Private (no cut-through)	Privacy Release (cut-through allowed)

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX  PAGE  A
ENTER  BUTTON  NUMBER
```

XXX-XXX = CO Line Range

4. Press the PRIVACY flexible button **(FLASH 40, Page A, Button #5)**.
5. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

```
PRIVACY                          0-1
ENABLED
```

6. Press HOLD to save the entry. A confirmation tone sounds.

Disabling the privacy feature may be limited by federal, state or local law, so check the relevant laws in your area before disabling privacy.

Disabling Privacy Function:

The system can be programmed to eliminate CO Line Privacy, which allows another station to join existing outside line conversations as follows:

- Stations must have a direct CO line appearance to join CO line conversations in progress.
- A station must also have Privacy disabled before the system allows that station to enter an existing conversation.
- A programmed warning tone is presented to both parties prior to actual cut-through (Flash 06, Button 1).
- Up to seven other stations may join an existing conversation.
- The station joining the call receives a solid red LED indication.

DEFAULT … Privacy is enabled for all CO Lines.

Per Station Option

Description

The system provides privacy on all communications in the system which prevents other stations from accidentally entering an existing conversation. However, the system provides the ability for a station to join an existing outside CO line conversation (on a per station basis). Each station can be granted the privilege to join an existing CO line conversation by simply pressing the CO line button of a CO line in use.

Privacy on an SLT can be useful in situations where a modem is using the SLT port for data transmission.Disabling this feature lets data transfer proceed without being interrupted with a Camp On tone. Both the station and the CO Line must have Privacy disabled before the system allows cut-through.

- If Privacy is disabled and a station joins an existing call, a programmable warming tone is presented to both parties prior to actual cut-through.
- If Privacy is disabled, up to seven other stations may join in on an existing conversation.

Privacy is enabled for all stations in default.

Table 2-21: Station Privacy Flag

Station Attempting to Access CO Line	CO Line in Use by Another Station	
	Privacy Enabled	**Privacy Disabled**
Privacy Enabled	Private (No Cut-through)	Private (No Cut-through)
Privacy Disabled	Private (No Cut-through)	Privacy Released (Cut-through Allowed)

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers

```
STATION ATTRIBUTES
SELECT A STATION RANGE
```

Flash 51 - Flexible Numbers

```
ENTER STATION NUMBER
```

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX    PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press the PRIVACY flexible button **(Button #5)**. The following message displays:

```
PRIVACY                    0-1
ENABLED
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

6. Press HOLD to save the entry. A confirmation tone sounds.

Disabling the privacy feature may be limited by federal, state, and local law, so check the relevant laws in your area before disabling privacy.

DEFAULT … Privacy is enabled for all stations.

☎ SINGLE LINE TELEPHONES

1. Enter a 0 or 1 on the dial pad to enable/disable the Camp On feature.

   [0] = No Camp On is allowed

   [1] = Camp On is allowed

2. Press HOLD to save the entry. A confirmation tone sounds.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Private Line

Description

Private line programming allows certain lines to ring at a specific station only. When placed on Hold, these lines are active at the programmed station only. A private line can be transferred to other stations, provided the station receiving the call has a loop button or direct appearance of that CO line. Refer to *"CO Line Group Programming" on page 2-74*, *"Line Group Access - Station" on page 2-72*, and *"Flexible Button Assignment" on page 2-148*.

Recall

Answering a Recall

Description

When an outside line remains on hold for an extended period of time, a recalling ring reminder is sent back to the originating station first and if not answered, recalls the attendant station.

Operation

(If Preferred Line Answer is enabled, skip step 1.)

1. Press outside line, Loop or Pool button flashing at very fast rate.
2. Lift handset or press ON/OFF button to converse.

Transfer Recall Timer

Description

The Transfer Recall Timer determines the time a transferred call rings at the station receiving the transfer before it recalls the station making the transfer. If unanswered by that station, the call recalls the attendant. The Transfer Recall Timer setting is variable from 000-300 seconds. A 000 entry disables the timer and there is no recall.

Programming Steps

1. Press the TRANSFER RECALL flexible button **(FLASH 01, Button #4)**. The following message displays:
2. Enter a valid number on the dial pad that corresponds to 000-300 seconds.

```
TRANSFER RECALL          000-300
045
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Transfer Recall Timer is set for 45 seconds.

Repeat Redial

Description

The Repeat Redial feature allows a digital key station to press a flexible button and redial a busy or no-answer number after a specific interval. The user is signaled via a queue call back indication.

The RPT REDIAL flexible button flashes at the call back rate of 120 ipm for 15 seconds. If the station:

- Doesn't answer within the 15 seconds, the call back is canceled. The system retains the last call the user made.
- Is busy on an internal/external call when the Redial queue call back occurs, the call back does not occur until the user goes on-hook.

The user must enter a Redial Timer value when invoking this feature. This value is from 006-999 seconds. A 2-minute interval is entered as 120.

Programming Steps

1. Press the RPT REDIAL flexible button **(FLASH 02, Button #1)**. The following message displays:

```
RPT REDIAL                  006-999
060
```

2. Enter a valid number that corresponds to 006-999 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Repeat Redial Timer is set for 1 minute (60) and is variable from 006-999 seconds.

Operation

A keyset station user places a CO call and receives a Busy or No Answer:

1. Press the preprogrammed RPT REDIAL flexible button [643]. The LCD prompts the user for a timer value.

```
ENTER RPT REDIAL TIMER:
XXX                         006-999
```

2. Enter a valid number (006-999 seconds) for the Repeat Redial Timer. Default value is 060 (one minute). A confirmation tone sounds and the station user goes on-hook. The flexible button LED lights steady.

   When the timer expires, the station is signaled via a CO line queue indication on the RPT REDIAL flexible button. During the Queue Call Back, the LCD display indicates this is a Redial Call Back. Once line queue is answered, the LCD indicates an outgoing CO line display.

To activate a redial:

Press the preprogrammed REDIAL flexible button,

-or-

Press the ON/OFF button,

-or-

Lift the handset, line is seized and number is dialed. If the user receives a busy/no answer, they may repeat the step to activate another redial.

To cancel the operation:

Press the preprogrammed REDIAL flexible button. A confirmation tone sounds and the Auto Redial function is cancelled.

☎ SINGLE LINE TELEPHONE

Not applicable

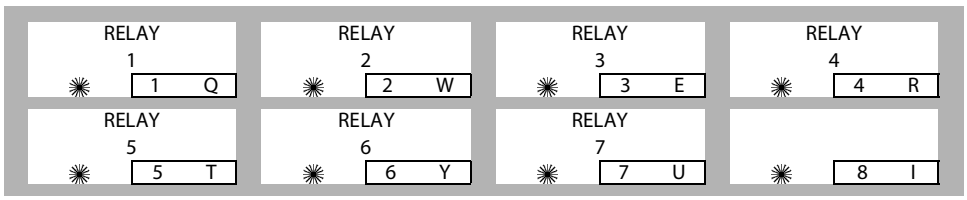
Conditions

» Once the user presses the preprogrammed flexible button, the timer applies when the user enters a digit. After a digit is entered, the inter-digit timer applies between the digits.

Relay Programming

Description

There are four relays on the MISB and three relays on the RAU that can be programmed to perform certain functions. These functions are loud bell (to control a customer-provided ringing device to external areas), external page control, RAN Start, PFTU control, and CO Line control (to control ancillary equipment). When programmed as CO Line Control and assigned to a CO Line, the corresponding contact closes whenever that CO line is accessed by a station.



Programming Steps

1. Press **FLASH** and dial **[14]**. Button #1 is lit to indicate Relay #1 is selected. The following message displays:

```
RELAY X TYPE
YYYYYYYYYYYY
```

X = 1-7

YYYYYYYYYYYY = Ext Page Zone 1-3, LBC Sta XXX, Ran Start X, CO Control XX, PFTU

2. Press the button that corresponds to the desired relay. That button lights. Enter one of the following sequences on the keypad:

   [1] + [1, 2, or 3] First three External Page Zones

   [2] + [1 through 8] = RAN Start (RAN Announcement Tables 1-8)

   [3] = PFTU Control

   [4] + STA # = Loud Bell

   [5] + CO # = CO Line Control

   [0] = Disables Relay

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

   Each time the user presses a relay button, the LCD updates with the relay number and the function assigned to it.

Remote Administration

Description

The Remote Administration feature allows authorized personnel to access the administration programming via a terminal device (portable telephone device or personal computer with communications software package).

The feature permits the review and entry of the customer database in the same manner as via the digital telephone. The terminal device can be connected directly to the RS-232C connector on the Main Processing Board (MPB) on the *XTS*, or can be accessed by a telephone modem linking the RS-232C connector (via a CO line) to a remote location. When entering the system remotely via a terminal device, access to the 19.2K baud modem is available.

Program Mode Entry

Refer to *"Program Mode Entry (Data Terminal or PC)" on page E-5*.

Modem Answer Timer

Description

The Modem Answer Timer determines how long the On Board modem provides a carrier tone to a distant modem. If a connection is not made at the end of this timer, the On Board modem hangs up.

The Modem Answer Timer setting is variable from 25-999 seconds.

Programming Steps

1. Press the MODEM ANSWER TIMER flexible button **(FLASH 02, Button #4)**. The following message displays:

   ```
   MODEM ANSWER T/O          025-999
   25
   ```

2. Enter a valid number on the dial pad that corresponds to 025-999 seconds.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Modem Answer Timer is set for 25 seconds.

Database Upload/Download

Description

Database Upload/Download provides a maintenance facility which is added to the Remote Administration routine. This routine permits downloading of the database to a PC, when a software change is made or when the system must be initialized and reprogrammed.

The routine facilitates the programming of a database on an in-house system which can be downloaded to a PC, and then uploaded to a system in the field. After the system maintenance is completed, the file saved in the PC can then be uploaded to the system.

Refer to *"Database Upload/Download Routine" on page E-6* for detailed instructions.

Remote System Monitor And Maintenance

Maintenance

Description

The Remote Maintenance feature allows the Interconnects' technical staff to review the system configuration data and individual card slot configuration data. This can be done on-site using a data terminal or remotely using a modem to access a remote data terminal. When entering the system remotely via a terminal device, access to the 19.2K baud modem is available.

Monitor

Description

The Remote Monitor feature provides remote access to the installed system for diagnostic purposes. These capabilities benefit Service personnel enabling them to support the end user remotely. Different levels of access, via password, allows authorized personnel to trace, monitor, and up-load critical information directly from the *XTS*. This provides a more accurate means of acquiring system information that leads to a quick resolution of problems that may occur. This is all done without interfering with ongoing call processing or normal system operation, and in many cases may be performed without a site visit.

Capabilities reserved for this high-level troubleshooting also include:

- Monitor Mode
- Enable and Disable Event Trace
- Dump Trace Buffer (Up-Load)

Ring Down/Hot Line/Off-Hook Preference

Description

The Off-Hook Preference feature lets a key station user automatically have a flex button selected when going off-hook or when pressing the ON/OFF button. An SLT user may have a particular CO line or a CO line group selected automatically when going off-hook. This may be established in programming so that key station users can select and/or change their off-hook preference through the use of a dial code [691]+BB (01-24). Dialing [691]+00 disables Off-Hook Preference. This user programmable preference may be allowed or denied in programming.

Auto Feature Access -- In addition to Auto Line Access, digital telephones have the ability to have their off-hook preference select a DSS or feature button upon going off-hook or pressing the ON/OFF button.

Auto Line Access -- Each station, key or SLT, may have their phone programmed to access a particular CO Line (such as a private line or a line from a group of CO lines) upon going off-hook. This is useful in Centrex or PBX applications when station users have dedicated lines. Outside line dial tone is received just by going off-hook, without the need to dial an access code.

Hot Line/Ring Down -- Each station, key or SLT, may be programmed to immediately call or ring down a particular station or outside number upon going off hook. This is done by programming the station's Off-Hook Preference to activate a DSS or Speed Dial feature key. This feature can be overridden if the station user selects a CO line first when going off-hook.

Intercom Access -- When Off-hook Preference is enabled, at a key station, that station may still obtain intercom dial tone for accessing internal stations or other system features. This is done either by pressing a DSS button or dialing their own intercom station number prior to going off-hook.

User Programmable Preference -- Based on a station programmable option, digital telephones may be given the ability to enable, disable, or change their Off-hook Preference by dialing a code. This option can be denied in station programming on a per key station basis.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers

```
STATION ATTRIBUTES
SELECT A STATION RANGE
```

Flash 51 - Flexible Numbers

```
ENTER STATION NUMBER
```

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the OFF-HOOK PREF flexible button **(Button #10)**. The following message displays:

```
OFF HOOK PREFENCE BTN      XXY
00 ENABLED
```

6. Enter a valid button number (01–24) or (00) to indicate no specific button is preferred. (SLTs use [01] to enable or [00] to disable.)

7. Enter a 0 or 1 to disable/enable the Off-Hook Preference as follows:

   [0]= Disables programmable preference so users may not change the off-hook preference as set in programming. Also use for SLT stations.

   [1]= Enables programmable preference to key station users so that they may change the off-hook preference through a user dial code.
8. Press HOLD. A confirmation tone sounds and the display updates.

DEFAULT … All digital telephones can change their preference but no button is assigned (00).

Operation

If your phone has been programmed for Off-Hook Preference, you can access an outside line, or a feature by going off-hook or pressing the ON/OFF button. It simulates the depression of a specific button and can be programed by a station user or a database administration programmer using code [691] + the button number.

While Off-Hook Preference is enabled, you may access internal intercom dial tone as follows:

1. Press the preprogrammed ICM button,

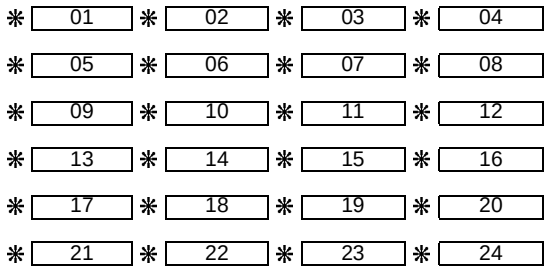
   -or-

   Dial your intercom number. (Do not lift handset or press ON/OFF button before dialing intercom number.) LED lights steady and intercom dial tone sounds.
2. Dial an internal station or feature access code.

Off-Hook Preference Programming (Via a Station)

If your phone is programmed for Off-Hook Preference and you were given the ability to enable or change the prime flexible button:

1. Dial [691] on the dial pad.
2. Dial the desired button number. Refer to the following chart.



To disable Off-Hook Preference:

1. Dial [691] on the dial pad.
2. Dial [00] on the dial pad.

☎ SINGLE LINE TELEPHONES

When establishing an Off-hook Preference for SLT stations, it is necessary to program the SLTs CO line or line group, to access when going off-hook. To program this, refer to *"To assign a CO Line Group for an SLT (with off-hook preference):" on page 2-150*.

Conditions

» Single line telephones can bypass Off-hook Preference by doing a hookflash and then dialing their extension number.

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Save Number Redial (SNR)

Description

Any number dialed on an outside line can be saved permanently and used at any time. This number is saved until a new number is stored.

Operation

To save the last number dialed:

1. After placing an outside call, keep handset off-hook.
2. Press the SPEED button twice.

To dial a number that was saved (using the steps above):

1. Press the SPEED button.
2. Dial the [✳] button.
   - System automatically selects the original line used to place the call and redials the number.
   - If that line is busy, the system automatically selects another line from the same group and redials the number.
   - If no lines are available in the same group, the station receives busy tone and can queue for a line.
   - If the station user preselects a line before activating SNR, the preselection overrides the line originally used.

☎ SINGLE LINE TELEPHONE

Not applicable

Serial Number (MPB)

Description

When feature code [609] is dialed on a display telephone, the serial number of the MPB displays. The serial number is used when you activate or upgrade the system.

```
SERIAL NUMBER:
XXXXXXXX
```

Operation

Dial feature code [609].

Single Line Telephone

Compatibility

Description

The *XTS* supports industry standard 2500-type (DTMF) single line telephone (SLT) instruments. When the Single Line Interface Board (SLIB) is installed in the *XTS*, a maximum of 240 single telephones can be supported.

SLT DTMF Receiver Timer

Description

Single line telephones require the use of a DTMF receiver when going off-hook and dialing. When SMDR or toll restriction (via COS assignments) is enabled, a DTMF receiver monitors and screens the SLT digits for the duration of this timer. By adjusting this timer, the system administrator may free system DTMF receivers sooner if system SLT traffic is heavy, or provide a longer monitoring period if toll restriction becomes a problem.

Note that when LCR is enabled, the DTMF receivers are released when the expected number of digits are dialed as entered in the LCR database.

The SLT DTMF Receiver Timer setting is variable from 005-100 seconds.

Programming Steps

1. Press the SLT DTMF RECEIVER TIMER flexible button **(FLASH 01, Button #12)**. The following message displays:

```
SLT  RCVR TIMER              005-100
020
```

2. Enter a valid number that corresponds to 005–100 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … SLT DTMF Receiver Timer is set at 20 seconds.

SLT Hook Flash Timer

Description

The SLT Hook Flash Timer determines how long an SLT user presses the hook switch for it to be considered a valid on hook (disconnect) request. An on-hook shorter in duration (but longer than the Hook Switch Bounce Timer) is considered a Hook Flash (transfer) request. Refer to *Figure 2-17 on page 2-253*.

The SLT Hook Flash Timer setting is variable from 0.5-2.0 seconds.

Some SLTs have a fixed or programmable Flash Timer (Flash or Tap button). This Hook Switch Timer must be set longer than the SLT Flash Timer to allow Hook Flash transfer.

Programming Steps

1. Press the SLT HOOK FLASH TIMER flexible button **(FLASH 01, Button #14)**. The following message displays:

```
HOOK SWITCH TIME          05-20
10
```

2. Enter a valid number on the dial pad that corresponds to 0.5-2.0 seconds in 1/10 second increments.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … SLT Hook Flash Timer is set at 10 (one second).

SLT Hook Flash Bounce Timer

Description

The SLT Hook Flash Bounce Timer determines the time needed to determine a valid on-hook or off-hook condition for single line telephones. On-Hook or Off-Hook signals that are shorter in duration than this timer are ignored by the system. Refer to *Figure 2-17* .

The SLT Hook Flash Bounce Timer setting is variable from 0-1 seconds in 10 ms increments. This is a 3-digit entry where 010 equals 0.1 seconds.

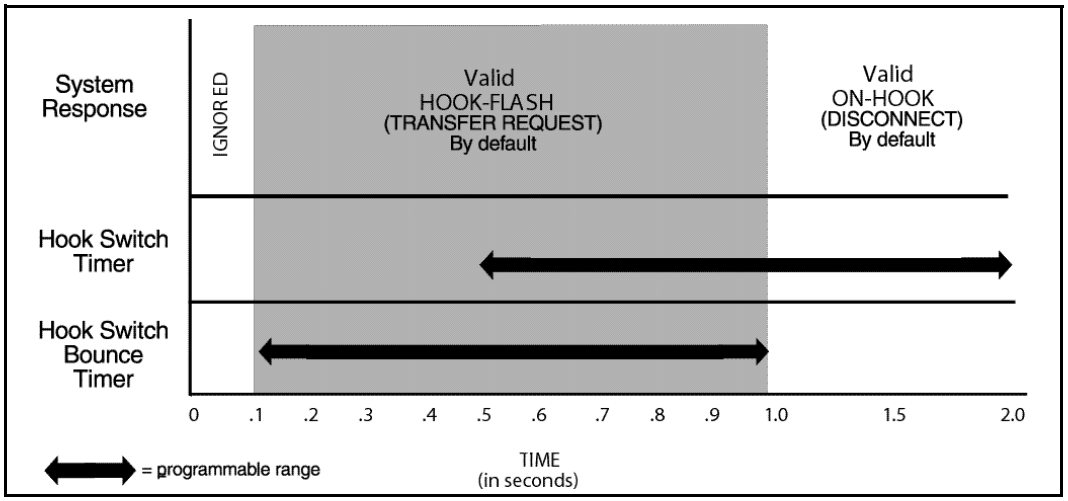


Figure 2-17: Hook Switch Activity

Programming Steps

1. Press the SLT HOOK FLASH BOUNCE TIMER flexible button **(FLASH 01, Button #15)**. The following message displays:

```
HOOK SWT BOUNCE          000-100
030
```

2. Enter a valid number on the dial pad that corresponds to 0-1 seconds in 10 ms increments.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … SLT Hook Flash Bounce Timer is set to 0.30 seconds.

Software Identification (MPB)

Description

When a station dials feature code [610] on a display telephone, the system expects the next digits dialed to be a software identification code. This code is used to upgrade to a new version of software, e.g. upgrade from basic software to ACD software.

Operation

1. Dial feature code [610] on a display telephone.

```
ENTER OPTION CODE:
XXXXXXXX
```

2. Dial the software identification code.

Software Version (MPB)

Description

The current system software version can be viewed. The display shows the version number and level of software.

Operation

To view the Software Version Display:

Dial the S/W Display code [605] on the dial pad. The top line of the LCD shows the engineering version of the software. The bottom line of the LCD shows the features that are enabled for your software, e.g., BASIC or ACD.

Conditions

» The station must be an LCD type to view the information.

Speakerphone

Both Enhanced and Executive Digital Telephones are equipped with a speakerphone.

Speakerphone Options

Description

The speakerphone can be programmed to work in one of three ways:

- Normal speakerphone operation.
- Disabled for outgoing and incoming CO calls, but handsfree on intercom allowed.
- Headset operation allowed.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

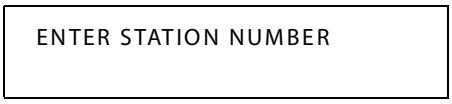
Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers

Flash 51 - Flexible Numbers



2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the SPEAKERPHONE flexible button **(Button #4)**. The following message displays:

```
SPEAKERPHONE                0-4
FULL SPEAKERPHONE
```

6. Enter a valid number (0-4) on the dial pad to identify the speakerphone operation.

   [0] = Works as normal speakerphone. Full speakerphone capabilities on CO lines and Intercom.

   [1] = Speakerphone enabled for intercom calls only. Speakerphone capabilities disabled for outgoing CO line calls (monitoring and on-hook dialing are still permitted).

   [2] = Permits toggling of speakerphone and headset operation via the [634] Headset code.

   [3] = Forces the telephone to always ring in the tone intercom mode.

   [4] = Forces the telephone to the hand-free intercom mode always.

7. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … All stations are assigned an ID of 0 (Full Speakerphone).

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Speakerphone Operation

Description

The Speakerphone feature allows you to conduct a conversation without lifting the handset. Speakerphone volume can be adjusted as desired.

Operation

1. Press ON/OFF button to ON. Intercom dial tone sounds.
2. Press the Volume Bar to change the tone volume. The following message displays:

```
SPEAKER TONE          [#########]
MMM DD YY              HH:MM am
```

3. Press the party's DSS button, or press an available outside line button and dial the number. Speakerphone is activated.
4. Press ON/OFF button to OFF to end the call.

Where lift handset is specified, you may also press the ON/OFF button, if the telephone is programmed as a two-way speakerphone.

☎ SINGLE LINE TELEPHONE

Not applicable

Speed Dial

Station Speed Dial Numbers

Description

A keyset user can associate up to 20 frequently dialed numbers as Station Speed Numbers (9000 to 9019). Telephone numbers can be up to 24 digits including pauses, flash commands, pulse-to-tone switchover, and no-display characters. A pause is automatically inserted after a flash. There are 3000 speed locations in *XTS* systems for dividing among all telephones.

Operation

To use speed dial:

1. If an outside line was not specified in programming, one can be selected now or the system assigns the line.

2. Press the SPEED button and dial speed bin location,

   -or-

   Press the preprogrammed speed bin button.

To store speed dial numbers:

1. Press the SPEED button once.
2. Press an OUTSIDE LINE button or POOL button.

   -or-

   Select an outside line by pressing the SPEED button again.
3. Dial the speed bin location.
4. Dial the desired telephone number and include these special codes:
   - TRANS -- Initiates a Pulse-To-Tone switchover.
   - HOLD -- Inserts a Pause.
   - FLASH -- Inserts a Flash into the speed number.
   - TRANS -- When used as the first entry in the speed bin, this inserts a no-display character causing numbers stored in the bin not to appear on the digital telephone's display when bin is accessed.

Many Centrex codes utilize a hook-flash followed by, in many cases, the digit [✳] and or [#]. The XTS allows programming of these codes as a part of system or station speed dial sequences.

5. Press the SPEED button.
6. Replace the handset to end the speed bin programming.

To program multiple speed numbers:

1. Press the SPEED button twice to conclude programming a number.
2. Enter the next speed number bin to program.

   If the station has no line appearance for the line programmed into the speed bin, that line comes up under the LOOP button or POOL button when accessed.

To erase an existing speed bin:

1. Press the SPEED button twice.
2. Dial the speed bin location.
3. Press the SPEED button again. A confirmation tone sounds.

☎ SINGLE LINE TELEPHONE

To use speed dial:

1. Lift handset.
2. Dial [668] on the dial pad.
3. Dial desired station or system speed bin number (9000-9999).
4. Replace the handset to end the call.

To store speed dial numbers:

1. Lift handset.
2. Dial [661] on the dial pad.
3. Dial desired station speed number (9000-9019).
4. Dial telephone number to store.
5. Briefly press and release the hookswitch. A confirmation tone sounds.

Line Group 1 is programmed along with SLT speed numbers, and thus Line Group 1 is used when activating station speed dial from an SLT.

System Speed Dial Access

Description

Stations can be individually allowed or denied the ability to use system speed dial (9020-9999) numbers. (*System speed numbers 9060-9099 are not monitored by toll restriction.)* Stations cannot be prevented from using station speed dial.

The first programmed attendant must enter the System Speed numbers (9020 to 9999). If an attendant was not specified, system speed numbers are entered at Station 100.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press the SPEED flexible button **(Button #6)**. The following message displays:

```
SYSTEM SPEED                0-1
ENABLED
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … System Speed Dialing is enabled at all stations.

Operation

The first programmed attendant uses the same procedures to store system speed dial numbers, program multiple speed dial numbers, and to erase existing speed bins as described in the operation of station speed dial numbers.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

System Speed Bin Access

Description

The System Speed Bin Access feature has 900 entries available. A station can be allowed or denied access to bins 9100-9999. Access to system speed bins 9020-9099 can not be restricted. Stations are granted the ability to dial all Speed Dial Numbers within the specified range.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press button #21. The display updates to reflect current programming for Page C.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE C
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX    PAGE C
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the SYS BIN RANGE button (**Button #6**). The following message displays:

```
SYS BIN RANGE              100-999
###-###
```

6. Enter a range of speed bins to be allowed (100-999). The leading digit 9 is not reflected on the LCD and is not used for your entry.
7. Press HOLD to save the entry.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Speed Bins/Chaining

Description

Speed dial bins can be chained together. This is helpful for accessing Long Distance carriers or banking services when account codes are required.

Operation

To chain speed bins together, simply press one speed bin and then another as required.

Initialize System/Station Speed Numbers

Description

System and Station Speed bins may be initialized to reset all bins to their original default value (empty). All bins 9000-9999 are reset to their default value (empty) upon initializing.

Programming Steps

1. Press the SPEED NO flexible button (**FLASH 80, Button #6**). The following message displays:

```
INITIALIZE SYS SPEED  NO
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print System Speed Numbers

Description

The System Speed Numbers command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

```
SYSTEM SPEED NUMBERS
20                                  37
21                                  38
22                                  39
23                                  40
24                                  41
25                                  42
26                                  43
27                                  44
28                                  45
29                                  46
30                                  47
31                                  48
32                                  49
33                                  50
34                                  51
35                                  52
36                                  ... and so on through Speed Number 999
```

Figure 2-18: System Speed Numbers Printout

Programming Steps

1. Press the SYSTEM SPEED flexible button **(FLASH 85, Button #6)**. The following message displays:

```
PRINT SYS SPEED NO
PRESS HOLD
```

2. To print the System Speed bins, press the HOLD button. The following message displays:

```
PRINTING SYS SPEED NO
```

When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Station Attributes

Initialize Station Attributes

Description

The Station Parameters may be initialized setting all data fields to their original, default values. The following data fields are returned to their default value upon initializing the Station Attributes.

Table 2-22: Station Attribute Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 50	1	Paging Access	Enabled
PAGE A	2	Do Not Disturb	Enabled
	3	Conference Enable/Disable (Per Station)	Enabled
	4	Executive Override	Disabled
	5	Privacy (Per Station)	Enabled
	6	System Speed Dial Access	Enabled
	7	Line Queuing	Enabled
	8	Preferred Line Answer	Enabled
	9	Off-Hook Voice Over (OHVO)	Disabled
	10	Call Forwarding	Enabled
	11	Forced Least Cost Routing (LCR)	Disabled
	12	ACD Supervisor Monitor with Barge-In	Disabled
	13	Executive Override Blocking	Disabled
	14	CO Line Ringing Options	Muted Ring
	15	Name/Number Display at Idle	Name (Enabled)
	16	ACD Zap Tone	Disabled
	17	CO, Loop, Pool	Disabled
	18	Admin Access	Disabled

Table 2-22: Station Attribute Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 50 PAGE B	1	Station Identification	006 (24-Btn Keyset) 6 (SLT w/o MW)
	2	Station Day Class of Service (COS)	COS 1
	3	Station Night Class of Service (COS)	COS 1
	4	Speakerphone/Headset Programming	0=Full Speakerphone
	5	Pick-Up Group(s) Programming	Group 1
	6	Paging Zone(s) Programming	Zone 1
	8	Line Group Access - Station	Group 1
	9	LCR Class of Service (COS)	0 (Unrestricted Access)
	10	Off-Hook Preference Programming	00=No specific button preferred; Enabled
	11	Flexible Button Programming	(blank)
	12	Keyset Mode	Inactive Mode
	13	Voice Mail ID Translation	XXXX=Station #
	14	Display Flexible Buttons	None
	17	Cordless Key Telephone Unit (CKTU) Button	00=No button assigned
FLASH 50 PAGE C	1	Internal No Answer Forward	None
	2	Internal Busy Forward	None
	3	External No Answer Forward	None
	4	External Busy Forward	None
	5	No Answer Timer	10 sec
	6	Speed Dial Access	None

Programming Steps

1. Press the STATION ATTRIBUTES flexible button (**FLASH 80, Button #3**). The following message displays:

```
INITIALIZE  STATIONS
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print Station Attributes

Description

The Print Station Attributes command can be used to print specific flexible station parameters or to print the entire database in fixed number order.

The Print Station Attributes command can dump the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

When printing the Station attributes the following data prints:

>>> All Current Station Parameters

```
STATION ATTRIBUTES
STA 100                                  STA 101

PAGE ACCESS              ENABLED         PAGE ACCESS              ENABLED
DO NOT DISTURB           ENABLED         DO NOT DISTURB           ENABLED
CONFERENCE               ENABLED         CONFERENCE               ENABLED
EXEC OVERRIDE            DISABLED        EXEC OVERRIDE            DISABLED
PRIVACY                  ENABLED         PRIVACY                  ENABLED
SYSTEM SPEED             ENABLED         SYSTEM SPEED             ENABLED
LINE QUEUING             ENABLED         LINE QUEUING             ENABLED
PREF LINE ANSWER         DISABLED        PREF LINE ANSWER         DISABLED
OFF HOOK VOICE OVER      DISABLED        OFF HOOK VOICE OVER      DISABLED
CALL FORWARD             ENABLED         CALL FORWARD             ENABLED
FORCE LCR                DISABLED        FORCE LCR                DISABLED
ACD SUPV BARGE IN        DISABLED        ACD SUPV BARGE IN        DISABLED
EXEC OVERRIDE BLOCK      DISABLED        EXEC OVERRIDE BLOCK      DISABLED
CO RING OPTIONS          MUTED RING      CO RING OPTIONS          MUTED RING
NAME AT IDLE LCD         EXT NUMBER      NAME AT IDLE LCD         EXT NUMBER
ACD ZAP TONE             DISABLED        ACD ZAP TONE             DISABLED
STATION ID               KEYSET - SP 24BTN  STATION ID           KEYSET - SP 24BTN
CO LOOP POOL FLEX        DISABLED        CO LOOP POOL FLEX        DISABLED
DAY COS                  1               DAY COS                  1
NIGHT COS                1               NIGHT COS                1
SPEAKERPHONE             FULL SPEAKERPHONE  SPEAKERPHONE          FULL SPEAKERPHONE
PICKUP GROUPS            1               PICKUP GROUPS            1
PAGE ZONE                1               PAGE ZONE                1
INTERNAL NO ANSWER       ####            INTERNAL NO ANSWER       ####
INTERNAL BUSY            ####            INTERNAL BUSY            ####
EXTERNAL NO ANSWER       ####            EXTERNAL NO ANSWER       ####
EXTERNAL BUSY            ####            EXTERNAL BUSY            ####
NO ANSWER TIMER          10              NO ANSWER TIMER          10
LINE GROUP ACCESS        1               LINE GROUP ACCESS        1
LCR CLASS OF SERVICE     0               LCR CLASS OF SERVICE     0
OFFHOOK PREFENCE BTN     00 ENABLED      OFFHOOK PREFENCE BTN     00 ENABLED
KEYSET MODE              INACTIVE MODE 2400  KEYSET MODE          INACTIVE MODE 2400
VOICE MAIL ID            100             VOICE MAIL ID            101
CORDLESS KEY BTN 00                      LIGHT CONTROL            NONE
BUTTONS:                                 DISPLAY LCD MSG          NONE
01S0100  02S0101 03S0102                 CORDLESS KEY BTN 00
04S0103  05S0104 06S0105                 BUTTONS:
07S0106  08S0107 09S0108                 01S0100  02S0101 03S0102
10S0109  11S0110 12S0111                 04S0103  05C0201 06C0202
13L001   14L002  15L003                  07LOOP   08PL03  09CBAK
16L004   17L005  18L006                  10PKUP   11DND   12LINEQ
19LOOP   20PL01  21CBAK                  13L001   14SPD   15UNA
22PKUP   23DND   24LINEQ                 16ICM    17VMREC 18HFREE
25FLASH  26XFER  27SPEED                 19LNR    20SLGIN 21SLOUT
28CONF   29MSG   30FWD                   22PKUP   23RPARK 24MUSIC
31MUTE   32CAMP  33MON
34HOLD   35VOL   36VOL                   ... and so on through all stations
```

***NOTE**: The button printout for the 8-button keyset displays all flexible AND fixed buttons, the same as the 24-button keyset.*

Figure 2-19: Station Attributes Printout

Programming Steps

1. Press the STATION ATTRIBUTES flexible button **(FLASH 85, Button #3)**. The following message displays:

```
PRINT STATIONS
PRESS HOLD
```

2. To print data for:
   - ☐ All stations, press HOLD.
   - ☐ One station, enter the flexible station number, then press HOLD.

   Then the following message displays and the requested information prints:

```
PRINTING STATIONS
```

   When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Station Identification

Description

Each system port must be programmed to identify the type of station that operate on that port. Each station type must be identified.

When identifying a station as a DSS / DLS console, you must also enter the station number of the key telephone to which the DSS / DLS console is associated. To associate a DSS console with Station 100, the entry would be 1100 [HOLD].

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers

```
STATION ATTRIBUTES
SELECT A STATION RANGE
```

Flash 51 - Flexible Numbers

```
ENTER STATION NUMBER
```

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the STATION ID flexible button **(Button #1**).

```
STATION ID                    0-8
KEYSET - SP 24BTN
```

6. Enter a valid number on the dial pad to identify type of telephone:

[1-5] = DSS Console	[007] = 12-Btn Phone
[6] = SLT w/o Msg Wait	[008] = 8-Btn Phone
[7] = SLT w/Msg Wait (90 VDC)	[015] = SLA
[006] = 24-Btn Phone	[016] = Lg Disp 30-Btn Phone

When designating a station as a DSS Console with map 1 through map 5, you must follow the entry with the station number for which the DSS is to be associated. Refer to "Station ID for DSS / BLF Console With Map" on page 3-22.

7. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … All Key Telephone Boards (DTIB) default to ID 006 (24-Button Digital Telephone), all Single Line Boards (SLIB) default to ID 6.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Station ID Lock

Description

The Station ID Lock feature provides a means for the installer/programmer to lock the station ID of all stations in the system. After locked, attempts to plug unlike devices (e.g., a DSS into a 24-button port) results in the device not working. This feature is designed to prevent loss of station programming that results when a different station type is plugged into a port already designated as another station type.

To change the Station ID with the Station ID Lock feature enabled:

1. Enter programming mode and disable the Station ID Lock feature.
2. Plug the new device type into the jack. The set is automatically identified.
3. Enter programming and perform Station ID programming (FLASH 50, Page B, Button #1). Set is automatically identified.
4. Enter programming mode and enable the Station ID Lock feature.

Programming Steps

1. Press the STATION ID LOCK flexible button **(FLASH 06, Button #8)**. The following message displays:

```
STATION LOCK                0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Station ID Lock feature is disabled.

Station Message Detail Recording

Description

The *XTS* station message detail recording (SMDR) provides details on both incoming and outgoing calls. This feature is programmable to allow recording of all calls or just outgoing long distance calls. The system tracks calls by outside line, number dialed, time-of-day, date, station that placed the call and duration of call. Account codes may also be entered and recorded.

The SMDR Qualification Timer determines the length of time that is needed to determine a valid SMDR call for reporting purposes. By default, this timer is set to 30 seconds and is variable from 00 to 60 seconds in 1-second increments.

This feature is enabled or disabled in system programming. By default, SMDR is not enabled and is set to record long distance calls only. A printout format of 80 characters maximum or 30 characters maximum may be selected in system programming. The standard format is 80 characters on a single line. A 30 character format generates 3 lines per message. If the SMDR feature is enabled, the system starts collecting information about the call as soon as it starts and terminates when the call ends. If the call was longer then 30 seconds, the following information is printed:

```
80 character format - Outbound Call to a Dialed Number:
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
AAAA BBB HH:MM:SS HH:MM MM/DD/YY HCCCCCCCCCCCCCCCCCCCCCCCC GGGGGGGGGGGG (CR)(LF)
STA   CO TOTAL    START   DATE   DIALED
1100 001 00:00:38 13:57  01/15/01 O2956006
```

```
80 character format - Outbound Call to an Extension:
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
AAAA BBB HH:MM:SS HH:MM MM/DD/YY HCCCCCCCCCCCCCCCCCCCCCCCC GGGGGGGGGGGG (CR)(LF)
STA   CO TOTAL    START   DATE   DIALED
1100 031 00:00:08 13:58  01/15/01 O2108                                      **
  **CALL TO HOWARD
```

```
80 character format - Outbound Call to an Extension:
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
AAAA BBB HH:MM:SS HH:MM MM/DD/YY HCCCCCCCCCCCCCCCCCCCCCCCC GGGGGGGGGGGG (CR)(LF)
STA   CO TOTAL    START   DATE   DIALED
1102 031 00:00:11 13:59 01/15/01 O2101                                       **
  **CALL TO STA2101
```

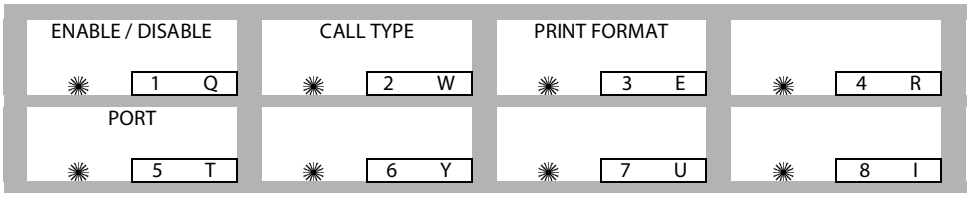
```
80 character format - Inbound Call from an Extension:
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
AAAA BBB HH:MM:SS HH:MM MM/DD/YY HCCCCCCCCCCCCCCCCCCCCCCCC GGGGGGGGGGGG (CR)(LF)
STA   CO TOTAL    START   DATE   DIALED
1100 031 00:00:03 13:59  01/15/01 I2108                                      **
  **HOWARD CALLING                                  - continued on next page -
```

```
80 character format - Inbound Call to a Station From CO Line 1 with No Caller ID:
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
AAAA BBB HH:MM:SS HH:MM MM/DD/YY HCCCCCCCCCCCCCCCCCCCCCCCC GGGGGGGGGGGG (CR)(LF)
STA   CO TOTAL    START   DATE   DIALED
1100 001 00:00:04 13:59 01/15/01 I
```

```
LEGEND:
 - AAAA = Station originator or Trunk on DISA and Off-Net (CO Line) calls.
 - BBB  = Outside line number
 - HH:MM:SS = Duration of call in Hours, Minutes and Seconds
 - HH:MM = Time of day (start time) in Hours and Minutes
 - MM/DD/YY = Date of Call
 - H = Indicates call type:
    "I" = Incoming*
    "O" = Outgoing
    "T" = Transferred*
    "U" = Unanswered calls for ICLID SMDR call records
 - CC....CC = Number dialed
 - GG....GG = Last Account code entered (optional)
 - (CR) = Carriage return
 - (LF) = Line Feed
```

Figure 2-20: SMDR Printout

The *XTS* system can provide SMDR output to the optional RS-232C connectors on the MISB. When SMDR is desired, the following system-wide parameters determine how SMDR information is reported.



Programming Steps

1. Press **FLASH** and dial **[21]**. The following message displays:

```
SDR TPE PNT BAUD PORT
NO  LD  80   19.2K  1
```

2. To program SMDR features, use the flexible button(s) as defined in the following procedures.
3. The ENABLE/DISABLE, TYPE, and PRINT features toggle on and off each time the button is pressed. The display updates with each toggle.
4. After all entries are made, press HOLD to save the entry. A confirmation tone sounds.

SMDR Enable / Disable

Description

A call accounting device can be installed allowing the system to track calls by outside line number, number dialed, time of day, date, station that placed or received the call, and duration of the call.

Programming Steps

1. Press the ENABLE/DISABLE flexible button **(FLASH 21, Button #1)**. This feature toggles on and off each time the button is pressed. The display updates with each toggle.

   LED ON = SMDR is enabled

   LED OFF = SMDR is disabled
2. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … SMDR is disabled.

Long Distance / All Calls

Description

The system can be set to record all outgoing calls or only outgoing long distance calls. Long Distance calls are defined as beginning with a 1 or 0, or containing eight or more digits. Incoming calls are only recorded if TYPE is set for all calls.

Programming Steps

1. Press the CALL TYPE flexible button **(FLASH 21, Button #2)** to determine the type of calls to record. This feature toggles on and off each time the button is pressed. The display updates with each toggle.

   LED ON = Long Distance is enabled

   LED OFF = All Calls is enabled
2. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … System records long distance (LD) calls only.

Character Print Assignment

Description

The system can be programmed to print individual SMDR records in either a 1-line 80-character format or a 3-line 30-character format.

Programming Steps

1. Press PRINT FORMAT flexible button **(FLASH 21, Button #3)** to determine the print format of SMDR records. This feature toggles on and off each time the button is pressed. The display updates with each toggle.

   LED On = 80-Character is enabled

   LED Off = 30-Character is enabled
2. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … The 1-line 80-character format is selected.

Baud Rate Display

Description

The *XTS* system provides SMDR output to the standard RS-232C connector on the optional MISU. The baud rate is displayed as 150, 300, 600, 1200, 2400, 4800, 9600, or 19.2K baud.

Programming Steps

The SMDR Baud Rate is programmed using **Flash 15**, Baud Rate Assignments. The LCD displays the current baud rate based on which port is assigned to the SMDR Port number.

SMDR Port Assignments

Description

PORT #1-- RS-232C port labeled SCMI on the MPB (recommended for maintenance use only)

PORT #3 -- Refers to the RS-232C connector on the optional SIU (recommended for ACD, ICLID, and SMDR uses)

PORT #4 -- Refers to the RS-232C connector on the optional SIU (recommended for ACD, ICLID, and SMDR uses)

PORT #5 -- Refers to the UART on the MPB2 (recommended for ACD, ICLID, and SMDR uses)

Programming Steps

1. Press the PORT flexible button **(FLASH 21, Button #5)** to determine which port to use for SMDR information.
2. Enter a valid number for the SMDR Port number:

   [1] = Port #1 (MPB On-Board RS-232C) (recommended for maintenance use only)

   [3] = Port #3 (RS-232C on optional SIU) (recommended for ACD, ICLID, and SMDR uses)

   [4] = Port #4 (RS-232C on optional SIU) (recommended for ACD, ICLID, and SMDR uses)

   [5] = Port #5 (UART on MPB2) (recommended for ACD, ICLID, and SMDR uses)

   The LCD displays the current baud rate based on which Port number is assigned to the SMDR Port number.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Port #1 and the rate is set for 19.2K.

SMDR Call Qualification Timer

Description

The SMDR Call Qualification Timer determines the time needed to determine a valid SMDR call for reporting purposes. The SMDR Call Qualification Timer setting is variable from 00-60 seconds in 1-second increments.

Programming Steps

1. Press the SMDR CALL QUAL TIMER flexible button **(FLASH 01, Button #16)**. The following message displays:

```
SMDR CALL QUAL          00-60
30
```

2. Enter a valid number on the dial pad that corresponds to 00-60 seconds in 1-second increments.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … SMDR Call Qualification Timer is set to 30 seconds.

Station Relocation

Description

The Station Relocation Feature lets a user unplug their station and plug it into another location. Dialing a code followed by the old station number brings all the station attributes including extension number, button mapping, speed dial, and class of service to the new location.

Operation

1. A station can be relocated by unplugging it, then plugging it into a new location.
2. Dial [636] on the dial pad. Then, dial the extension number of the station being relocated. Once this is done, all station attributes are copied to the current station.

If a station is assigned to a specific port and that station user unplugs their station and plugs it in at another location, the database administration programming is updated to reflect the new port change. Station lock will prevent this feature from working correctly.

☎ SINGLE LINE TELEPHONE

Not applicable

Conditions

» The station number that is dialed as the relocated station must be unplugged.

» The relocated station is given the station attributes of the station doing the relocating. The two stations trade station numbers and station attributes.

» If a keyset is plugged into the relocated position it has all station attributes of the relocating station. This feature is only applicable to keysets.

» Digital stations must be relocated to another digital port. If a digital user moves their station number to an analog port, the buttons are initialized and must be reprogrammed.

» Station Lock disables this feature.

System Parameters

Initialize System Parameters

Description

System Parameters may be initialized to set all data fields to their original default values. The following data fields are returned to their default values upon initializing the System Parameters.

Table 2-23: System Parameter Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 01	SYSTEM TIMERS		
	1	System Hold Recall Timer	60 sec
	2	Exclusive Hold Recall Timer	180 sec
	3	Attendant Recall Timer	1 min
	4	Transfer Recall Timer	45 sec
	7	Pause Timer	2 sec
	8	Call Park Recall Timer	180 sec
	9	Conference/DISA Timer	10 min
	10	Paging Time-out Timer	15 sec
	11	CO Ring Detect Timer	3=300 ms
	12	SLT DTMF Receiver Timer	020 sec
	13	Message Wait Reminder Tone	000=Disabled
	14	SLT Hook Switch Timer	10=1 sec
	15	SLT Hook Switch Bounce Timer	030=300 ms
	16	SMDR Call Qualification Timer	30 sec
	17	Automatic Call Back Timer	03 sec
	18	Reminder Ring Timer	00 sec
	20	Inter-Digit Timeout	5 sec
FLASH 02	ADDITIONAL SYSTEM TIMERS		
	1	Repeat Redial Timer	60 sec
	2	Attendant Display Timer	01 sec
	3	Call Coverage Ring Timer	05 sec
	4	Modem Answer T / O	025 sec
	5	Pulse Dial Inter-Digit Timer	300 ms
	6	Programmable DTMF Time Operation	1=100ms

Table 2-23: System Parameter Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 05	SYSTEM FEATURES 1		
	1	Attendant Override	Disabled
	2	Hold Preference	System
	3	External Night Ring	Disabled
	4	Executive Override Warning Tone	Enabled
	5	Page Warning Tone	Enabled
	6	Background Music	Enabled
	7	Least Cost Routing (LCR)	Disabled
	8	Account Codes - Forced	Disabled
	9	Group Listening	Disabled
	10	Idle Speaker Mode	Disabled
	11	Call Cost Display Feature	Disabled
	12	Music-On-Hold	Enabled
	13	Call Qualifier Tone	Disabled
FLASH 06	SYSTEM FEATURES 2		
	1	Barge-In Warn Tone	Enabled
	2	CO Ring Tones	Enabled
	3	Verified Account Codes	Disabled
	4	Call Forward Display	Enabled
	5	External Day Ring	Disabled
	6	Overflow Station Forward	Disabled
	7	Direct Transfer Mode	Enabled
	8	Station ID Lock	Disabled
	9	LCR Call Progress	Enabled
	10	One-Touch Recording Warning Tone	Enabled
	11	Ringback on Transfer	Disabled
	12	ACD Agent Recall	Disabled
	13	911 Feature	Disabled
	14	Enhanced 911	Disabled
	15	VMID Station Numbers	STA Numbers = VMID

Table 2-23: System Parameter Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 07	FLASH RATES		
	1	Incoming CO Line Ringing	Red 480 ipm flutter
	2	Incoming Intercom Ringing	Red 120 ipm flutter
	3	Call Forward Button	Red Steady On
	4	Message Wait/VM Button	Red Steady On
	5	Message CallBack – DSS/BLF	Red 120 ipm flutter
	6	Do Not Disturb – DSS/BLF	Red 60 ipm Dbl Wink
	7	Auto CallBack – DSS/BLF	Red 120 ipm flash
	8	UCD Available/Unavailable – DSS/BLF	Red 60 ipm Dbl Wink
	9	Transfer CO Ringing	Red 120 ipm flash
	10	Recall CO Ringing	Red 480 ipm flutter
	11	Queued CO Ringing	Green 480 ipm flutter
	12	Exclusive Hold	Green 120 ipm flash
	13	System Hold	Red 60 ipm Dbl Wink
	14	In Use Hold (I-Hold)	Green 60 ipm flash
	15	Camp-On Button	Red 120 ipm flash
	16	Call Back Button	Red 120 ipm flash
	17	Line Queue Button	Red 480 ipm flutter
	18	Do Not Disturb Button	Red Steady On
	19	Intercom Hold Button	Red 15 ipm flash
FLASH 09	2-6	MOH Assignments (Channels 4-8)	None
	7	E911 Power Failure Station	None
	8	Node/Hub Identification	01
FLASH 10	--	Attendant Station Assignment	STA 100
FLASH 11	1	System Time And Date	MMM/DD/YY, 12-hour display
FLASH 12	--	PBX Dialing Codes	None
FLASH 13	1-4	Executive/Secretary Pairs	None
FLASH 14	1-7	Relay Programming	None
FLASH 15	BAUD RATE ASSIGNMENTS		
	1	Port #1 (labeled SCMI on MPB)	19.2K Baud
	2	Port #2 (Modem - baud auto-negotiated)	None
	3	Port #3 (RS-232 on optional SIU on MISB)	9600 Baud
	4	Port #4 (RS-232 on optional SIU on MISB)	9600 Baud
	5	Port #5 UART on MPB	9600 Baud
FLASH 16	NETWORKING TABLES		
	1	Trunk Group	00

Table 2-23: System Parameter Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
	2	Station Range (FROM)	1000
	3	Station Range (TO)	8999
	4	IP Address	None
	5	Ext BLF Cards 1-28	None
	6	Check Status 0-1	Disabled
FLASH 20	1	DISA Access Code	100
	2	Database Admin Password	3226
FLASH 21	1	SMDR Enable/Disable	No
	2	Long Distance/Local Assignment	Long Distance
	3	Character Print Assignment	80
	5	SMDR Port Assignments	Port #1
FLASH 22	1	Automatic/Manual Operation	Auto = No
	2-8	Day of Week Programming	M-F 08:00 17:00 Sat-Sun ##:## ##:##
FLASH 24	1-9	Card Slots (0-8)	Slot 0
	17-19	Cabinets (0-2)	Cabinet 0
FLASH 47	T-1/ISDN ALARM PROGRAMMING		
	1	Carrier Alarm Loss	Enabled
	2	Blue Alarm	Enabled
	3	Yellow Alarm	Enabled
	4	Red Alarm	Enabled
	5	Bipolar Alarm	Enabled
	6	Frame Slip Alarm	Enabled
	7	Data Errors Alarm	Enabled
	11	Enable/Disable (Carrier Loss Alarm)	Enabled
	12	Clear Alarm	Enabled
	13	Minor Alarm	15 min
	14	Major Alarm	30 min
	15	Time Period	5 min
	16	Attendant Display	Enabled

Programming Steps

1. Press the SYSTEM PARAMETERS flexible button **(FLASH 80, Button #1)**. The following message displays:

```
INITIALIZE  SYS  PARAM
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print System Parameters

Description

The currently stored customer database can be printed or uploaded into a file. This command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device. When printing the System Parameters the following data prints:

- All System Timers
- All System Wide Options (External Night Ringing, Hold Preference)
- Attendant Station(s) Programming
- Other System Assignments (Page/Relay Assign, Exec/Sec, SMDR)
- Weekly Night Mode Schedule

```
----- SYSTEM  PARAMETERS ----  --------------------SYSTEM FEATURES -------------


                               CO RING TONES         ENABLED
                               VERIFIED ACCT CODES   DISABLED
SYS HOLD RECALL      60        CALL FWD DISPLAY      ENABLED
EXC HOLD RECALL      180       EXTERNAL DAY RING     DISABLED
ATND RECALL TIMER    1         OVERFLOW STA FWD      DISABLED
TRANSFER RECALL      45        DIRECT XFER           ENABLED
PRESET FWD TIMER     10        STATION LOCK          DISABLED
CALL FWD NO ANS      15        LCR CALL PROGRESS     ENABLED
PAUSE TIMER          2         RECORDING WARN TONE   ENABLED
CALL PARK TIMER      180       MAINTENANCE           DISABLED
CONFERENCE TIMER     10        RINGBACK ON XFER      DISABLED
PAGING TIMEOUT       15        DID/TIE SIGNALING     DISABLED
CO RING DETECT       3         911 FEATURE           DISABLED
SLT RCVR TIMER       20
M/W TONE TIMER       0         -------------SYSTEM   LED       FLASH RATES -------
HOOK SWITCH TIME     10
HOOK SWT BOUNCE      10        INC CO RING           RED       480 IPM FLUTTER
SMDR CALL QUAL       30        INC ICM RING          RED       120 IPM FLUTTER
AUTO CALL BACK       3         CALL FORWARD BTN      RED       STEADY ON
REMINDER RING        0         MSG WAIT VM BTN       RED       STEADY ON
RELEASE GUARD        3         MSG CBCK DSS/BLF      RED       120 IPM FLUTTER
INTERDIGIT T/O       5         DND DSS/BLF           RED       60 IPM DBL WINK OFF
RPT REDIAL           60        AUTO CBCK DSS/BLF     RED       120 IPM FLASH
ATTENDANT DISPLAY    1         UCD UNAVL DSS/BLF     RED       60 IPM DBL WINK OFF
CALL COVERAGE RING   5         TRANSFER CO RING      RED       120 IPM FLASH
MODEM ANSWER T/O     25        RECALL CO RING        RED       480 IPM FLUTTER
INT DIGIT PULSE      300       EXCLUSIVE HOLD        GREEN     120 IPM FLASH
DTMF ON/OFF TIME     1         QUEUED CO RING        GREEN     480 IPM FLUTTER
                               SYSTEM HOLD           RED       60 IPM DBL WINK OFF
-- SYSTEM  FEATURES  --------   IN USE HOLD          GREEN     60 IPM FLASH
                               CAMP ON BTN           RED       120 IPM FLASH
ATTENDANT OVERRIDE   DISABLED  CALL BACK BTN         RED       120 IPM FLASH
HOLD PREFERENCE      SYSTEM    LINE QUEUE BTN        RED       480 IPM FLUTTER
EXTERNAL NIGHT RING  DISABLED  DND BTN               RED       STEADY ON
EXECUTIVE WARNING    ENABLED   ICM HOLD BTN          RED       15 IPM FLASH
PAGE WARNING TONE    ENABLED   LEADING DIGIT 1       LEADING   DIGIT
BACKGROUND MUSIC     ENABLED   LEADING DIGIT 2       NONE
LEAST COST ROUTING   DISABLED  LEADING DIGIT 3       NONE
FORCED ACCOUNT CODE  DISABLED  LEADING DIGIT 4       NONE
GROUP LISTENING      DISABLED  LEADING DIGIT 5       NONE
IDLE SPEAKER MODE    DISABLED  LEADING DIGIT 6       NONE
CALL COST DISPLAY    DISABLED  LEADING DIGIT 7       NONE
MUSIC ON HOLD        ENABLED   LEADING DIGIT OPTION  DISABLED
CALL QUALIFIER TONE  DISABLED  CENTREX DIGITS        4
BARGE IN WARN TONE   ENABLED   VM ID DIGITS          3
```

Figure 2-21: System Parameters Printout

```
MUSIC CHANNEL[3..8]            CABINET  SLOT   TYPE
CO - ## #### ## ## ##          -------  ----   ----
                                  0       0    DT24
ATTENDANT STATIONS                0       1    DTIB
100    ## ## ##    ## ## ##      0       2    DTIB
                                  0       3    NONE
DATE & TIME FORMAT                0       4    SLIB
MM/DD/YY, 12 HOURS                0       5    NONE
                                  0       6    LCOB
PBX DIALING CODES                 0       7    PRIB
##     ##    ##     ##     ##     0       8    LCOB
                                  0       9     MPB
EXECUTIVE/SECRETARY PAIRINGS      1      0-9   NONE
1 =    ###   ###                  2      0-5   NONE
2 =    ###   ###                  3      0-5   NONE
3 =    ###   ###
4 =    ###   ###
                                 ----------------------------
ON BOARD RELAY ASSIGNMENTS
NONE   NONE NONE   NONE   NONE
NONE                           ALARM DESC.    ALARM  PERIOD  THRESHOLD   ATTENDANT
                                                             MINOR MAJOR
I/O BAUD RATE                  CARRIER LOSS     Y       5    15    30        Y
------------------             BLUE ALARM       Y       5    15    30        Y
Port   1 =  19.2K              YELLOW ALARM     Y       5    15    30        Y
Port   2 =  19.2K              RED ALARM        Y       5    15    30        Y
Port   3 =  19.2K              BIPOLAR VAR.     Y       5    15    30        Y
Port   4 =  19.2K              SLIP ALARM       Y       5    15    30        Y
                               DATA ERRORS      Y       5    15    30        Y
AUTO NIGHT MODE    N

WEEKLY NIGHT MODE SCHEDULE
--------------------------
           END    START
DAY        TIME   TIME
M      0   0800   1700
T      1   0800   1700
W      2   0800   1700
T      3   0800   1700
F      4   0800   1700
S      5   ####   ####
S      6   ####   ####

DIAL PULSE - 60/40 10 PPS
```

Figure 12-20: System Parameters Printout

Programming Steps

1. Press the SYSTEM PARAMETERS flexible button **(FLASH 85, Button #1)**. The following message displays:

```
PRINT SYS PARAM
PRESS HOLD
```

2. To print the System Parameters database, press the HOLD button. The following message displays:

```
PRINT SYS PARAM
```

   When the system finishes sending the information to the printer, a confirmation tone sounds.

System Reset

Description

The System Reset feature provides a hard system reset from the keyset instead of the KSU. This is useful in cases where miscellaneous data errors have occurred and the system needs to be reset without initializing the entire database.

Programming Steps

If the System must be reset but not initialized:

1. Press the RESET flexible button (**FLASH 80, Button #20**). The following message displays:

```
RESET SYSTEM
PRESS HOLD
```

2. To reset the system without initializing the database, press the HOLD button. No confirmation tone sounds and the system resets.

T-1 Trunking

Description

The T-1 trunk card can be used to connect 24 lines (24 channels per T-1 circuit) from a CO to the system. These lines can be any mix of inbound WATS, outbound WATS, standard DDD lines, DID lines, or TIE lines. The system also supports Fractional T-1 Service.

T-1 Signaling Type

Description

The T-1 trunk card provides the *XTS* Digital Systems with the ability to connect to digital T-1 trunk circuits. The T-1 trunk card supports either the standard D4 framing format with Alternate Mark Inversion (AMI) or Extended Superframe (ESF-B8ZS) format coding. The system can support TIE, loop start, ground start, and DID signaling per channel. The T-1 trunk card fits into one card slot.

The T-1 signaling protocols provided are: Loop Start, Ground Start, TIE. The *XTS* Digital Systems use the TIE signaling simulation from the Central Office to add the additional protocol of Direct Inward Dial (DID).

T-1 trunking provides services called Automatic Number Identification (ANI) and Dialed Number Identification Service (DNIS). The T-1 feature supports both of these services. The *XTS* Digital Systems support ANI, DNIS, or an ANI and DNIS combination on a per channel (line) basis.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible Button #19 (Page A) is lit.
4. Press the PAGE B flexible button (Button #20). The following message displays:

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

5. Press the T-1 SIGNALING flexible button **(FLASH 40, Page B, Button #1)**. The following message displays:

```
T-1 SIGNAL TYPE              0-7
LOOP START
```

6. Enter a valid number (0-7) on the dial pad that corresponds to one of the following types:

Table 2-24: T-1 Signaling Options

Signaling Option	Description
[0] = None	None is used for fractional T-1 spans. All unused channels in a fractional T-1 span should be marked as None.
[1] = Data (future)	
[2] = Loop Start	Disconnect supervision is not supported for Loop Start emulation of T-1 circuits.
[3] = Ground Start	Software supports disconnect supervision for ground start emulation of T-1 circuits.
[4] = DID	The DID signaling (wink, delay, and immediate) is controlled in Flash 45. DID digits from the carrier are routed via the DID table. To program the DID table, refer to Flash 44 programming on *page 2-108* and to Flash 43 programming on *page 2-113*.
[5] = TIE	This is used for point-to-point T-1 applications.
[6] = TIE/DNIS	The DNIS signaling (wink, delay, and immediate) is controlled in Flash 45. DNIS digits from the carrier are routed via the DID table. To program the DID table, refer to Flash 44 programming on *page 2-108* and to Flash 43 programming on *page 2-113*.
[7] = TIE/ANI	The ANI number is treated and routed as an ICLID number. It follows the Flash 43 programming (*page 2-113*) for routing information and Flash 55 programming (*page 2-216*) for Name/Number Translation.

7. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … T-1 Signal Type option is Loop Start.

T-1 Ringback Option

Description

The T-1 Ringback option supports T-1 channels which require ringback tone to be transmitted to the caller while a call is ringing. Some carriers require the system to generate the ringback tone, this feature allows the system to provide this option. Ringback tone is not used with the DISA, TIE Line, or DID signal options.

Programming Steps

1. Press the RINGBACK OPTION flexible button **(FLASH 40, Page B, Button #2)**. The following message displays:

```
T-1 RINGBACK                    0-1
ENABLE
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press the HOLD button. A confirmation tone sounds and the display updates.

DEFAULT … T-1 Ringback option is enabled.

T-1 Dial Tone Option

Description

An option has been added to support T-1 channels which do not supply dial tone. Some carriers require the system to generate dial tone to its users, while other carriers do not.

Programming Steps

1. Press the T-1 DIAL TONE flexible button **(FLASH 40, Page B, Button #3)**. The following message displays:

```
T-1 DIAL TONE                   0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Dial Tone option is disabled.

Wink Timer

Description

When Wink signaling is programmed, this timer determines how long the *XTS* system keeps the T-1 TIE Line circuit reversed before any DTMF digits are sent from the Central Office. This option allows the installer a method to adjust the Wink Signal on a per CO Line basis. The Wink Signal can be used on DID and TIE-type trunks.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press Button #21 to select Page C. The display updates. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE C
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the WINK TIMER Button **(FLASH 40, Page C, Button #3)** in the flexible button field. The following message displays:

```
WINK TIMER                  100-290
140
```

5. Enter a valid number which corresponds to 100-290ms.
6. Press HOLD button to save entry. A confirmation tone sounds and the display updates.

DEFAULT … Wink Timer is set for 140ms.

T-1 Collect Timer

Description

The T-1 Collect Timer is only used when the T-1 Incoming Signaling is set for dial pulse. This is a time-out timer that looks at the incoming digits one digit at a time.

If a second digit isn't detected within the 150ms, the telephone system attempts to process that digit. If a second digit is detected, the system waits 150ms to see if a third digit is received. Otherwise, the telephone system attempts to process the two digits already received. This process continues until no additional digits are received and the time-out timer expires.

The T-1 Collect Timer setting is variable from 100ms to 2.0 seconds.

Programming Steps

1. Press the T-1 COLLECT TIMER flexible button **(FLASH 40, Page C, Button #10)**. The following message is shown on the display phone:

```
T1 COLLECT TIMER          010-200
015
```

2. Enter a valid number on the dial pad which corresponds to 010–200 (100 ms to 2.0 seconds).
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … T-1 Collect Timer is set for 150ms.

T-1 Incoming Signaling

Description

The T-1 Incoming Signaling option allows the installer to determine the type of incoming signaling to be used by all T-1 trunks in the system.

Programming Steps

There are two types of T-1 Signaling available for T-1 Trunks. To change the type of signaling:

1. Press the T1 INCOMING SIGNALING flexible button **(FLASH 41, Button #6)** for programming the type of T-1 signaling desired. The following message is shown on the display phone:

```
T1 INC SIGNAL                  0-1
DTMF
```

2. Enter a 0 or 1 on the dial pad.

   [0] = Dial Pulse

   [1] = DTMF
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … T-1 Signaling type is set for DTMF.

T-1 Framing Type

Description

T-1 board 8031-31 will work with D4SF-AMI or ESF-B8ZS framing. The T-1 service should be ordered from the serving company.

Programming Steps

There are two types of T-1 Framing Types available. To change the framing type:

1. Press the T1 FRAMING TYPE flexible button **(FLASH 41, Button #7)** for programming the type of T-1 framing desired. The following message is shown on the display phone:

2. Enter a 0 or 1 on the dial pad.

   [0] = D4SF-AMI

   [1] = ESF-B8ZS

3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … T-1 Framing type is set for D4SF-AMI.

Conditions

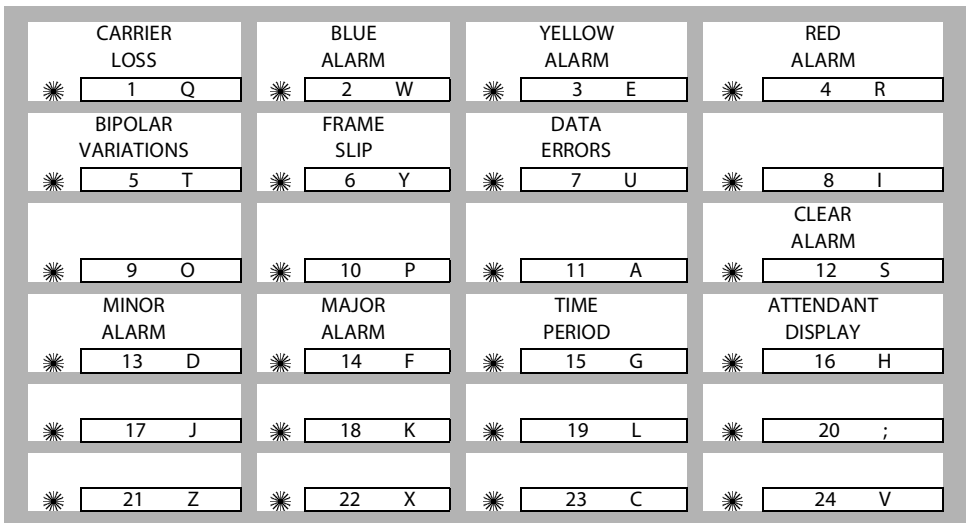
» The T-1 board must have firmware Version 1.0G or higher.

T-1/ISDN Alarm Programming

Description

The T-1 Trunk card and the system software provide tools to help detect and isolate problems which may occur with the T-1 circuit. There are six LEDs mounted on the outside edge of the T-1 Trunk card which either light or flash to indicate a variety of conditions on the T-1 circuit. The Central Office Maintenance Center can send a command to place the CSU into Line Loop Back mode. If there is no CSU, the T-1 Trunk card responds to the Line Loop Back command.

The buttons on the digital telephone are defined as shown below when entering the T-1 Alarm programming area:



Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

1. Press **FLASH** and dial **[47]**. The following message displays:

```
T1 ALARM
ENTER BUTTON NUMBER
```

2. Press a button (1-7) that represents the desired alarm setting.
   - These settings govern all T-1 Trunk cards installed in the system.
   - The LED lights steady when the button is pressed.
   - Once the desired alarm is selected, the following conditions can be programmed:

     Button #12 = Clears the alarm

     Button #13 = Minor threshold setting

     Button #14 = Major threshold setting

     Button #15 = Time period for Minor/Major alarms

Button #16 = Sends LCD message of Major alarms to first Attendant Station

Enable/Disable (Carrier Loss Alarm)

Description

A Receive Carrier Loss (RCL) condition is declared when no bits have been received by the T-1 Trunk card for 150ms. It causes an Out of Frame (OOF) condition, and 2.5 seconds later a RED Carrier Failure Alarm (CFA) state. During the time the RCL and RED alarm are declared, incoming and outgoing signal bits are frozen. Outgoing calls cannot be made.

Programming Steps

1. Press the CARRIER LOSS flexible button **(FLASH 47, Button #1)**. Button #1 and Button #11 LEDs are lit steady. The following message displays:

```
CARRIER LOSS                    0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Carrier Loss Alarm is enabled on all T-1 trunks.

Blue Alarm

Description

The Blue Alarm signal is an unframed all ones signal. It is transmitted by a remote device (usually a CSU) and when received, indicates a transmission failure upstream of that device toward the local end. The AIS alarm signal is also known as the *keep alive* signal in that it prevents the T-1 circuit repeaters from malfunctioning when transmit from the remote end is lost.

Programming Steps

1. Press the BLUE ALARM flexible button **(FLASH 47, Button #2)**. Button #2 and Button #11 LEDs are lit steady. The following message displays:

```
BLUE ALARM                      0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

4. Continue programming the Blue Alarm parameters using the steps provided earlier in this section for Clearing the alarm, Minor alarm, Major alarm, Time Period and Attendant display.

DEFAULT … Blue Alarm is enabled for all T-1 Trunks.

Yellow Alarm

Description

The Yellow Alarm is recorded when the T-1 Trunk card detects a yellow Carrier Failure Alarm (CFA) signal from the distant end for a minimum 335 ms. The Yellow Alarm is transmitted by the remote system because of a RED alarm condition there.

Programming Steps

1. Press the YELLOW flexible button **(FLASH 47, Button #3)**. Button #3 and Button #11 LEDs are lit steady. The following message displays:

```
YELLOW ALARM                0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD button to save entry. A confirmation tone sounds and the display updates.
4. Continue programming the Yellow Alarm parameters using steps provided in this section for Clearing the alarm, Minor alarm, Major alarm, Time Period and Attendant display.

DEFAULT … Yellow Alarm is enabled for all T-1 Trunks.

Red Alarm

Description

The Red Alarm is declared by the T-1 Trunk card when a loss of signal is detected, or an Alarm Indication Signal is received. A Red Alarm can be caused by a loss of carrier signal, a receive out of frame sync condition, or an alarm indication signal.

Programming Steps

1. Press the RED ALARM flexible button **(FLASH 47, Button #4)**. Button #4 and Button #11 LEDs are lit steady. The following message displays:

```
RED ALARM                   0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD button to save entry. A confirmation tone sounds and the display updates.

4. Continue programming Red Alarm parameters using the steps provided in this section for Clearing the alarm, Minor alarm, Major alarm, Time Period and Attendant display.

DEFAULT … Red Alarm is enabled for all T-1 trunks.

Bipolar Variations Alarm

Description

Excessive Bipolar Violations (BPV) are declared when a T-1 Trunk card detects a BPV rate in excess of $1x10^{+6}$ errors in 1000 seconds.

This condition can exist if the Telco is providing B8ZS frame coding and the system is programmed for AMI.

Programming Steps

1. Press the BIPOLAR VARIATIONS flexible button **(FLASH 47, Button #5)**. Button #5 and Button #11 LEDs are lit steady. The following message displays:

```
BIPOLAR VARIATIONS          0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.
4. Continue to program Bipolar Variations Alarm parameters using the steps in this section for Clearing the alarm, Minor alarm, Major alarm, Time Period, and Attendant display.

DEFAULT … Bipolar Variations are enabled at all T-1 trunks.

Frame Slip Alarm

Description

When a Frame Slip or change in frame alignment is detected, the T-1 Trunk card freezes all incoming signaling states and realigns the receive buffer. If all alarm conditions are clear, signaling states are released and normal operation resumes.

Programming Steps

1. Press FRAME SLIP flexible button **(FLASH 47, Button #6)**. Button #6 and Button #11 LEDs are lit steady. The following message displays:

```
SLIP                        0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD button to save entry. A confirmation tone sounds and the display updates.
4. Continue to program the Frame Slip Alarm parameters using steps provided in this section for Clearing the alarm, Minor alarm, Major alarm, Time Period and Attendant display.

DEFAULT … Frame Slip is enabled on T-1 trunks.

Data Errors Alarm

Description

Data errors are illegal bit formations. If the Data Errors Alarm is enabled, an error message is sent to the attendant when the data error limit is reached.

Programming Steps

1. Press the DATA ERRORS flexible button **(FLASH 47, Button #7)**. Button #7 and Button #11 LEDs are lit steady. The following message displays:

```
DATA ERRORS                    0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
3. Press HOLD button to save entry. A confirmation tone sounds and the display updates.
4. Continue to program Data Error Alarm parameters using steps provided in this section for Clearing the alarm, Minor alarm, Major alarm, Time Period and Attendant display.

DEFAULT … Data Errors Alarm is enabled for all T-1 Trunks.

Clear Alarm

Description

The Clear Alarm option allows the alarm condition reported to the Attendant Display to be cleared.

Programming Steps

1. Press the CLEAR ALARM flexible button **(FLASH 47, Button #12)**. Button #12 LED is lit steady. The following message displays:

```
DATA ERRORS
CLEAR ALARM PRESS HOLD
```

2. Press the HOLD button to clear the alarm. A confirmation tone sounds.

Minor Alarm

Description

If the error counter for an Alarm Code reaches the number programmed as a Minor Alarm within the time (in minutes) entered in the Time Period, the system reports a Minor Alarm condition. The Minor Alarm threshold setting is variable from 00 to 99 minutes.

Programming Steps

1. Press the MINOR ALARM flexible button **(FLASH 47, Button #13)**. Button #13 LED is lit steady. The following message displays:

```
DATA ERRORS                 00-99
MINOR ALARM 15
```

2. Enter a valid number (00-99) on the dial pad which represents the threshold limit.
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Minor Alarm threshold is set for 15 minutes.

Major Alarm

Description

If the error counter for an Alarm Code reaches the number programmed as a Major Alarm within the time (in minutes) entered in the Time Period, the system reports a Major Alarm condition. The Major Alarm threshold setting is variable from 00 to 99 minutes.

Programming Steps

1. Press the MAJOR ALARM flexible button **(FLASH 47, Button #14)**. Button #14 LED is lit steady. The following message displays:

```
DATA ERRORS                 00-99
MAJOR ALARM 30
```

2. Enter a valid number (00-99) on the dial pad which corresponds to the time period limit.
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Major Alarm threshold is set for 30 minutes and is variable from 00 to 99 minutes.

Time Period

Description

The Time Period option represents the length of time set for Minor and Major alarm conditions to occur.

Programming Steps

1. Press the TIME PERIOD flexible button **(FLASH 47, Button #15)**. Button #15 LED is lit steady. The following message displays:

```
DATA ERRORS                 00-99
TIME  PERIOD  05
```

2. Enter a valid number (00-99) on the dial pad which represents the time period limit.
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Time Period is set for five minutes.

Attendant Display - T-1 Alarms

Description

The Attendant Display option determines whether the first Attendant station should be notified of any T-1 alarm conditions when they occur.

Programming Steps

1. Press the ATENDANT DISPLAY flexible button **(FLASH 47, Button #16)**. Button #16 LED is lit steady. The following message displays:

```
DATA ERRORS                 0-1
ATT  DISPLAY  ENABLED
```

2. Enter a valid number (0 or 1) on the dial pad.

   [0] = No alarm

   [1] = Alarm enabled
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … All alarm conditions are enabled to be sent to the first Attendant station LCD display.

Operation

The attendant can dial feature code [606] to clear any alarm from the display. It will not clear the condition, just clear the display.

Text Messaging (Silent Response)

Description

The Text Messaging feature allows a station user to use text messages to respond to a caller that has either camped-on or has used the off-hook voice over (OHVO) feature to alert a busy station of a waiting call or message. The camped-on station may respond to the caller via the canned, custom, and silent response text (LCD) messages. The text messages appear on the calling party LCD display. The calling (originating) station and receiving station MUST be digital telephones. The receiving station MUST also be programmed to allow OHVO calls.

Operation

While receiving a Camp On, or OHVO call:

The called party may press a preprogrammed Text Message button with a specific message [633+XX]. Example: [633] + [38] means a telephone calling the station receives the message WHO IS IT ?

Additional messages (with their codes listed below) can also be sent as a text response:

[31] = I Will Take Call	[42] = Is It Important?
[32] = Take Message	[43] = Is It Urgent?
[33] = Transfer To Secretary	[44] = Send Call To Voice Mail
[34] = Put Call On Hold	[45] = Park Call
[35] = Call Back	[46] = Out Of Office
[36] = One Moment Please	[47] = Put Call Through
[37] = I Will Call Back	[48] = I Am Busy
[38] =Who Is It?	[49] = O.K.
[39] =Is It Long Distance?	[50] = No
[40] =Is It Personal?	[51] = Yes
[41] =Is It An Emergency?	

SINGLE LINE TELEPHONE

Not applicable

Conditions

- If the station receiving the text message response was doing a Camp On, it receives a short burst of tone on the speaker, then the display shows the message that was activated by the called station.
- If the station receiving the text message response is on an OHVO call, no tone is received.
- All canned and custom messages may be used to respond to a calling party.
- Text response messages automatically clear when the calling station (station receiving the messages) goes on-hook.

- A station can receive only one message at a time.
- Text messages may be chained (i.e., multiple messages sent to one caller).
- Text message responses appear on the calling station and the receiving station (station activating text responses) LCD displays.
- If the calling station is a non-LCD telephone, the receiving station receives error tone when responding via text messaging.
- The receiving station may press a flexible button programmed as a Text Message button, [633+#]. Press this flexible button and dial the 2-digit message number (31-51) to respond to the calling station. DTMF digits are not heard by either party.
- When silent messaging is used to respond to a call, the existing call of the called station is not disconnected while the messages are sent to the calling station.
- The calling station must remain off-hook to receive silent messages.
- If the receiving station responds with a text message, the text message displays on the LCD.
- Each message may be programmed onto a flexible button, including a flexible button on a DSS/BLF console.

The calling station must be a display telephone and the receiving station must be a keyset.

Toll Restriction

Description

The *XTS* system offers a flexible means of applying toll restriction to stations or individuals. Dialing privileges (or toll restriction) is determined through assignment of station and CO line Class Of Service (COS).

Several types of restriction can be derived simply by programming COS assignments and CO line access to stations. This may, in some cases, be all that is necessary. However, when a more complex or specific type of restriction is desired the system offers two Allow and two Deny tables along with four special tables.

These tables can be programmed in a variety of ways to handle applications that are straightforward or applications that require a more complex arrangement. The Allow and Deny tables are assigned to stations based on their station Class of Service (COS) assignment.

The Station COS interacts with CO Line COS assignments to provide several different types of dialing privileges.

Table 2-25: Class of Service

STATION COS	CO LINE CLASS OF SERVICE					
		1	2	3	4	5
	1	Unrestricted	Unrestricted	Unrestricted	Canned Restricted*	Unrestricted
	2	Table A	Table A	Unrestricted	Canned Restricted*	Unrestricted
	3	Table B	Unrestricted	Table B	Canned Restricted*	Unrestricted
	4	Table A&B	Table A	Table B	Canned Restricted*	Unrestricted
	5	Canned Restricted*	Canned Restricted*	Canned Restricted*	Canned Restricted*	Unrestricted
	6	Intercom Only	Intercom Only	Intercom Only	Intercom Only	Intercom Only
	7	Canned Restricted*	Canned Restricted*	Canned Restricted*	Canned Restricted*	Unrestricted

** Canned Restriction: No [0], [1], [#], [*] as first dialed digit, and 7-digit dialing limitation; plus 1-800, 1-866, 1-877, 1-888, 1-911, 1-611 are allowed, and 411, 976, and 555 numbers are denied. COS 7 allows all COS 5 and 10-digit local dialing.*

The Allow and Deny tables enable entries of either general or specific allow and deny codes such as allowing all [1-800] type calls, and/or denying all [1]+ or [0]+ calls.

The Allow and Deny tables allow a maximum of 8 digits to be entered as allow or deny digits. This enables entry of certain area codes or office codes that can specifically be allowed or denied.

For example, the code [1-555-1212] may be entered in the Deny Table to deny local toll information calls. Each Allow Table contains 20 bins for entry of allow codes. Each Deny Table contains 10 bins for entry of deny codes.

Rules for Setting Up Allow/Deny Tables

Rule 1--- If both tables (Allow and Deny) have no entries, no restriction is applied.

Rule 2--- If entries are made in the Allow Table and only there, then only those numbers are allowed. All other dialing is denied.

Rule 3--- If entries are made in the Deny Table and only there, then only those numbers are denied. All other dialing is allowed.

Rule 4--- If there are entries in both Allow and Deny tables, the Allow Table is searched first, and if a match is found, it is allowed. If a match is not found, the Deny Table is searched; if a match is found, the call is denied. If the number does not match an entry in either table, it is allowed.

Table 2-26: Allow / Deny Table

Rules	Allow Table	Deny Table	Conditions and Results	
			Allow	**Deny**
Rule 1	No Entries	No Entries	All calls are allowed.	
Rule 2	Entries	No Entries	If a match is found, the call is allowed.	
			If a match is not found, the call is denied.	
Rule 3	No Entries	Entries		If a match is found, the call is denied.
				If a match is not found, the call is allowed.
Rule 4	Entries	Entries	If a match is found, the call is allowed.	If a match is found, the call is denied.
			If a match is not found, the deny table is searched.	If a match is not found, the call is allowed.

A special Do Not Care character (D) may be entered to allow or deny any digit dialed in that digit sequence.

Special Reference Tables

The *XTS* system also offers four special tables that can be referenced from within the two Allow Tables.

- Three of the special tables can be assigned to specific area codes that require further toll restriction definition.
- The fourth Special Table is reserved for use as a home area code table (numbers within the same area code as the site where the system is installed). This provides expanded ability to apply toll restriction on numbers that are dialed within an area code.
- Each Special Table allows up to 800 entries (200–999). This offers the ability to allow every office code on an individual basis.

Related Information

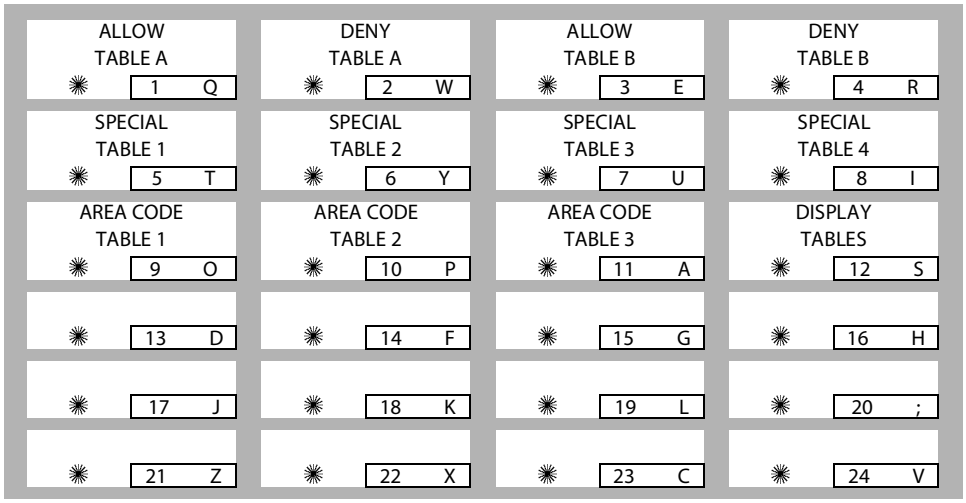
Quick Reference			
➡ Flash 40	Page A	Button #9	Class of Service (Refer to *"Class of Service - CO Line" on page 2-59*.)
➡ Flash 50	Page B	Button #2	Day (Special) Class of Service (Refer to *"Station Day Class of Service" on page 2-60*.)
➡ Flash 50	Page B	Button #3	Night Class of Service (Refer to *"Station Night Class of Service" on page 2-61*.)

Entering Toll Table

Description

All toll tables have been conveniently placed under one program code to allow entry of all toll restriction data.

The buttons on the digital terminal are defined as shown below when entering the Toll Restriction programming area (FLASH 70):



When the system searches the Allow and Deny tables, the entries are checked starting with Bin 01 and proceeding sequentially through the table to the last bin. In addition the Allow Table is always searched before looking at the Deny Table. Therefore, the entry order is important. Entries that are specific (e.g., [1716]) are placed ahead of entries that are more general (usually include Do Not Care digits; e.g., [1 D 1]).

Once a match is found in the Allow Table that references a Special Table, the number dialed are checked for an allowed code in the Special Table. If a match is not found in the Special Table, the system continues to check for a match in the next Allow or Deny Table to check. The system does not return to the table that sent the call to the Special Table.

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

1. Press **FLASH** and dial **[70]**. The following message displays:

```
EX  TABLES
ENTER  BUTTON  NUMBER
```

2. To program Allow/Deny tables, press the appropriate Table button and enter information as outlined in the following procedures.

3. To program Special Tables 1-3, it is necessary to associate an area code to the table. This is done by pressing the appropriate AREA CODE TABLE button and assign the area code.

Special Table 4 is reserved for the home area code and does not require an area code entry.

4. To display entries in any of the tables, press the DISPLAY TABLES button **(FLASH 70, Button #12)**. Entries in the Allow/Deny tables display two at a time. Entries in the Special tables display six at a time in ascending order.

Allow Table

Description

Each Allow Table contains 20 bin numbers. Each bin number may be up to 8 digits, including Do Not Care digits and Search Special Table commands. Entries into the Allow Table represent exceptions to numbers or codes that are to be allowed only if they would otherwise be restricted by an entry in the Deny Table.

EXAMPLE

If [1 555 1212] is allowed but [1+] numbers are denied, by an entry into the Deny Table, [1 555 1212] is entered into the Allow Table as an allowed number.

- Allow Table A is referenced and searched first (before Deny Table A) when Station COS is 2 and CO Line COS is either 1 or 2.
- Allow Table B is referenced and looked at first (before Deny Table B) when Station COS is 3 and CO Line COS is either 1 or 3.
- When Station COS is 4 and CO Line COS is 1 both allow tables are looked at first (Allow Table A first, then Allow Table B) then both deny tables (Deny Table A first, then Deny Table B).

  Do Not Care digits specify that the system should consider any digit dialed in that position as a match. Do Not Care digits should not be entered as the last digit in an entry, as this would be an unnecessary or meaningless command.

  Search Special Table commands must be entered in a specific manner and should always be the last entries in the Allow Table. It is recommended that the last four bins (17–20) in the Allow Table be reserved for referencing the four special tables with the reference to the home area code (Special Table 4) always being located in bin number 20. Search Special table commands can only be entered into the allow tables.

Remember to enable 911 for all Classes of Service

Rules for entries that reference Special Tables:

For entries referencing the first three special tables a specific area code must be identified (one for each table needed). Then make note as to how the numbers are dialed when dialing numbers to this area code (i.e., with a leading digit [1] or no leading digit [1]).

The entry into the Allow Table would be entered as follows:

- Leading Digit [1]: Enter [BB] [1] [XXX] [DDD] [S]

  -or-

- Non-Leading [1]: Enter [BB] [XXX] [DDD] [S]

  BB = Bin Number (Bins 17-19)

  XXX = Area Code (must match AREA-X entry)

  DDD = Do Not Care digit (three entries, DND button)

  [S] = Search Special Table Command (TRANS button)

For an entry that references the Home Area Code table (Special Table 4) the entry may also be entered to expect or not expect a leading digit [1]. In fact, in some cases it may be desirable to enter both of the following entries:

- Leading Digit [1] -- Enter [BB] [1] [DDD] {S}

  and/or,

- Non-Leading [1] -- Enter [BB] [DDD] {S}

  BB = Bin number (Bin 20)

  DDD = Do Not Care digit (three entries, MUTE button)

  {S} = Search Special Table Command (TRANS button)

If both leading digit [1] and non-leading digit [1] entries are made to reference the same table, it is necessary to place the leading digit [1] entry ahead of the non-leading digit [1] entry in the Allow Table.

Programming Steps

1. Press the ALLOW TABLE A or ALLOW TABLE B flexible button **(FLASH 70, Button #1 or #3)**. The following message is shown on the display telephone:

   ```
   ALLOW  TABLE  A
   01E                          02E
   ```

   The first two bin locations display.

2. Enter a valid bin number (01–20) of the bin to be programmed.

   It is recommended that:

   - Bin 17 be reserved for an entry that references SPECIAL TABLE 1
   - Bin 18 be reserved for an entry that references SPECIAL TABLE 2
   - Bin 19 be reserved for an entry that references SPECIAL TABLE 3
   - Bin 20 be reserved for an entry that references the Home Area Code Table, SPECIAL TABLE 4.

3. Enter the Allow Code.

   [0–9], [✳], [#] = Corresponding allow digits (numbers)

   MUTE = Do Not Care digit (D)

   TRANS = Search Special Table (S)

4. Press the HOLD button to save the entry. Confirmation tone sounds and display updates.
5. When all entries for one table are complete, press the flexible button for the next table.

To erase a bin number:

1. Enter a valid bin number.
2. Press the HOLD button.

Deny Table

Description

Each Deny Table contains ten bin numbers. Each bin number may be up to eight-digits including {Do Not Care} digits. Entries in the Deny Table represent numbers or codes that are to be denied or restricted. Common entries would be [1] for restricting all [1+] type of calls. Exceptions to this restriction would be entered into the Allow Table.

- Deny Table A is referenced and searched only after the Allow Table A is checked when Station COS is 2 and CO Line COS is either 1 or 2.
- Deny Table B is referenced and searched only after the Allow Table B is checked when Station COS is 3 and CO Line COS is either 1 or 3.
- When Station COS is 4 and CO Line COS is 1, both allow tables are looked at first (Allow Table A first, then Allow Table B) then both deny tables (Deny Table A first, then Deny Table B).

  - Do Not Care digits specify that the system should consider any digit dialed in that position as a match. Do Not Care digits should not be entered as the last digit in an entry.

  - Search Special Table commands cannot be entered into the Deny tables.

Programming Steps

1. Press the DENY TABLE A or DENY TABLE B flexible button **(FLASH 70, Button #2 or #4)**. The following message displays:

```
DENY  TABLE  A
01E                          02E
```

2. When the first two bin locations are displayed, enter the 2-digit bin number (01–10) of the bin to be programmed.
3. Enter the deny code:
   [0–9], [✳], [#] = Corresponding deny digits numbers
   MUTE = Do Not Care digit
4. Press the HOLD button to save the entry. A confirmation tone sounds and the display now updates.
5. When all entries for one table are complete, press the flexible button for the next table.

To erase a bin number:

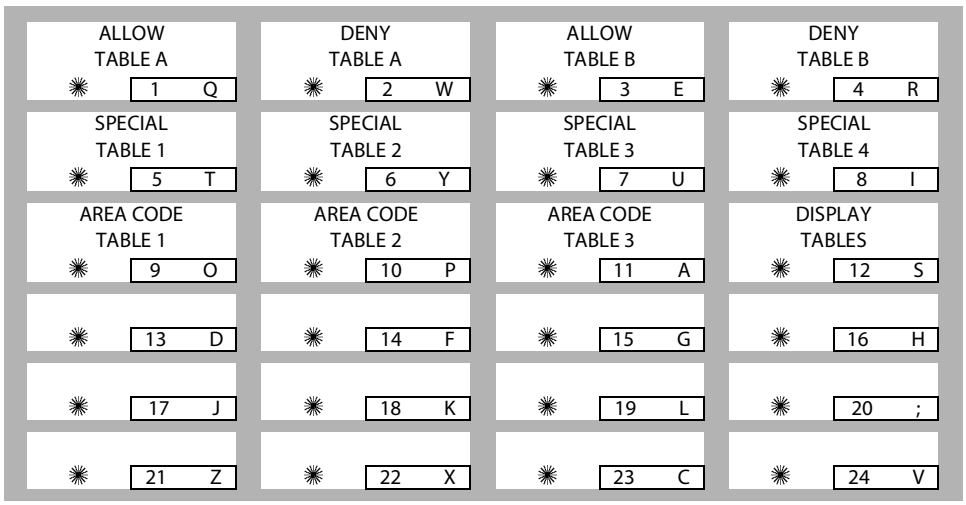
1. Enter a valid bin number.
2. Press the HOLD button.

Special Table

Description

The Special Tables provide greater flexibility in designing a toll plan for a particular site.

- Each Special Table allows entry of up to 800 office codes (200–999).
- Three of these tables must be assigned an area code by which they are referenced. The fourth table is reserved for the home area code and requires no area code entry.
- The Special Tables are referenced through entries in the allow tables. Four area codes, including the home area code, can be referenced to these special tables for further definition. When a Special Table is referenced, entries must be made in the Special Table specifying what office codes are allowed.
- Codes can be added to the Allow list or removed from the list. When a Special Table is checked for a match to a 3-digit code and not found, the system continues to search the next Allow/Deny Table to be checked. The system does not return to the Allow Table which routed the call to the Special Table.



Programming Steps

To program a special table:

(The area code must first be assigned to the table, except for the home area code.)

1. Press the appropriate AREA CODE TABLE (#1 to #3) flexible button **(FLASH 70, Buttons #9 to #11)**. The following message displays:

```
SPECIAL  TABLE  1                AC
```

2. Enter a valid area code.
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

To enter office codes in a special table:

1. Press the SPECIAL TABLE (#1 to #4) flexible button **(FLASH 70, Buttons #5 to #8)** that corresponds to the area code programmed above. The following message displays:

```
SPECIAL  TABLE 1          AC  XXX
```

XXX = Area Code

2. Enter the office codes that are to be allowed or removed as follows:

   XXX [1] = Allow Code

   XXX [0] = Remove Code from the list
   (XXX = An office code from 200 to 999)

3. Press HOLD after every code entered. A confirmation tone sounds and the display updates. Multiple codes may be entered in a row. The display updates showing the first six codes in ascending order.

DEFAULT … No codes are on the Allow list.

Display Toll Table Entries

Description

To view all entries in the toll tables using the display on the Executive telephone, press, the DISPLAY TABLES flexible button **(FLASH 70, Button #12)** multiple times to scroll through the entries.

It is recommended to view all entries in the Allow and Deny Table before leaving programming. Entries can be entered near the bottom of the list for searching the special tables or entries made in error. Viewing the entire Allow Table ensures proper entry and operation.

Programming Steps

Press the DISPLAY TABLES flexible button **(FLASH 70, Button #12)** while entering information into a table.

To view entries in an allow or deny table:

Two entries at a time are displayed on the bottom line of the display.

1. Press the DISPLAY TABLES button again, the next higher bins displays.
2. When the last entries are displayed, press the DISPLAY TABLES button again to show the first two entries.

```
ALLOW  TABLE  A
01  XXXXXXXE        02  XXXXXXXX
```

X = Allow or Deny Code

E = End of Entry

To view entries in a special table:

Six 3-digit codes allowed display in ascending order starting with the lowest entry.

Press the DISPLAY TABLES button again, the next 6 entries display. This continues until all codes are displayed.

```
SPECIAL  TABLE  1          AC  XXX
YYY  YYY  YYY  YYY  YYY  YYY
```

XXX= Area Code
YYY= Allowed Office Code

Initialize Exception Tables

Description

The Exception Tables parameters, including the Allow/Deny Tables and the Special Tables, may be initialized setting all tables to their original, default values. The following Tables are cleared returning to their default value upon initializing the Exception Tables parameters:

Table 2-27: Exception Table Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 70	TOLL RESTRICTION		
	1	Allow Table A Programming	None
	2	Deny Table A Programming	None
	3	Allow Table B Programming	None
	4	Deny Table B Programming	None
	5	Special Table 1 Programming	All Codes Denied
	6	Special Table 2 Programming	All Codes Denied
	7	Special Table 3 Programming	All Codes Denied
	8	Special Table 4 Programming	Home
	9	Area Code for Special Table 1	None
	10	Area Code for Special Table 2	None
	11	Area Code for Special Table 3	None
	12	Displaying Toll Table Entries	None

Programming Steps

1. Press the EXCEPTION TABLES flexible button (**FLASH 80, Button #5**). The following message displays:

```
INITIALIZE  EX  TABLES
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print Exception Tables

Description

The Print Exception Tables command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

When printing information from the Exception Tables, the following data prints:

- Allow Table A and Deny Table A
- Allow Table B and Deny Table B
- Special Tables 1, 2, 3, and 4

```
ALLOW TABLE A
-------------
01          11
02          12
03          13
04          14
05          15
06          16
07          17
08          18
09          19
10          20

DENY TABLE A
-------------
01          06
02          07
03          08
04          09
05          10

ALLOW TABLE B
-------------
01          11
02          12
03          13
04          14
05          15
06          16
07          17
08          18
09          19
10          20

DENY TABLE B
-------------
01          06
02          07
03          08
04          09
05          10
```

```
SPECIAL TABLE 1 AREA CODE
---------------------------------
ALLOWED OFFICE CODES


SPECIAL TABLE 2 AREA CODE
---------------------------------
ALLOWED OFFICE CODES


SPECIAL TABLE 3 AREA CODE
---------------------------------
ALLOWED OFFICE CODES


SPECIAL TABLE 4 HOME AREA CODE
---------------------------------
ALLOWED OFFICE CODES
```

Figure 2-22: Exception Tables Printout

Programming Steps

1. Press the EXCEPT TABLES flexible button **(FLASH 85, Button #5)**. The following message displays:

```
PRINT EX TABLES
PRESS HOLD
```

2. To print the Except Tables, press the HOLD button. The following message displays:

```
PRINTING EX TABLES
```

   When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Toll Restriction Related Items

CO/PBX Lines

When CO lines are marked as PBX lines the system first checks the PBX code table for a valid match. If the first digits dialed do not match the entries in the PBX code table the call is considered an attempt to call another PBX extension and no toll restriction is applied. If the first digits dialed are found in the PBX code table (FLASH 12), toll restriction starts with the next dialed digit.

Forced Account Codes

The system can be programmed to force the use of account codes on all restricted calls. When forced account codes are enabled, an account code must be entered to place a call that is otherwise restricted through toll restriction. By entering an account code, the station class of service becomes unrestricted. When account codes are forced on a system-wide basis, selected users may be instructed on how to enter account codes from any station and be allowed to dial unrestricted from a station that may otherwise be restricted. Use of account codes in this manner, as a traveling class of service, is however, not controlled by the system. Any station user with knowledge of how to enter account codes to override a station's toll restriction can do so.

SLT DTMF Receivers

When Single Line Telephones are connected to the *XTS* system and toll restriction is enabled, the DTMF receivers located in the system monitors the call for a programmed time period. While the DTMF receiver is monitoring the digits being dialed by a single line telephone, it is considered busy and not available for monitoring another SLT attempting to dial. When all DTMF receivers are busy, an SLT attempting to go off-hook does not receive dial tone until a receiver is available.

The *XTS* system allows up to 5 DTMF receivers for monitoring SLT dialing. If a system has heavy SLT usage, then toll restriction may inhibit dialing by SLT stations.

Two (2) options are available to help alleviate this problem:

1. Shorten the SLT receiver timer [FLASH 01] [Button 12]. This frees up DTMF receivers faster, but may not provide the desired toll restriction for SLT stations.
2. Enable LCR and force LCR on SLT stations.

When the LCR database is set up, the 3-digit table allows entry of the number of digits to expect. When a SLT dials the appropriate number of digits, LCR releases the DTMF receiver and then be available for another SLT call.

LCR Versus Toll Restriction

LCR is not an alternative to toll restriction nor is toll restriction an alternate to LCR. They work best when programmed together. Toll restriction specifies station dialing privileges, and LCR provides call routing to appropriate lines.

LCR can enhance toll restriction by providing Store and Forward operation to analyze digits being dialed before a trunk is seized. This prevents users from by-passing toll restriction by taking advantage of the time required for a central office line to provide dial tone. LCR is recommended when toll restriction is enabled.

Uniform Call Distribution

Eight Uniform Call Distribution (UCD) groups can be programmed, each containing up to eight three-digit station numbers. Each group is assigned a pilot number. When this number is dialed, the first available agent in that group is rung. Calls are routed to the station that has been on-hook for the longest period of time. Refer to *Chapter 4, Call Distribution - ACD/UCD* for additional information.

Universal Day/Night Answer

Description

Incoming CO lines can be programmed for Universal Day Answer (UDA) or Universal Night Answer (UNA). UDA/UNA assigned CO lines can also signal over the external page port(s). If External Day programming is enabled and the system is in the day mode, the assigned external page port(s) present a ringing signal. UDA/UNA is established on a per CO line basis in admin programming.

When the system is in Day or Night mode and you hear an outside line ringing at another station, and wish to answer it:

Dial [#5] on the dial pad. The connected outside line can be transferred or disconnected.

Each telephone utilizing Universal Day/Night Answer must have a loop button appearance if the ringing outside line does not display at their phone.

Universal Day Answer (UDA)

Description

UDA-assigned CO lines can signal over external page port(s). External Day ringing is programmed on a system-wide basis in administrative programming. Stations that do not have access to a line during the day can answer that line while the System is in the day mode by dialing a UDA code [#5]. To use this feature, a LOOP button or an appearance of the trunk must be present on the station.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible Button #19 (Page A) is lit.
4. Press the Page B flexible button (Button #20). The following message displays:

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

5. Press the UNIVERSAL DAY ANSWER flexible button **(FLASH 40, Page B, Button #7)**. The following message displays:

```
UNIVERSAL DAY ANSWER        0-1
DISABLED
```

6. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
7. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Universal Day Answer feature is disabled.

Conditions

» During the Day mode, all common CO lines ring when programmed for UDA ringing.

» CO lines not programmed for UDA ringing do not participate in common audible ringing.

» If External Day ring is disabled, or the system is not in the day mode, external page ringing is disabled.

» Ringing CO lines not assigned CO line group access for a particular SLT may be answered in a UDA service. Dialing privileges are unavailable on CO lines to which an SLT does not have access. CO lines without UDA status may not be answered or accessed via UDA procedures.

» If two single-line telephones attempt to retrieve one ringing CO line simultaneously, one user is connected to the incoming CO line and the other user receives intercom busy tone.

» The special ring mode is treated as day mode.

Universal Night Answer (UNA)

Description

If a line is marked UNA, this activates night service answering of incoming calls on this line by stations not normally assigned access to the line(s) by dialing feature code [#5]. This station must have a direct CO appearance or an available loop key assigned to do this. Lines marked as UNA also activate Night Ringing over External Page when in the night mode if External Night Ringing is set to Yes.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the UNA flexible button **(FLASH 40, Page A, Button #3)**.

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled

UNA ENABLED	0-1

6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … UNA is enabled.

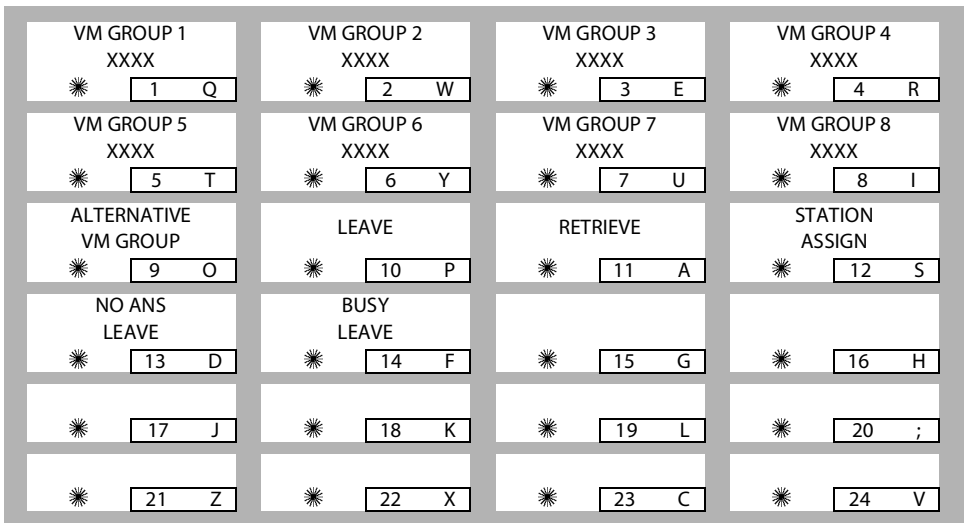
Voice Mail

Description

Up to 8 Voice Mail groups can be configured in the *XTS* system. Each group can contain up to 24 Voice Mail designated ports, each of which interfaces with a port on an SLT card (or DIDB if using a Digital Voice Mail).

An externally provided Voice Mail system or Auto Attendant must be connected to the *XTS* system for Voice Mail or Auto Attendant operation. Voice Mail automatically handles unanswered calls. Station user can then retrieve messages left at their stations.

Auto Attendants can handle incoming calls and route callers to station users without intervention from the systems Attendant. Direct incoming ring to Voice Mail/Auto Attendant groups can be done directly through CO Line Ringing Assignments. The buttons on the digital telephone are defined as shown when entering the Voice Mail programming area:



Programming Steps

1. Press FLASH and dial [65]. The following message displays.

```
VXXXX
ENTER BUTTON NUMBER
```

XXXX = 3- or 4-digit flexible voice mail group number

The top left button in the flexible button field is lit for programming Voice Mail Group 440.

2. To change Voice Mail groups or enter further voice mail groups, press the appropriate flexible button 1-8 (440–447) and perform the following procedures.

If installing a Vodavi voice mail system (except MiniVoice), skip directly to Button 12 and enter voice mail ports.

Certain programming is required in the Voice Mail system connected to the XTS system for proper operation.

Tone Mode Calling option (6#) must be programmed as leading digits in transfer sequence(s) of Voice Mail system to force tone ringing to key telephones in the handsfree mode.

DEFAULT … All Voice Mail stations are assigned to Voice Mail Group 1.

Alternate Voice Mail Group

Description

An Alternate Voice Mail Group may be programmed so that if all voice mail ports are in use, the call can be routed to an alternate group. This is useful when more than 24 ports are required for voice mail traffic.

Programming Steps

1. Press the ALTERNATE VM GROUP flexible button **(FLASH 65, Button #9)**.
2. Enter a valid flexible Voice Mail Group number.

```
VXXXX ALTERNATE VM GROUP
####
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete an alternate voice mail group assignment:

1. Press [#] three times.
2. Then press the HOLD button.

Standard Leave Mail Index Entry

Description

The Standard Leave Mail Index specifies the digits to be outpulsed when the in-band digits are sent to a Voice Mail system. These digits are required to connect a caller who is forwarded into voice mail, to the called station's mailbox.

Programming Steps

1. Press the STANDARD LEAVE flexible button **(FLASH 65, Button #10)**.
2. Enter a valid Standard Leave Mail Index number (0-7) on the dial pad.

```
VXXXX STANDARD LEAVE          0-7
#
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete a leave mail index entry:

1. Press [#] in the desired location on the keypad.
2. Then press the HOLD button.

DEFAULT … Voice Mail Group 1 Standard Leave Mail Index is set to zero (0).

Retrieve Mail Index Entry

Description

The Retrieve Mail Index specifies the digits to be outpulsed when the in-band digits are sent to a Voice Mail system. These digits are required to connect a station user to their mailbox.

Programming Steps

1. Press the RETRIEVE flexible button **(FLASH 65, Button #11)**.
2. Enter a valid outpulsing table number (0-7) on the dial pad.

```
VXXXX RETRIEVE MAIL           0-7
#
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete a retrieve mail index entry:

1. Press the pound key [#].
2. Then press HOLD.

DEFAULT … Voice Mail Group 1 Retrieve Mail Index is set to 1.

Station Assignments

Description

Up to 24 extension numbers may be programmed into a voice mail group. A flexible button may be programmed with a fixed or flexible voice mail group pilot number (440-447 = fixed). This button then acts as a DSS for that voice mail group when pressed and also serves as the message waiting indication for that VM group.

Programming Steps

1. Press the STATION ASSIGN flexible button **(FLASH 65, Button #12)**.
2. Enter **SSS 1** to add a station (SSS = 3- or 4-digit flexible VM station number),

   -or-

   Enter **SSS 0** to delete a station (SSS = 3- or 4-digit flexible VM station number).

```
VXXXX  STA   ####,  ####,  ####,
####,  ####,  ####,  ####,  ####
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

No Answer Leave Mail Index Entry

Description

The No Answer Leave Mail Index specifies the digits to be outpulsed when the in-band digits are sent to a Voice Mail system. These digits are required to connect a caller who is forwarded into voice mail in a No Answer condition, to the called station's mailbox.

Programming Steps

1. Press the NO ANS LEAVE flexible button **(FLASH 65, Button #13)**.
2. Enter a valid No Answer Leave Mail Index number (0-7) on the dial pad:

```
VXXXX NO ANS LEAVE          0-7
#
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete a no answer leave mail index entry:

1. Press [#].
2. Then press HOLD.

DEFAULT … Voice Mail Group 1 No Answer Leave Mail Index is set to zero (0).

Busy Leave Mail Index Entry

Description

The Busy Leave Mail Index specifies the digits to be outpulsed when the in-band digits are sent to a Voice Mail system. These digits are required to connect a caller who is forwarded into voice mail in a Busy condition, to the called station's mailbox.

Programming Steps

1. Press the BUSY LEAVE flexible button **(FLASH 65, Button #14)**.
2. Enter a valid Busy Leave Mail Index number (0-7) on the dial pad:

```
VXXXX BUSY LEAVE              0-7
#
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete a busy leave mail index entry:

1. Press [#].
2. Then press HOLD.

DEFAULT … Voice Mail Group 1 Busy Leave Mail Index is set to zero (0).

VMID Station Numbers

Description

The VMID Station Numbers feature must be used **after** changing station numbers with the Flexible Numbering feature. Voice Mail ID numbers will be changed to match current station numbers once HOLD is pressed. (Eliminates need for technician to program individual VMID numbers.)

This feature should be accomplished after the flexible numbers are assigned. Implementing this feature could cause the VM box numbers to be re-programmed.

Programming Steps

1. Press VMID STATION button **(FLASH 06, Button #15)**. The following message displays:

```
VMID SAME AS STA #
PRESS HOLD
```

2. Press HOLD to save the entry. A confirmation tone sounds.

VM Transfer with ID Digits

Description

The Voice Mail Index feature provides an Attendant or station user a way to transfer a caller directly into a voice mail box. Station identification digits can be entered by the transferring party.

Using this feature, a caller can be transferred to a voice mail box when:

- A station user on the system is not forwarded to VM, or
- The destination voice mail box owner is not a station user.

CO trunks and internal calls may be transferred into voice mail using this feature. If no voice mail ID digits are dialed by the transferring station, the ID digits of the transferring station are sent to voice mail.

This feature permits dialing digits 0000-9999 when using the VM with ID feature. On a per station basis, the ID number that is sent to voice mail can be flexible.

By default, the station number is sent to the voice mail system. In FLASH 50, Page B, Button #13 of administrative programming, there is a field to insert from 0-4 digits (0000-9999) which can be sent to the voice mail system in place of the station number. This is useful when a station user manually transfers a caller to a mailbox.

Operation

When a caller wants to be transferred into a user's Voice Mail box and that user's station is not forwarded into voice mail, the Attendant or a station user may initiate a Voice Mail Transfer in one of the following methods:

1. The initiating station presses the TRANS button.
2. Dial the Voice Mail Group number,

   -or-

   Press the preprogrammed VM group button.
3. Dial the desired party's VMID (Mail Box location) and go on-hook. The system makes the connection to an available Voice Mail port and sends the Leave Mail Prefix (if any) plus the digits dialed as the VMID number, then the Leave Mail Suffix digits (if any). The system then cuts through the transferred caller.

The VMID (mail box location) can be any number between 000 through 999. If 4-digit VMID (Flash 09) is enabled, the range is between 0000 through 9999.

The use of 000 or 0000 results in no voice mail ID digits being passed to the voice mail unit.

-or-

1. The initiating system presses the Voice Mail button.
2. Press DSS button to transfer desired party's Voice Mail ID.

Conditions

» CO Trunks and Internal Calls may be transferred into Voice Mail using this feature.

» If no VMID digits are dialed by the transferring station, the identification digits of the transferring station are sent to VM.

VM Tone Mode Calling Option

Description

Voice Mails Systems and/or Automated Attendants can utilize the Calling Station Tone Mode option. This is useful when using supervised transfer or call screening options on voice mail or Auto Attendant(s) requiring ring back tone for proper call handling.

The VM Tone Mode Calling feature lets the Voice Mail system override a called station's H or P intercom settings.

Operation

The VM system must be programmed when placing a call to a station and Tone Ringing is desired.

1. Dial [6#] on the dial pad.
2. Dial the station extension (call tone rings station).

Voice Mail ID Translation

Description

The Voice Mail ID Translation feature enables programming of the station number sent to the Voice Mail via In-Band integration. By default, the station number is sent to the Voice Mail system. In station programming, there is a field to insert a 4-digit entry (0000-9999) which can be sent to the Voice Mail system in place of the station number. (FLASH 67, Button #4 enables the VMID digit length.)

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the VOICEMAIL ID flexible button **(Button #13)**. The following message displays:

```
VOICEMAIL ID          0000-9999
0100
```

6. Enter a VM ID number which corresponds to 0000 to 9999.
7. Press HOLD to update the table. A confirmation tone sounds and the display updates.

DEFAULT… Station Numbers are assigned as VMID Digits.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Message Waiting Indication

Description

When Voice Mail receives a voice message for a user who has a station on the *XTS* System, the VM connected to the system can leave a message indication at the VM user's station. When the station retrieves their mail, the VM system can cancel the message waiting indication left at a station via a VM port.

The message waiting indication displays on the programmed Voice Mail (group) button. If such a button was not programmed, a voice mail message waiting indication displays on the MSG WAIT button as a normal message waiting signal.

The LCD Message Indication feature presents the number of new Voice Messages to users on their LCD display. The new VM LCD message on the keyset takes priority over Forward, DND, Messages, and idle displays. Ringing, Recalling, Outgoing Calls, and current call operation displays override the VM message display for the duration of the call or operation.

Operation

If your Message Waiting button or programmed Voice Mail Group button is flashing, you may have a voice message waiting.

To enter the voice mail system to check for mail:

1. Dial the Voice Mail Group number [440-447],

   -or-

   Press the preprogrammed Voice Mail group button or flashing Message Wait button.
2. When prompted, enter the mailbox password.

Message Wait / VM Button Flash Rate

Description

The Message Wait/VM Button flash rate is the rate at which the Message Wait and VM button(s) flashes when you receive a message/voice mail message. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

The fixed message button should not be used as a Voice Mail button.

Programming Steps

1. Press the MSG WAIT/VM BTN flexible button **(FLASH 07, Button #4)**. The following message displays:

```
MSG WAIT / VM BTN          00-28
RED  STEADY  ON
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Message Wait/VM Button flash rate is set for a Red Steady On (01).

Voice Mailbox Button

Description

A correctly programmed button will receive a message-waiting indication (MWI) from the voice mail system. This allows any station with multiple voice mail buttons to receive the MWI for each of the programmed buttons.

Station feature codes 460-467 represent voice mail groups 440-447 respectively, and 468 represents an external voice mail group. The functions of these codes are to provide:

- Direct mailbox access for local and remote stations. This allows an attendant to have one-button transfer directly to a mailbox.
- Multiple MWI capability per key station. This allows one station to have MWI for multiple mailboxes.
- Multiple direct mailbox access. This allows one-button access to different mailboxes from one keyset.

To program a Mailbox Button:

1. Press SPEED twice.
2. Press the desired flexible button to be programmed.
3. Dial the mailbox feature access code (460-467 = voice mail group 1-8; 468 = remote voice mail group).

The network system with the centralized voice mail installed must use feature access code(s) of 460-467 and the VMID number to program a mailbox button.

Networked systems that do not have the centralized voice mail installed must use the remote voice mail group of 468 and the VMID number to program a mailbox button.

4. Dial the VMID number.

   For example, 46**0**6037 represents a mailbox button (group 1) for VMID 6037 that is in the system with the centralized voice mail installed. 46**8**6037 represents a mailbox button for VMID 6037 that is in a system that does not have voice mail installed.

☎ SINGLE LINE TELEPHONE

Not applicable

Voice Mail Group Button

Operation

To program a VM GROUP button:

1. Press SPEED twice.
2. Press the desired flexible button to be programmed.
3. Dial a 3-digit VM Group number (440-447 = voice mail groups 1-8).

Initialize Voice Mail Group Parameters

Description

VM Group Parameters may be initialized, setting all data fields to their original default values.

Table 2-28: Voice Mail Group Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 65	VOICE MAIL GROUPS		
	1-8	Voice Mail Groups(440-447)	None
	9	Alternate Voice Mail Group	None
	10	Standard Leave Mail Index Entry	VM Group 1 Index = 0
	11	Retrieve Mail Index Entry	VM Group 1 Index = 1
	12	Station Assignments	None
	13	No Answer Leave Mail Index Entry	VM Group 1 Index = 0
	14	Busy Leave Mail Index Entry	VM Group 1 Index = 0
FLASH 66	1-8	Voice Mail In-Band Signaling	Table 0: Pre=P7, Suf=None Table 1: Pre=P7, Suf=✳ Tables 2-6: None Table 7: Pre=P7, Suf=2
	9	Voice Mail Disconnect Table	None
FLASH 67	1	Voice Mail In-Band Digits	Enabled
	2	Voice Mail Transfer/Forward	Enabled
	3	Voice Mail Broker	Enabled
	4	VMID Digits	3
	5	Remote VM Number (Networking)	None
	6	VM Port	Disabled
	7	VM Port Number	3

Programming Steps

1. Press the VOICE MAIL GROUPS flexible button (**FLASH 80, Button #12**). The following message displays:

```
INITIALIZE VM GROUP
PRESS HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print Voice Mail Group Parameters

Description

The Print Voice Mail Group command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device. When printing the VM Group Parameters, the following data prints:

- Voice Mail Group Parameters
- Voice Mail Outpulsing Table (including the disconnect table)
- Voice Mail Options

```
VM   ALT   LEV   RET   STN#
---------------------------
440          0##   1
441          ###   #
442          ###   #
443          ###   #
444          ###   #
445          ###   #
446          ###   #
447          ###   #

VOICE MAIL OUT TABLE
--------------------
TABLE
IDX  PREFIX    SUFFIX
 0     P7E
 1     P7E       *E
 2
 3
 4
 5
 6
 7               2E
VOICE MAIL CO DISCONNECT SIGNAL

APPLY IN-BAND DIGITS TO CO CALLS
        Y

ALLOW FORWARD TO VM GROUP
         Y
VM BROKER CALL
         Y
```

```
Mailbox Table
-------------
Index Group  ID
  1    440
  2    440
  3    440
  4    440
  5    440
  6    440
  7    440
  8    440
  9    440
  10   440
  11   440
  12   440
  13   440
  14   440
  15   440
  16   440
  17   440
  18   440
  19   440
  20   440
  ..   ...
  ..   ...
 240   440
 241   440
 242   440
 243   440
 244   440
 245   440
 246   440
 ...   ...
 ...   ...
 255   440
```

Figure 2-23: Voice Mail Group Parameters Printout

Programming Steps

1. Press the VOICE MAIL GROUP flexible button **(FLASH 85, Button #13)**. The following message displays:

```
PRINT VM GROUP
PRESS HOLD
```

2. To print data for Voice Mail Group Parameters, press the HOLD button. The following message displays:

```
PRINTING VM GROUP
```

When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Voice Mail In-Band Features

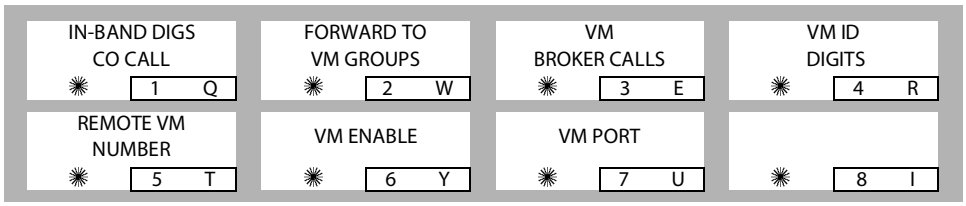
In-Band Signaling Integration

Description

The *XTS* allows programming so that if a station programmed to receive incoming CO line ringing is forwarded to Voice Mail, they may have incoming callers routed directly into their station's voice mail box through the use of In-Band signaling. Alternately, incoming CO lines can be programmed to ring directly into the Voice Mail system. In this case, callers are answered by the Voice Mail or Auto Attendant Main greeting.

Incoming CO callers can be call forwarded into Voice Mail automatically, if a Preset Forward Destination is programmed for that CO line and the same CO line programmed to ring at one station. CO lines may also be programmed to ring at an Attendant station, call forward into the Voice Mail system (if programmed to ring at one Attendant station) and presented to the main greeting (not the Attendant stations mailbox) even when ID digits are enabled.

Entries into the Voice Mail In-Band Features determines the in-band signaling required for ICID Incoming ID Digits (forwards incoming CO callers directly to a Station's Voice Mail Box), and Forward to VM Groups (lets voice mail calls, upon reaching a forwarded to VM station, forward back into the voice mail system).



Programming Steps

Press **FLASH** and dial **[67]**. The following message displays:

```
VM FEATURES
ENTER BUTTON NUMBER
```

Voice Mail In-Band Digits

Description

The Voice Mail In-Band Digits feature enables and disables station in-band signaling. Incoming CO callers can be Station Call Forwarded into voice mail only when the ringing CO line is programmed to ring at one station. CO lines programmed to ring at an Attendant station, call forward into the voice mail system (if programmed to ring only at one Attendant station). Callers are presented to the main greeting (not the Attendant station's mail box) even when ID digits are enabled.

Programming Steps

1. Press the IN-BAND DIGS CO CALL flexible button **(FLASH 67, Button #1)**. The following message displays.

```
IN-BAND DIGS CO CALL          0-1
ENABLED
```

2. Enter a 0 or 1 to Enable/Disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … ID Digits for incoming CO calls is enabled.

Voice Mail Transfer / Forward

Description

The Voice Mail Transfer/Forward feature forwards voice mail calls, upon reaching a forwarded to VM station, back into the voice mail unit. It is useful when VM ports are being used as both Auto Attendant and VM ports. This feature can be enabled/disabled for all VM groups.

Programming Steps

1. Press the FORWARD TO VM GROUPS flexible button **(FLASH 67, Button #2)**. The following message displays:

```
FORWARD TO VM GROUPS          0-1
ENABLED
```

2. Enter a 0 or 1 to Enable/Disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … VM Transfer/Forward feature is enabled.

Voice Mail Broker

Description

The Voice Mail Broker Calls feature modifies the operation of voice mail ports when disabled. Broker operation is unavailable when using supervised transfers to stations. When enabled, the current broker mode operation during supervised transfers remains in effect. This means the call to the station remains as the second party in a broker mode. If disabled, the VM port disconnects the call to a station and returns to the original party.

Programming Steps

1. Press the VM BROKER CALLS flexible button **(FLASH 67, Button #3)**. The following message displays:

```
VM BROKER CALLS                0-1
ENABLED
```

2. Enter a 0 or 1 to Enable/Disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … VM Broker feature is enabled.

Voice Mail ID Digit Length

Description

The Voice Mail ID Digit Length feature modifies the station and CO voice mail identification fields such that the maximum length of these fields is four digits.

Programming Steps

1. Press the VM ID DIGITS flexible button **(FLASH 67, Button #4)**. The following message displays:

```
VM ID DIGITS                   2-4
3
```

2. Enter a valid number (2, 3, or 4) that corresponds to the number of digits to be dialed.
3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … VMID length is set to 3 digits.

Remote Voice Mail Programming

Description

This feature is used to specify the pilot hunt number of the centralized voice mail system in a networking system. Refer to *"Remote Voice Mail Programming" on page C-26*.

Voice Mail Modem Access

Description

You can program Vodavi voice mail systems (other than MiniVoice or PathFinder) using the telephone system modem.

Programming Steps

To enable or disable the VM port:

1. Press the VM PORT flexible button **(FLASH 67, Button #6)**. The following message displays:

```
VM PORT                    0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT . . . VM Port is disabled.

To indicate which port is used to connect the voice mail system and the telephone system:

1. Press the VM PORT NUMBER flexible button **(FLASH 67, Button #7)**. The following message displays:

```
VM PORT NUMBER:            3-5
3
```

2. Enter a valid number (3-5) to indicate the port to be used.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT . . . VM Port Number is Port 3.

Operation

To access the voice mail system, you can either:

Dial [498]

-or-

Ring directly to 498

-or-

Be transferred to 498

Conditions

» The use of this feature requires the use of a straight-thru modem cable connected from the voice mail system to one of three ports on the *XTS* system. Use either port 5 on the MPB2 or ports 3 or 4 on the optional SIU.

Voice Mail One-Touch Recording

Description

The Voice Mail One-Touch Recording feature allows the station user, while on an internal/external call, to press a button and have the system record the conversation in the station user's mailbox. Code [649]+[VVV], where VVV=440-447 for desired VM group.

One-Touch Recording uses Table 7 from the Voice Mail Outpulsing Table. Refer to *page 2-329*.

Use of this feature when the One-Touch Recording Warning Tone is disabled may be interpreted as a violation of federal, state or local laws, and an invasion of privacy. Check applicable laws in your area before recording calls using this feature.

MiniVoice does not support Voice Mail One-touch recording.

Operation

While on an internal or external call:

1. Station user presses the preprogrammed VM RECORD button. The LED flutters red at 240 ipm during the setup and the following message displays:

RECORDING SETUP
MMM DD YY 00:00 am

2. Once the system connects to the station, the user's mailbox, the flexible button LED lights solid green and the LCD displays:

RECORDING
MMM DD YY 00:00 am

   To pause or resume recording after a pause, press the preprogrammed 655 key.

3. When the user finishes recording, press the preprogrammed VM RECORD button. The LED extinguishes and the normal LCD call information displays.

☏ ELECTRONIC TELEPHONE

Not applicable

☎ SINGLE LINE TELEPHONE

Not applicable

Conditions

» If the user hangs up without terminating the record function, the system performs the exit procedure as described in step 3 above.

» If the user presses the TRANS, CAMP ON, MSG, or FWD buttons during recording, pressing the button is ignored.

» During the recording setup, pressing the CONF button is ignored.

» If a VM port is **not available** when the station user wants to record, the user receives the following display (lasts six seconds):

```
RECORDING UNAVAILABLE
MMM DD YY              00:00 am
```

(The user may retry after the display extinguishes.)

» In the recording mode, pressing the CONF button lets the user add members to the recording (conference). Normal conference operation/conditions apply.

» If the FLASH or HOLD button is pressed during the recording, the recording is terminated.

» If a station user presses the record button while in a two-party conference, it is recorded. If the button is pressed a second time, the conference ends and the call is returned to a two-way conversation.

» Only one active recording per station is allowed.

» If a conference is being recorded and the conference master exits, the recording stays active. The recording stops if the initiator re-enters the conference and ends it, removes the record function, or the conference ends on its own.

» Only the initiator of a conference can invoke/remove the record function during a conference.

» A conference warning tone is not given to conference members, if the initiator is recording the conference and record tone is disabled.

» Recording is not allowed for a station that is barged in, Executive Overridden, or on an active OHVO call.

» An Unsupervised Conference Call can be recorded.

One-Touch Recording Warning Tone

Description

The One-Touch Recording Warning Tone feature lets the installer enable/disable the One-Touch Recording Warning Tone on a system-wide basis.

Use of this feature when the One-Touch Recording Warn Tone is disabled may be interpreted as a violation of federal, state, or local laws, and an invasion of privacy. Check applicable laws in your area before recording calls using this feature.

Programming Steps

1. Press the ONE-TOUCH RCD WARNING TONE flexible button **(FLASH 06, Button #10)**. The following message displays:

```
RECORDING WARN TONE          0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Recording Warning Tone is enabled.

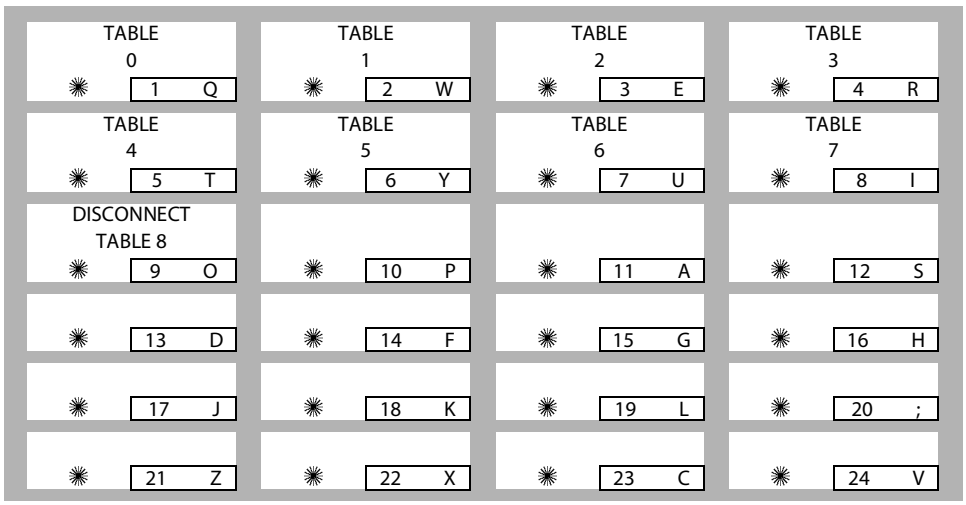
Voice Mail Outpulsing Table

Voice Mail In-Band Signaling

Description

Entries in one of the eight Voice Mail Outpulsing Tables determine the In-Band signaling required for:

- Retrieving messages (allows stations to pick up mail).
- Leaving messages (allows stations to leave messages in voice mail).



Suggested Uses:

- Build a table (0 for example) for any additional digits other than the station extension number (e.g., Voice Mail Box number) needed for a caller to leave a message in a station's mailbox (Leave).
- Build another table (1 for example) for any additional digits needed for a mailbox holder to retrieve a message (Retrieve). By Default:

Table 0	Prefix = P7 (Pause+7)	Suffix = None
Table 1	Prefix = P7 (Pause+7)	Suffix = ✳
Table 7	Prefix = P7 (Pause+7)	Suffix = 2 (Used for One-Touch Record)

Entries are not required in the Outpulsing Table. However, a table must be referenced when setting up the Voice Mail groups for the system to send digits to the voice mail.

Programming Steps

1. Press FLASH and dial [66]. The following message displays:

```
VOICE      PRE   XXXXXXXXXXXXE
MAIL Y     SUF   XXXXXXXXXXXXE
```

Y = Table Index (0–7)

X = Entered Digits (0–9, #, ✳, Pauses)

2. The TABLE 00 flexible button (Button #1) led is lit. To change tables, press the appropriate flexible button (Buttons 2–8) and perform the following procedures.
3. Dial one of the following, when required:

   [0] = If a prefix is required

   [1] = If a suffix is required

   [#] = If entry is to be deleted
4. Enter up to 12 digits, including [✳] and [#], TRANS button = pause.
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To clear entries in a table:

Press the pound key once [#], followed by HOLD.

Voice Mail Disconnect Table

Description

A disconnect signal can be programmed into the *XTS* system to notify the VM system that a call has been abandoned. This is accomplished through in-band signaling. If a CO or Intercom disconnect signal is detected, the *XTS* system sends a series of DTMF digits programmed in the voice mail disconnect table to the voice mail port. This can be any digit stream up to 12 digits including [✳] and [#].

This table serves all eight voice mail groups. When no digits are programmed in the disconnect table, silence is provided to the voice mail port followed by busy tone to aid the voice mail system to recognize that the caller has abandoned the call.

The *XTS* system provides Loop Supervision monitoring while a CO call is connected to a port designated as voice mail and passes the Supervision to the voice mail.

Loop Supervision must be enabled on the CO lines (in CO Line programming) for the VM Disconnect feature to operate.

Programming Steps

1. Press the DISCONNECT TABLE 8 flexible button **(FLASH 66, Button #9)**. This table number is used for the voice mail disconnect signal.
2. Enter up to 12 digits used for the disconnect signal, including [✳] and [#], TRANS button = pause.

```
VOICE  DIS  E
MAIL
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … There are no entries in the Disconnect Table (Table #8).

Voice Over the Internet Protocol

The *Discovery* Voice Over the Internet Protocol (VoIP) printed circuit board (PCB) is for use on Vodavi key service units (KSUs), that includes the Vodavi telephone systems. It provides an Ethernet interface to connect the KSU to an Internet Protocol (IP) network. The latest in voice processing protocols and hardware technologies are used to provide the highest quality voice over an IP network. In addition to supporting a Vodavi KSU, compatible IP phones can establish calls with the *Discovery* VoIP card, allowing calls to be made to and from the IP phone. Refer to *Appendix D, "Voice Over the Internet Protocol,"* for detailed description and programming information.

Volume Control

Operation

DIGITAL AND ELECTRONIC TELEPHONES

The volume control on the Digital Key Telephone controls ringing, handset, and speakerphone volumes. It also affects the receive volume of the Wanderer cordless unit. The volume on 8-button digital telephones is controlled by dialing feature code 638 and then using [#] to increase volume or [✳] to decrease volume.

The volume control on the Electronic Key Telephone consists of two wheels located on the right side of the telephone. Turning the wheel toward you decreases the volume.

- The front wheel controls voice, background music, and speakerphone volume.
- The rear wheel controls tone ringing volume.

While using these function/features, Digital and Electronic Key Telephones display the following messages:

Listening to Background Music ...

```
SPEAKER BGM          [#########]
MMM DD YY             HH:MM am
```

Using the speakerphone on an Intercom call ...

```
SPEAKER CALL         [#########]
MMM DD YY             HH:MM am
```

Using the handset on an Intercom call ...

```
HANDSET ICM          [#########]
MMM DD YY             HH:MM am
```

Using the speakerphone on a CO call ...

```
SPEAKER CALL         [#########]
MMM DD YY             HH:MM am
```

Using the handset on a CO call ...

```
HANDSET CO              [#########]
MMM  DD  YY              HH:MM am
```

Receiving a page announcement ...

```
SPEAKER PAGE            [#########]
MMM  DD  YY              HH:MM am
```

Receiving an incoming tone ringing Intercom or CO call ...

```
SPEAKER RING            [#########]
MMM  DD  YY              HH:MM am
```

☎ SINGLE LINE TELEPHONE

The volume control on the Single Line Telephone is located on the right side of the telephone. The slider switch options are HI for loud volume, LO for low volume, and OFF to turn the ringer off. Two-line models have a volume switch for each line. Certain models do not have an OFF option.

Speakerphone models have a sliding volume switch to adjust speakerphone volume. Slide the switch toward you for lower volume or away from you for increased speakerphone volume.

Each model has a volume button that can be pressed to increase or decrease the handset volume.

The B/Z ringer switch is located on the bottom of the telephone near the line jacks. This switch should be set to the Z mode for business/hospitality applications and to the B mode for residential applications.

The MSG light and the Line In Use (LIU) LEDs will not operate when set in the B ringer mode.

For single line telephones that are not equipped with a volume control slider switch or to increase the volume greater than that allowed by the slider switch, use the following steps.

1. Dial 638.
2. Dial a valid number (0-9) to select a volume level.
3. Press HOLD.

3 Attendant Features and Operation

The Attendant and Attendant(s) with DSS/DLS features of the *XTS* System are listed and described in alphabetical order. Attendant features are in addition to digital station features.

The instructions in this chapter are based on the use of a digital display telephone.

Introduction

The instructions in this chapter are based on the use of a digital display telephone.

The *XTS* System provides the following keys, indicators and features:

Handset and Speaker are located at the left side of the front panel. A handset is provided to allow confidential conversation when desired. Lifting the handset from its cradle (going off-hook) disengages the station's built-in speaker.

The speaker is located directly below the center portion of the handset. The station may be operated with the handset on-hook. When this occurs, audio is transmitted to the station user through the station's speaker.

Flexible Buttons access idle outside lines, provide DSS/BLF for internal stations, access speed dial numbers and activate features. These buttons can be programmed by the individual station user. The default flexible feature buttons are described as follows:

- CALL BACK button lets you initiate a call back request to another busy station. As soon as that station becomes idle, the station that left the call back request is automatically signaled. A flexible button must be assigned to use this feature.
- PICK-UP button lets you pickup a tone ringing intercom call, transferred, incoming**,** or recalling outside line call to a specific unattended station by group or directed call pickup.
- DND (DO NOT DISTURB) button. On Attendant stations, this button becomes the system Night Mode button. A flexible button must be assigned to use this feature.
- LINE QUEUE button lets you queue onto an outside line when all lines in a group are busy. Your station is placed in queue awaiting a line in the same group to become available.

Fixed Feature Buttons function as follows:

- VOLUME BAR lets the user adjust ringer, speakerphone and handset volume.
- H-T-P lets the user select the ICM Signaling Mode, handsfree tone, or privacy.
- FLASH button terminates an outside call and restores dial tone without hanging up the handset. It also transfers calls behind a PBX or Centrex within those systems.
- CAMP-ON button lets you alert a busy party that an outside line is on hold and waiting for them.
- MSG (MESSAGE WAIT) button lets you initiate a message waiting indication at stations that are busy, unattended, or in Do Not Disturb. Message Waiting Callback request left at your station is indicated by a flashing MSG WAIT LED.
- SPEED button gives you access to speed dialing, save number redial and last number redial. This button also accesses flexible button programming.
- TRANS (TRANSFER) button transfers an outside call from one station to another.
- CONF (CONFERENCE) button establishes and builds conference calls.
- FORWARD (FWD) button lets you forward your calls to another station.
- ON/OFF button lets you make a telephone call without lifting the handset. It turns the telephone on and off when using the speakerphone.

- MUTE button lets you switch the built-in microphone on or off when using the speakerphone, or the handset microphone when using the handset.
- HOLD button lets you place an outside caller on hold.

Outside Calls are announced by a tone signal repeated every 3.2 seconds. The corresponding outside line indicator flashes slowly.

Intercom Calls can be tone ringing or voice announce. If it is voice announced, the receiving station receives two bursts of tone prior to the announcement. If it is a tone ringing call, the receiving station hears a tone ring every 2.4 seconds.

** ACD features are available with optional software.*

Attendant Features - Index

Table 3-1: Attendant Features

Features
ATTENDANT FEATURES
911 ALERT
ATTENDANT CO LINE EXTERNAL (OFF-NET) FORWARD
ATTENDANT CUSTOM MESSAGE
ATTENDANT DAY/NIGHT/SPECIAL
ATTENDANT DIRECTORY LIST PROGRAMMING
ATTENDANT DISABLE OUTGOING CO LINE
ATTENDANT OVERRIDE
ATTENDANT SETTING TIME AND DATE
ATTENDANT STATION ASSIGNMENT
ATTENDANT UNAVAILABLE
ATTENDANT VOICE MAIL ALARM CLEAR
DISPLAY TIMER
ICLID CALL MANAGEMENT TABLES
RECALL
RELEASE BUTTON
SPEED DIAL - SYSTEM STORING
ATTENDANT WITH DSS/BLF FEATURES
BUSY LAMP FIELD INDICATORS
DIRECT STATION CALLING
MAPPING OPTIONS
TRANSFER SEARCH
STATION ID FOR DSS / BLF CONSOLE WITH MAP

911 Alert

Description

Any station user or attendant who programs a flexible button for 911 ALERT (feature code 608) will be alerted of internal stations placing 911 calls. The system can store the sixteen most recent 911 calls. Calling information includes the time/date of the call, as well as the station number from which the call was placed.

The initial 911 Alert indications include:

- Audible ringing tone
- Green flashing 911 ALERT flexible button LED
- Automatic LCD display of 911 call information

```
E911 CALL      XX:      STA XXXX
MM/DD/YY                  HH:MM
```

XX = Index number (01-16)

Operation

Station users and attendants can press the 911 ALERT flexible button as necessary to view additional 911 calls' information in the stored list. After a station user or attendant views the information for all 911 calls in the system list:

- All users' LEDs change to a solid red indication.
- The audible ringing tone at all stations ceases.
- The LCDs at all stations revert to a normal display.

The list remains available for review by pressing the 911 ALERT flexible button as necessary, until after the messages are deleted.

To delete logged 911 Alert messages:

An attendant uses the following steps to delete the messages on a system-wide basis.

1. Press the 911 ALERT flexible button to display the 911 call information for deletion.
2. Press FLASH to delete that message.

Attendant CO Line External (Off-Net) Forward

Description

The Attendant CO Line External (Off-Net) Forward feature lets the first Attendant station forward incoming CO calls to an off-net location. The Attendant must have a direct appearance of the CO line to be forwarded. Forwarding can be established on a per CO line group basis or on an all CO line groups basis. In a speed dial bin, store the number of the off-net location where calls are to forward. Follow instructions provided for storing station or system speed dial numbers.

Operation

To activate off-net forwarding:

1. Dial [603] on the dial pad,

   -or-

   Press preprogrammed CO OFF-NET FORWARD button.
2. Dial the CO group access code of the group to be forwarded:

   [801-823] = CO Group 1-23

   [824] = All CO Groups
3. Dial the speed bin number that contains the number where calls are to forward. A confirmation tone sounds.

To cancel off-net forwarding:

1. Dial [603] on the dial pad,

   -or-

   Press preprogrammed CO OFF-NET FORWARD button.
2. Dial the CO group access code.
3. Dial [#] on the dial pad. A confirmation tone sounds.

Conditions

» When CO lines are off-net forwarded, these lines display unique flash rates at the Attendant station.

Attendant Custom Message

Description

The Attendant Custom Message feature allows the first programmed Attendant (system administrator) to enter up to ten custom messages for system-wide use by station users. Up to 24 characters may be entered as the custom message (this represent 48 digits entered).

A station user may store any of the available messages under a flexible button assigned as a Message Access button. These messages may be specified and customized by the customer on a system-wide basis.

Message status is stored in a battery-protected area of memory for retention in the event of a power failure or system reset (soft or hard).

Operation

Program the ten custom messages at the first Attendant station as follows:

1. Dial the Custom Message program code [694] on the dial pad. The following message displays:

2. Enter a valid message bin number [21–30]. The following message displays after the bin number has been selected.

```
mmmmmmmmmm...
ENTER  MSG:
```

3. Enter the custom message using the dial pad keys to enter the letters as shown in *Figure 2-15 on page 2-214*.
   - Up to 24 alphanumeric characters may be entered for the custom message (this represents 48 digits entered). The actual characters display as the digits are being entered while programming the messages.
   - The Attendant must go idle after programming a message before another message may be programmed.
4. The Attendant then presses the HOLD button to enter the message and a confirmation tone sounds.

Conditions

» The telephone receiving the message or programming must be a display telephone.

» Key telephones and SLTs can leave a message. SLTs are notified that they left a message with a warning tone when going off-hook.

» Incoming and outgoing calls are not inhibited with a message displayed.

» When a message is displayed by a key telephone, the DND button LED flashes at the 15 ipm rate.

» When DND is invoked on the telephone, the message is canceled.

» Message Access (with desired message) may be assigned to a flexible button.

» The Message Access function is assigned to a station flexible button in database administration.

» A station user may store any of the available messages under a flexible button assigned as a Message Access button.

» The ten Custom Messages display in a similar fashion as Canned messages. The idle station display shows the message that was activated at the station and a calling station receives the STA XXX or name-in-display followed by the programmed custom messages.

» This feature is not available for use at Attendant stations.

Attendant Day/Night/Special

Description

The system's Automatic Night Mode Feature can be overridden by the Attendant station. The Attendant station user can press their DND button to place the system into Night Mode.

Any designated Attendant can place the system into Night Service.

The Night Service feature provides a means to put the system in night mode from any keyset or remove the system from night mode from any keyset, providing the system was put in night mode by the night service feature flexible button [604]. If the system was placed in night mode by the Attendant using the DND button or if the system was placed in night mode by the automatic schedule, the night service flexible button cannot remove the system from night mode.

Operation

1. Press the preprogrammed NIGHT SERVICE button (631, DND by default) once to activate the Night mode (LED is lit solid).
2. Press the DND button again to activate the Special mode (LED flashes @ 240 ipm).
   - The DND button (by default) acts as a rotary in this manner, starting in the Day mode, Night mode, and Special mode.
   - When one Attendant activates this mode, other Attendant stations' DND buttons are lit accordingly.

Attendant Directory List Programming

Description

Directory Dialing enables display telephone station users to obtain a directory of station users and have the system dial the extension currently displayed. The *XTS* system provides locations for up to 200 names (000-199). Directory dialing also lets the Attendant program a name with a speed dial bin for use in later locating a speed dial number. When prompted, the system displays the name associated with a speed dial number so when the desired name is shown, the user may then have the system dial the number.

Programming Steps

To access Directory List programming, dial the Directory List program code [693]. The HOLD button illuminates.

The first entry (000) in the Directory List is shown on the display.

```
DIR LST AAA   BIN/ICM: XXXX
nnnnnnnnnnnnnnnnnnnnnnn
```

AAA = Directory List entry number (000-199)

XXXX = Either:,

A 3- or 4-digit station number (100-8999)

-or-

A 3-digit local number/name translation table number (600-799 minus assigned station numbers that would overlap)

-or-

A 4-digit remote device number (1000-8999 minus assigned station numbers that would overlap)

-or-

A 4-digit station speed bin number (9020-9999)

nnn = Programmed Name (blank if none)

The following procedure is used to enter, edit, and erase names in the Directory List for stations or speed dial numbers.

1. Enter desired 3-digit Directory List number (000-199), or dial [✳] to scroll up (next entry) or [#] to scroll down (previous entry) through the list.

   If just changing a name associated with an existing station, skip to step 4.
2. Press TRANS.
3. Enter the 3- or 4-digit station intercom number.
4. Press MUTE.
5. Enter the name (up to 24 characters may be entered) by using the keys. The display updates as the name is entered.

Other Codes			
1 = 1#	8 = 8#	" = 01	* = *#
2 = 2#	9 = 9#	, = 02	(= #1
3 = 3#	0 = 0#	? = 03	) = #2
4 = 4#	Space = 11	/ = 04	+ = #3
5 = 5#	: = 12	! = *1	= = #4
6 = 6#	- = 13	$ = *2	# = ##
7 = 7#	' = 14	& = *4	. = 24

Figure 3-1: Directory List Keypad Map

6. Press SPEED when finished. Confirmation tone sounds and the display shows the new or changed name.

7. Press HOLD, then use [✳] or [#] to scroll to next entry.

   -or-

   Hang up to end programming.

To clear an entry:

1. Select desired entry.
2. Press TRANS.
3. Press FLASH.
4. Press SPEED. Confirmation tone sounds and entry is erased.

The following procedure is used to associate names to the Local Number/Name Translation Table number only.

1. Enter desired three-digit Directory List number (000-199), or dial [✳] to scroll up (next entry) or [#] to scroll down (previous entry) through the list.

   If just changing a name associated with an existing Table entry, skip to step 4.
2. Press TRANS.
3. Dial three-digit Local Number/Name Translation Table number (600-799) that represents the desired telephone number.
4. Press MUTE.
5. Use keys on the dial pad to enter the name (up to 24 characters may be entered). The display updates as the name is entered (refer to *Figure 3-1 on page 3-9*).

If an error is made during keystroke entry, press FLASH to clear the current name.

6. Press SPEED when finished. Confirmation tone sounds and the display shows the new or changed name.
7. Press HOLD, then use [✳] or [#] to scroll to next entry.

   -or-

   Hang up to end programming.

The following procedure is used to associate names to a system speed dial bin only.

1. Enter desired 3-digit Directory List number (000-199), or dial [✳] to scroll up (next entry) or [#] to scroll down (previous entry) through the list.

   If just changing a name associated with an existing System Speed Dial Bin entry, skip to step 4.
2. Press TRANS.
3. Dial system speed dial bin location (9020–9999).
4. Press MUTE.
5. Use keys on the dial pad to enter the name (up to 24 characters may be entered). The display will update as the name is entered (refer to *Figure 3-1 on page 3-9*).
6. Press SPEED when finished. Confirmation tone sounds and the display updates.
7. Press HOLD, then use [✳] or [#] to scroll to next entry.

   -or-

   Hang up to end programming.

Operation

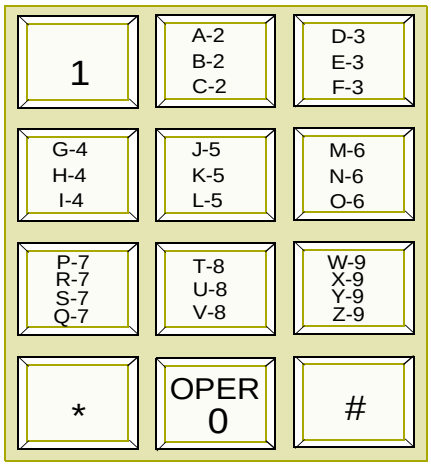
To view the directory list:

1. Dial the Directory List dial code [680] on the dial pad,

   -or-

   Press the flexible button programmed as a directory dialing button.

2. Press a button on the key pad, once, twice or three times, that represents the letter of the alphabet to begin viewing the list of names (e.g., when 2 is first pressed, it produces names starting with A. When 2 is pressed a second time, names that start with B display. Pressing 2 a third time displays names that start with C). The alphabet is represented on the key pad as shown below.



   Names beginning with the letter chosen display on the LCD display.

   If there are no names in the Directory List beginning with the desired letter, a name with the next higher letter displays on the LCD display.

3. Dial [✳] to scroll up (next entry) through the list,

   -or-

   Dial [#] to scroll down (previous entry) through the list,

   -or-

   Press another key to view the list for a different letter of the alphabet.

4. When the desired name displays on the LCD, press the SPEED button to automatically dial the destination station or outside phone number (via speed dial).

To transfer a call using directory dialing while on a call:

1. Press the TRANS button.
2. Dial the Directory Dial Code [680] on the dial pad,

   -or-

   Press the flexible button programmed for directory dialing.

3. Press the digit associated with the person's name and when it displays, press SPEED to automatically dial the destination station.

4. Hang up to complete the transfer.

Calls may be transferred to internal stations only. An attempt to transfer a call off-net (via a speed dial bin) results in the call recalling upon going on-hook.

Conditions

» If the desired party is an intercom station, that station is signaled according to their intercom selector/H-T-P switch (SLT stations tone ring).

» If the desired party is associated to a speed dial bin, the system selects a CO line and dials the number programmed into the speed dial bin. Call progress tones are then heard.

» If station is in Directory Dialing mode and a CO or intercom call rings in, the station must exit Directory Dialing mode to answer the call.

Attendant Disable Outgoing CO Line

Description

The first Attendant can disable CO lines to prevent outgoing access to those lines. This is useful for removing a faulty line from service or for reserving CO lines for important use. All stations that normally make calls on the lines are affected, but incoming calls are unaffected. A CO line may be disabled while it is being used. When the trunk becomes idle, further outgoing access is prevented.

Operation

To disable CO Lines:

1. Lift handset or press ON/OFF button.
2. Dial [602] on the dial pad. A confirmation tone sounds.
3. Press the line button(s) of the CO Line(s) to disable. A confirmation tone sounds and the CO Line button(s) LED flashes.

To reactivate the CO Line(s):

Repeat Steps 1-3 to disable this feature.

Attendant Override

Description

Attendant stations may override a busy station or ring a station in DND. While busy, pressing the override key provides override tone and a five second delay before voice cut-through to the called party occurs, automatically placing any outside line call on Hold. The Attendant Override function must be programmed onto a flexible button and can be enabled or disabled.

Programming Steps

1. Press the ATTN OVERRIDE flexible button **(FLASH 05, Button #1)**.
2. Enter a valid number (0 or 1) that corresponds with the following entries:

   [0] = Disabled

   [1] = Enabled

```
ATTENDANT OVERRIDE          1-0
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Attendant Override functions ONLY when the Attendant station is assigned a flexible button designated as Attendant Override.

DEFAULT … Attendant Override is disabled.

Operation

To call a station busy on a CO call:

Press the preprogrammed ATTN OVERRIDE button [601]. Three short tone bursts are presented to the called party.

After five (5) seconds, the station's CO line is automatically placed on hold and the Attendant is cut-through.

To call a station in Do Not Disturb mode:

Press the preprogrammed ATTN OVERRIDE button. The station is signaled with a Camp On tone.

Attendant Setting Time and Date

Description

The System Time/Date must be set by the first programmed Attendant via admin programming or by using feature code 692.

Programming Steps

To set the time and date that appears on display telephones:

1. Press **FLASH** and dial **[11]**. The following message displays:

```
DATE AND TIME
MMM DD YY              HH:MM am
```

MMM = Month
DD = Day
YY = Year
HH= Hour
MM = Minute

2. Choose display format by pressing the appropriate button in the flexible button field. The time can be displayed in the standard 12-hour format or the 24-hour format.
3. Dial the time and date in the order shown below (2 digits for each entry, for a total of 10 digits):

   Year

   Month

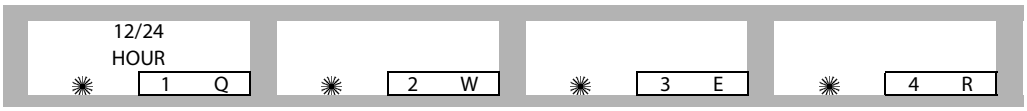
   Day

   Hour

   Minute

To program a pm time after selecting the 12-hour format, use 24-hour numbering, e.g., To program a time of 5:00 pm, enter 17:00.

4. Press HOLD to save the entry. A confirmation tone sounds and the display updates.



When entering the time and date, use the following data:

LED Off = 12 Hour Display

LED On = 24 Hour Display

DEFAULT … Time is set for 12-hour display format.

Operation

1. Dial [692] on the dial pad. A confirmation tone sounds.
2. Enter date and time as follows: YYMMDDHHMM

YY	=	Year (00-99)	HH	=	Hour (00-23)
MM	=	Month (01-12)	MM	=	Minute (00-59)
DD	=	Day (01-31)			

When the correct number of digits are entered, a confirmation tone sounds.

3. Press the ON/OFF button to OFF to update the display.

Attendant Station Assignment

Description

Any three Digital Telephones in the system can be assigned as Attendant stations. These stations receive recalls and can place the system into Night Service. The Attendant stations must be either Enhanced or Executive stations.

Programming Steps

1. Press **FLASH** and dial **[10]**. The following message displays:

```
ATND STA ASSIGNMENT
100, ####, ####
```

2. Enter a valid station number (100-8999) on the dial pad, followed by a "1" to add or "0" to delete the attendant assignment.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Station 100 is assigned as the first attendant.

Attendant Unavailable

Description

The Attendant Unavailable feature lets Attendant stations have a button that places their station in an Unavailable Mode. When the station is in the Unavailable Mode, the next Attendant station receives dial "0" calls and recalls. This feature is based on having the three programmed Attendant stations.

Operation

1. When the (first programmed) Attendant presses the preprogrammed UNAVAILABLE flexible button,

   -or-

   Dials the Attendant Unavailable code [607] on the dial pad, the following results occur:

   - The LED on the flexible button lights solid, if programmed.
   - Recalls and dial "0" calls now ring at the second Attendant.
   - If the second Attendant places their phone in unavailable, the third Attendant receives recalls and dial "0" calls.
2. When the first Attendant *repeats the process* (using Unavailable button or code [607]), the following results occur:
   - The LED on the flexible button, if programmed, extinguishes.
   - The first Attendant resumes normal operation.
   - The second and third Attendants will not receive recalls or dial "0" calls.

Conditions

» This feature lets the programmed Attendant stations receive Attendant recalls only. No other Attendant type functions are given to this station when the station is in the Attendant mode.

» If Attendant A (first programmed) is available, incoming calls and recalls are directed to this station regardless of other Attendant stations status.

» The special ring mode can be set so the alternate Attendant does not receive an incoming CO ring until the main Attendant places their phone in special and unavailable modes.

» If all Attendants in the system are unavailable, no Attendants are available for internal/external callers.

» Recalls are directed to all programmed available Attendants.

» If only one Attendant is programmed in the system, and that Attendant is unavailable, users dialing zero hear an error tone.

Attendant Voice Mail Alarm Clear

Description

The Attendant display shows an alarm condition when the system detects that the digital voice mail is out of service.

Operation

The attendant can dial feature code [656] to clear any alarm from the display. It will not clear the condition, just clear the display.

DSS/BLF Console with Map

Description

An optional Direct Station Selector (DSS) console is available which may be associated with an Attendant station to provide additional buttons for DSS/Busy Lamp Field (BLF) features.

Busy Lamp Field Indicators

Description

Each station key on the DSS console has a corresponding indicator that shows whether the station is idle or busy. The indicator is lit when the station is busy and unlit if the station is idle. A station in DND mode is shown by a flashing indicator.

Direct Station Calling

Description

Enables the Attendant to make an intercom voice call to any digital telephone in the system. You can automatically put an outside caller on hold and simultaneously make an intercom call to an internal station; you can also transfer an intercom or outside call that is on hold to another station.

Mapping Options

Description

The DSS/BLF Console unit can access Stations, Direct Appearing CO Lines, or features that may be assigned to any of the flexible buttons (refer to *"Flexible Button Assignment" on page 2-148*). A DSS/BLF unit may be assigned to one of the different MAP configurations available.

Any one of the five MAP configurations may be assigned to the DSS/BLF and any number of maps may be assigned to one station. However, MAPs that have buttons assigned as CO lines cannot be changed, buttons assigned as Stations can be changed by the user.

There are five pre-defined MAPs for the DSS/BLF console with default button programming. Refer to *Figure 3-2 on page 3-17* through *Figure 3-6 on page 3-21*.

MAP #1 -- By default has the first 12 CO Lines and the first 36 Stations, 100-135. This provides a default layout of a 12 X 36 configuration.

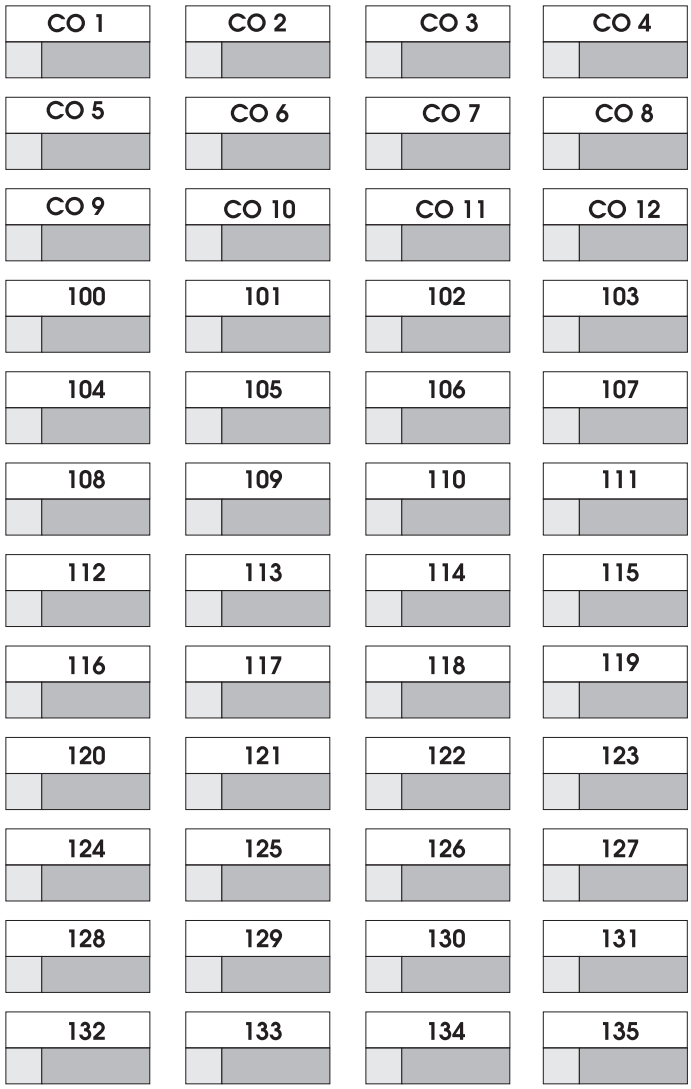


Figure 3-2: DSS Console Map #1

MAP #2 -- By default has the first 48 Stations, 100-147, appear in sequential order. All buttons on Map #2 are flexible and can be changed by the station user. This map can be duplicated on another DSS/DLS Console and assigned to the same station.

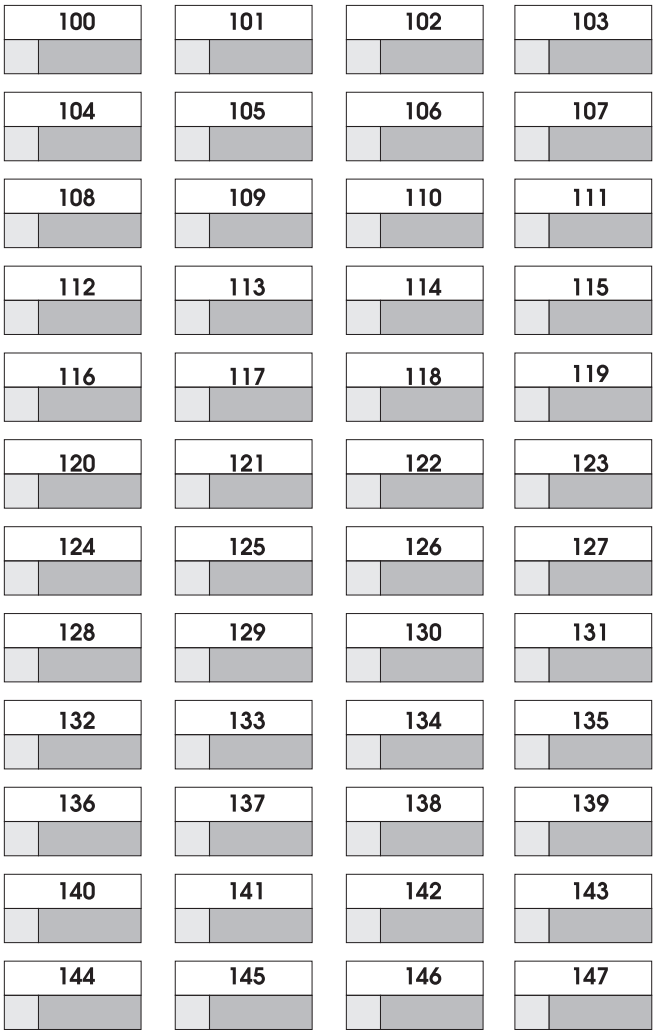


Figure 3-3: DSS Console Map #2

Map #3 -- By default is to be used with Map #2 in that it has the remaining stations, 148-195, to provide a full Station mapping. All of the buttons on Map #3 are flexible and can be changed by the user. This map can be duplicated on another DSS/DLS Console and assigned to the same station.

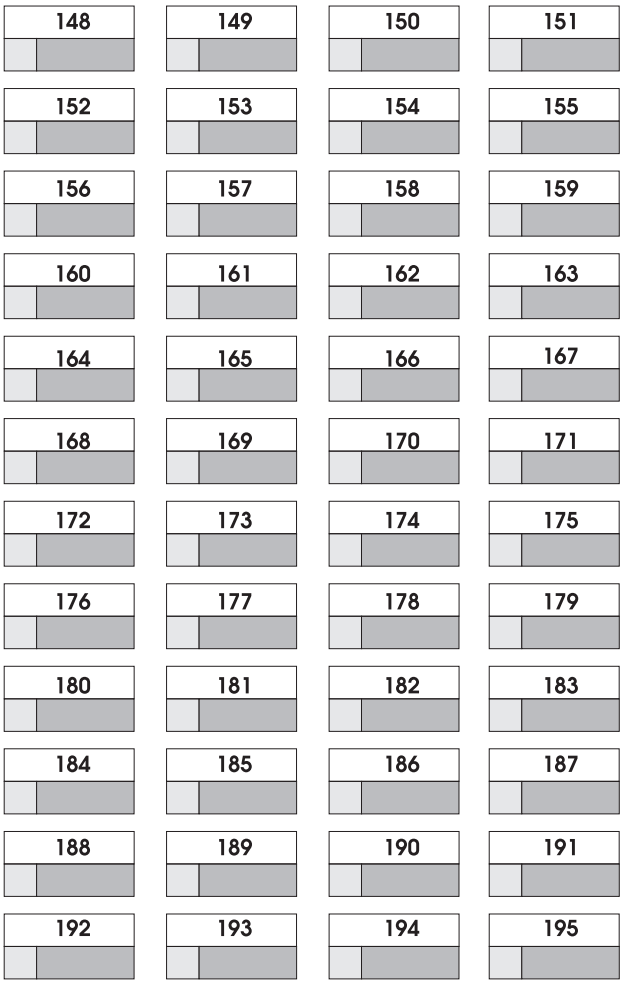


Figure 3-4: DSS Console Map #3

MAP #4 -- By default, CO Lines 1-48 appear in sequential order.

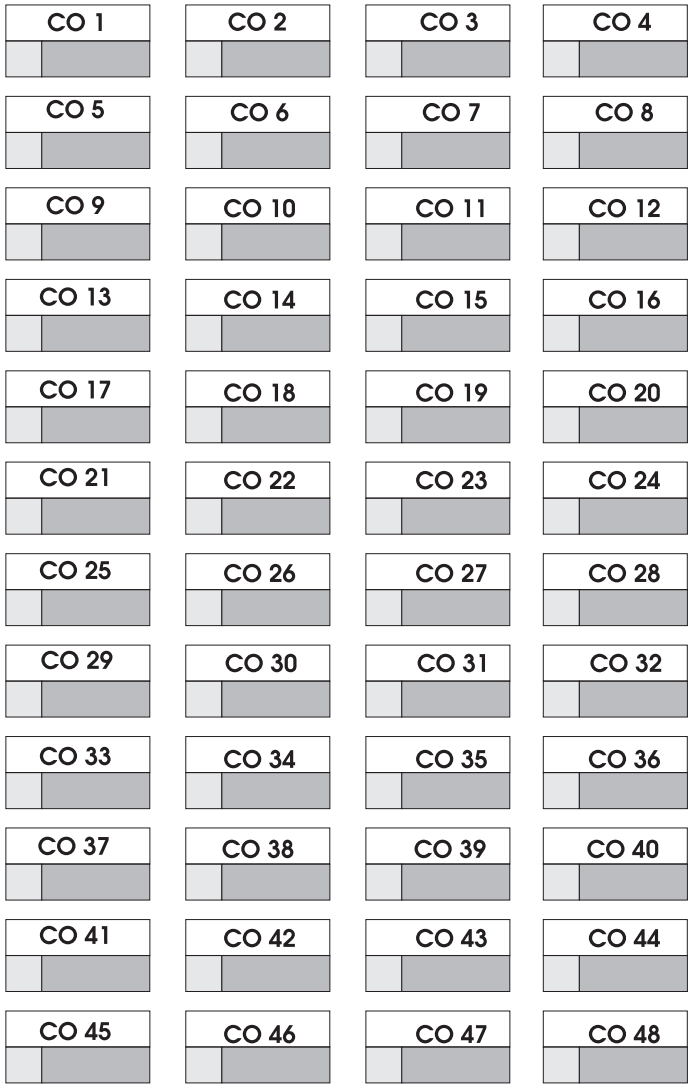


Figure 3-5: DSS Console Map #4

Map #5 -- By default, CO Lines 49-96 appear in sequential order. Provides the receiving station with CO Line buttons when used in conjunction with DSS Map #4 for a full 96 CO Line mapping. CO Line ringing on Maps 1, 4 and 5 is determined by CO Line Ringing Assignments.

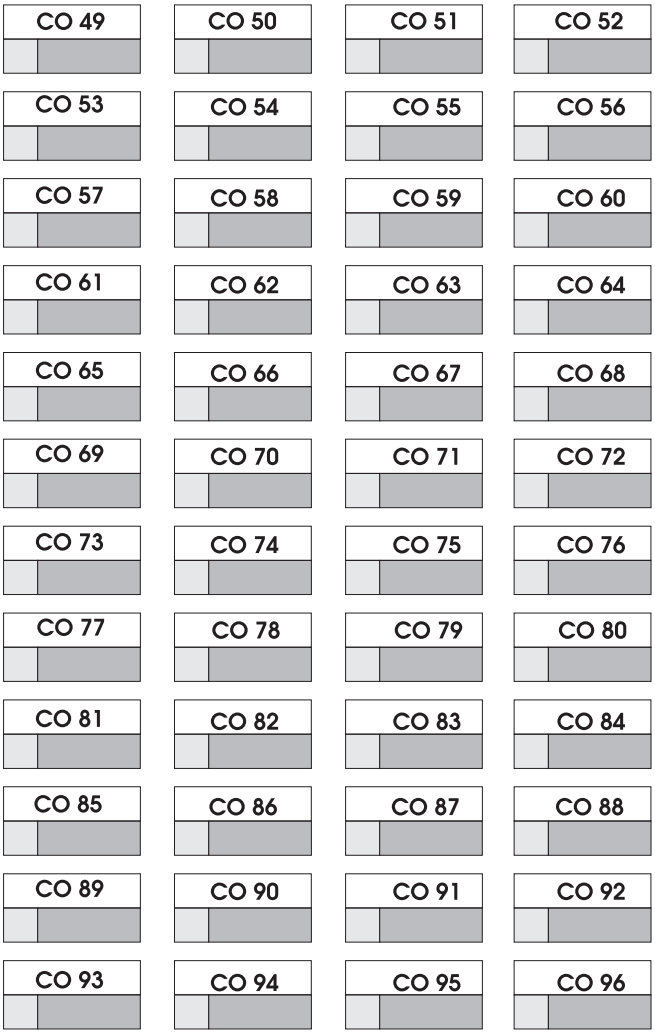


Figure 3-6: DSS Console Map #5

Transfer Search

Description

Allows the Attendant to make a series of intercom calls without hanging up the handset.

Operation

An intercom connection is switched to another station whenever a DSS key is pressed. Pressing the next DSS key terminates the previous intercom call.

Station ID for DSS / BLF Console With Map

Description

Each system port must be programmed to identify the type of station that operate on that port. Each station type must be identified.

When identifying a station as a DSS / DLS console, you must also enter the station number of the key telephone to which the DSS / DLS console is associated. To associate a DSS console with Station 100, the entry would be 1100 [HOLD].

Programming Steps

1. Press the STATION ID flexible button **(FLASH 50, Page B, Button #1**).

```
STATION ID                    0-8
KEYSET - SP 24BTN
```

2. Dial **[1-5]** on the dial pad to identify the DSS map number. Refer to *"Mapping Options" on page 3-16*.
3. Enter a valid station number to which the DSS/BLF Console is associated.
4. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

```
STATION ID                    0-8
DSS MAP X ASSOC XXX
```

X = 1-5
XXX = Station Number

Display Timer

Description

The Attendant Display Timer changes the way in which multiple calls ringing at the Attendant station are displayed. If two calls are ringing at an Attendant station, when the station goes off hook, the first call is answered. The LCD display then updates to show the second call that is ringing, which sometimes does not allow the station to view the current call's LCD information. The display timer keeps the current call's information on the LCD for a programmable time period before showing any other calls ringing in at the time.

The Attendant Display Timer setting is variable from 00-99 seconds.

Programming Steps

1. Press the ATTENDANT DISPLAY TIMER flexible button **(FLASH 02, Button #2)**. The following message displays:

```
ATTENDANT DISPLAY          00-99
01
```

2. Enter a valid number on the dial pad that corresponds to 00-99 seconds.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Attendant Display Timer is set for 1 second.

ICLID Call Management Tables

Description

Two ICLID Call Management Tables are maintained in the system. These tables consist of an Answered Call Management Table and an Unanswered Call Management Table. Each have a 100 entry capacity.

Answered Call Management Table

Description

The Answered ICLID Table feature adds a table that captures the ICLID calls that were answered. The table can store up to 100 entries of the most recently answered ICLID calls. A station may dial a unique access code to view the entries, scroll through the entries, and dial a desired entry back. The table displays the number as well as the station that answered the call.

Operation

This table may be accessed from any user station display phone so the answered calls may be reviewed and handled by the end user. Any Attendant station(s) can delete a table entry, one entry at a time. Upon entering the review process, the functions available to a phone are:

Table 3-2: ICLID Answered Call Management

Function	Button
Go to beginning of table	Dial Code 659
Review next item in table entry	MUTE
Step to next table entry	HOLD
Delete table entry (Attendant only)	FLASH
Exit table review function	ON/OFF
Step to previous table entry	TRANSFER
Call Back	SPEED

Conditions

» Telco must activate Caller ID service.

» Auto Attendant calls are considered answered.

Unanswered Call Management Table

Description

An Unanswered Call Management Table with 100 entry capacity is maintained in the system. The calling number/name information pertaining to any unanswered call is placed in this table at the time the system determines the call was abandoned.

This table may be accessed from any display telephone to review unanswered calls. Only an Attendant station(s) can delete an entry from this table.

Operation

This table may be accessed from any station display phone so that the unanswered calls may be reviewed and handled by the end user. Upon entering the review process, the functions available to a phone are:

Table 3-3: ICLID Unanswered Call Management

Function	Button
1. Go to beginning of table	Dial Code 635
2. Review next item in table entry	MUTE
3. Step to next table entry	HOLD
4. Delete table entry (Attendant only)	FLASH
5. Exit table review function	ON/OFF
6. Step to previous table entry	TRANSFER
7. Call Back	SPEED

Conditions

» Telco must activate Caller ID service.

» Auto Attendant calls are considered answered.

Recall

Description

A held CO call left unattended by a station recalls the Attendant(s) after a programmable time period elapses. A recalling CO line flashes at a distinctive rate and has an LCD display that identifies the originating station of the unanswered call.

Operation

To answer a recall, press OUTSIDE LINE button that is flashing at a very fast rate.

Conditions

» Recall does not apply to intercom calls placed on hold.

Attendant Recall Timer

Description

The Attendant Recall Timer determines the time a recalling call rings at the attendant station(s) before the system releases the line. When a CO Line recalls to the Attendant station and is still unanswered, the system releases the line at the expiration of this timer and automatically places the line to an idle condition.

The Attendant Recall Timer setting is variable from 00–60 minutes. An entry of 00 causes the Attendant(s) station to ring until answered.

Programming Steps

1. Press the ATTENDANT RECALL TIMER flexible button **(FLASH 01, Button #3)**. The following message displays:

```
ATND RECALL TIMER          00-60
01
```

2. Enter a valid number on the dial pad that corresponds to 00-60 minutes.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Attendant Recall Timer is set for 1 minute.

Release Button

Description

The Release Button feature lets the station user disconnect calls while off-hook (on handset, not speakerphone), speeding up call handling time.

While off-hook (on handset, not speakerphone) on an intercom call, transfer sequence, page announcement, or CO call:

Press the preprogrammed RELEASE button [641] to terminate intercom call, transfer sequence, page announcement or CO call.

Speed Dial - System Storing

System Speed numbers must be entered by the first programmed Attendant. If no Attendant is specified, enter at Station 100.

1. Press SPEED once, then press desired outside line key; or select an outside line automatically by pressing the SPEED button twice.
2. Dial the System Speed bin location (9020-9999).
3. Dial telephone number.
4. Press the SPEED button.
5. Hang up.

- Pressing the TRANS button during number entry initiates a Pulse-To-Tone switchover.
- Pressing the HOLD button during number entry inserts a Pause.
- Pressing the FLASH key inserts a Flash into the speed number.
- Pressing the TRANS button as the first entry in the speed bin inserts a no-display character causing the numbers stored in the bin not to display on the Digital Telephones when the bin is accessed.

Speed Bin numbers 9060-9099 ARE NOT monitored by Toll Restriction.

4 Call Distribution - ACD/UCD

This chapter covers the topics of Automatic Call Distribution (ACD) and Uniform Call Distribution (UCD).

Automatic Call Distribution

Description

The Automatic Call Distribution (ACD) feature is available with optional software. When purchased, Uniform Call Distribution (UCD) is not used and is replaced by the ACD functions identified in the following sections.

Sixteen (16) Automatic Call Distribution (ACD) groups can be programmed, each containing up to 252 station numbers.

Each group is assigned a pilot number. When this number is dialed, the first available agent in that group is rung. Calls are routed to the station that has been on-hook for the longest time period.

ACD Help

Description

The ACD Agent HELP feature provides a means for an ACD Agent to signal their assigned supervisor for assistance.

Operation

While on a call in progress, the Agent presses their preprogrammed HELP flexible button and the following occurs:

- A confirmation tone sounds. The agent's HELP button illuminates if a supervisor is logged into their ACD group. If no supervisor is logged in, the agent receives a burst of error tone and the HELP button does not illuminate.
- The ACD supervisor station receives a Help message when an ACD member that belongs to the same group initiates a Help request. The Help function also sends a Camp-On tone to the speaker of the supervisor's keyset. The Help message takes precedence over any other message and can be cleared by the supervisor by pressing their HELP button.
- At the time the supervisor receives a Help request, they can press their HELP flexible button followed by the override feature button to bridge onto the ACD group member's call. The HELP button places an intercom call to the station requesting Help. The Help message is cleared after the supervisor's HELP button is pressed. The Help message is also cleared if the agent was on a call and went back on-hook before the supervisor could respond. In this case, the Help message is converted to a message wait indication. The agent can also clear the Help request by pressing their HELP button a second time.

ELECTRONIC TELEPHONE

Not applicable

SINGLE LINE TELEPHONE

Not applicable

Conditions

» Up to five (5) messages can be left at any supervisor station.

» The supervisor can cancel a Help request signal by pressing their flashing HELP button. A call is placed to the agent requesting Help. If the agent is on a call, the supervisor can press the BARGE-IN button to monitor the call or give assistance.

» A flexible button must be programmed for this feature.

» Only Digital Telephones can activate this feature.

ACD/UCD Calls In Queue Status Display

Description

This feature allows an ACD station (12/24 button executive only) to monitor the calls in queue information for a particular group. The button LED indicates that there are calls in queue.

The agent automatically receives an enhanced Calls in Queue display on the LCD whenever there is a call in queue.

Refer to *"UCD Calls In Queue Display" on page 4-45* for UCD-specific information.

Related Information

Quick Reference		
➡ Flash 60	Button #5	Calls in Queue Threshold (Refer to *"Calls in Queue Threshold" on page 4-12*.)

Operation

In-service ACD agents and the assigned overflow station automatically see the quantity of calls in queue on the LCD of their station for the ACD group of which they are a member. If every member of the ACD group is busy and calls are in queue, the Supervisor/Agent Queue Status display is seen at all ACD members of that group.

This feature cannot be used with a call in progress. The station is considered busy for incoming calls during this operation. Each time this feature is used, wrap-up is started.

If an ACD member is taken out of the group (e.g., DND, All Call Forward, Unavailable, etc.) they do not receive calls in queue information.

There are two methods for stations not assigned to the ACD Group to monitor the ACD Calls In Queue Status Display. The first method requires pressing one preprogrammed flexible button, or dialing the feature code, followed by entering the ACD group number that you desire to monitor. The second method uses one or more preprogrammed flexible buttons to immediately access ACD Calls In Queue Status Display(s) with a single press of the flexible button. This second method allows a supervisor to more quickly monitor a specific ACD group or switch between monitoring of several groups under their supervision.

First Method - From an idle key telephone:

1. Dial the ACD Calls In Queue Status Display feature code [567] on the dial pad,

   -or-

   Press the preprogrammed flexible button.
2. Dial the ACD Group number (550-565). ON/OFF button LED lights steady.

- The ACD Calls In Queue Status Display shows the following information:

```
ACDXXXX 00 CALLS IN QUEUE
MMM DD YY              HH:MM am
```

XXXX = ACD Group number

- This idle display tells the agent and/or their supervisor how many calls are in queue.

3. Replace handset or press ON/OFF button to terminate the display.

Second Method - From an idle key telephone:

The preprogrammed flexible button for the ACD group being monitored will flash at 240 ipm indicating that there are calls in queue.

1. Press the preprogrammed flexible button. The ACD Calls In Queue Status display shows the following:

```
ACDXXXX 00 CALLS IN QUEUE
MMM DD YY              HH:MM am
```

AXXXX = ACD Group number

The idle display tells the agent and/or their supervisor how many calls are in queue.

The user assigns an ACD CALLS IN QUEUE DISPLAY flexible button using the ACD Calls In Queue Display feature code [579] + [XXXX], (XXXX = ACD group number).

2. Replace the handset or press the ON/OFF button to terminate the display.

Conditions

» Any ACD station can have a button assigned to view the calls in queue for any ACD group.

ACD/UCD Available/Unavailable

Description

If you are an ACD agent, you may place your station in the Available mode to receive ACD calls, or you may place your station in the Unavailable mode to block ACD calls from ringing your station.

The ACD Available/Unavailable DSS/BLF flash rate is the rate at which a DSS appearance for a station in ACD Unavailable mode flashes. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Refer to *"UCD Available/Unavailable" on page 4-44* for UCD-specific information.

Programming Steps

1. Press the ACD UNAVL – DSS/BLF flexible button **(FLASH 07, Button #8)**. The following message displays:

```
ACD UNAVL DSS / BLF          00-28
RED 60 IPM DBL WINK OFF
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … ACD Available/Unavailable DSS/BLF flash rate is set for a Red 60 ipm Double Wink Off (04).

Operation

To make a station available:

Dial the ACD Available/Unavailable feature code [566] on the dial pad,

-or-

Press the preprogrammed AVAILABLE/UNAVAILABLE button. You may now receive ACD calls.

To make a station unavailable:

Dial the ACD Available/Unavailable feature code [566] on the dial pad,

-or-

Press the preprogrammed AVAILABLE/UNAVAILABLE button. You are now blocked from receiving ACD calls.

Conditions

» If station is unavailable and key is programmed, it will flash at 60 ipm double wink.

ACD Call Factor

Description

The Call Factor feature is used exclusively with the digital voice mail to provide the average call duration to the caller. This feature can be activated from administration or the ACD supervisor can use a flexible button. To use a flexible button, dial the ACD Call Factor feature code [580] + the ACD Group number (550-565) + [FFF], (where FFF = Call Factor - the average call duration).

The following formula is used to calculate the average call duration:

(Place in Queue) (Call Factor)

Number of Agents Logged into Group

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the CALL FACTOR flexible button **(FLASH 60, Button #14)**. The following message displays:

```
AXXXX  CALL FACTOR          0-999
XXX
```

5. Enter a valid number (0-999 minutes) for the desired call factor time. (0 disables this function.)
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

ACD Call Qualifier

Description

The CALL QUALIFIER feature provides a means for an Agent on ACD calls to enter call identification codes. This feature provides up to three digits for the ACD SMDR reporting function. Up to 12 digits can be entered, however only the first three digits are used in the SMDR record.

Operation

While agent is on a call:

1. Press the preprogrammed CALL QUALIFIER flexible button, followed by the three-digit qualify code.
2. Enter a [✳] to complete the sequence. A short burst of confirmation tone sounds through the keyset speaker, if programmed.

Conditions

» The outside party does not hear the (qualify code) account code being entered.

» The qualify code is the first three digits of the account code. Therefore, the account code record in the SMDR contains the qualify code in the first three digits.

» The qualify code must be entered during CO talk state.

» The CALL QUALIFIER button is programmed using the Call Qualifier feature code [570] + [###] or the Call Qualifier feature code and the last three digits of a speed bin number, e.g., [570] + [YYY]. The speed bin number can also have the Call Qualifier code.

ACD Member Status

Description

The ACD Member Status feature provides a means for an ACD supervisor to view the status of the 16 ACD groups in the system, individually. This display tells the supervisor which stations are logged into the group, and if the stations logged in are available, unavailable, out-of-service, in DND, or busy on a call. The supervisor can use this display to determine why there are a lot of queued calls in a specific group.

Operation

Any station (Supervisor or Agent) logged onto the ACD group views the group members display as follows:

1. Dial the ACD Group Member Status feature code [573] on the dial pad,

   -or-

   Press preprogrammed flexible button.

The status of the ACD agents is displayed with a letter following the station number where the agent is logged in.

```
XXXX:   ####A ####A ####A
####O   ####U ####D ####B
```

XXXX = ACD Group number

= 3- or 4- digit station number

(N) = Not Equipped

(D) = Do not Disturb

(O) = Out of service

(U) = Unavailable

(B) = Busy on a call

(A) = Available

NOTE -- If an Agent makes a call while out of service, their status is out of service, not busy.

2. Press [✳] to scroll up to the next ACD Group. If more than eight members are in the ACD group, the next depression of the [✳] displays the additional members,

   -or-

   Press [#] to scroll down to the previous ACD Group. To return to an idle display, the Supervisor/Agent station goes to on-hook condition.

Conditions

» The ACD Group Members Status display is updated at the time the code is dialed.

» If an agent made a call while out of service, the status would be out of service, not busy.

ACD Overflow Station Assignment

Description

When an overflow station is assigned, callers that remain in queue for a specified amount of time are routed to the assigned overflow station. The overflow station may not be one of the ACD group stations. Only CO calls transferred to a ACD group overflow to the overflow station when RAN tables are assigned.

Programming Steps

To assign an ACD Overflow Station:

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the OVERFLOW ASSIGN flexible button **(FLASH 60, Button #3)**.
5. Enter a valid flexible station number to designate the ACD Group's overflow station.

```
AXXXX  OVERFLOW STATION
####
```

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete an ACD Overflow Station:

1. Press [#] three times.
2. Then press the HOLD button.

ACD Overflow Available/Unavailable

Description

An overflow station may be assigned to route callers in queue to a designated station after a specified time.

The Overflow station may remove themselves from their assigned group by dialing the Overflow Available/Unavailable code. When the Overflow station is in the available mode, that station receives ACD calls in the normal manner. When the Overflow station is in the Unavailable mode, that station no longer receives ACD calls, however they may receive non-ACD calls. The Overflow station that went Unavailable receives a visual reminder with a flashing LED. The overflow station may NOT be one of the ACD group stations.

Operation

To place a station in Available Mode:

Dial the ACD Overflow Available/Unavailable feature code [578] on the dial pad,

-or-

Press the preprogrammed AVAILABLE/UNAVAILABLE button. You may now receive ACD calls.

To place a station in Unavailable Mode:

Dial the ACD Overflow Available/Unavailable feature code [578] on the dial pad,

-or-

Press the preprogrammed AVAILABLE/UNAVAILABLE button. You are now blocked from receiving ACD calls.

Agent Login/Logout

Description

The Agent Login/Logout feature lets an Agent log into a Primary and Secondary ACD group to receive calls. An Agent must first login to be placed into an active ACD state.

If a member is assigned to a specific ACD group and uses the login/logout codes to enter and exit an ACD group, other than their assigned group, the database is changed to reflect the different group.

When the agent logs in or out of their ACD Group, an ACD login-logout event is sent to the ACD Events Trace port, if active.

Operation

To log into an ACD Primary Group:

Dial the Agent Login feature code [572] on the dial pad, followed by the desired ACD Group number (550-565),

-or-

Press a preprogrammed Login flexible button.

The Agent enters their unique Agent ID code (0000-9999). The Login flexible button LED is lit steady. A confirmation tone sounds and the agent is logged onto the ACD group.

- The ON/OFF LED extinguishes if the agent started the sequence in the handsfree mode.
- The ACD Agent Login LED only lights for the ACD group that is assigned to that button.

To log out of an ACD Primary Group:

Dial the Agent Logout feature code [571] on the dial pad,

-or-

Press a preprogrammed Logout flexible button. The Login flexible button LED extinguishes.

To log into an ACD Secondary Group:

Dial the Agent Login feature code [582] on the dial pad, followed by the desired ACD Group number (550-565),

-or-

Press a preprogrammed Login flexible button.

The Agent enters their unique Agent ID code (0000-9999). The Login flexible button LED is lit steady. A confirmation tone sounds and the agent is logged onto the ACD Group.

- The ON/OFF LED extinguishes if the agent started the sequence in the handsfree mode.
- The ACD Agent Login LED only lights for the ACD group that is assigned to that button.

To log out of an ACD Secondary Group:

Dial the Agent Logout feature code [581] on the dial pad,

-or-

Press a preprogrammed Logout flexible button. The Login flexible button LED extinguishes.

Conditions

» If a member is assigned to a specific ACD group and uses the login-logout codes to enter and exit an ACD group, other than their assigned group, the database is changed to reflect the different group.

» If an agent logs into an ACD group from a station that is logged into another ACD group, the station is automatically removed from the previous ACD group.

» An agent may log out while in wrap-up, or unavailable.

» An agent logging in is placed in wrap-up mode before receiving an ACD call.

» The *XTS* Digital System does not verify agent's ID codes, other than requiring entry of four digits.

» An Agent may not log in to the same group as a primary and secondary member.

» If you have a Login flexible button on your phone, then you do not need a Logout flexible button. The Login button acts as a toggle.

Agent Recall

Description

The ACD Agent Recall allows/disallows calls that have been transferred from an ACD Agent to recall the Agent.

Programming Steps

1. Press ACD AGENT RECALL button **(FLASH 06, Button #12)**. The following message displays:

```
ACD AGENT RECALL          0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … ACD Agent Recall is disabled.

Alternate ACD Group Assignments

Description

An Alternate ACD Group can be programmed so that if no station in a group is available, the alternate group is checked for an available station. This provides a way to chain or link ACD groups together.

Programming Steps

To make an Alternate ACD Group:

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the ALTERNATE GROUP flexible button **(FLASH 60, Button #2)**. The following message displays:

```
AXXXX  ALTERNATE GROUP
####
```

5. Enter another ACD Group number to designate the Alternate ACD Group.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete an Alternate ACD Group:

1. Press [#].
2. Then press the HOLD button.

Call Qualifier Tone

Description

The Call Qualifier Tone feature is associated with the ACD Call Qualifier code and determines if a confirmation tone sounds after the ACD Call Qualifier code is dialed. If programmed, a confirmation tone sounds.

Programming Steps

1. Press the CALL QUAL TONE flexible button **(FLASH 05, Button #13)**.
2. Enter a 0 or 1 that corresponds with the following entries:

   [0] = Disabled

   [1] = Enabled

```
CALL QUALIFIER TONE          0-1
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Call Qualification Confirmation tone is disabled.

Calls in Queue Threshold

Description

The ACD calls in queue (CIQ) threshold feature determines how many calls appear in queue before the LED flashes at 240 ipm flutter. When the number of calls in queue falls below the CIQ threshold, the LED extinguishes.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the CIQ THRESHOLD flexible button **(FLASH 60, Button #5)**. The following message displays:

```
AXXXX CIQ THRSHOLD           0-99
00
```

5. Enter a valid value on the dial pad that corresponds to 0–99 calls.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … CIQ Threshold is disabled.

Conditions

» Any ACD station must have a button assigned to view the calls in queue of any ACD group.

» A CIQ flexible button must be assigned on the telephone(s) using the Calls In Queue Display Button feature code [579] + [XXXX], (where XXXX = the ACD Group number).

Group Name

Description

A Group Name can be assigned to each of the 16 ACD groups to provide each with a unique identification. A Group Name only appears during a ringing ACD call. A Group Name is not presented on an idle display.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the GROUP NAME flexible button **(FLASH 60, Button #1)**. The following message displays:

```
AXXXX  NAME
   AXXXX
```

5. Enter the desired name using the dial pad (up to eight characters).

Table 4-1: Dial Pad Keys

Other Codes			
1 = 1#	8 = 8#	" = 01	* = *#
2 = 2#	9 = 9#	, = 02	(= #1
3 = 3#	0 = 0#	? = 03	) = #2
4 = 4#	Space = 11	/ = 04	+ = #3
5 = 5#	: = 12	! = *1	= = #4
6 = 6#	- = 13	$ = *2	# = ##
7 = 7#	' = 14	& = *4	. = 24

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Guaranteed Message Announcement

Description

A Guaranteed Message announcement may be assigned to the group to force callers to listen to the announcement prior to entering the queue or ringing an agent.

Callers listening to this type of announcement may dial digits (up to 14) using their dial pad. These digits can then be compared against the Local Number/Name Translation Table and routed to destinations based on table overrides. These digits (or a translation table entry's digit/name) then show on an agent's display as calling number identification digits.

This RAN function is only used for incoming CO calls to ACD Groups.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the GUARANTEED RAN flexible button **(FLASH 60, Button #9)**. The following message displays:

```
AXXXX  GUARANTEED RAN        1-8
#
```

5. Enter a valid number (1-8) for the desired RAN Announcement Table or a (#) to remove the entry.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Guaranteed Message Timer

Description

The Guaranteed Message Timer setting specifies how long a call rings before it is answered by Guaranteed Message RAN when the Guaranteed Message RAN feature is added to an ACD Group.

The Guaranteed Message Timer setting is variable from 000-300 seconds.

Programming Steps

1. Press the GUARANTEED MESSAGE TIMER flexible button **(FLASH 61, Button #7)**. The following message displays:

```
GUARANTEED MSG          000-300
005
```

2. Enter a valid number on the dial pad which corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Guaranteed Message Timer is set for 5 seconds.

Incoming CO Direct Ringing

Description

CO Lines can be programmed to ring directly into an ACD group. When all agents are busy and RAN is enabled, the system answers the caller and presents the Primary RAN announcement automatically.

Message Interval Timer

Description

The ACD message interval timer (MIT) determines the length of time a caller remains in queue (listening to MOH, if provided) between recorded announcements. The ACD message interval timer setting is variable from 000-600 seconds.

Programming Steps

1. Press the MIT TIMER flexible button **(FLASH 61, Button #2)**. The following displays:

```
MESSAGE INTERVAL          000-600
060
```

2. Enter a valid number on the dial pad which corresponds to 000-600 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

The ACD Ring and Message Interval timers only apply when RAN ports are specified. If RAN ports are not specified, incoming callers continue to receive a ringback tone.

DEFAULT … ACD Message Interval Timer is set for 60 seconds.

No-Answer Recall Timer

Description

If a call routed to a station via ACD is not answered by the ACD Agent/Station before the No-Answer Recall timer expires, the call is returned to ACD Queue with the highest priority. The station that failed to answer the ringing ACD call is also placed into an out-of-service (OOS) state.

The ACD No-Answer Timer setting is variable from 000–300 seconds.

Programming Steps

1. Press the NO-ANSWER RECALL TIMER flexible button **(FLASH 61, Button #5)**. The following message displays:

```
NO - ANS  RECALL          000-300
000
```

2. Enter a valid number on the dial pad which corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … ACD No-Answer Timer is at 000 (disabled).

Conditions

» If your phone is taken out of service three times consecutively, the agent must manually put themselves back into an available status. (Refer to *"ACD/UCD Available/Unavailable" on page 4-5*.)

No-Answer Retry Timer

Description

When the No-Answer Retry timer expires, a station that failed to answer the ringing ACD call is placed into an out-of-service (OOS) state.

The station that was taken out-of-service is placed back in service if the agent presses their available flexible button or dials the available flexible code. The agent is placed back in service if the No-Answer Retry timer expires. If the agent does not answer their next ACD call, they are again taken out-of-service. This cycle continues until the station answers calls, logs out, or goes unavailable.

The ACD No-Answer Retry Timer setting is variable from 000–999 seconds.

Programming Steps

1. Press the NO-ANSWER RETRY TIMER flexible button **(FLASH 61, Button #6)**. The following message displays:

```
NO-ANSWER  RETRY          000-999
300
```

2. Enter a valid number on the dial pad which corresponds to 000-999 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … ACD No-Answer Retry Timer is set for 300 seconds.

Conditions

» If your phone is taken out of service three times consecutively, the agent must manually put themselves back into an available status. (Refer to *"ACD/UCD Available/Unavailable" on page 4-5*.)

Overflow Station Forwarding

Description

An overflow station may be assigned to route callers in queue to a designated station after a specified time. The overflow station may not be one of the ACD group stations.

This feature allows ACD calls reaching the ACD Overflow Station to call forward to another station. This is allowed or denied on a system-wide basis. Once enabled in programming, a ACD Overflow station can Busy/No-Answer forward to Voice Mail Groups, Hunt Groups and stations. If the ACD Overflow station is busy or does not answer before the no-answer call timer expires, the ACD call forwards to the designated forward location.

Programming Steps

1. Press the OVERFLOW STA FWD flexible button **(FLASH 06, Button #6)**. The following message displays:

```
OVERFLOW STA FWD          0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Overflow Station Forwarding is disabled.

Operation

To activate Call Forwarding:

1. Lift the handset or press ON/OFF button.
2. Press the FWD button or dial the Call Forwarding feature code [640].
3. Dial the desired code:

   [6] = All Calls

   [7] = No Answer Calls

   [8] = Busy Calls

   [9] = Busy and No Answer Calls
4. Dial the destination number where to forward calls (Station, Voice Mail, UCD groups, or Hunt group). A confirmation tone sounds.
5. Replace handset or press ON/OFF button.

To remove Call Forwarding:

1. Lift handset or press ON/OFF button.
2. Press the FWD button or dial the Call Forwarding feature code [640]. A confirmation tone sounds and the FWD LED extinguishes.

☎ SINGLE LINE TELEPHONE

SLTs do not have a FWD button and must dial code [640] to use this feature.

Conditions

» An overflow station may be assigned to route callers in queue to a designated station after a specified time. A queued call is one that has been answered by a recorded announcement device.

Overflow Timer

Description

The ACD Overflow Timer determines the total length of time a caller remains in queue for a particular ACD group. When the timer expires, the caller is routed to the designated overflow station.

The timer starts when an incoming call is answered and presented to the first recorded announcement. Transferred CO callers overflow at the expiration of the Overflow Timer.

The ACD Overflow Timer setting is variable from 000-600 seconds.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the OVERFLOW TIMER flexible button **(FLASH 60, Button #13)**. The following message displays:

```
AXXXX  OVERFLOW          000-600
060
```

5. Enter a valid number on the dial pad which corresponds to 000–600 seconds.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … ACD Overflow Timer is set for 60 seconds.

PC/ACD Baud Rate Display

Description

The *XTS* can provide PC/ACD Reporting output to the standard RS232C I/O ports on the MPB or the optional SIU2 module connector(s). The baud rate is displayed as 150, 300, 600, 1200, 2400, 4800, 9600, or 19.2K baud.

Programming Steps

The PC/ACD Port Baud Rate is programmed using **Flash 15** baud rate assignments (refer to *"Baud Rate Assignments" on page 2-18*. The LCD displays the current baud rate based on which Port number is assigned to the ACD SMDR Port number. The following message displays:

```
PORT     BAUD
  1      19.2K
```

DEFAULT … PC/ACD baud rate is set to 19.2K.

PC/ACD Interface Trace

Description

The PC/ACD Interface Trace feature is available with optional software. The PC/ACD Interface Trace provides a series of events trace output which is compatible with the Discovery ACD reporting package.

Programming Steps

1. Press the DISABLE/ENABLE flexible button **(FLASH 63, Button #1)**. The following message displays:

```
ACD _ EVT _ TRACE  I/O  BAUD
         NO         1   19.2K
```

2. Press the ENABLE/DISABLE flexible button.

   LED On = YES (Enabled)

   LED Off = NO (Disabled)

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … ACD Event Trace is disabled (NO).

PC/ACD Trace Port Assignment

Programming Steps

1. Press the TRACE PORT ASSIGNMENT flexible button **(FLASH 63, Button #2)** to determine which port to use for the PC/ACD Interface Trace.
2. Enter a valid number for the PC/ACD Event Trace Port number:

   [1] = Port #1 (RS-232-C port labeled SCMI on MPB)

   [3] = Port #3 (RS-232-C port on optional SIU on MISB)

   [4] = Port #4 (RS-232-C port on optional SIU on MISB)

   [5] = Port #5 (UART on MPB)

   The LCD displays the current baud rate based on which Port number is assigned to the ACD SMDR Port number (default is Port #1).

```
ACD _ EVT _ TRACE  I/O  BAUD
         NO         1   19.2K
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Trace Port Assignment is set to port 1.

Primary Agents

Description

The Primary Agent Assignment feature allows stations serving as primary agents to be entered into the ACD group. Agents can login to primary and secondary group. Primary agents ACD calls from their primary group are presented ahead of ACD calls in their secondary group.

Overflow Station Forward (Flash 06, Button #6) allows/disallows excess calls to be forwarded to another station.

ACD Agent Recall (Flash 06, Button #12) allows/disallows calls that have been transferred from an ACD Agent to recall the Agent.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the PRIMARY AGENT flexible button **(FLASH 60, Button #7)**. The following message displays:

```
AXXXX  PRIMARY  AGENTS
END
```

5. To **add** a station as a primary agent of the ACD group, use the dial pad as follows:
   - Enter XXXX 1 (XXXX = flexible station number).
   - Press the HOLD button.
6. To **delete** a station from being a primary agent of the ACD group, use the dial pad as follows:
   - Enter XXXX 0 (XXXX = flexible station number).
   - Press HOLD to save the entry. A confirmation tone sounds and the display updates.
7. To **view** primary agents in the ACD group, press button #7. (Each depression toggles through seven agents at a time.)

Primary Recorded Announcement

Description

A primary recorded announcement (RAN) may be assigned to the group. This message is the first one presented to the caller, if the guaranteed message has not been enabled and the call has been transferred to the ACD Group.

This message plays after the Ring Timer expires and no agents are available.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.

4. Press the PRIMARY RAN flexible button **(FLASH 60, Button #10)**. The following message displays:

```
AXXXX  PRIMARY RAN          1-8
#
```

5. Enter a valid number (1-8) for the desired RAN Table or a (#) to remove the entry.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Recorded Announcements

Description

Recorded announcement (RAN) devices can be assigned to provide up to eight different messages per system, if all stations in an ACD group are busy. The eight messages are available to all 16 ACD groups in different configurations. Each group can have a Guaranteed RAN and two other RANs, a primary and a secondary. A RAN device can provide an announcement to one caller at a time. Subsequent callers are queued onto the message on a first-in basis.

Each RAN Announcement Table can be directed to a Hunt Group, therefore each primary and secondary RAN Table can have eight announcements. RAN Hunt Group numbers can be chained together by placing the RAN Group Number (458-461) as the last member in the desired group. RAN Groups are pilot type only.

Digital Voice Mail (DVM) -- DVM can serve as a RAN Announcer by using a menu as the announcement. With this unique benefit: callers can route to other destinations, hear their place in queue, and hear their hold time.

Recorded Announcement Tables

Description

Determines the type, index (port) number and message length for the eight available Recorded Announcements (RAN). There are eight RAN Tables that can be programmed.

The type can be either a CO line port, an SLT port, Digital Voice Mail, or a RAN Hunt Group port. The index number specifies which circuit for the type of interface. The message length is used to match the maximum length of the message to the device that is used.

Digital Voice Mail can be used as a RAN Announcer for ACD Groups. A menu is provided to play the announcement, as well as collect DTMF digits and route the caller to an alternate destination. In addition, a place in queue and an average hold time message can be played to the caller. The ability to detect DTMF, play average hold time, and place in queue are all programmable in this area.

When using the Digital Voice Mail as a RAN Announcer, the following options are available:

Table 4-2: Voice Mail RAN Announcer Options

Option	Action
0	Do NOT take a menu action on any DTMF dialed by the caller; DO NOT play Place in Queue or Hold Time message. (Default)
1	Take menu action only on DTMF dialed by the caller; DO NOT play Place in Queue or Hold Time message.
2	DO NOT take menu action on any DTFM dialed by user; play the Place in Queue message only.
3	Take menu action on DTMF; play the Place in Queue message.
4	DO NOT take menu action on any DTFM dialed by user; play the Hold Time Message only.
5	Take menu action on DTMF; play Hold Time message.
6	DO NOT take menu action on any DTFM dialed by user; play the Place in Queue and Hold Time message.
7	Take menu action on DTMF; play the Place in Queue and Hold Time message.
8-9	Not used at this time

DVM software version must be 2.90B or greater to have RAN functionality.
No Message Duration for type [4] entries is required.
A RAN table must be programmed for Overflow to operate.

Programming Steps

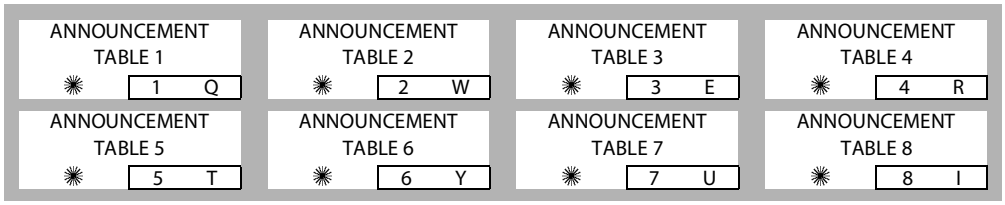
If Recorded Announcement (RAN) devices are installed to operate with ACD, these tables must be programmed.

1. Press **FLASH** and dial **[62]**. The following message displays:

```
ANNOUNCEMENT TABLE 1
TYPE #   IDX ####   TIME ###
```

   The top left button in the flexible button field is lit for programming ACD RAN Announcement Table #1.

2. To change to another ACD RAN Announcement Table, press **FLASH 62** and a flexible button 2-8 for Tables 2-8 respectively.



To program a Table for a CO Line port:

1. Press the TABLE X flexible button (1-8).
2. Dial [1] for CO Port Interface type.
3. Dial the desired CO line number, using a 4-digit format, e.g., for CO line 1, enter 0001.
4. Enter message duration (000-300 seconds).
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To program a Table for an SLT port:

1. Press the TABLE X flexible button (1-8).
2. Dial [2] for SLT Port Interface type.
3. Dial the desired SLT station number, using a 4-digit format, e.g., for SLT station number 120, enter 0120.
4. Enter message duration (000-300 seconds).
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To program a Table for a RAN Hunt Group port:

1. Press the TABLE X flexible button (1-8).
2. Dial [3] for RAN Hunt Group.
3. Dial [0458-0461] for RAN Hunt Group used.
4. Enter message duration (000-300 seconds).
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To program a Table for digital voice mail:

1. Press the TABLE X flexible button (1-8).
2. Dial [4] for the Digital Voice Mail function type.
3. Dial the desired Voice Mail Group number, using a 4-digit format, e.g., for Voice Mail Group 440, enter 0440.
4. Dial a three-digit menu number [000-999].
5. Dial [0-9].

   0 = No DTMF Detection, No Messages Played. (Default)

   1 = DTMF Detection, No Message.

   2 = No DTMF, Place In Queue Message.

   3 = DTMF Detection, Place In Queue Message.

   4 = No DTMF, Hold Time Message.

   5 = DTMF Detection, Hold Time Message.

   6 = No DTMF, Both Messages.

   7 = DTMF Detection, Both Messages.

   8 = Not used at this time.

   9 = Not used at this time.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To clear entries:

1. Press the [#] button.
2. Then press HOLD.

Ring Timer

Description

The ACD Ring Timer determines how long a call rings into a busy ACD group before being presented to the Primary Recorded Announcement. The ACD Ring Timer setting is variable from 000–300 seconds.

A RAN Table must be specified in ACD programming. If a RAN Table is NOT specified, incoming CO callers are not answered but continue to receive ringback.

Programming Steps

1. Press the RING TIMER flexible button **(FLASH 61, Button #1)**. The following message displays:

```
RING                          000-300
060
```

2. Enter a valid number which corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … ACD Ring Timer is set for 60 seconds.

Secondary Agents

Description

The Secondary Agent Assignment feature allows stations serving as secondary agents to be entered into the ACD group. Agents can login to primary and secondary groups. Primary agents ACD calls from their primary group are presented ahead of ACD calls in their secondary group.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the SECONDARY AGENT flexible button **(FLASH 60, Button #8)**. The following message displays:

```
AXXXX  SECONDARY  AGENTS
END
```

5. To **add** a station as a secondary agent of the ACD group, use the dial pad as follows:
   - Enter XXXX 1 (XXXX = flexible station number).
   - Press HOLD.

6. To **delete** a station from being a secondary agent of the ACD group, use the dial pad as follows:
   - Enter XXXX 0 (XXXX = flexible station number).
   - Press HOLD to save the entry. A confirmation tone sounds and the display updates.
7. To **view** secondary agents in the ACD group, press button #7. (Each depression toggles through seven agents at a time.)

Secondary Recorded Announcement

Description

A secondary recorded announcement (RAN) may be assigned to the group. This announcement can be used for follow-up information after the primary messages. It plays after the Message Interval Timer setting expires.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the SECONDARY RAN flexible button **(FLASH 60, Button #11)**. The following message displays:

```
AXXXX  SECONDARY RAN          1-8
#
```

5. Enter a valid number (1-8) for the desired RAN Announcement Table or a (#) to remove the entry.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Supervisor Calls in Queue Status Display

Description

The Supervisor Calls in Queue Status Display feature provides a means for an ACD supervisor to view the status of their ACD group.

This display is an idle state display that provides an indication to a supervisor that agents in the group are having problems answering all their calls. The display tells the supervisor how many calls are in queue, how many agents are logged into the ACD group, and the length of time that the oldest call has been in queue.

Operation

To activate the supervisor Queue Status display:

Dial the Supervisor Calls in Queue Status Display feature code [577] on the dial pad, followed by the ACD Group number (550-565) that the supervisor wants to observe.

-or-

Press the preprogrammed flexible button.

The ON/OFF button LED lights steady and the Queue Status display shows the following information:

```
XXXX: CIQ: CC  AGENT(S): AA
OLDEST CALL:              HH:MM:SS
```

XXXX = ACD Group number
CC = Number of calls in queue
AA = Number of agents logged in
HH:MM:SS = Time length of oldest call in hours, minutes and seconds

To change the display to another group:

Dial [577] on the dial pad, followed by the ACD group number (550-565) that the supervisor wants to observe.

-or-

Press the preprogrammed flexible button.

Conditions

» To receive the supervisor queue status display, the station must be logged in as a supervisor and the supervisor flexible code must be used.

» ACD supervisors receive the queue status display in real time.

» The queue status display is only given when the ACD group member or supervisor's station is not receiving a higher priority display, such as HELP or Out-Of-Service, or other applicable off-hook events are taking place at the station.

» The supervisor queue status display is saved in battery-backed memory.

» When a supervisor logs out of the group presently displayed, they must enter a new request for queue status display.

Supervisor Login/Logout

Description

The Supervisor Login/Logout feature provides a means for a supervisor to log into one of the ACD groups and monitor calls.

Operation

□ To log in, dial Login Code [576] on the dial pad, followed by the desired ACD group number (550-565),

-or-

Press a preprogrammed Login flexible button. Flexible button must have [576] + [XXXX], (where XXXX = the ACD Group number), programmed onto it.

The Supervisor enters a unique Supervisor ID code (0000-9999). The Login flexible button LED is lit steady. A confirmation tone sounds and the supervisor is logged onto the ACD group. The ON/OFF LED extinguishes if the supervisor started the sequence in the handsfree mode. When the supervisor logs in, an ACD login event is sent to the ACD Events Trace port, if active.

- To log out, dial Logout Code [575] on the dial pad, followed by the desired ACD Group number (550-565),

  -or-

  Press a preprogrammed Login/Logout flexible button, the LED extinguishes.

  ACD Supervisor Login LED only lights for ACD group assigned to that button.

  The same flexible button can be used to toggle the Login/Logout feature.

Conditions

- Only 1 supervisor can be logged into a group.
- If a supervisor logs into an ACD group from a station that is logged into another ACD group, the station remains in the previous ACD group.
- A supervisor may log out while in wrap-up, or unavailable.
- A supervisor logging in is first placed in Wrap-Up mode before receiving an ACD call.
- The *XTS* Digital System does not verify the supervisor's ID codes, other than requiring that four digits are entered.

Supervisor Monitor with Barge-In

Description

This feature is available with optional software. The ACD Supervisor Monitor with Barge-In feature provides a means for an ACD Supervisor to monitor an agent's call in progress and coach sales techniques or customer relations skills. When used, a supervisor may intrude into an agent's call in a listen-only mode or in a true conference mode. Prior to barge-in, a supervisor must log into the agent's group using the supervisor log-in code 576 + [XXXX], (where XXXX = the ACD Group number). This feature is available with or without a warning tone.

Executive Override is a system feature and, therefore, takes precedence over this feature. If Supervisor Monitor with Barge-In is used properly, Executive Override MUST be disabled. Otherwise, the barge-in is performed with the MUTE button OFF.

A change in volume may occur on the CO line or intercom call after the barge-in occurs.

The use of Supervisor Monitor with Barge-In is limited by federal law and may also be limited or prohibited by state or local law, so check the relevant laws in your area before employing these features.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press the SUPV BARGE-IN flexible button **(Button #12)**. The following message displays:

ACD SUPV BARGE IN 0-1
DISABLED

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Supervisor Monitor with Barge-In feature is disabled.

Operation

The ACD supervisor can intrude on an agent's call in the Listen Only mode as follows:

1. Dial the agent's station number.
2. Upon hearing a busy tone, press the preprogrammed Barge-In flexible button.
   - The conversation in progress sounds by the Supervisor on the handset receiver and the Supervisor's MUTE button LED is lit indicating that the Supervisor's transmit is muted.
   - If the Supervisor wishes to participate in the conversation in a true conference mode, they can press the MUTE button which removes mute.

The Executive Override Code 625 programs the Supervisor Monitor with Barge-In feature onto a flexible button.

Conditions

- Supervisors are granted the Barge-In option if they log in at a station with the ACD Supervisor Barge-In enabled in station programming.
- Supervisors can only Barge-In on calls of ACD group(s) members into which they are logged.
- Only one station at a time can be programmed when using a flexible station number.
- When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Supervisor Station Assignment

Description

The ACD Supervisor Station assignment feature provides a means to assign each ACD group a supervisor. This Supervisor Station can receive the calls in queue display in real time, receives No Answer/Out of Service conditions, HELP displays from the groups to which the supervisor is assigned, and can barge-in on active calls in their ACD Group or groups.

A supervisor can be assigned in ADMIN to a group or groups to receive the help request and out of service (OOS) messages. If a supervisor station is assigned in ADMIN, it is considered logged in. A supervisor can dial a supervisor login code [576], followed by the ACD group that the supervisor is logging into and their 4-digit Agent ID number.

Programming Steps

To establish an ACD Supervisor Station:

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the ACD SUPV flexible button **(FLASH 60, Button #4)**.
5. Enter a valid flexible station number of the desired ACD Supervisor station.

```
AXXXX  SUPERVISOR STA
####
```

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete an ACD Supervisor Station:

1. Press [#] three times.
2. Then press the HOLD button.

Transferred Recorded Announcement

Description

The Transferred Recorded Announcement (RAN) is for CO callers who are transferred to an ACD group. This forces callers transferred to an ACD Group to listen to the announcement prior to entering the queue or ringing an agent.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the TRANSFERRED RAN flexible button **(FLASH 60, Button #12)**. The following message displays:

```
AXXXX  XFER RAN              1-8
#
```

5. Enter a valid number (1-8) for the desired RAN Announcement Table or a (#) to remove the entry.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Wrapup Timer

Description

After completion of a ACD call (on-hook) the agent is not subjected to another ACD call for the duration of the Auto Wrapup Timer allowing the agent to finish call related work or access other facilities. This lets agents remove themselves from the group (e.g., DND, Call Forward) or originate another call. This timer feature is programmable for each ACD Group in the system.

The ACD Wrapup Timer setting is variable from 000-999 seconds.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the WRAPUP TIMER flexible button **(FLASH 60, Button #6)**. The following message displays:

```
ACDXXXX  WRAPUP TIME      0-999
004
```

5. Enter a valid number on the dial pad which corresponds to 0-999 seconds (0=disable).
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … ACD Wrapup Timer is set for four seconds.

Zap Tone

Description

The Zap Tone feature enables ACD agents in the headset mode, to have ACD calls connected to them automatically. The feature removes the requirement for the agent to press the ON/OFF button to answer ACD calls.

ACD calls are connected when the agent is logged into any group and is available. A flexible button [566] must be programmed for this feature to operate.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press the ZAP TONE flexible button (**Button #16)**. The following message displays:

```
ACD ZAP TONE                    0-1
DISABLED
```

5. Enter a 0 or 1on the dial pad to enable/disable this feature.
   [0] = Disable feature
   [1] = Enable feature
6. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Zap Tone is disabled.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Initialize ACD Group Parameters

Description

ACD Group Parameters may be initialized to set all data fields to their original, default values.

Table 4-3: ACD Group Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 60	ACD GROUPS 550-565		
	1	Group Name	None
	2	Alternate Group	None
	3	Overflow Station	None
	4	Supervisor	None
	5	CIQ Threshold	Disabled
	6	Wrapup Timer	4 sec
	7	Primary Agents	None
	8	Secondary Agents	None
	9	Guaranteed RAN	None
	10	Primary RAN	None
	11	Secondary RAN	None
	12	Transferred RAN	None
	13	Overflow Timer	60 sec
	14	Call Factor	None

Table 4-3: ACD Group Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 61	ACD TIMERS		
	1	ACD* Ring Timer	60 sec
	2	ACD* Message Interval Timer	60 sec
	5	ACD* No-Answer Recall Timer	000=Disabled
	6	ACD* No-Answer Retry Timer	300 sec
	7	ACD* Guaranteed Message Timer	5 sec
FLASH 62	1-8	ACD* RAN Announcement Tables	None
FLASH 63	1	Event Trace Disable/Enable	No (Disabled)
	2	Trace Port Assignment	Port #1
	--	Baud Rate Display	19.2K

** Features available with optional software*

Programming Steps

1. Press the ACD GROUP flexible button (**FLASH 80, Button #11**). The following message displays:

```
INITIALIZE ACD GROUP
PRESS HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print ACD Group Parameters

Description

The Print ACD Group command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

Programming Steps

1. Press the ACD GROUP flexible button **(FLASH 85, Button #12)**. The following message displays:

```
PRINT ACD GROUP
PRESS HOLD
```

2. To print data for the ACD Hunt Group Parameters, press the HOLD button. The following message displays:

```
PRINTING ACD GROUP
```

When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Uniform Call Distribution

Description

Eight Uniform Call Distribution (UCD) groups can be programmed, each containing up to eight station numbers. Each group is assigned a pilot number. When this number is dialed, the first available agent in that group is rung. Calls are routed to the station that has been on-hook for the longest period of time.

UCD Calls In Queue Status Display

Description

The UCD Calls In Queue Status Display allows UCD agents to view information about the UCD group on their display. The display shows how many calls are in queue, how many agents are available, and the length of time the oldest call has been in queue.

This feature cannot be used with a call in progress. The station is considered busy for incoming calls during this operation. Each time this feature is used, wrap-up is started.

If a UCD member is taken out of the group (e.g., DND, All Call Forward, Unavailable, etc.) they do not receive calls in queue information.

Operation

There are two methods of viewing UCD group Call Queue Status.

1. In-service UCD agents and the assigned overflow station see the quantity of calls in queue on the LCD of their station for the UCD group of which they are a member. If every member of the UCD group is busy and calls are in queue, the Supervisor/Agent Queue Status display is seen at all UCD members of that group.
2. Any station not assigned in a UCD group can view the number of calls in queue for any given UCD Group. To view the number of calls in queue the station user either dials the UCD Calls In Queue Status Display code [567] or presses a flexible button preprogrammed with this code), then enters the UCD group desired. The LCD displays, on a real time basis, the number of calls in queue for that group.

Alternate UCD Group Assignments

Description

An Alternate UCD Group can be programmed so that if no station in a group is available, the alternate group is checked for an available station. This provides a way to chain or link UCD Groups together.

Programming Steps

To establish an Alternate UCD Group:

1. Press **FLASH** and dial **[60]**.
2. Enter the UCD Group number (550-557) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.

4. Press the ALTERNATE GROUP flexible button **(FLASH 60, Button #2)**.

```
AXXXX ALTERNATE GROUP
####
```

5. Enter another UCD Group number to designate the Alternate UCD Group.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete an Alternate UCD Group:

1. Press [#].
2. Then press the HOLD button.

Incoming CO Direct Ringing

Description

CO Lines can be programmed to ring directly into a UCD group. When all agents are busy and RAN is enabled, the system answers the caller and presents the Primary Recorded Announcement automatically.

Message Interval Timer

Description

The UCD Message Interval Timer (MIT) determines the length of time a caller remains in queue (listening to MOH, if provided) between recorded announcements. The UCD Message Interval Timer setting is variable from 000 to 600 seconds.

Programming Steps

1. Press the MIT TIMER flexible button **(FLASH 61, Button #2)**. The following message displays:

```
MESSAGE INTERVAL          000-600
060
```

2. Enter a valid number on the dial pad which corresponds to 000-600 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

The UCD Ring and Message Interval Timers only apply when RAN ports are specified. If RAN ports are not specified, incoming callers continue to receive a ringback tone.

DEFAULT … UCD Message Interval Timer is set for 60 seconds.

No-Answer Recall Timer

Description

If a call routed to a station via UCD is not answered by the UCD Agent/Station before the No-Answer Recall Timer expires, the call is returned to UCD Queue with the highest priority. In addition, the station that failed to answer the ringing UCD call is placed into an out-of-service (OOS) state. The UCD No-Answer Timer setting is variable from 000–300 seconds.

Programming Steps

1. Press the NO-ANSWER RECALL TIMER flexible button **(FLASH 61, Button #5)**. The following message displays:

```
NO - ANS  RECALL          000-300
000
```

2. Enter a valid number on the dial pad which corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … UCD No-Answer Timer is at 000 (disabled).

Conditions

» If your phone is taken out of service three times consecutively, the agent must manually put themselves back into an available status. (Refer to *"UCD Available/Unavailable" on page 4-44*.)

No-Answer Retry Timer

Description

When the No-Answer Recall timer expires, a station that failed to answer the ringing UCD call is placed into an out-of-service (OOS) state. The station that was taken out-of-service (OOS) is placed back in service if the agent hits their available flexible button or dials the available flexible code. The agent is also placed back in service if the No-Answer Retry timer expires. If the agent does not answer their next UCD call, they are again taken out-of-service. This cycle continues until the station answers calls, logs out, or goes unavailable. The No-Answer Retry Timer setting is variable from 000–999 seconds.

Programming Steps

1. Press the NO-ANSWER RETRY TIMER flexible button **(FLASH 61, Button #6)**. The following message displays:

```
NO - ANSWER  RETRY        000-999
300
```

2. Enter a valid number on the dial pad which corresponds to 000-999 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … No-Answer Retry Timer is set for 300 seconds.

Conditions

» If your phone is taken out of service three times consecutively, the agent must manually put themselves back into an available status. (Refer to *"UCD Available/Unavailable" on page 4-44*.)

Overflow Station Assignment

Description

When an Overflow Station is assigned, callers that remain in queue for a specified amount of time are routed to the assigned Overflow Station. The Overflow Station MAY NOT be one of the UCD Group stations. Only CO calls transferred to a UCD Group, overflow to the Overflow Station when RAN Tables are assigned.

Programming Steps

To assign an UCD Overflow Station:

1. Press **FLASH** and dial **[60]**.
2. Enter the fixed or flexible group number (550-557) on the dial pad.
3. Press HOLD.
4. Press the OVERFLOW STATION flexible button **(FLASH 60, Button #3)**.
5. Enter a valid flexible station number to designate the UCD Group's Overflow Station.

```
AXXXX  OVERFLOW  STATION
####
```

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete an UCD Overflow Station:

1. Press [#] three times.
2. Then press the HOLD button.

Overflow Station Forwarding

Description

An overflow station may be assigned to route callers in queue to a designated station after a specified time. The overflow station may not be one of the UCD group stations.

This feature allows UCD calls reaching the UCD Overflow Station to call forward to another station. This is allowed or denied on a system-wide basis. Once enabled in programming, a UCD Overflow station can Busy/No-Answer forward to Voice Mail Groups, Hunt Groups and stations. If the UCD Overflow station is busy or does not answer before the no-answer call timer expires, the UCD call forwards to the programmed destination (e.g.,Voice Mail).

Programming Steps

1. Press the OVERFLOW STA FWD flexible button **(FLASH 06, Button #6)**. The following message displays:

```
OVERFLOW STA FWD          0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Overflow Station Forward is disabled.

Operation

To activate Call Forwarding:

1. Lift the handset or press ON/OFF button.
2. Press the FWD button or dial [640] (or a flexible number substituted for feature code 640).
3. Dial the desired code:
   [6] = All Calls
   [7] = No Answer Calls
   [8] = Busy Calls
   [9] = Busy and No Answer Calls
4. Dial the destination number where to forward calls (Station, Voice Mail, UCD groups, or Hunt group). Confirmation tone sounds.
5. Replace handset or press ON/OFF button.

To remove Call Forwarding:

1. Lift handset or press ON/OFF button.
2. Press the FWD button. A confirmation tone sounds and the FWD LED extinguishes.

Conditions

» An overflow station may be assigned to route callers in queue to a designated station after a specified time. A queued call is one that has been answered by a recorded announcement device or transferred into the group.

Overflow Timer

Description

The UCD Overflow Timer determines the total length of time a caller remains in queue for a particular UCD group. When the timer expires, the caller is routed to the designated overflow station.

The timer starts when an incoming call is answered and presented to the first recorded announcement. Transferred CO callers overflow at the expiration of the Overflow Timer. The UCD Overflow Timer setting is variable from 000–600 seconds.

Programming Steps

1. Press the OVERFLOW TIMER flexible button **(FLASH 61, Button #3)**. The following message displays:

```
OVERFLOW                    000-600
060
```

2. Enter a valid number on the dial pad which corresponds to 000-600 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … UCD Overflow Timer is set for 60 seconds.

Primary Agent Assignments

Description

The Primary Agent Assignment feature allows the stations serving as primary agents to be entered into the UCD group. Up to 8 UCD Agents can be entered into a Group.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the fixed or flexible group number (550-557) on the dial pad.
3. Press HOLD.
4. Press the PRIMARY AGENT flexible button **(FLASH 60, Button #7)**. The following message displays:

```
AXXXX  PRIMARY  AGENTS
END
```

5. To **add** a station as a primary agent of the UCD group, use the dial pad as follows:
   - Enter XXXX 1 (XXXX = flexible station number).
   - Press the HOLD button.
6. To **delete** a station from being a primary agent of the UCD group, use the dial pad as follows:
   - Enter XXXX 0 (XXXX = flexible station number).
   - Press HOLD to save the entry. A confirmation tone sounds and the display updates.
7. To **view** primary agents in the UCD group, press button #7. (Each depression toggles through seven agents at a time.)

Primary Recorded Announcement

Description

A Primary Recorded Announcement (RAN) may be assigned to the group. This message is the first one presented to the caller.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the UCD Group number (550-557) on the dial pad.
3. Press HOLD.
4. Press the PRIMARY RAN flexible button **(FLASH 60, Button #10)**.

```
AXXXX  PRIMARY RAN          1-8
#
```

5. Enter a valid number (1-8) for the desired RAN Announcement Table or a (#) to remove the entry.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Recorded Announcements

Description

Recorded announcement (RAN) devices can be assigned to provide up to eight different messages, if all stations in a UCD group are busy. The eight messages are available to all eight UCD groups in different configurations. A RAN table can be the answer port for unanswered incoming calls to a UCD group, while another table can provide the secondary message. Each RAN device can provide an announcement to one caller at a time. Subsequent callers are queued onto the message on a first-in basis.

The Digital Voice Mail (DVM) can be used as a RAN device for UCD groups.

Recorded Announcement Tables

Description

Determines the type, index (port) number and message length for the eight available Recorded Announcements (RAN). There are eight RAN Tables that can be programmed. Table 1 can be the answer port for unanswered incoming calls to a UCD group.

The type can be either a CO line port, an SLT port, Digital Voice Mail, or a RAN Hunt Group port. The index number specifies which circuit for the type of interface. The message length is used to match the maximum length of the message to the device that is used.

Digital Voice Mail can be used as a RAN Announcer for UCD Groups. A menu is provided to play the announcement, as well as collect DTMF digits and route the caller to an alternate destination. In addition, a place in queue and an average hold time message can be played to the caller. The ability to detect DTMF, play average hold time, and place in queue are all programmable in this area.

When using the Digital Voice Mail as a RAN Announcer, the following options are available:

Table 4-4: Voice Mail RAN Announcer Options

Option	Action
0	Do NOT take a menu action on any DTMF dialed by the caller; DO NOT play Place in Queue or Hold Time message. (Default)
1	Take menu action only on DTMF dialed by the caller; DO NOT play Place in Queue or Hold Time message.
2	DO NOT take menu action on any DTFM dialed by user; play the Place in Queue message only.
3	Take menu action on DTMF; play the Place in Queue message.
4	DO NOT take menu action on any DTFM dialed by user; play the Hold Time Message only.
5	Take menu action on DTMF; play Hold Time message.
6	DO NOT take menu action on any DTFM dialed by user; play the Place in Queue and Hold Time message.
7	Take menu action on DTMF; play the Place in Queue and Hold Time message.
8-9	Not used at this time

DVM software version must be 2.90B or greater to have RAN functionality.
No Message Duration for type [4] entries is required.

Programming Steps

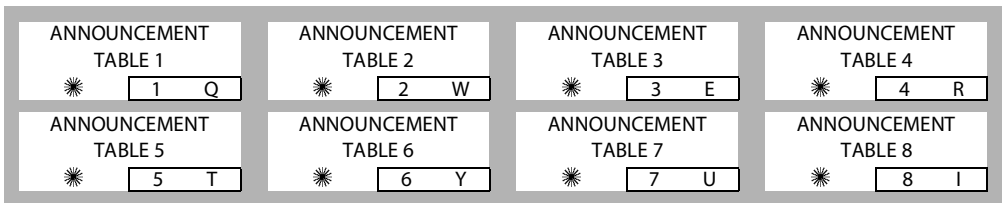
If Recorded Announcement (RAN) devices are installed to operate with UCD, these tables must be programmed.

1. Press **FLASH** and dial **[62]**. The following message displays:

```
ANNOUNCEMENT TABLE 1
TYPE #   IDX ####   TIME ###
```

   The top left button in the flexible button field is lit for programming UCD RAN Announcement Table #1.

2. To change to another UCD RAN Announcement Table, press **FLASH 62** and a flexible button 2-8 for Tables 2-8 respectively.



To program a Table for a CO Line port:

1. Press the TABLE X flexible button (1-8).
2. Dial [1] for CO Port Interface.
3. Dial the desired CO line number, using a 4-digit format, e.g., for CO line 1, enter 0001.
4. Enter message duration (000-300 seconds).
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To program a Table for an SLT port:

1. Press the TABLE X flexible button (1-8).
2. Dial [2] for SLT Port Interface.
3. Dial the desired SLT station number, using a 4-digit format, e.g., for SLT station number 120, enter 0120.
4. Enter message duration (000-300 seconds).
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To program a Table for a RAN Hunt Group port:

1. Press the TABLE X flexible button (1-8).
2. Dial [3] for RAN Hunt Group.
3. Dial [0458-0461] for RAN Hunt Group used.
4. Enter message duration (000-300 seconds).
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To program a Table for digital voice mail:

1. Press the TABLE X flexible button (1-8).
2. Dial [4] for the Digital Voice Mail function.
3. Dial the desired Voice Mail Group number, using a 4-digit format, e.g., for Voice Mail Group 440, enter 0440.
4. Dial a three-digit menu number [000-999].
5. Dial [0-9].

   0 = No DTMF Detection, No Messages Played. (Default)

   1 = DTMF Detection, No Message.

   2 = No DTMF, Place In Queue Message.

   3 = DTMF Detection, Place In Queue Message.

   4 = No DTMF, Hold Time Message.

   5 = DTMF Detection, Hold Time Message.

   6 = No DTMF, Both Messages.

   7 = DTMF Detection, Both Messages.

   8 = Not used at this time.

   9 = Not used at this time.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To clear entries:

1. Press the [#] button.
2. Then press HOLD.

Ring Timer

Description

The UCD Ring Timer determines how long a call rings into a busy UCD group before being presented to the first recorded announcement. The UCD Ring Timer setting is variable from 000–300 seconds.

A RAN Table must be specified in UCD programming. If a RAN Table is NOT specified, incoming CO callers are not answered but continue to receive ringback.

Programming Steps

1. Press the RING TIMER flexible button **(FLASH 61, Button #1)**. The following message displays:

```
RING                          000-300
060
```

2. Enter a valid number on the dial pad which corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … UCD Ring Timer is set for 60 seconds.

Secondary Recorded Announcement

Description

A Secondary Recorded Announcement (RAN) may be assigned to the group. This announcement can be used for follow-up information after the Primary message. This announcement plays after the Message Interval Timer setting expires.

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the UCD Group number (550-557) on the dial pad.
3. Press HOLD.
4. Press the SECONDARY RAN flexible button **(FLASH 60, Button #11)**.

```
AXXXX  SECONDARY  RAN         1-8
#
```

5. Enter a valid number (1-8) for the desired RAN Announcement Table or a (#) to remove the entry.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

UCD Available/Unavailable

Description

If you are a UCD agent, you may place your station in the Available mode to receive UCD calls, or you may place your station in the Unavailable mode to block UCD calls from ringing your station.

The UCD Available/Unavailable DSS/BLF flash rate is the rate at which a DSS appearance for a station in ACD/UCD Unavailable mode flashes. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

Programming Steps

1. Press the UCD UNAVL – DSS/BLF flexible button **(FLASH 07, Button #8)**.

```
UCD UNAVL DSS / BLF          00-28
RED 60 IPM DBL WINK OFF
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-14 on page 2-148*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … UCD Available/Unavailable DSS/BLF flash rate is set for a Red 60 ipm Double Wink Off (04).

Operation

To make a station available:

Dial [566] on the dial pad,

-or-

Press the preprogrammed Available/Unavailable button. You may now receive UCD calls.

To make a station unavailable:

Dial [566]on the dial pad,

-or-

Press the preprogrammed Available/Unavailable button. You are now blocked from receiving UCD calls.

Conditions

» If key is programmed, it will flash at 60 ipm double wink.

UCD Calls In Queue Display

Operation

From an idle display key telephone:

1. Dial [567] on the dial pad, followed by the UCD Group number (550-557),

   -or-

   Press preprogrammed flexible button. ON/OFF button LED lights steady.

   - This idle display prompts a Supervisor that a group is having problems answering their calls.
   - The display tells the agent and their supervisor how many calls are in queue, how many agents are available or logged into the group, and the time (in minutes) that the oldest call has been in queue.
   - The agent automatically receives the calls in queue display whenever there is a call in queue.
2. Hang up the handset or press ON/OFF button to terminate display.

This feature cannot be used with a call in progress. The station is considered busy for incoming calls during this operation.

Wrap-up Timer

Description

After completion of a UCD call (on-hook) the agent is not subjected to another UCD call for the duration of the Wrap-up Timer (regardless of the number of calls in queue), allowing the agent to finish call related work or to access other facilities. This allows agents to remove themselves from the group (i.e., DND, Unavailable, Call Forward) or originate another call. The Wrap-up Timer is programmed as part of the UCD database (system-wide). The Wrap-up Timer setting is variable from 000 to 999 seconds.

Programming Steps

1. Press the WRAP-UP TIMER flexible button **(FLASH 61, Button #4)**. The following message displays:

```
AXXXX  WRAP-UP  TIME      000-999
004
```

2. Enter a valid number on the dial pad which corresponds to 000-999 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Wrap-up Timer is set for 4 seconds.

Initialize UCD Group Parameters

Description

UCD Group Parameters may be initialized setting all data fields to their original, default values.

Table 4-5: UCD Group Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 60	UCD GROUPS 550-557		
	2	Alternate UCD Group Assignment	None
	3	UCD Overflow Station Assignment	None
	7	UCD Primary Agent Assignment	None
	10-11	Recorded UCD Announcement Assignment(s)	None
FLASH 61	UCD TIMERS		
	1	UCD Ring Timer	60 sec
	2	UCD Message Interval Timer	60 sec
	3	UCD Overflow Timer	60 sec
	4	UCD Auto Wrap-up Timer	004 sec
	5	UCD No-Answer Recall Timer	000=Disabled
	6	UCD No-Answer Retry Timer	300 sec
FLASH 62	1-8	UCD Announcement Tables (RAN)	None

Programming Steps

1. Press the UCD GROUPS flexible button (**FLASH 80, Button #11**).

2. Press the HOLD button. A confirmation tone sounds.

Print UCD Group Parameters

Description

The Print UCD Group command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

Programming Steps

1. Press the UCD GROUPS flexible button **(FLASH 85, Button #12)**. The following message displays:

```
PRINT UCD GROUP
PRESS HOLD
```

2. To print data for the UCD Group Parameters, press the HOLD button. The following message displays:

```
PRINTING UCD GROUP
```

When the system finishes sending the requested information to the printer, a confirmation tone sounds.

A

ICLID / Caller ID

This specification provides the functional and implementation definition for the addition of the ICLID feature to the *XTS* Digital Key Telephone System.

Introduction

Description

Incoming Calling Line IDentification (ICLID), or Caller ID, is a service provided from the telephone company. Usually this service provides the number and name (not available in some cases) of the calling party for identification prior to answering the call. Calling party number and name are delivered in between this first and second ring using FSK (Frequency Shift Key) format.

For this feature to operate properly, it must be activated from the Central Office so the numbers or name, if available, of the calling party are delivered over the individual tip and ring of the CO lines during the first silent interval between ringing.

The following illustration depicts the configuration presumed for the implementation of the ICLID feature for the system. The phones are presumed to be in an ACD or UCD group in order to allow proper operation with the system.

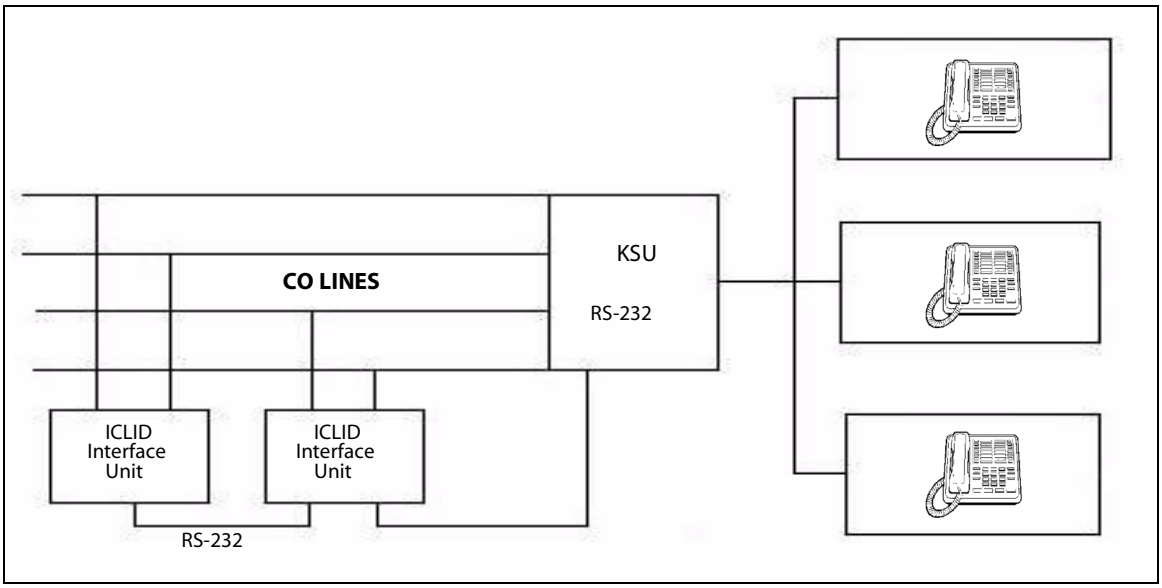


Figure A-1: Caller ID System Configuration

Functional Performance

Description

The key system operation of the ICLID feature is dependent on the feature first being activated from the central office so that the numbers of the calling party are delivered over the individual tip and ring of the CO lines during the first silent interval between ringing.

The features implemented are:

- Display of calling number/name on initial ring-in of a line on the display keysets.
- Recording of incoming call number/name on the SMDR printout.
- Management of an Unanswered Call table from a display phone with appropriate privilege level to allow tracking of unanswered calls for statistical information and return call management.
- Local translation of incoming numbers to names according to a table of number/name equivalences which can be administered by the system.

Caller ID Name/Number

Description

The Caller ID Name/Number feature allows a station user to program a flexible button to view both the number and name on the LCD when receiving a Caller ID CO call. The top line of the LCD displays the number of the caller and the bottom line of the LCD displays the name.

Caller ID Name/Number

Description

The Caller ID Name/Number feature lets a station user program a flexible button to view the number and name on the LCD when receiving a Caller ID CO call.

If the feature is enabled, use flexible button [653], the LED is lit solid and the name/number is displayed. During the call, the user can press the flexible button to view the normal call information. The LCD displays the number of the caller on the top line the name on the bottom line.

Operation

To program a Caller ID Name/Number button:

1. Press [SPEED] + [SPEED].
2. Press the desired flexible button. A confirmation tone sounds.
3. Dial 653 (Caller ID Name/Number code).

DEFAULT … No button is assigned on telephones.

☎ SINGLE LINE TELEPHONE

SLTs cannot display Caller ID information.

Conditions

» When enabled, this display overrides transfer call LCD messages, ACD Ring messages, Call Pickup messages, and Answer messages. If the user wishes to view the Line Number/Call Timer and the standard call information, they can press the flexible button to toggle between the name/number and normal mode.

» A flexible button must be programmed for this feature to operate.

Calling Number / Name Display

Description

The Calling Number/Name Display feature is intended as the basic offering of the ICLID service when associated with the *XTS*. Whenever an incoming call is received at the system, the number received along with the ringing signal is stored in the line control tables and used at various points in the processing of the call.

The primary function is that the calling number is displayed (if available) at any point at which the LINE RINGING is displayed in the system.

If two lines are ringing in at the same time, the display shows the oldest line information. After one of the lines is answered, the display shows the information on the unanswered line.

With the availability of the Calling Name feature, if the calling name is provided, the system delivers that to the display instead of the calling number.

The specification for this feature is that the system displays its LINE RINGING message as normally implemented and alter that display to the calling number/name if the information is made present on the line.

This allows the normal operation of the system when ICLID information is not presented or the device which intercepts it and provides the information to the KSU is missing or failed.

```
00000000011111111122222
12345678901234567890123 4
```

```
bbbbbNNNNNNNNNNNNNNNbbbbb
```

-or-

```
XXXXXXXXXXXXXXXXXXXXXXXXXXX
```

□ If the Calling Name is available, the display is shown as above where X... represents the internal table storage of the calling name. Note that although the Central Office delivery of the calling name is 15-characters, the internal table used to store the name for translation of a received number is 24-characters in width.

- If the Central Office delivers a Name, it is positioned left justified in the 24-character field on the display. Note that if a number is received which matches a number/name translation, the translated name is used and the name delivered from the Central Office is effectively discarded.
- If No Name is available from the Central Office or a Translation Table, the delivered number is displayed as the repeated character N (14 characters).

Incoming Number/Name for SMDR Records

Description

When the Incoming Number/Name feature is implemented, the system operates normally in the absence of ICLID information or the failure of the ICLID equipment. If the information is present at the time that an SMDR record is generated for a call, it alters the content and format of the SMDR output record.

- If the calling number is available, the number is output in the SMDR record in the same location as the dialed number is located in the outgoing call record.
- If the calling name is present, an additional line is output in the SMDR identifying the name. This record immediately follows the normal SMDR record. The normal SMDR record includes an indicator that states the following record with name identification is present.

Unanswered calls are recorded in the SMDR record for incoming calls with a U indicator to provide caller identification for statistical and call-back purposes.

Caller-Entered ICLID Digits

Description

The Caller-Entered ICLID Digits feature is available with optional software. The Guaranteed Message announcement feature provides a means to force incoming callers to an announcement before being placed into an ACD Queue or routed to an agent.

The outside callers are presented with the entire message before being routed to the ACD Group. Agents in an ACD Group with a Guaranteed Message enabled receives incoming callers only after the caller has heard the designated recorded announcement in its entirety.

The Guaranteed Message feature also provides an option to capture digits dialed by the incoming caller which can be inserted as ICLID incoming number identification.

If the Guaranteed Message announcement is programmed in Admin, incoming ACD calls is routed to the Guaranteed Message RAN before going to the ACD Group. If the ICLID option is selected, digits received before the announcement time-out is captured and inserted as incoming ICLID number information.

When the ICLID option is selected, a [#] is recognized as a termination of the announcement and a [✳] is recognized as an entry error. An entry error removes the ICLID number and the incoming caller can re-enter their phone number.

Local Name Translation

Description

An administrable table provides a local translation from a received calling number to a name. This table can be administered by the customer from the attendant console location. In cases of conflict between the name delivered from the CO and that in the local translation table, the local translation table shall rule. 200 entries are provided.

ICLID Programming

Description

The *XTS* system provides ICLID input on the RS-232C connector on the MPB, or to the optional SIU Module. When ICLID is desired, the following system-wide parameters determine how the ICLID information is distributed.

Programming Steps

1. Press **FLASH** and dial **[56]**. The following message displays:

```
ICLID  NAME  BAUD  PORT
NO     YES   19.2K  1
```

2. To program ICLID features, use the flexible button(s) as defined in the following procedures.

   Button # 1 = Disable/Enable

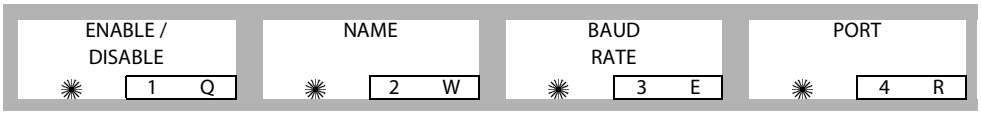
   Button # 2 = Name In Display

   Button # 3 = Baud Rate Display

   Button # 4 = Port Assignment

3. After all entries are made, press HOLD to accept the data.

When entering the ICLID features programming area the buttons on the digital telephone are defined as shown below:



Enable / Disable

Description

The ICLID (Incoming Calling Line IDentification) feature was added to the *XTS* system. These features are unavailable unless the Basic ICLID Software package was purchased separately. For this feature to operate properly, it must be activated from the Central Office so the numbers of the calling party are delivered over the individual tip and ring of the CO lines during the first silent interval between ringing.

Programming Steps

1. Press the DISABLE/ENABLE flexible button **(FLASH 56, Button #1)** to toggle between the options of NO for disable and YES for enable.
2. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … ICLID is disabled (NO option).

Name in Display

Description

The system can be set to display the incoming telephone number or the person's name on the LCD display.

Programming Steps

1. Press the NAME flexible button **(FLASH 56, Button #2)** to toggle between the options of NO to show the name or YES to show the incoming telephone number in the LCD.
2. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … The system shows the telephone number on the LCD display (YES option).

Baud Rate Display

Description

The *XTS* system can provide ICLID input on the standard RS-232C on the optional MISU. The baud rate is displayed as 150, 300, 600, 1200, 2400, 4800, 9600, or 19.2K baud.

Programming Steps

The ICLID baud rate is programmed using **FLASH 15** Baud Rate assignments. The LCD displays the current baud rate based on which number is assigned to the ICLID Port number.

When FLASH 56, Button #3 is pressed, an error tone is received.

DEFAULT … Baud Rate is 19.2K.

Port Assignment

Programming Steps

1. Press the PORT flexible button **(FLASH 56, Button #4)** to specify which port to use for ICLID information.
2. Enter a valid number for one of the ICLID Ports:

   [1] = Port #1 MPB On-Board RS-232C (recommended for maintenance use only)

   [3] = Port #3 Serial Interface Unit (SIU) (recommended for ACD, ICLID, and SMDR uses)

   [4] = Port #4 Serial Interface Unit (SIU) (recommended for ACD, ICLID, and SMDR uses)

   [5] = Port #5 UART on MPB2 (recommended for ACD, ICLID, and SMDR uses)

Use Port 3, 4, or 5 for ICLID.

```
ICLID NAME BAUD PORT
 NO    YES  9600   3
```

   (LCD displays current baud rate assigned to the ICLID Port number.)
3. Press HOLD to accept the data. A confirmation tone sounds and the display updates.

DEFAULT … Port #3, 9600 baud.

Ring Delay Timer

Description

The Ring Delay timer was added to the *XTS* to accommodate ICLID interface requirements. The Ring Delay timer is started whenever a CO Line detects incoming ringing. When the timer expires, CO line ringing is detected by digital telephones and SLTs.

The purpose of this timer is to wait until after the first ring cycle to be detected by the digital system so the ICLID information is passed down the CO line prior to being answered. In some cases, it may be necessary to set the Ring Delay Timer to four seconds so all the ICLID information is received from the Central Office. The Ring Delay Timer setting is variable from 00-20 seconds.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press Button #21 to select Page C. The display updates. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE C
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the RING DELAY TIMER flexible button **(FLASH 40, Page C, Button #2)**. The following message displays:

```
RING DELAY TIMER          00-20
00
```

5. Enter a valid number on the dial pad (00–20) which corresponds to 00-20 seconds.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT … Ring Delay Timer is set at 00 (disabled).

Initialize ICLID-DID Tables

Description

ICLID Table parameters may be initialized, setting all data fields to their original default values.

Table A-1: ICLID-DID Table Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 43	ICLID-DID TABLES		
	1	ICLID Ringing Assignments	None
	17	View ICLID Ringing Assignments	None
	18	Next ICLID Route Number	None
	19	Previous ICLID Route Number	None
	20	Select Route Number	None
FLASH 44	1	DID Route Number	refer to *"DID Translation Tables Printout" on page A-15*
	2	DID Phone Number	None
	3	DID Name Assigned to Number	None
	4	Erasing a DID Table Entry	None
FLASH 55	NAME/NUMBER TRANSLATION		
	1	Route Number	1
	2	Phone Number	None
	3	Name	None
	4	Clear Entry	None
FLASH 56	1	ICLID Disable/Enable	No=Disabled
	2	ICLID Name in Display	Yes=Telephone number in display
	3	ICLID Baud Rate Display	19.2K
	4	ICLID Port Assignment	Port #1

Programming Steps

1. Press the ICLID-DID TABLES flexible button (**FLASH 80, Button #8**). The following message displays:

```
INITIALIZE  ICLID-DID
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print ICLID - DID Tables

Description

The Print ICLID-DID Tables command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device. When printing the ICLID-DID Table(s), the following data prints (an example follows the programming steps):

- ICLID Features
- ICLID Translation Table
- ICLID Unanswered Call Table
- ICLID Answered Call Table
- ICLID Ringing Assignments Table
- DID Translation Table

Programming Steps

1. Press the ICLID-DID TABLES flexible button **(FLASH 85, Button #9)**. The following message displays:

```
PRINT ICLID-DID
PRESS HOLD
```

2. To print the ICLID-DID Table(s), press the HOLD button. The following messages display:

```
PRINTING ICLID-DID
```

```
PRINTING ROUTE
```

```
PRINTING ICLID TRANS NO
```

3. When the system finishes sending the requested information to the printer, a confirmation tone sounds.

```
ICLID       NAME        BAUD        PORT        ICLID UNANSWERED CALL TABLE
                                                ---------------------------
N           Y           9600        1                     NONE
ICLID TRANSLATION TABLE                         ICLID ANSWERED CALL TABLE
-----------------------                         ---------------------------
                                                          NONE
ENTRY       ROUTE       NAME        NUMBER      ROUTE RING ASSIGNMENTS
600         ###                     .           ----------------------
601         ###                     .           00
602         ###                     .              NONE
603         ###                     .
604         ###                     .           01
605         ###                     .              NONE
606         ###                     .
607         ###                     .           02
608         ###                     .              NONE
609         ###                     .
610         ###                     .           03
611         ###                     .              NONE
612         ###                     .
613         ###                     .           04
614         ###                     .              NONE
615         ###                     .
616         ###                     .           05
617         ###                     .              NONE
618         ###                     .
619         ###                     .           06
620         ###                     .              NONE
621         ###                     .
622         ###                     .           07
623         ###                     .              NONE
624         ###                     .
625         ###                     .           08
626         ###                     .              NONE
627         ###                     .
628         ###                     .           09
629         ###                     .              NONE
630         ###                     .
631         ###                     .           10
632         ###                     .              NONE
633         ###                     .
634         ###                     .           11
635         ###                     .              NONE
636         ###                     .
637         ###                     .           12
638         ###                     .              NONE

... and so on through 799
```

Figure A-2: ICLID Translation Tables Printout

```
13                                      106
   NONE                                    106A

14                                      107
   NONE                                    107A

15                                      108
   NONE                                    108A

16                                      109
   NONE                                    109A

17                                      110
   NONE                                    110A

18                                      ...
   NONE                                     ...

19                                      130
   NONE                                    130A

20                                      ...
   NONE                                     ...

21                                      150
   NONE                                    150A

... and so on through 99                ...
                                           ...
100
   100A                                 170
                                           170A
101
   101A                                 ...
                                           ...
102
   102A                                 190
                                           190A
103
   103A                                 ...
                                           ...
104
   104A                                 210
                                           210A
105
   105A                                 ... and so on through 252
```

Figure A-2: ICLID Translation Tables Printout

DID TRANSLATION TABLE

ENTRY	ROUTE	NUMBER	NAME
000	100	0000000	
001	101	0000001	
002	102	0000002	
003	103	0000003	
004	104	0000004	
005	105	0000005	
006	106	0000006	
007	107	0000007	
008	108	0000008	
009	109	0000009	
010	110	0000010	
011	111	0000011	
012	112	0000012	
013	113	0000013	
014	114	0000014	
015	115	0000015	
016	116	0000016	
017	117	0000017	
018	118	0000018	
019	119	0000019	
020	120	0000020	
021	121	0000021	
022	122	0000022	
023	123	0000023	
024	124	0000024	
025	125	0000025	
026	126	0000026	
027	127	0000027	
028	128	0000028	
029	129	0000029	
030	130	0000030	
031	131	0000031	
032	132	0000032	
033	133	0000033	
034	134	0000034	
035	135	0000035	
036	136	0000036	
037	137	0000037	
038	138	0000038	
039	139	0000039	
040	140	0000040	
041	141	0000041	
042	142	0000042	
043	143	0000043	
044	144	0000044	
045	145	0000045	
046	146	0000046	
047	147	0000047	
048	148	0000048	
049	149	0000049	
050	150	0000050	
051	151	0000051	
052	152	0000052	
053	153	0000053	
054	154	0000054	
055	155	0000055	
056	156	0000056	
057	157	0000057	
058	158	0000058	
059	159	0000059	
060	160	0000060	
061	161	0000061	
062	162	0000062	
063	163	0000063	
064	164	0000064	
065	165	0000065	
066	166	0000066	
067	167	0000067	
068	168	0000068	
069	169	0000069	
070	170	0000070	
071	171	0000071	
072	172	0000072	
073	173	0000073	
074	174	0000074	
075	175	0000075	
076	176	0000076	
077	177	0000077	
078	178	0000078	
079	179	0000079	
080	180	0000080	
081	181	0000081	
082	182	0000082	
083	183	0000083	
084	184	0000084	
085	185	0000085	
086	186	0000086	
087	187	0000087	
088	188	0000088	
089	189	0000089	
090	190	0000090	
091	191	0000091	
092	192	0000092	
093	193	0000093	
094	194	0000094	
095	195	0000095	
096	196	0000096	
097	197	0000097	
098	198	0000098	
099	199	0000099	
100	100	0000100	
101	101	0000101	
102	102	0000102	
103	103	0000103	
104	104	0000104	
105	105	0000105	
106	106	0000106	
107	107	0000107	
108	108	0000108	
109	109	0000109	
110	110	0000110	
111	111	0000111	
112	112	0000112	
113	113	0000113	
114	114	0000114	
115	115	0000115	
116	116	0000116	
117	117	0000117	
118	118	0000118	
119	119	0000119	
120	120	0000120	
121	121	0000121	
122	122	0000122	
123	123	0000123	
124	124	0000124	
125	125	0000125	
126	126	0000126	

Figure A-3: DID Translation Tables Printout

127	127	0000127	188	188	0000188
128	128	0000128	189	189	0000189
129	129	0000129	190	190	0000190
130	130	0000130	191	191	0000191
131	131	0000131	192	192	0000192
132	132	0000132	193	193	0000193
133	133	0000133	194	194	0000194
134	134	0000134	195	195	0000195
135	135	0000135	196	196	0000196
136	136	0000136	197	197	0000197
137	137	0000137	198	198	0000198
138	138	0000138	199	199	0000199
139	139	0000139	200	100	0000200
140	140	0000140	201	101	0000201
141	141	0000141	202	102	0000202
142	142	0000142	203	103	0000203
143	143	0000143	204	104	0000204
144	144	0000144	205	105	0000205
145	145	0000145	206	106	0000206
146	146	0000146	207	107	0000207
147	147	0000147	208	108	0000208
148	148	0000148	209	109	0000209
149	149	0000149	210	110	0000210
150	150	0000150	211	111	0000211
151	151	0000151	212	112	0000212
152	152	0000152	213	113	0000213
153	153	0000153	214	114	0000214
154	154	0000154	215	115	0000215
155	155	0000155	216	116	0000216
156	156	0000156	217	117	0000217
157	157	0000157	218	118	0000218
158	158	0000158	219	119	0000219
159	159	0000159	220	120	0000220
160	160	0000160	221	121	0000221
161	161	0000161	222	122	0000222
162	162	0000162	223	123	0000223
163	163	0000163	224	124	0000224
164	164	0000164	225	125	0000225
165	165	0000165	226	126	0000226
166	166	0000166	227	127	0000227
167	167	0000167	228	128	0000228
168	168	0000168	229	129	0000229
169	169	0000169	230	130	0000230
170	170	0000170	231	131	0000231
171	171	0000171	232	132	0000232
172	172	0000172	233	133	0000233
173	173	0000173	234	134	0000234
174	174	0000174	235	135	0000235
175	175	0000175	236	136	0000236
176	176	0000176	237	137	0000237
177	177	0000177	238	138	0000238
178	178	0000178	239	139	0000239
179	179	0000179	240	140	0000240
180	180	0000180	241	141	0000241
181	181	0000181	242	142	0000242
182	182	0000182	243	143	0000243
183	183	0000183	244	144	0000244
184	184	0000184	245	145	0000245
185	185	0000185	246	146	0000246
186	186	0000186	247	147	0000247
187	187	0000187	248	148	0000248

Figure A-3: DID Translation Tables

249	149	0000249	313	113	0000313
250	150	0000250	314	114	0000314
251	151	0000251	315	115	0000315
252	152	0000252	316	116	0000316
253	153	0000253	317	117	0000317
254	154	0000254	318	118	0000318
255	155	0000255	319	119	0000319
256	156	0000256	320	120	0000320
257	157	0000257	321	121	0000321
258	158	0000258	322	122	0000322
259	159	0000259	323	123	0000323
260	160	0000260	324	124	0000324
261	161	0000261	325	125	0000325
262	162	0000262	326	126	0000326
263	163	0000263	327	127	0000327
264	164	0000264	328	128	0000328
265	165	0000265	329	129	0000329
266	166	0000266	330	130	0000330
267	167	0000267	331	131	0000331
268	168	0000268	332	132	0000332
269	169	0000269	333	133	0000333
270	170	0000270	334	134	0000334
271	171	0000271	335	135	0000335
272	172	0000272	336	136	0000336
273	173	0000273	337	137	0000337
274	174	0000274	338	138	0000338
275	175	0000275	339	139	0000339
276	176	0000276	340	140	0000340
277	177	0000277	341	141	0000341
278	178	0000278	342	142	0000342
279	179	0000279	343	143	0000343
280	180	0000280	344	144	0000344
281	181	0000281	345	145	0000345
282	182	0000282	346	146	0000346
283	183	0000283	347	147	0000347
284	184	0000284	348	148	0000348
285	185	0000285	349	149	0000349
286	186	0000286	350	150	0000350
287	187	0000287	351	151	0000351
288	188	0000288	352	152	0000352
289	189	0000289	353	153	0000353
290	190	0000290	354	154	0000354
291	191	0000291	355	155	0000355
292	192	0000292	356	156	0000356
293	193	0000293	357	157	0000357
294	194	0000294	358	158	0000358
295	195	0000295	359	159	0000359
296	196	0000296	360	160	0000360
297	197	0000297	361	161	0000361
298	198	0000298	362	162	0000362
299	199	0000299	363	163	0000363
300	100	0000300	364	164	0000364
301	101	0000301	365	165	0000365
302	102	0000302	366	166	0000366
303	103	0000303	367	167	0000367
304	104	0000304	368	168	0000368
305	105	0000305	369	169	0000369
306	106	0000306	370	170	0000370
307	107	0000307	371	171	0000371
308	108	0000308	372	172	0000372
309	109	0000309	373	173	0000373
310	110	0000310	374	174	0000374
311	111	0000311	375	175	0000375
312	112	0000312	376	176	0000376

Figure A-3: DID Translation Tables

377	177	0000377	440	140	0000440
378	178	0000378	441	141	0000441
379	179	0000379	442	142	0000442
380	180	0000380	443	143	0000443
381	181	0000381	444	144	0000444
382	182	0000382	445	145	0000445
383	183	0000383	446	146	0000446
384	184	0000384	447	147	0000447
385	185	0000385	448	148	0000448
386	186	0000386	449	149	0000449
387	187	0000387	450	150	0000450
388	188	0000388	451	151	0000451
389	189	0000389	452	152	0000452
390	190	0000390	453	153	0000453
391	191	0000391	454	154	0000454
392	192	0000392	455	155	0000455
393	193	0000393	456	156	0000456
394	194	0000394	457	157	0000457
395	195	0000395	458	158	0000458
396	196	0000396	459	159	0000459
397	197	0000397	460	160	0000460
398	198	0000398	461	161	0000461
399	199	0000399	462	162	0000462
400	100	0000400	463	163	0000463
401	101	0000401	464	164	0000464
402	102	0000402	465	165	0000465
403	103	0000403	466	166	0000466
404	104	0000404	467	167	0000467
405	105	0000405	468	168	0000468
406	106	0000406	469	169	0000469
407	107	0000407	470	170	0000470
408	108	0000408	471	171	0000471
409	109	0000409	472	172	0000472
410	110	0000410	473	173	0000473
411	111	0000411	474	174	0000474
412	112	0000412	475	175	0000475
413	113	0000413	476	176	0000476
414	114	0000414	477	177	0000477
415	115	0000415	478	178	0000478
416	116	0000416	479	179	0000479
417	117	0000417	480	180	0000480
418	118	0000418	481	181	0000481
419	119	0000419	482	182	0000482
420	120	0000420	483	183	0000483
421	121	0000421	484	184	0000484
422	122	0000422	485	185	0000485
423	123	0000423	486	186	0000486
424	124	0000424	487	187	0000487
425	125	0000425	488	188	0000488
426	126	0000426	489	189	0000489
427	127	0000427	490	190	0000490
428	128	0000428	491	191	0000491
429	129	0000429	492	192	0000492
430	130	0000430	493	193	0000493
431	131	0000431	494	194	0000494
432	132	0000432	495	195	0000495
433	133	0000433	496	196	0000496
434	134	0000434	497	197	0000497
435	135	0000435	498	198	0000498
436	136	0000436	499	199	0000499
437	137	0000437	500	100	0000500
438	138	0000438	501	101	0000501
439	139	0000439	502	102	0000502

Figure A-3: DID Translation Tables

503	103	0000503	566	166	0000566
504	104	0000504	567	167	0000567
505	105	0000505	568	168	0000568
506	106	0000506	569	169	0000569
507	107	0000507	570	170	0000570
508	108	0000508	571	171	0000571
509	109	0000509	572	172	0000572
510	110	0000510	573	173	0000573
511	111	0000511	574	174	0000574
512	112	0000512	575	175	0000575
513	113	0000513	576	176	0000576
514	114	0000514	577	177	0000577
515	115	0000515	578	178	0000578
516	116	0000516	579	179	0000579
517	117	0000517	580	180	0000580
518	118	0000518	581	181	0000581
519	119	0000519	582	182	0000582
520	120	0000520	583	183	0000583
521	121	0000521	584	184	0000584
522	122	0000522	585	185	0000585
523	123	0000523	586	186	0000586
524	124	0000524	587	187	0000587
525	125	0000525	588	188	0000588
526	126	0000526	589	189	0000589
527	127	0000527	590	190	0000590
528	128	0000528	591	191	0000591
529	129	0000529	592	192	0000592
530	130	0000530	593	193	0000593
531	131	0000531	594	194	0000594
532	132	0000532	595	195	0000595
533	133	0000533	596	196	0000596
534	134	0000534	597	197	0000597
535	135	0000535	598	198	0000598
536	136	0000536	599	199	0000599
537	137	0000537	600	100	0000600
538	138	0000538	601	101	0000601
539	139	0000539	602	102	0000602
540	140	0000540	603	103	0000603
541	141	0000541	604	104	0000604
542	142	0000542	605	105	0000605
543	143	0000543	606	106	0000606
544	144	0000544	607	107	0000607
545	145	0000545	608	108	0000608
546	146	0000546	609	109	0000609
547	147	0000547	610	110	0000610
548	148	0000548	611	111	0000611
549	149	0000549	612	112	0000612
550	150	0000550	613	113	0000613
551	151	0000551	614	114	0000614
552	152	0000552	615	115	0000615
553	153	0000553	616	116	0000616
554	154	0000554	617	117	0000617
555	155	0000555	618	118	0000618
556	156	0000556	619	119	0000619
557	157	0000557	620	120	0000620
558	158	0000558	621	121	0000621
559	159	0000559	622	122	0000622
560	160	0000560	623	123	0000623
561	161	0000561	624	124	0000624
562	162	0000562	625	125	0000625
563	163	0000563	626	126	0000626
564	164	0000564	627	127	0000627
565	165	0000565	628	128	0000628

Figure A-3: DID Translation Tables

629	129	0000629	692	192	0000692
630	130	0000630	693	193	0000693
631	131	0000631	694	194	0000694
632	132	0000632	695	195	0000695
633	133	0000633	696	196	0000696
634	134	0000634	697	197	0000697
635	135	0000635	698	198	0000698
636	136	0000636	699	199	0000699
637	137	0000637	700	100	0000700
638	138	0000638	701	101	0000701
639	139	0000639	702	102	0000702
640	140	0000640	703	103	0000703
641	141	0000641	704	104	0000704
642	142	0000642	705	105	0000705
643	143	0000643	706	106	0000706
644	144	0000644	707	107	0000707
645	145	0000645	708	108	0000708
646	146	0000646	709	109	0000709
647	147	0000647	710	110	0000710
648	148	0000648	711	111	0000711
649	149	0000649	712	112	0000712
650	150	0000650	713	113	0000713
651	151	0000651	714	114	0000714
652	152	0000652	715	115	0000715
653	153	0000653	716	116	0000716
654	154	0000654	717	117	0000717
655	155	0000655	718	118	0000718
656	156	0000656	719	119	0000719
657	157	0000657	720	120	0000720
658	158	0000658	721	121	0000721
659	159	0000659	722	122	0000722
660	160	0000660	723	123	0000723
661	161	0000661	724	124	0000724
662	162	0000662	725	125	0000725
663	163	0000663	726	126	0000726
664	164	0000664	727	127	0000727
665	165	0000665	728	128	0000728
666	166	0000666	729	129	0000729
667	167	0000667	730	130	0000730
668	168	0000668	731	131	0000731
669	169	0000669	732	132	0000732
670	170	0000670	733	133	0000733
671	171	0000671	734	134	0000734
672	172	0000672	735	135	0000735
673	173	0000673	736	136	0000736
674	174	0000674	737	137	0000737
675	175	0000675	738	138	0000738
676	176	0000676	739	139	0000739
677	177	0000677	740	140	0000740
678	178	0000678	741	141	0000741
679	179	0000679	742	142	0000742
680	180	0000680	743	143	0000743
681	181	0000681	744	144	0000744
682	182	0000682	745	145	0000745
683	183	0000683	746	146	0000746
684	184	0000684	747	147	0000747
685	185	0000685	748	148	0000748
686	186	0000686	749	149	0000749
687	187	0000687	750	150	0000750
688	188	0000688	751	151	0000751
689	189	0000689	752	152	0000752
690	190	0000689	753	153	0000753
691	191	0000691	754	154	0000754

Figure A-3: DID Translation Tables

755	155	0000755	818	118	0000818
756	156	0000756	819	119	0000819
757	157	0000757	820	120	0000820
758	158	0000758	821	121	0000821
759	159	0000759	822	122	0000822
760	160	0000760	823	123	0000823
761	161	0000761	824	124	0000824
762	162	0000762	825	125	0000825
763	163	0000763	826	126	0000826
764	164	0000764	827	127	0000827
765	165	0000765	828	128	0000828
766	166	0000766	829	129	0000829
767	167	0000767	830	130	0000830
768	168	0000768	831	131	0000831
769	169	0000769	832	132	0000832
770	170	0000770	833	133	0000833
771	171	0000771	834	134	0000834
772	172	0000772	835	135	0000835
773	173	0000773	836	136	0000836
774	174	0000774	837	137	0000837
775	175	0000775	838	138	0000838
776	176	0000776	839	139	0000839
777	177	0000777	840	140	0000840
778	178	0000778	841	141	0000841
779	179	0000779	842	142	0000842
780	180	0000780	843	143	0000843
781	181	0000781	844	144	0000844
782	182	0000782	845	145	0000845
783	183	0000783	846	146	0000846
784	184	0000784	847	147	0000847
785	185	0000785	848	148	0000848
786	186	0000786	849	149	0000849
787	187	0000787	850	150	0000850
788	188	0000788	851	151	0000851
789	189	0000789	852	152	0000852
790	190	0000790	853	153	0000853
791	191	0000791	854	154	0000854
792	192	0000792	855	155	0000855
793	193	0000793	856	156	0000856
794	194	0000794	857	157	0000857
795	195	0000795	858	158	0000858
796	196	0000796	859	159	0000859
797	197	0000797	860	160	0000860
798	198	0000798	861	161	0000861
799	199	0000799	862	162	0000862
800	100	0000800	863	163	0000863
801	101	0000801	864	164	0000864
802	102	0000802	865	165	0000865
803	103	0000803	866	166	0000866
804	104	0000804	867	167	0000867
805	105	0000805	868	168	0000868
806	106	0000806	869	169	0000869
807	107	0000807	870	170	0000870
808	108	0000808	871	171	0000871
809	109	0000809	872	172	0000872
810	110	0000810	873	173	0000873
811	111	0000811	874	174	0000874
812	112	0000812	875	175	0000875
813	113	0000813	876	176	0000876
814	114	0000814	877	177	0000877
815	115	0000815	878	178	0000878
816	116	0000816	879	179	0000879
817	117	0000817	880	180	0000880

Figure A-3: DID Translation Tables

881	181	0000881	941	141	0000941
882	182	0000882	942	142	0000942
883	183	0000883	943	143	0000943
884	184	0000884	944	144	0000944
885	185	0000885	945	145	0000945
886	186	0000886	946	146	0000946
887	187	0000887	947	147	0000947
888	188	0000888	948	148	0000948
889	189	0000889	949	149	0000949
890	190	0000890	950	150	0000950
891	191	0000891	951	151	0000951
892	192	0000892	952	152	0000952
893	193	0000893	953	153	0000953
894	194	0000894	954	154	0000954
895	195	0000895	955	155	0000955
896	196	0000896	956	156	0000956
897	197	0000897	957	157	0000957
898	198	0000898	958	158	0000958
899	199	0000899	959	159	0000959
900	100	0000900	960	160	0000960
901	101	0000901	961	161	0000961
902	102	0000902	962	162	0000962
903	103	0000903	963	163	0000963
904	104	0000904	964	164	0000964
905	105	0000905	965	165	0000965
906	106	0000906	966	166	0000966
907	107	0000907	967	167	0000967
908	108	0000908	968	168	0000968
909	109	0000909	969	169	0000969
910	110	0000910	970	170	0000970
911	111	0000911	971	171	0000971
912	112	0000912	972	172	0000972
913	113	0000913	973	173	0000973
914	114	0000914	974	174	0000974
915	115	0000915	975	175	0000975
916	116	0000916	976	176	0000976
917	117	0000917	977	177	0000977
918	118	0000918	978	178	0000978
919	119	0000919	979	179	0000979
920	120	0000920	980	180	0000980
921	121	0000921	981	181	0000981
922	122	0000922	982	182	0000982
923	123	0000923	983	183	0000983
924	124	0000924	984	184	0000984
925	125	0000925	985	185	0000985
926	126	0000926	986	186	0000986
927	127	0000927	987	187	0000987
928	128	0000928	988	188	0000988
929	129	0000929	989	189	0000989
930	130	0000930	990	190	0000990
931	131	0000931	991	191	0000991
932	132	0000932	992	192	0000992
933	133	0000933	993	193	0000993
934	134	0000934	994	194	0000994
935	135	0000935	995	195	0000995
936	136	0000936	996	196	0000996
937	137	0000937	997	197	0000997
938	138	0000938	998	198	0000998
939	139	0000939	999	199	0000999
940	140	0000940			

Figure A-3: DID Translation Tables

ICLID Call Management Tables

Description

Two ICLID Call Management Tables are maintained in the system. These tables consist of an Answered Call Management Table and an Unanswered Call Management Table. Each have a 100 entry capacity.

Answered Call Management Table

Description

The Answered ICLID Table feature adds a table that captures the ICLID calls that were answered. The table can store up to 100 entries of the most recently answered ICLID calls. A station may dial a unique access code to view the entries, scroll through the entries, and dial a desired entry back. The table displays the number as well as the station that answered the call.

Operation

This table may be accessed from any user station display phone so the answered calls may be reviewed and handled by the end user. Any Attendant station(s) can delete a table entry, one entry at a time. To enter the review process, dial [659]. The functions available to a user are:

Table A-2: Caller ID Display (Answered Calls)

Function	Button
Go to beginning of table	Dial Code 659
Review next item in table entry	MUTE
Step to next table entry	HOLD
Delete table entry (Attendant only)	FLASH
Exit table review function	ON/OFF
Step to previous table entry	TRANSFER
Call Back	SPEED

Conditions

» Telco must activate Caller ID service.

» Auto Attendant calls are considered answered.

Unanswered Call Management Table

Description

An Unanswered Call Management Table with 100 entry capacity is maintained in the system. The calling number/name information pertaining to any unanswered call is placed in this table at the time the system determines the call was abandoned.

This table may be accessed from any display telephone to review unanswered calls. Only an Attendant station can delete an entry from this table.

Operation

To enter the review process, dial [635]. The functions available to a phone are:

Table A-3: Caller ID Display (Unanswered Calls)

Function	Button
Go to beginning of table	Dial Code 635
Review next item in table entry	MUTE
Step to next table entry	HOLD
Delete table entry (Attendant only)	FLASH
Exit table review function	ON/OFF
Step to previous table entry	TRANSFER
Call Back	SPEED

Conditions

» Telco must activate Caller ID service.

» Auto Attendant calls are considered answered.

B Least Cost Routing

This section describes the Least Cost Routing (LCR) feature and how to program the eight LCR Tables to: monitor the digits dialed at each station and select the best route for the call.

Introduction

The Least Cost Routing (LCR) feature allows the system to automatically select the least costly route available according to the number dialed, the time of day/day of week, the class of service (COS) assigned to the station/trunk group priority level assigned. When a station user dials an outside number, the LCR feature analyzes the number, then automatically chooses an outside line from the group that is programmed as most economical.

The LCR feature puts the responsibility of choosing the least expensive route for each area code and exchange code on the system administrator, not on the station user. In order to make a routing decision, the LCR feature is programmed in the system database. The successful operation of this feature is completely dependent on the accuracy of the programming. The *XTS* may be programmed on a per station basis to force the use of LCR for outgoing access. This allows the system administrator to maintain greater control over dialing patterns and the lines used for placing outgoing CO calls.

LCR Tables

There are eight (8) different tables which are set up to monitor the dialing of digits of a station and to select the best route programmed for the call.

3-Digit Routing Table -- allows the system to handle call routing in areas that require a 1 before a long distance number as well as in areas that do not require the 1.

6-Digit Routing Table -- is used to determine the route for one or more office codes programmed within the same area code.

Exception Code Table -- is used to route operator assisted calls and any other calls which would use a one or two-digit number rather than a three-digit area code.

Route List Table -- contains four Time Period Routing Lists that are used in conjunction with other LCR table settings.

Insert/Delete Table -- is used to add/remove digits from a number before or after it is dialed.

Daily Start Time Table -- allows the user to match the Time Periods discount structure to the carriers rate schedule.

Weekly Schedule Table -- allows the user to assign the Time-of-Day and Day-of-Week to use the least costly route for a specific dialed number.

Toll Information Table -- allows common call routing for all toll information calls: 1-(xxx)555-1212, (xxx)555-1212, 1-555-1212, and 555-1212.

DEFAULT LCR Database -- provides basic routing for all local and long distance dialing.

Related Information

Quick Reference		
➡ Flash 05	Button #7	LCR function must be enabled **after** LCR Tables are programmed (Refer to *"Enable / Disable Least Cost Routing" on page B-18*.)
➡ Flash 06	Button #9	LCR Call Progress feature -- To allow all users to hear digits being dialed (Refer to *"LCR Call Progress" on page B-14*.)
➡ Flash 01	Button #20	Interdigit Timeout (Refer to *"Inter-Digit T / O" on page 2-189*.)

LCR Flowchart

This diagram illustrates the path of an outgoing call as it relates to the LCR feature when programmed.

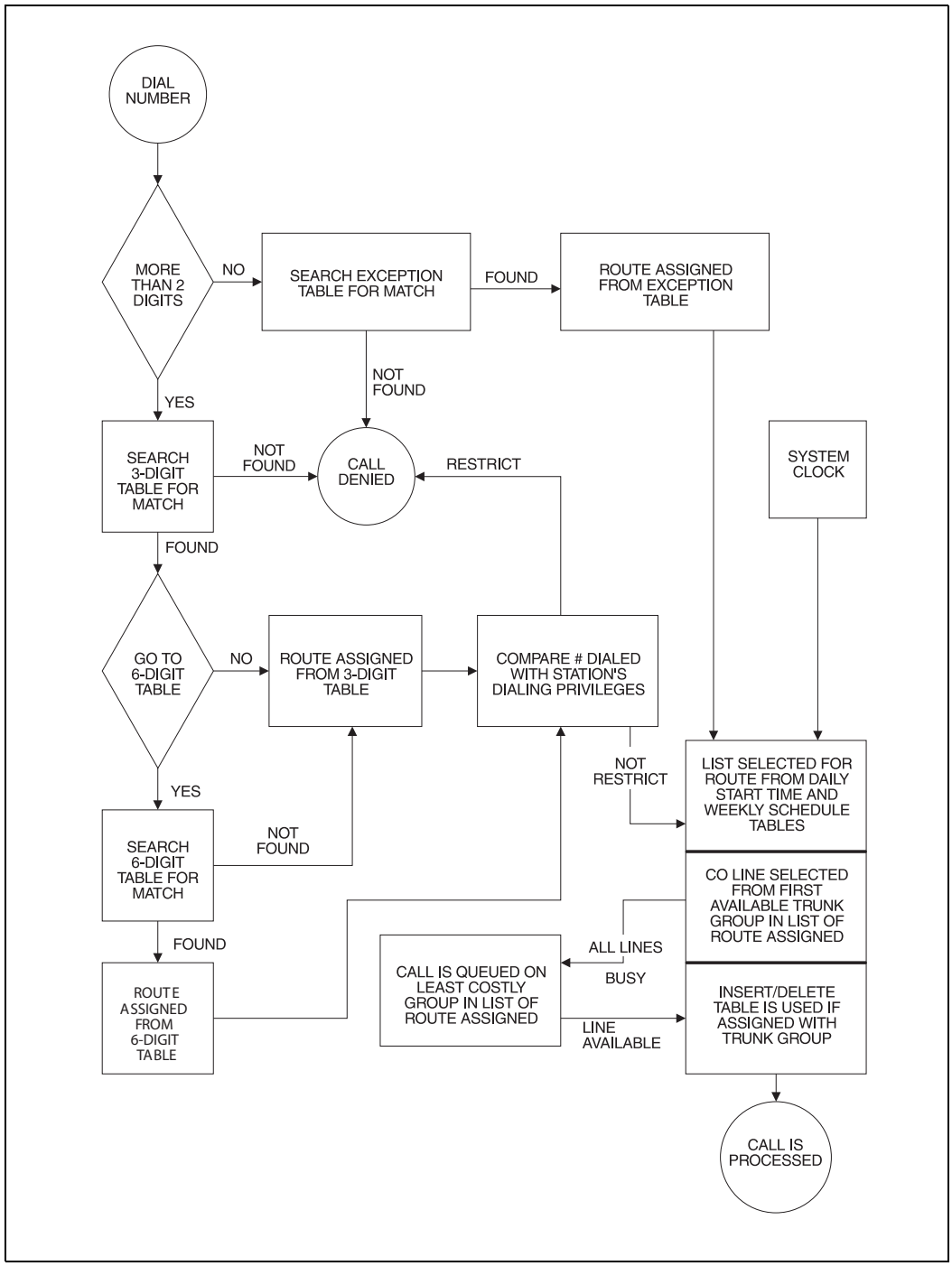


Figure B-1: LCR Flowchart

Operation (When LCR is Enabled)

To place an Outside Call:

1. Dial [9] on the dial pad,

   -or-

   Press preprogrammed LCR button.
2. Dial the desired telephone number.
3. Wait for an answer. Lift handset or use the speakerphone to converse.

   If all available lines are busy, remain off-hook for four seconds to automatically be queued onto LCR for an available line, then hang up.

To answer an LCR Queue Call Back:

1. When telephone is signaled, answer the call.
2. Desired telephone number is automatically redialed.

Only one LCR Queue Call Back request may be initiated by a station. When a second request is made, the first request is cancelled.

If the 911 feature is enabled, the LCR access code is 800 instead of 9.

CO Line Queue Cancel

To cancel a Call Back Request:

1. Dial the CO Line Queue Cancel code [626] on the dial pad.
2. Replace handset or press ON/OFF button.

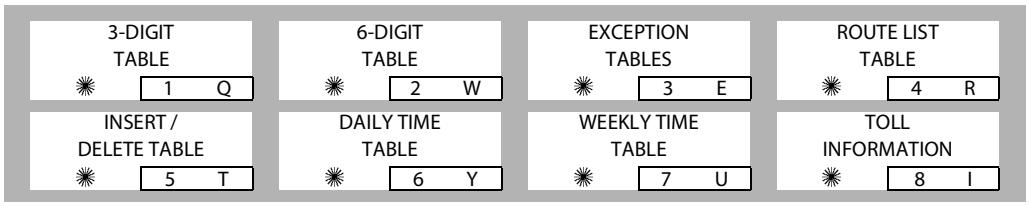
Programming LCR Tables

Description

The Least Cost Routing (LCR) feature allows automatic selection of the most economical trunk according to the number dialed and the time of the day and day of the week. There are eight (8) different tables set up to monitor the dialing of digits of a station and to select the best route programmed for the call.

Flash 05, button #7 must be used to enable the Least Cost Routing feature.

The buttons on the digital telephone are defined as shown when entering the LCR Tables Programming area:



Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

1. Press **FLASH** and dial **[75]**. The following message displays:

```
LCR TABLES
ENTER BUTTON NUMBER
```

2. There are eight tables which can be programmed here for LCR (you must also program LCR Class of Service in Station Programming). Use the procedures listed below to program these LCR tables.

It is extremely important that the worksheets be completed before programming the LCR tables.

3-Digit Area / Office Code Table

Description

Both Leading 1 and Non-Leading 1 tables include all area codes (NPAs), and office codes (NXXs), from 000 to 999, including such numbers as 911, 411, etc. A complete entry into these tables include a route list table to be used, if the 6-digit table is to be checked and the number of digits likely to be dialed (Example: 7 or 10 digits). All local office codes must be entered in this table even if they do not require long distance calling.

The number of digits to expect entry aids the system in identifying when the last digit is dialed and to begin routing the call. This also helps to free SLT DTMF receivers if SLT traffic in the system is heavy.

For international calls, use 00 as number of digits to expect. This causes the system to wait five seconds (or inter-digit time-out) after user dials last digit before the system accesses a CO Line and dials out.

Programming Steps

1. Press the 3-DIGIT TABLE flexible button **(FLASH 75, Button #1)**. The following message displays:

```
3 DIGIT ROUTING TABLE
ENTER L NNN RRY PP HOLD
```

L = [0] for Non-Leading 1 (1 not dialed), [1] for Leading 1 (1 is dialed)
NNN = Area/Office Code
RR = Route List Number 00-15
Y = [0] Do not go to 6-digit table, [1] Go to 6-digit table
PP = Number of digits expected to be dialed.

2. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

6-Digit Office Code Table

Description

The 6-Digit Office Code Table determines a route for one or a group of individual office codes within an area code. Certain office codes within an area code can be given unique or special routing. If the office code dialed is not found in the 6-digit Office Code Table, the call is then routed according to the route list table as was entered in the 3-digit table.

The system allows twenty 6-digit Area/Office code tables that may be used to route specific office codes within an area code. Each table routes calls for a common area code to a specified route. All entries made to a table route those office codes to the specified route list table. An area code may be entered into more than one 6-digit table with different routes specified.

Programming Steps

1. Press the 6-DIGIT TABLE flexible button **(FLASH 75, Button #2)**. The following message displays:

```
6 DIGIT ROUTING TABLE
ENTER ✳ AAA RR NNN HOLD
```

✳ = [0] to remove codes, [1] to add codes
AAA = Area Code
RR = Route Number 00-15
NNN = Office Code

2. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.
3. Enter additional office codes to be programmed into the same Area Code/Route Table, pressing HOLD after each office code entry.
4. Press a flexible button to program a different table.

To Delete All Entries in an Area Code/Route Table:

Enter [0 AAA RR ###].

Exception Code Table

Description

The Exception Code Table is used for operator calls and any other calls that use a one- or two-digit entry, rather than a three-digit area code.

Programming Steps

1. Press EXCEPTION TABLES flexible button **(FLASH 75, Button #3)**. The following message displays:

```
EXCEPTION CODE TABLE
ENTER ✳ XX RR HOLD
```

✳ = [0] to remove code from table, [1] to add code to table
XX = Exception codes for single digit codes, press MUTE button as 2nd digit. (The [✳] may be entered as the 1st digit only.)
RR = Route Table Number 00–15

2. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.
3. Press **FLASH 75, Button #3** again for further entries. Up to 20 Exception Codes may be programmed in this table.

Route List Table

Description

Each of the 16 Route List Tables available contains four Time Period Routing Lists, one for each of the 4 daily start time periods. Within each Time Period Route List up to 7 CO (outside) line groups and their corresponding Insert/Delete table, if any, and LCR Class Of Service Priority are programmed on a per line group basis.

When routing a CO call through LCR, CO Line groups are accessed in sequence so that the first line group entered represents the least costly (and first selected) and the last line group entered represents the most costly (and last selected).

The Route List Table references many other tables when processing a call for routing. First, the Daily Start Time Table is referenced to determined what start time entry should be checked in the Weekly Schedule Table. The corresponding entry in the weekly schedule table depending on the day of the week then determines which Time Period Route List should be used within the Route List Table.

The system then begins to check for idle lines in the first entered CO line group and proceeds until an idle line is found. While it is searching for an idle CO line the Station LCR COS is checked against the entries for LCR COS Priority of the specific CO line groups (see *LCR COS Priority* explanation).

- When an idle CO Line is found with a LCR priority equal to or higher than the stations LCR COS, then a final check is made to determine if an Insert/Delete Table should be referenced.
- When all of the tables and entries are checked the system then processes the call on the outside CO line.

Make sure you made entries into all Time Period Route Lists referenced in the weekly schedule table.

LCR COS Priority

A station should be assigned a class of service for LCR. The LCR COS can be between 0 and 6, with 0 being unrestricted and 6 being the most restrictive. Within the time period route List table, line groups are given an LCR COS Priority assignment between 0 and 6.

A station using LCR is able to use only those CO (outside) line groups with a priority assignment of equal or higher value than the station's LCR Class of Service (e.g., a station with LCOS 3 can use line groups with a priority between 3 and 6).

Table B-1: LCR Class of Service Table

Allow Access To Route		LCR CO Line Group Priority						
		0	**1**	**2**	**3**	**4**	**5**	**6**
STA LCR COS	0	Y	Y	Y	Y	Y	Y	Y
	1	N	Y	Y	Y	Y	Y	Y
	2	N	N	Y	Y	Y	Y	Y
	3	N	N	N	Y	Y	Y	Y
	4	N	N	N	N	Y	Y	Y
	5	N	N	N	N	N	Y	Y
	6	N	N	N	N	N	N	Y

N = Cannot Use Line Group
Y = Has Access to Line Group

Programming Steps

1. Press the ROUTE LIST TABLE flexible button **(FLASH 75, Button #4)**. The following message displays:

```
ROUTE LIST TABLE
RR  T  GG  DD  L
```

RR = Route List Table Number 00–15
T = Time Period Route List 1–4
GG = CO Line Group 00–23
DD = Insert/Delete Table reference 00-19 (## for none)
L = LCR Class of Service (LCOS)

2. To create an entry, dial [RR] + [T] + [GG] + [DD] + [L], then press HOLD to save the entry. A confirmation tone sounds and the display updates.
3. To enter additional CO Line groups in the same Time Period Route List number, dial [GG] + [DD] + [L], then press HOLD.

To enter data for a different time period route list:

1. Press program **FLASH 75, Button #4** and enter all data (RR T GG DD L).
2. Repeat the above to program a new Route Number 00 to 15 or press a flexible button to program other LCR information.
3. To advance to the next entry, use Button #18.
4. To return to a previous entry, use Button #19.

   When **Call Cost** feature is enabled in FLASH 05, Button #11, the following message displays.

```
ROUTE  LIST  TABLE
RR  T  CCC  GG  DD  L
```

RR = Route List Table Number 00-15
T = Time Period Route List 1-4
CCC = Cost for one minute ($ 0.00 – $ 9.99)
GG = CO Line Group 00-23
DD = Insert/Delete Table reference 00-19 (## for none)
L = LCR Class of Service (LCOS)

Insert / Delete Table

Description

Digits can be either added or deleted when dialing a number. For instance, if a user dials a long distance call that should be placed on a foreign exchange (FX) line, the digit [1] and the three-digit area code (NPA) dialed by the user must be deleted before the call can be placed on that FX line. An Insert/Delete table can be programmed to do this.

Digits can also be added to a number that has been dialed by the user. For instance, Other Common Carrier (OCC) access codes and authorization (ID) codes can be automatically inserted by the system either in front of, and/or behind the number dialed.

There are twenty Insert/Delete Tables and each allows entries in a delete table and a pre- and post-insert table. Up to 40 digits (including pauses) can be inserted (20 pre and 20 post) and up to 16 digits can be deleted. Digits can be inserted before or after the number dialed, but can be deleted only from the start of the number dialed.

To ensure that a pause is inserted in LCR at default, the database programming was changed to add a pause in each of the 20 LCR Insert and Delete Tables and insert table 0 in each of the route tables.

Programming Steps

1. Press INSERT/DELETE TABLE flexible button **(FLASH 75, Button #5)**. The following message displays:

```
DIGIT  INSERT  /  DELETE
ENTER  TT  X  DDD  HOLD
```

2. Enter the table information as follows:
   - T T = Insert/Delete Table Number 00–19
   - X = [0] Pre-Delete numbers (first digits dialed in the number),

     -or-

     [1] Pre-Insert numbers (insert digits in front of number dialed,

     -or-

     [2] Post-Insert numbers (insert digits behind number dialed).
   - DDD = Digits (up to 16-digits may be deleted from the beginning of the number dialed and up to 40 digits can be inserted (20 pre and 20 post).
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

To add and delete numbers in the same table:

1. Enter the different Insertion/Deletion tables in step 1.
2. Enter as separate entries using the same table number.
3. In the Insert Tables for LCR Programming, press the TRANS button for a pause.
   - The [✳] and [#] digits are allowed as valid digits for inserting digits dialed over the network.
   - The [✳] and [#] are valid entries for adding digits in both the pre (in front of) or post (behind the number) tables.
   - The [✳] and [#] cannot be used as delete characters in the Delete tables.

To delete a table:

Enter a valid table number and press the HOLD button.

Daily Start Time Table

Description

The Daily Start Time Table correlates the LCR Routing Table to the time sensitive discount structure offered by the customers carrier.

EXAMPLE -- In the most common situation:

- The most expensive rate period is between 8:00 am and 5:00 pm, often called the day rate.
- The first discount period usually starts at 5:00 pm and runs until 11:00 pm, often called Evening Rates.
- The remaining time (from 11:00 pm until 8:00 am) is referred to as night time rates which usually have the biggest discount.

Weekly Time Table -- With the wide selection of Common Carriers, the least costly route for a particular area code may be different at different times of the day. To accommodate this situation, this table and the Weekly Time Table work together, dividing the day into four possible time periods. By default these tables are set at the standard divisions of 8 am, 5 pm, and 11 pm. However, these times can be changed.

Entries in the Daily Start Time table are used to select the time period to reference in the weekly schedule. Based on the time a call is placed, the daily start time table selects the time period to choose in the weekly schedule. The weekly schedule is then used to determine the time period route list in the Route List Table to use for routing the call for a particular day of the week. Times are entered in the 24-hour format.

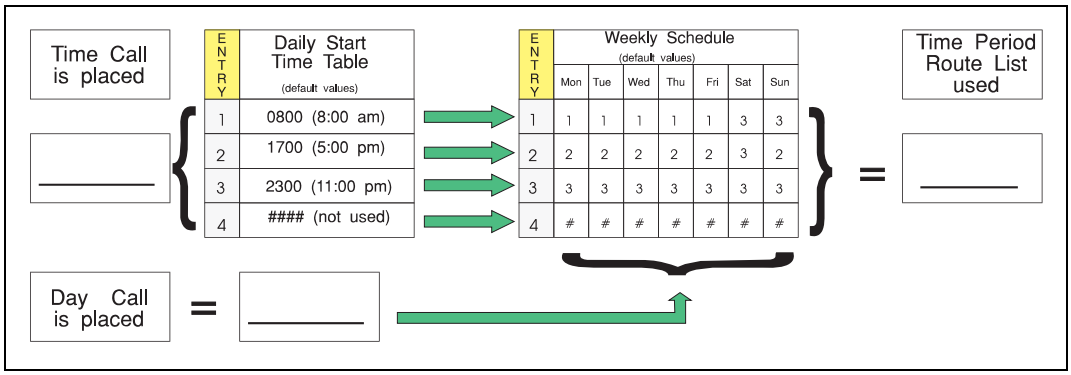


Figure B-2: Daily Start Time and Weekly Schedule Tables

Programming Steps

1. Press the DAILY START flexible button **(FLASH 75, Button #6)**. The following message displays:

```
DAILY  START  TIME  TABLE
HHMM  HHMM  HHMM  HHMM  HOLD
```

2. Enter times in military format (2400 hours) in succession.
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.
   - Default times are 0800, 1700, 2300 (8 AM, 5 PM, and 11 PM), and the fourth time is disabled (####).
   - To change a Start Time, all times must be re-entered. Four pound signs [####] are displayed if nothing is entered for a specific time.

Weekly Schedule Table

Description

The Weekly Schedule Table determines what Time Period Route List to use within the Route List Table. When a call is placed and ultimately sent to a route list (call is not denied) based on the time of day the call is placed, the Daily Start Time Table selects the time period to reference in the Weekly Schedule Table.

The Time Period Route entered for the specified time period, as determined in the Daily Start Time Table and based on the day of week, is then selected and the call ia routed according to the specified Time Period Route List.

EXAMPLE -- If a call is placed at 5:45 pm on a Monday, then according to the Daily Start Time Table (using default values) the entry for time period two of the weekly schedule is checked. Because it is Monday the entry for time period two on Monday is used and the result is that the Time Period Route List number two (again using default values) is used for all routes. Thus, the call is routed according to the entries in Time Period Two Route List no matter what route (00–15) is selected.

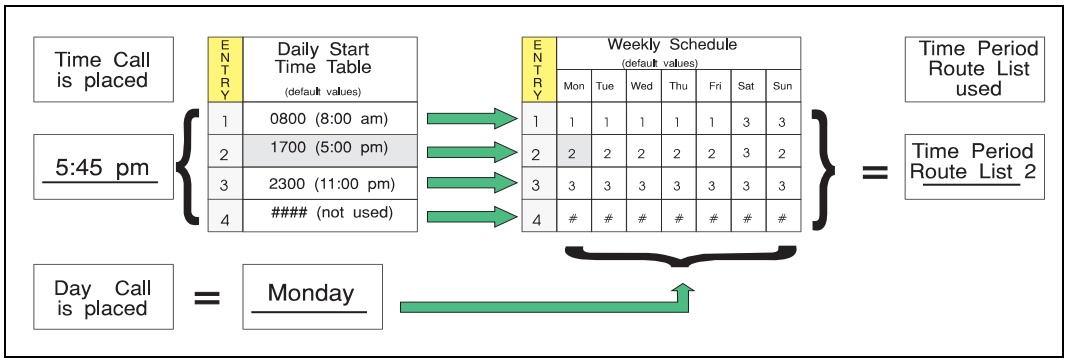


Figure B-3: Daily and Weekly Start Time Table

Programming Steps

1. Press the WEEKLY SCHED flexible button **(FLASH 75, Button #7)**. The following message displays:

```
WEEKLY SCHEDULE TABLE
ENTER  D  T  T  T  T  HOLD
```

D *= Day of the Week:*

[0] = Monday
[1] = Tuesday
[2] = Wednesday
[3] = Thursday
[4] = Friday
[5] = Saturday
[6] = Sunday

T *= Time Period Route List (1-4) to use for the time-of-day (based on the Daily Start Time table). Enter values for all time periods specified in the Daily Start Time table for that day.*

1st T = Time Period Route List for first Daily Start Time (applies to all Route List tables).
2nd T = Time Period Route List for second Daily Start Time (applies to all Route List tables).
3rd T = Time Period Route List for third Daily Start Time (applies to all Route List tables).
4th T = Time Period Route List for fourth Daily Start Time (applies to all Route List tables).

2. Press the HOLD button after each complete daily entry. A confirmation tone sounds and the display updates.

LCR Routing for Toll Information

Description

The LCR Routing for Toll Information feature adds provisions to the LCR call processing which allows common call routing for all toll information calls. 1-(XXX) 555-1212, (XXX) 555-1212, 1-555-1212, and 555-1212 calls are intercepted and sent to a selected route in the Route List Table.

Numbers dialed are integrated and if it is determined to be a toll information call, either preceded with an area code or without or with a leading digit 1 or not, the call is sent to the route designated in programming.

By default, Toll Information Calls are sent to Route List Table Zero (0) which allows toll information calls to be placed on the system at default. A Toll Information route is chosen over a 3-digit or 6-digit route assignment if both are assigned. Entering the pound key twice [##] denies all Toll Information Calls.

Programming Steps

1. Press the TOLL INFO flexible button **(FLASH 75, Button #8)**. The following message displays:

```
LCR ROUTE FOR 555 - 1212
ENTER ROUTE
```

2. Enter a valid Route List number (00–15) for the Route referenced in the Route List table.
3. Press the HOLD button after programming the Route number. A confirmation tone sounds and the display updates.
4. Enable LCR at this point.

LCR Call Progress

Description

The LCR CALL PROGRESS Feature enables the installer to select, on a system-wide basis, whether users hear call progress indications.

If this feature is disabled, a confirmation tone is given after the last digit is dialed. The user does not hear the line being seized or the outpulsing of digits to the Central Office.

Programming Steps

1. Press the LCR CALL PROGRESS flexible button **(FLASH 06, Button #9)**. The following message displays:

```
LCR CALL PROGRESS          0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … LCR Call Progress feature is enabled.

Default LCR Database

Description

In an effort to decrease installation and set up time usually associated with LCR, a default LCR database was incorporated.

The default LCR database provides basic routing for local and long distance dialing. Default entries have been made in the 3-Digit Table for local office codes (NNXs) and all area codes (NPAs). Six routes have been established with the default database for routing of all calls under default.

Forced Least Cost Routing (LCR)

Description

Stations may be forced to place outgoing CO calls by use of LCR (dial [9]) to access an outside line. This lets the system administrator control dialing patterns and lines used for outgoing CO calls. This can be enabled/disabled on a per-station basis for additional flexibility and control. Forced LCR is optional (disabled) for all stations, and eliminates access to all other line groups.

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press the FORCE LCR flexible button **(Button #11)**. The following message displays:

```
FORCE LCR                    0-1
DISABLED
```

5. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
6. Press HOLD to save the entry. A confirmation tone sounds.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

LCR Class of Service (COS)

Description

Stations can be given a class of service assignment for Least Cost Routing. The range is between 0-6, with 0 being unrestricted and 6 the most restricted. A station can use LCR routes with a priority number equal to or higher than the stations LCR COS assignment. Stations are given unrestricted access (0).

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Programming Steps

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers

```
STATION ATTRIBUTES
SELECT A STATION RANGE
```

Flash 51 - Flexible Numbers

```
ENTER STATION NUMBER
```

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX   PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

5. Press the LCR COS flexible button **(Button #9)**. The following message displays:

```
LCR CLASS OF SERVICE          0-6
0
```

6. Enter a valid number (0–6) to correspond to the LCR Class of Service desired.
7. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Conditions

» Only one station at a time can be programmed when using a flexible station number.

» When in Flash 51 programming, if you press HOLD without specifying a flexible number to be programmed, you will get the station that is in port/station 100.

Enable / Disable Least Cost Routing

Description

To use Least Cost Routing, it must be enabled. Before enabling LCR, refer to the Least Cost Routing programming tables.

After the tables are programmed, you may then enable LCR for the system. After system initialization, a default LCR database is loaded into the LCR section of memory.

Programming Steps

1. Press the LCR ENABLE flexible button **(FLASH 05, Button #7)**.
2. Enter a 0 or 1 that corresponds with the following entries:

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … LCR is disabled.

Call Cost Display

Description

The Call Cost Display feature allows a user to view the approximate cost of each call made. This approximate cost is also printed as part of the SMDR record. The Call Cost Display replaces the call duration display when a call is made using LCR.

The cost information is programmable by selecting one of the 16 route list tables and one of the four time periods. This allows the user to program four separate costs based on the time of day for each of the 16 routes. The costs entered in the tables are costs for one minute, however, costs are calculated using a 1/10th of a minute value. These costs are rounded down and are based on the start time of the call, even if the call extends into a different time period. The SMDR printout contains a cost calculated using a 1/10th of a minute increment and the display updates approximately every 30 seconds.

Programming Steps

1. Press the CALL COST DISPLAY flexible button **(FLASH 05, Button #11)**.
2. Enter a 0 or 1 that corresponds with the following entries:
   [0] = Disabled
   [1] = Enabled

```
CALL COST DISPLAY          0-1
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

DEFAULT … Call Cost Display is disabled.

Conditions

» The user must have LCR enabled to get the Call Cost Display.

Initialize LCR Tables

Description

The LCR Tables may be initialized to set all tables to their original, default values. The following tables are reset to their original default value after initialization of the LCR Tables:

Table B-2: LCR Table Defaults

Program Code	Flexible Button	Features	Default Value (after initialization)
FLASH 75	LCR TABLES		
	1	3-Digit Area/Office Code Table	None
	2	6-Digit Area/Office Code Table	
	3	Exception Code Table	
	4	Route List Table	
	5	Insert/Delete Table	
	6	Daily Start Time Table	
	7	Weekly Schedule Table	
	8	LCR Routing for Toll Information	Table 0

Programming Steps

1. Press the LCR TABLES flexible button (**FLASH 80, Button #7**). The following message displays:

```
INITIALIZE  LCR  TABLES
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Print LCR Tables

Description

The Print LCR Tables command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

When printing information from the LCR Tables, the following data prints (examples follow programming steps):

- Exception Table
- Route List Table
- Insert/Delete Table
- Daily Time Table
- Weekly Time Table
- Toll Tables
- 6-Digit Table
- 3-Digit Table

Programming Steps

1. Press the LCR TABLES flexible button **(FLASH 85, Button #7)**. The following message displays:

```
PRINT LCR TABLES
PRESS HOLD
```

2. To print the LCR Tables, press the HOLD button. The following message displays:

```
PRINTING LCR TABLES
```

When the system finishes sending the requested information to the printer, a confirmation tone sounds.

LCR Printout

EXCEPTION CODE TABLE

CODE	ROUTE NO

ROUTE LIST TABLE

RT	TIME	COST	CO GRP	INS/DEL GRP	PR
0	1	026	1	0	1
	2	026	1	0	1
	3	026	1	0	1
	4	026	1	0	1
1	1	000	1	0	1
	2	000	1	0	1
	3	000	1	0	1
	4	000	1	0	1
2	1	010	1	0	1
	2	010	1	0	1
	3	010	1	0	1
	4	010	1	0	1
3	1	072	1	0	1
	2	072	1	0	1
	3	072	1	0	1
	4	072	1	0	1
4	1	171	1	0	1
	2	171	1	0	1
	3	171	1	0	1
	4	171	1	0	1
5	1	106	1	0	1
	2	106	1	0	1
	3	106	1	0	1
	4	106	1	0	1
6	1	277	1	0	1
	2	277	1	0	1
	3	277	1	0	1
	4	277	1	0	1

DIGIT INS/DEL TABLE

TABLE	DIGITS	
0	PRE	P
1	PRE	
2	PRE	P
3	PRE	P
4	PRE	P
5	PRE	P
6	PRE	P
7	PRE	P
8	PRE	P
9	PRE	P
10	PRE	P
11	PRE	P
12	PRE	P
13	PRE	P
14	PRE	P
15	PRE	P
16	PRE	P
17	PRE	P
18	PRE	P
19	PRE	P

DAILY START TIME TABLE

TABLE	TIME
1	800
2	1700
3	2300
4	####

WEEKLY SCHEDULE TABLE

START TIME	M	T	W	T	F	S	S
800	1	1	1	1	1	3	3
1700	2	2	2	2	2	3	2
2300	3	3	3	3	3	3	3
####	3	3	3	3	3	3	3

LCR ROUTE FOR 555-1212

0

6 DIGIT TABLE

AREA CODE NO	ROUTE	OFFICE CODES

3 DIGIT TABLE

CODE	LEADING 1			NON-LEADING 1		
	RR	PP	6	RR	PP	6
11	##	##	N	6	##	N
200	0	11	N	1	7	N
201	0	11	N	1	7	N
202	0	11	N	1	7	N
203	0	11	N	1	7	N
204	3	11	N	1	7	N
205	0	11	N	1	7	N
206	0	11	N	1	7	N
207	0	11	N	1	7	N
208	0	11	N	1	7	N
209	0	11	N	1	7	N
210	0	11	N	1	7	N
211	##	##	N	1	7	N
212	0	11	N	1	7	N
213	0	11	N	1	7	N
214	0	11	N	1	7	N
215	0	11	N	1	7	N
216	0	11	N	1	7	N
217	0	11	N	1	7	N
218	0	11	N	1	7	N
219	0	11	N	1	7	N
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222	0	11	N	1	7	N
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224	0	11	N	1	7	N
225	0	11	N	1	7	N
226	0	11	N	1	7	N
227	0	11	N	1	7	N
228	0	11	N	1	7	N
229	0	11	N	1	7	N
230	0	11	N	1	7	N
231	0	11	N	1	7	N
232	0	11	N	1	7	N
233	0	11	N	1	7	N
234	0	11	N	1	7	N
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237	0	11	N	1	7	N
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239	0	11	N	1	7	N
240	0	11	N	1	7	N
241	0	11	N	1	7	N
242	0	11	N	1	7	N
243	0	11	N	1	7	N
244	0	11	N	1	7	N
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246	0	11	N	1	7	N
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276	0	11	N	1	7	N
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281	0	11	N	1	7	N
282	0	11	N	1	7	N
283	0	11	N	1	7	N
284	0	11	N	1	7	N
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286	0	11	N	1	7	N
287	0	11	N	1	7	N
288	0	11	N	1	7	N
289	0	11	N	1	7	N
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291	0	11	N	1	7	N
292	0	11	N	1	7	N
293	0	11	N	1	7	N
294	0	11	N	1	7	N
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306	3	11	N	1	7	N
307	0	11	N	1	7	N
308	0	11	N	1	7	N
309	0	11	N	1	7	N
310	0	11	N	1	7	N
311	##	##	N	1	7	N
312	0	11	N	1	7	N
313	0	11	N	1	7	N
314	0	11	N	1	7	N
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323	0	11	N	1	7	N
324	0	11	N	1	7	N
325	0	11	N	1	7	N
326	0	11	N	1	7	N
327	0	11	N	1	7	N

328	0	11	N	1	7	N	396	0	11	N	1	7	N
329	0	11	N	1	7	N	397	0	11	N	1	7	N
330	0	11	N	1	7	N	398	0	11	N	1	7	N
331	0	11	N	1	7	N	399	0	11	N	1	7	N
332	0	11	N	1	7	N	400	0	11	N	1	7	N
333	0	11	N	1	7	N	401	0	11	N	1	7	N
334	0	11	N	1	7	N	402	0	11	N	1	7	N
335	0	11	N	1	7	N	403	3	11	N	1	7	N
336	0	11	N	1	7	N	404	0	11	N	1	7	N
337	0	11	N	1	7	N	405	0	11	N	1	7	N
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339	0	11	N	1	7	N	407	0	11	N	1	7	N
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341	0	11	N	1	7	N	409	0	11	N	1	7	N
342	0	11	N	1	7	N	410	0	11	N	1	7	N
343	0	11	N	1	7	N	411	1	4	N	1	3	N
344	0	11	N	1	7	N	412	0	11	N	1	7	N
345	0	11	N	1	7	N	413	0	11	N	1	7	N
346	0	11	N	1	7	N	414	0	11	N	1	7	N
347	0	11	N	1	7	N	415	0	11	N	1	7	N
348	0	11	N	1	7	N	416	3	11	N	1	7	N
349	0	11	N	1	7	N	417	0	11	N	1	7	N
350	0	11	N	1	7	N	418	3	11	N	1	7	N
351	0	11	N	1	7	N	419	0	11	N	1	7	N
352	0	11	N	1	7	N	420	0	11	N	1	7	N
353	0	11	N	1	7	N	421	0	11	N	1	7	N
354	0	11	N	1	7	N	422	0	11	N	1	7	N
355	0	11	N	1	7	N	423	0	11	N	1	7	N
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358	0	11	N	1	7	N	426	0	11	N	1	7	N
359	0	11	N	1	7	N	427	0	11	N	1	7	N
360	0	11	N	1	7	N	428	0	11	N	1	7	N
361	0	11	N	1	7	N	429	0	11	N	1	7	N
362	0	11	N	1	7	N	430	0	11	N	1	7	N
363	0	11	N	1	7	N	431	0	11	N	1	7	N
364	0	11	N	1	7	N	432	0	11	N	1	7	N
365	0	11	N	1	7	N	433	0	11	N	1	7	N
366	0	11	N	1	7	N	434	0	11	N	1	7	N
367	0	11	N	1	7	N	435	0	11	N	1	7	N
368	0	11	N	1	7	N	436	0	11	N	1	7	N
369	0	11	N	1	7	N	437	0	11	N	1	7	N
370	0	11	N	1	7	N	438	0	11	N	1	7	N
371	0	11	N	1	7	N	439	0	11	N	1	7	N
372	0	11	N	1	7	N	440	0	11	N	1	7	N
373	0	11	N	1	7	N	441	0	11	N	1	7	N
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383	0	11	N	1	7	N	451	0	11	N	1	7	N
384	0	11	N	1	7	N	452	0	11	N	1	7	N
385	0	11	N	1	7	N	453	0	11	N	1	7	N
386	0	11	N	1	7	N	454	0	11	N	1	7	N
387	0	11	N	1	7	N	455	0	11	N	1	7	N
388	0	11	N	1	7	N	456	0	11	N	1	7	N
389	0	11	N	1	7	N	457	0	11	N	1	7	N
390	0	11	N	1	7	N	458	0	11	N	1	7	N
391	0	11	N	1	7	N	459	0	11	N	1	7	N
392	0	11	N	1	7	N	460	0	11	N	1	7	N
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394	0	11	N	1	7	N	462	0	11	N	1	7	N
395	0	11	N	1	7	N	463	0	11	N	1	7	N

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465	0	11	N	1	7	N		533	0	11	N	1	7	N	
466	0	11	N	1	7	N		534	0	11	N	1	7	N	
467	0	11	N	1	7	N		535	0	11	N	1	7	N	
468	0	11	N	1	7	N		536	0	11	N	1	7	N	
469	0	11	N	1	7	N		537	0	11	N	1	7	N	
470	0	11	N	1	7	N		538	0	11	N	1	7	N	
471	0	11	N	1	7	N		539	0	11	N	1	7	N	
472	0	11	N	1	7	N		540	0	11	N	1	7	N	
473	0	11	N	1	7	N		541	0	11	N	1	7	N	
474	0	11	N	1	7	N		542	0	11	N	1	7	N	
475	0	11	N	1	7	N		543	0	11	N	1	7	N	
476	0	11	N	1	7	N		544	0	11	N	1	7	N	
477	0	11	N	1	7	N		545	0	11	N	1	7	N	
478	0	11	N	1	7	N		546	0	11	N	1	7	N	
479	0	11	N	1	7	N		547	0	11	N	1	7	N	
480	0	11	N	1	7	N		548	0	11	N	1	7	N	
481	0	11	N	1	7	N		549	0	11	N	1	7	N	
482	0	11	N	1	7	N		550	0	11	N	1	7	N	
483	0	11	N	1	7	N		551	0	11	N	1	7	N	
484	0	11	N	1	7	N		552	0	11	N	1	7	N	
485	0	11	N	1	7	N		553	0	11	N	1	7	N	
486	0	11	N	1	7	N		554	0	11	N	1	7	N	
487	0	11	N	1	7	N		555	0	11	N	1	7	N	
488	0	11	N	1	7	N		556	0	11	N	1	7	N	
489	0	11	N	1	7	N		557	0	11	N	1	7	N	
490	0	11	N	1	7	N		558	0	11	N	1	7	N	
491	0	11	N	1	7	N		559	0	11	N	1	7	N	
492	0	11	N	1	7	N		560	0	11	N	1	7	N	
493	0	11	N	1	7	N		561	0	11	N	1	7	N	
494	0	11	N	1	7	N		562	0	11	N	1	7	N	
495	0	11	N	1	7	N		563	0	11	N	1	7	N	
496	0	11	N	1	7	N		564	0	11	N	1	7	N	
497	0	11	N	1	7	N		565	0	11	N	1	7	N	
498	0	11	N	1	7	N		566	0	11	N	1	7	N	
499	0	11	N	1	7	N		567	0	11	N	1	7	N	
500	0	11	N	1	7	N		568	0	11	N	1	7	N	
501	0	11	N	1	7	N		569	0	11	N	1	7	N	
502	0	11	N	1	7	N		570	0	11	N	1	7	N	
503	0	11	N	1	7	N		571	0	11	N	1	7	N	
504	0	11	N	1	7	N		572	0	11	N	1	7	N	
505	0	11	N	1	7	N		573	0	11	N	1	7	N	
506	3	11	N	1	7	N		574	0	11	N	1	7	N	
507	0	11	N	1	7	N		575	0	11	N	1	7	N	
508	0	11	N	1	7	N		576	0	11	N	1	7	N	
509	0	11	N	1	7	N		577	0	11	N	1	7	N	
510	0	11	N	1	7	N		578	0	11	N	1	7	N	
511	##	##	N	1	7	N		579	0	11	N	1	7	N	
512	0	11	N	1	7	N		580	0	11	N	1	7	N	
513	0	11	N	1	7	N		581	0	11	N	1	7	N	
514	3	11	N	1	7	N		582	0	11	N	1	7	N	
515	0	11	N	1	7	N		583	0	11	N	1	7	N	
516	0	11	N	1	7	N		584	0	11	N	1	7	N	
517	0	11	N	1	7	N		585	0	11	N	1	7	N	
518	0	11	N	1	7	N		586	0	11	N	1	7	N	
519	3	11	N	1	7	N		587	0	11	N	1	7	N	
520	0	11	N	1	7	N		588	0	11	N	1	7	N	
521	0	11	N	1	7	N		589	0	11	N	1	7	N	
522	0	11	N	1	7	N		590	0	11	N	1	7	N	
523	0	11	N	1	7	N		591	0	11	N	1	7	N	
524	0	11	N	1	7	N		592	0	11	N	1	7	N	
525	0	11	N	1	7	N		593	0	11	N	1	7	N	
526	0	11	N	1	7	N		594	0	11	N	1	7	N	
527	0	11	N	1	7	N		595	0	11	N	1	7	N	
528	0	11	N	1	7	N		596	0	11	N	1	7	N	
529	0	11	N	1	7	N		597	0	11	N	1	7	N	
530	0	11	N	1	7	N		598	0	11	N	1	7	N	
531	0	11	N	1	7	N		599	0	11	N	1	7	N	

600	0	11	N	1	7	N	668	0	11	N	1	7	N
601	0	11	N	1	7	N	669	0	11	N	1	7	N
602	0	11	N	1	7	N	670	0	11	N	1	7	N
603	0	11	N	1	7	N	671	0	11	N	1	7	N
604	0	11	N	1	7	N	672	0	11	N	1	7	N
605	0	11	N	1	7	N	673	0	11	N	1	7	N
606	0	11	N	1	7	N	674	0	11	N	1	7	N
607	0	11	N	1	7	N	675	0	11	N	1	7	N
608	0	11	N	1	7	N	676	0	11	N	1	7	N
609	0	11	N	1	7	N	677	0	11	N	1	7	N
610	0	11	N	1	7	N	678	0	11	N	1	7	N
611	##	##	N	1	7	N	679	0	11	N	1	7	N
612	0	11	N	1	7	N	680	0	11	N	1	7	N
613	3	11	N	1	7	N	681	0	11	N	1	7	N
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623	0	11	N	1	7	N	691	0	11	N	1	7	N
624	0	11	N	1	7	N	692	0	11	N	1	7	N
625	0	11	N	1	7	N	693	0	11	N	1	7	N
626	0	11	N	1	7	N	694	0	11	N	1	7	N
627	0	11	N	1	7	N	695	0	11	N	1	7	N
628	0	11	N	1	7	N	696	0	11	N	1	7	N
629	0	11	N	1	7	N	697	0	11	N	1	7	N
630	0	11	N	1	7	N	698	0	11	N	1	7	N
631	0	11	N	1	7	N	699	0	11	N	1	7	N
632	0	11	N	1	7	N	700	0	11	N	1	7	N
633	0	11	N	1	7	N	701	0	11	N	1	7	N
634	0	11	N	1	7	N	702	0	11	N	1	7	N
635	0	11	N	1	7	N	703	0	11	N	1	7	N
636	0	11	N	1	7	N	704	0	11	N	1	7	N
637	0	11	N	1	7	N	705	3	11	N	1	7	N
638	0	11	N	1	7	N	706	4	11	N	1	7	N
639	0	11	N	1	7	N	707	0	11	N	1	7	N
640	0	11	N	1	7	N	708	0	11	N	1	7	N
641	0	11	N	1	7	N	709	3	11	N	1	7	N
642	0	11	N	1	7	N	710	0	11	N	1	7	N
643	0	11	N	1	7	N	711	##	##	N	1	7	N
644	0	11	N	1	7	N	712	0	11	N	1	7	N
645	0	11	N	1	7	N	713	0	11	N	1	7	N
646	0	11	N	1	7	N	714	0	11	N	1	7	N
647	0	11	N	1	7	N	715	0	11	N	1	7	N
648	0	11	N	1	7	N	716	0	11	N	1	7	N
649	0	11	N	1	7	N	717	0	11	N	1	7	N
650	0	11	N	1	7	N	718	0	11	N	1	7	N
651	0	11	N	1	7	N	719	0	11	N	1	7	N
652	0	11	N	1	7	N	720	0	11	N	1	7	N
653	0	11	N	1	7	N	721	0	11	N	1	7	N
654	0	11	N	1	7	N	722	0	11	N	1	7	N
655	0	11	N	1	7	N	723	0	11	N	1	7	N
656	0	11	N	1	7	N	724	0	11	N	1	7	N
657	0	11	N	1	7	N	725	0	11	N	1	7	N
658	0	11	N	1	7	N	726	0	11	N	1	7	N
659	0	11	N	1	7	N	727	0	11	N	1	7	N
660	0	11	N	1	7	N	728	0	11	N	1	7	N
661	0	11	N	1	7	N	729	0	11	N	1	7	N
662	0	11	N	1	7	N	730	0	11	N	1	7	N
663	0	11	N	1	7	N	731	0	11	N	1	7	N
664	0	11	N	1	7	N	732	0	11	N	1	7	N
665	0	11	N	1	7	N	733	0	11	N	1	7	N
666	0	11	N	1	7	N	734	0	11	N	1	7	N
667	0	11	N	1	7	N	735	0	11	N	1	7	N

736	0	11	N	1	7	N		804	0	11	N	1	7	N	
737	0	11	N	1	7	N		805	0	11	N	1	7	N	
738	0	11	N	1	7	N		806	0	11	N	1	7	N	
739	0	11	N	1	7	N		807	3	11	N	1	7	N	
740	0	11	N	1	7	N		808	0	11	N	1	7	N	
741	0	11	N	1	7	N		809	5	11	N	1	7	N	
742	0	11	N	1	7	N		810	0	11	N	1	7	N	
743	0	11	N	1	7	N		811	##	##	N	1	7	N	
744	0	11	N	1	7	N		812	0	11	N	1	7	N	
745	0	11	N	1	7	N		813	0	11	N	1	7	N	
746	0	11	N	1	7	N		814	0	11	N	1	7	N	
747	0	11	N	1	7	N		815	0	11	N	1	7	N	
748	0	11	N	1	7	N		816	0	11	N	1	7	N	
749	0	11	N	1	7	N		817	0	11	N	1	7	N	
750	0	11	N	1	7	N		818	0	11	N	1	7	N	
751	0	11	N	1	7	N		819	0	11	N	1	7	N	
752	0	11	N	1	7	N		820	0	11	N	1	7	N	
753	0	11	N	1	7	N		821	0	11	N	1	7	N	
754	0	11	N	1	7	N		822	0	11	N	1	7	N	
755	0	11	N	1	7	N		823	0	11	N	1	7	N	
756	0	11	N	1	7	N		824	0	11	N	1	7	N	
757	0	11	N	1	7	N		825	0	11	N	1	7	N	
758	0	11	N	1	7	N		826	0	11	N	1	7	N	
759	0	11	N	1	7	N		827	0	11	N	1	7	N	
760	0	11	N	1	7	N		828	0	11	N	1	7	N	
761	0	11	N	1	7	N		829	0	11	N	1	7	N	
762	0	11	N	1	7	N		830	0	11	N	1	7	N	
763	0	11	N	1	7	N		831	0	11	N	1	7	N	
764	0	11	N	1	7	N		832	0	11	N	1	7	N	
765	0	11	N	1	7	N		833	0	11	N	1	7	N	
766	0	11	N	1	7	N		834	0	11	N	1	7	N	
767	0	11	N	1	7	N		835	0	11	N	1	7	N	
768	0	11	N	1	7	N		836	0	11	N	1	7	N	
769	0	11	N	1	7	N		837	0	11	N	1	7	N	
770	0	11	N	1	7	N		838	0	11	N	1	7	N	
771	0	11	N	1	7	N		839	0	11	N	1	7	N	
772	0	11	N	1	7	N		840	0	11	N	1	7	N	
773	0	11	N	1	7	N		841	0	11	N	1	7	N	
774	0	11	N	1	7	N		842	0	11	N	1	7	N	
775	0	11	N	1	7	N		843	0	11	N	1	7	N	
776	0	11	N	1	7	N		844	0	11	N	1	7	N	
777	0	11	N	1	7	N		845	0	11	N	1	7	N	
778	0	11	N	1	7	N		846	0	11	N	1	7	N	
779	0	11	N	1	7	N		847	0	11	N	1	7	N	
780	0	11	N	1	7	N		848	0	11	N	1	7	N	
781	0	11	N	1	7	N		849	0	11	N	1	7	N	
782	0	11	N	1	7	N		850	0	11	N	1	7	N	
783	0	11	N	1	7	N		851	0	11	N	1	7	N	
784	0	11	N	1	7	N		852	0	11	N	1	7	N	
785	0	11	N	1	7	N		853	0	11	N	1	7	N	
786	0	11	N	1	7	N		854	0	11	N	1	7	N	
787	0	11	N	1	7	N		855	0	11	N	1	7	N	
788	0	11	N	1	7	N		856	0	11	N	1	7	N	
789	0	11	N	1	7	N		857	0	11	N	1	7	N	
790	0	11	N	1	7	N		858	0	11	N	1	7	N	
791	0	11	N	1	7	N		859	0	11	N	1	7	N	
792	0	11	N	1	7	N		860	0	11	N	1	7	N	
793	0	11	N	1	7	N		861	0	11	N	1	7	N	
794	0	11	N	1	7	N		862	0	11	N	1	7	N	
795	0	11	N	1	7	N		863	0	11	N	1	7	N	
796	0	11	N	1	7	N		864	0	11	N	1	7	N	
797	0	11	N	1	7	N		865	0	11	N	1	7	N	
798	0	11	N	1	7	N		866	0	11	N	1	7	N	
799	0	11	N	1	7	N		867	0	11	N	1	7	N	
800	0	11	N	1	7	N		868	0	11	N	1	7	N	
801	0	11	N	1	7	N		869	0	11	N	1	7	N	
802	0	11	N	1	7	N		870	0	11	N	1	7	N	
803	0	11	N	1	7	N		871	0	11	N	1	7	N	

872	0	11	N	1	7	N	940	0	11	N	1	7	N
873	0	11	N	1	7	N	941	0	11	N	1	7	N
874	0	11	N	1	7	N	942	0	11	N	1	7	N
875	0	11	N	1	7	N	943	0	11	N	1	7	N
876	0	11	N	1	7	N	944	0	11	N	1	7	N
877	0	11	N	1	7	N	945	0	11	N	1	7	N
878	0	11	N	1	7	N	946	0	11	N	1	7	N
879	0	11	N	1	7	N	947	0	11	N	1	7	N
880	0	11	N	1	7	N	948	0	11	N	1	7	N
881	0	11	N	1	7	N	949	0	11	N	1	7	N
882	0	11	N	1	7	N	950	0	11	N	1	7	N
883	0	11	N	1	7	N	951	0	11	N	1	7	N
884	0	11	N	1	7	N	952	0	11	N	1	7	N
885	0	11	N	1	7	N	953	0	11	N	1	7	N
886	0	11	N	1	7	N	954	0	11	N	1	7	N
887	0	11	N	1	7	N	955	0	11	N	1	7	N
888	0	11	N	1	7	N	956	0	11	N	1	7	N
889	0	11	N	1	7	N	957	0	11	N	1	7	N
890	0	11	N	1	7	N	958	0	11	N	1	7	N
891	0	11	N	1	7	N	959	0	11	N	1	7	N
892	0	11	N	1	7	N	960	0	11	N	1	7	N
893	0	11	N	1	7	N	961	0	11	N	1	7	N
894	0	11	N	1	7	N	962	0	11	N	1	7	N
895	0	11	N	1	7	N	963	0	11	N	1	7	N
896	0	11	N	1	7	N	964	0	11	N	1	7	N
897	0	11	N	1	7	N	965	0	11	N	1	7	N
898	0	11	N	1	7	N	966	0	11	N	1	7	N
899	0	11	N	1	7	N	967	0	11	N	1	7	N
900	0	11	N	1	7	N	968	0	11	N	1	7	N
901	0	11	N	1	7	N	969	0	11	N	1	7	N
902	3	11	N	1	7	N	970	0	11	N	1	7	N
903	0	11	N	1	7	N	971	0	11	N	1	7	N
904	0	11	N	1	7	N	972	0	11	N	1	7	N
905	4	11	N	1	7	N	973	0	11	N	1	7	N
906	0	11	N	1	7	N	974	0	11	N	1	7	N
907	0	11	N	1	7	N	975	0	11	N	1	7	N
908	0	11	N	1	7	N	976	0	11	N	1	7	N
909	0	11	N	1	7	N	977	0	11	N	1	7	N
910	0	11	N	1	7	N	978	0	11	N	1	7	N
911	1	4	N	1	3	N	979	0	11	N	1	7	N
912	0	11	N	1	7	N	980	0	11	N	1	7	N
913	0	11	N	1	7	N	981	0	11	N	1	7	N
914	0	11	N	1	7	N	982	0	11	N	1	7	N
915	0	11	N	1	7	N	983	0	11	N	1	7	N
916	0	11	N	1	7	N	984	0	11	N	1	7	N
917	0	11	N	1	7	N	985	0	11	N	1	7	N
918	0	11	N	1	7	N	986	0	11	N	1	7	N
919	0	11	N	1	7	N	987	0	11	N	1	7	N
920	0	11	N	1	7	N	988	0	11	N	1	7	N
921	0	11	N	1	7	N	989	0	11	N	1	7	N
922	0	11	N	1	7	N	990	0	11	N	1	7	N
923	0	11	N	1	7	N	991	0	11	N	1	7	N
924	0	11	N	1	7	N	992	0	11	N	1	7	N
925	0	11	N	1	7	N	993	0	11	N	1	7	N
926	0	11	N	1	7	N	994	0	11	N	1	7	N
927	0	11	N	1	7	N	995	0	11	N	1	7	N
928	0	11	N	1	7	N	996	0	11	N	1	7	N
929	0	11	N	1	7	N	997	0	11	N	1	7	N
930	0	11	N	1	7	N	998	0	11	N	1	7	N
931	0	11	N	1	7	N	999	0	11	N	1	7	N
932	0	11	N	1	7	N							
933	0	11	N	1	7	N							
934	0	11	N	1	7	N							
935	0	11	N	1	7	N							
936	0	11	N	1	7	N							
937	0	11	N	1	7	N							
938	0	11	N	1	7	N							
939	0	11	N	1	7	N							

C Networking Systems

This chapter contains detailed information about how to network two or more XTS systems.

General Description

Networked telephone switches can be installed in one building or miles apart; however, each call appears as though it is an intercom call. The use of ISDN, specifically Primary Rate Interface (PRI), is used to create a star topology which has a "Hub" as a central point connecting to as many as five "Node" switches. The Hub system is capable of interfacing one centralized voice mail that can easily be accessed by each node system.

When centralized voice mail is used, it is easy to integrate and allows each node system to make an intercom-type call to access their voice mailboxes. For centralized voice mail, use the Pathfinder system.

Supported Features

- Allows for partial PRIBs in clusters of four COs at a time
- 4-digit dialing between all Nodes
- DSS/BLF
- Intercom-type calling between Nodes
- Call forwarding between Nodes
- Paging between Nodes
- Call transfer with caller ID passing between Nodes
- Centralized voice mail capability
- Directory dialing between Nodes
- Leading digit
- Direct access mailbox buttons per voice mail group
- Multiple mailboxes per key station/digital telephone
- Centralized LCR
- Centralized CO ring assignments
- DID routing between Nodes

Capacities

A Hub or an individual Node cannot have a voice mail of 24 ports or greater, or one that handles 1000 calls per hour, because it will likely cause a bottleneck.

Although a primary function of networking systems together is cost savings, it is mandatory that each Node has local access to emergency 911 calling.

Hardware

The Networking interface requires the following boards:

- Primary Rate Interface Boards (PRIB)
- Channel Service Units (CSU), when KSUs are greater than 50 feet apart.

Standards

ISDN

Primary Rate Interface (PRI) Board

Vodavi has created a proprietary ISDN interface that ties two or more Vodavi telephone systems together using PRI cards. The use of PRI cards allows Vodavi to convert the 24th channel into a "D" channel. That channel passes the call processing information, while leaving 23 channels for voice processing.

This PRI must be running error-free prior to attempting any networking of systems.

Each Node site requires a link to the Hub site using "Star-type" topography (refer to *Figure C-1: Network Configuration Diagram*). The maximum number of connections possible in the *XTS* is ten. A call will not hop more than twice (go through more than two switches) before reaching its destination. If a centralized voice mail is in the configuration, it will be installed at the Hub.

If KSUs are more than 50 feet apart or they are in different buildings, a CSU is required at both ends. If KSUs are less than 50 feet apart and they are in the same building, CSUs are not required.

In a DSU/CSU, the 24th channel must be identified as a "D" (data) channel.

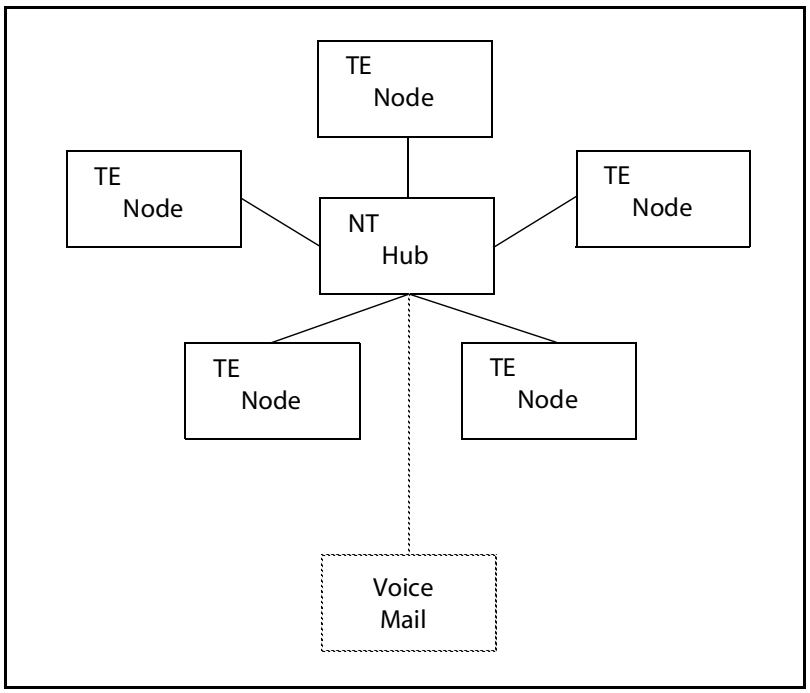


Figure C-1: Network Configuration Diagram

Terminal Emulation (TE) and Node Transmission (NT) are explained in *Designing a Network*.

Designing a Network

When more than one telephone switch is connected together, it is considered a network in its simplest form. One system is considered the Main or Hub system (NT). The other is the secondary or Node System (TE). There can only be one Hub (NT) and it cannot be attached directly to another Hub (NT). Therefore, a Hub can only be connected to a node (TE). Similarly, a node (TE) can only be connected to a Hub (NT) and it cannot be connected to another node (TE). The key to managing a network is being able to maintain a clear flow of traffic and making sure there is no bottleneck of calls at the Hub.

Network Termination (NT)

Generally, the Hub is the largest system and it has the most connections to the PSTN interfaces. Because of this, it is more likely to be overloaded with calls and it needs to be monitored closely to maintain free-flowing calls and information. A bottleneck will interfere with voice quality.

Terminal Equipment (TE)

A Node is generally a smaller less-active switch. However, it is just as important to monitor each Node for processing speeds to eliminate calling problems. Because calls can make multiple hops, it is important that all switches have an adequate number of interfaces to eliminate bottlenecks.

Connecting to Remote Devices

A loop button is required to call between Nodes. If a station wants to establish a conference between Nodes, it requires a second loop button. Therefore, it is recommended that each station have at least two (2) loop buttons.

Smart Trunks

When a call is passed from one KSU to another KSU and back to the original KSU, the second loop will drop after the call is answered. For example, a call is presented to System A, the caller is transferred to System B, and then the call is forwarded back to System A. When the call is answered in System A, the CO loop from System A to System B is dropped and the call is only active in System A.

The Numbering Plan

Numbering must be carefully considered when planning a network. Each Node must have a unique number to eliminate any conflicts. However, the entire network must have a basic layout plan to eliminate duplicating extension numbering.

The cornerstone to networking is the “Networking Tables”. The system compares every call that comes from within the system with the internal numbering plan first (Flash 52 programming). Then the system checks the range of extensions in the first entry of the networking table (Flash 16 programming). If a match is found, the call is made.

If a match is not found, the system continues checking the next entry of the networking table until a match is found or until it has examined each entry. If a match is not found within any of the entries, an error tone sounds.

Each Network has its own "line group", which is its address. For example, *Table C-1* shows that a call to extension 3500 will ring the switch that is connected in line group 2.

The top portion (system configurations) and bottom portion (Networking tables) of *Figure C-11* are integrated to show how the networking table setup affects information passing in a two-node system.

Figure C-12 is an example of a five-node system.

Table C-1: Networking Tables - Example 1

Table Number	CO Group	Station Range		System Association	Status Check
		FROM	TO	External	
01	00	1000	1999		
02	02	2000	2999		
03	03	3000	3999		
04	04	4000	4500		
05	05	4501	4599		
: : :					
16					
NOTE -- CO Group 00 = internal numbering plan					

Table C-2: Networking Tables - Example 2

Table Number	CO Group	Station Range		System Association	Status Check
		FROM	TO	External	
01	00	1100	1199		
02	02	2100	2199		
03	03	3100	3352		
04	04	4100	4250		
: : :					
16					
NOTE -- CO Group 00 = internal numbering plan					

Extension Numbering

Valid extension range numbering is between 1000 and 8999. Numbering conflicts must be avoided. For example, if stations 100, 200, and 300 exist, the numbers 1000, 2000, and 3000 are conflicts. This is because the system detects the first three digits as validly assigned. Therefore, the system is not prepared to accept a fourth digit.

Feature Code Numbering

Feature codes must be unique numbers that pose no conflicts. Therefore, the feature code numbering plan cannot conflict with station numbering. For example, a station numbered 4400 is a direct conflict to the default voice mail group "440".

The "#" key can not be a leading digit when networking systems together. Pound (#) is a reserved digit, for the termination of specialized features such as LCR.

Leading Digit

Enabling the leading digit feature quickly changes station and feature codes by placing a digit in front of the current 3-digit codes. For example, several Nodes can have stations 100-351. To make station numbers unique, the leading digit can be programmed as 1, 2, 3, etc. to result in station numbers of 1000-1351, 2000-2351, 3000-3351, etc. Feature codes will then also have a leading digit assigned. For example, feature code 700 will result in feature codes of 1700, 2700, 3700, etc.

Network Installation

Network Distance

If KSUs are greater than 50 feet apart, connect them through TELCO using a point to point T-1 (*Refer to Table C-3* and the *note on page C-4*). If each KSU is less than 50 feet apart and there is no TELCO connection, then connect them using a straight-through connection (refer to *Figure C-2* and *Table C-5*). Connections between Nodes and either a Hub or to TELCO always use the straight-through connection.

Table C-3: TELCO to Hub Interconnect Diagram - Pin Connections

TELCO	Hub (NT)
RJ45	DB15 Female Pin #
1-->	<--11
2-->	<--3
4-->	<-- 9
5-->	<--1

Table C-4: TELCO to Node Interconnect Diagram - Pin Connections

TELCO	Node (TE)
RJ45	DB15 Female Pin #
1-->	<--9
2-->	<--1
4-->	<-- 11
5-->	<--3

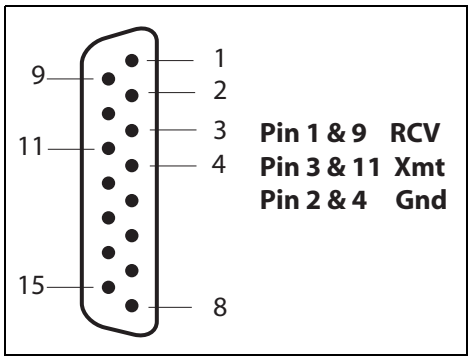


Figure C-2: PRI Connector

Table C-5: Straight-Through System Interconnect Diagram - Pin Connections

System 1	System 2
DB15 Female Pin #	DB15 Female Pin #
1-->	<--1
9-->	<--9
2 -->	<-- 2
3 -->	<--3
11-->	<-- 11
4 -->	<-- 4

When TELCO connection is required, use standard PRI pinouts. Refer to the telephone system Installation Manual.

When using a point to point network connection, T-1 is required.

ISDN and T-1 Clocking

When using PRIB or T-1 cards in one KSU, specific settings are important for proper clocking. Popping, crackling, dropped calls, and one-way transmission are usually attributed to the clocking not being synchronized correctly.

It is preferable to use a TELCO PRI to establish clocking for the Network (*Figure C-4*). If no TELCO PRI or T-1 is available, then clocking will be controlled by the Hub system (all PRI clock switches enabled) for the entire Network (*Figure C-5*). The following examples are provided to illustrate proper clocking settings under given scenarios.

The following figures use a ▪ symbol to represent the clock switch position on a PRI or T1 card. When the top of the symbol is black, it represents the switch in the Up or Enable position. When the bottom of the symbol is black, it represents the switch in the Down or Disable position.

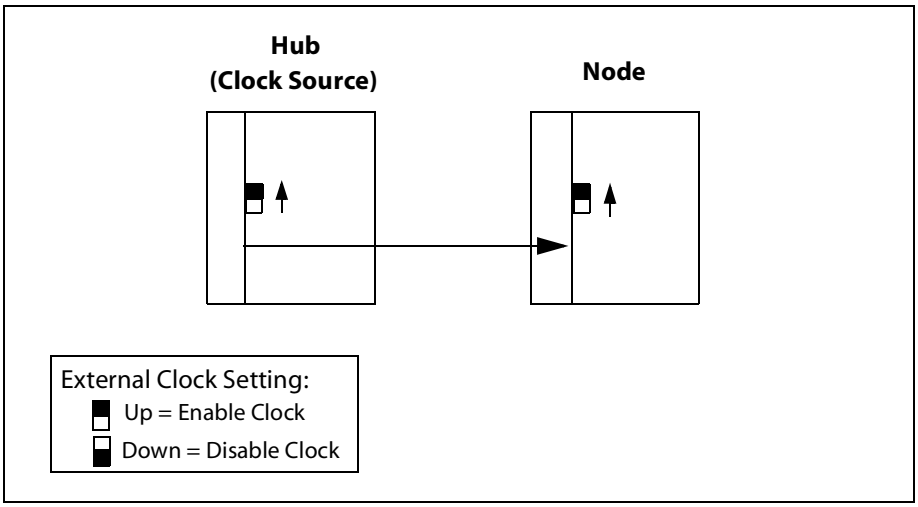


Figure C-3: Point-to-Point PRIs

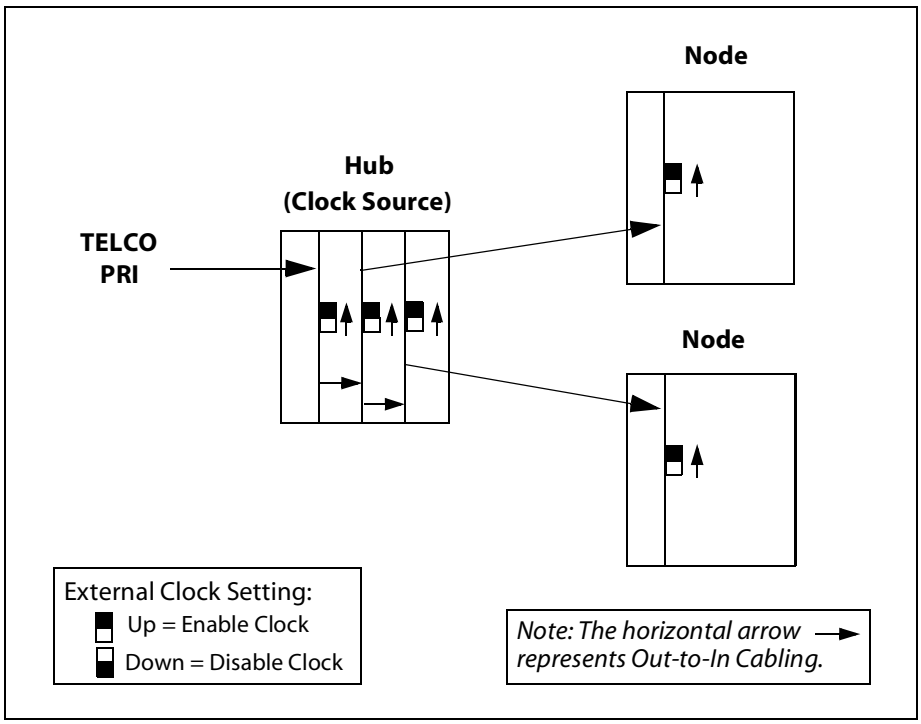


Figure C-4: TELCO PRI Connection to the Hub

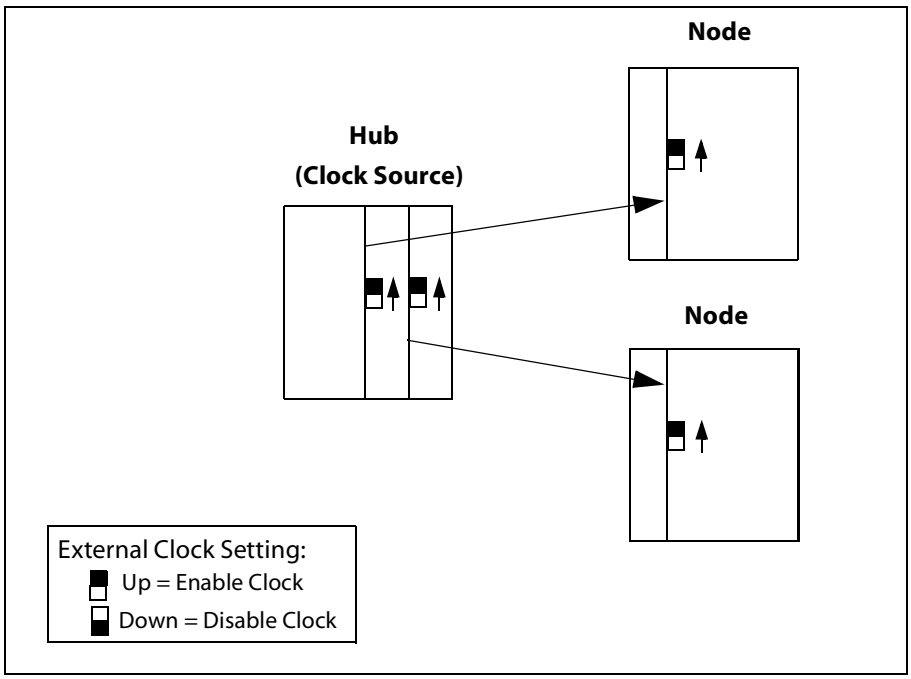


Figure C-5: No TELCO Connection

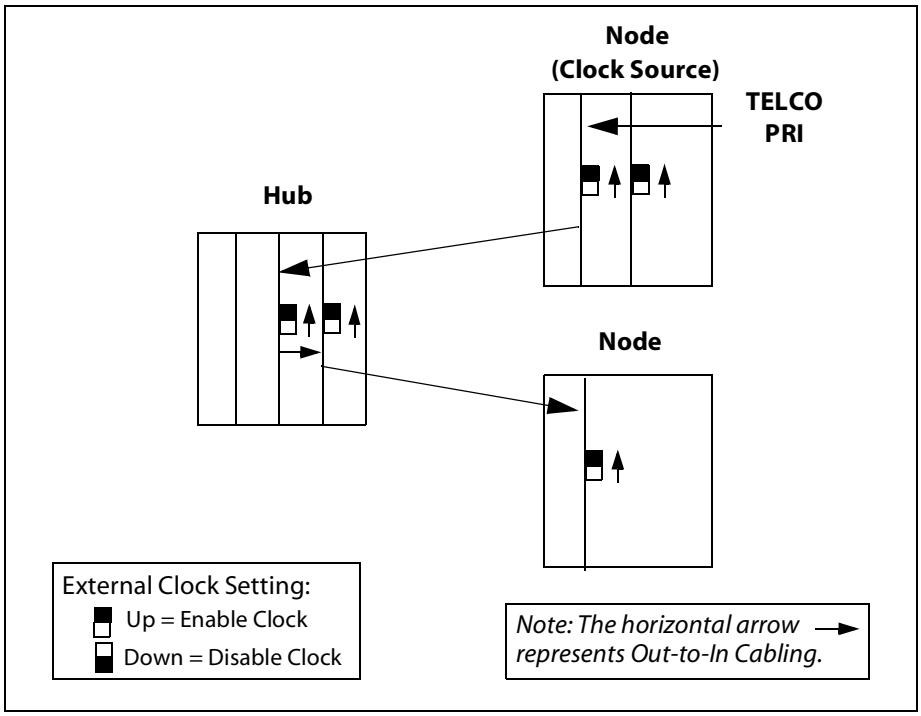


Figure C-6: TELCO PRI Connection To a Node

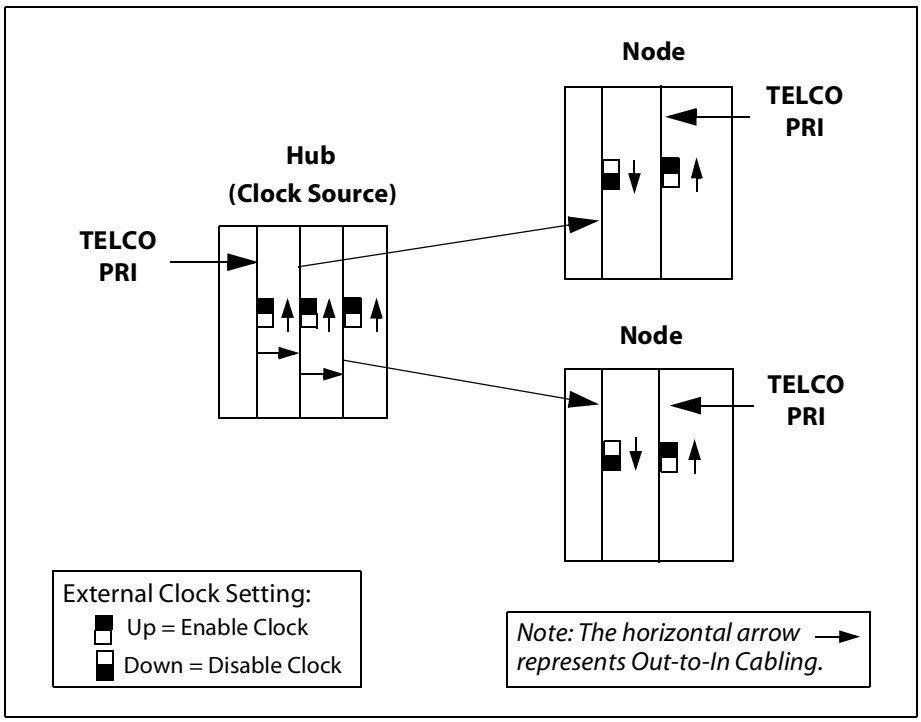


Figure C-7: All Systems have TELCO PRI Connection

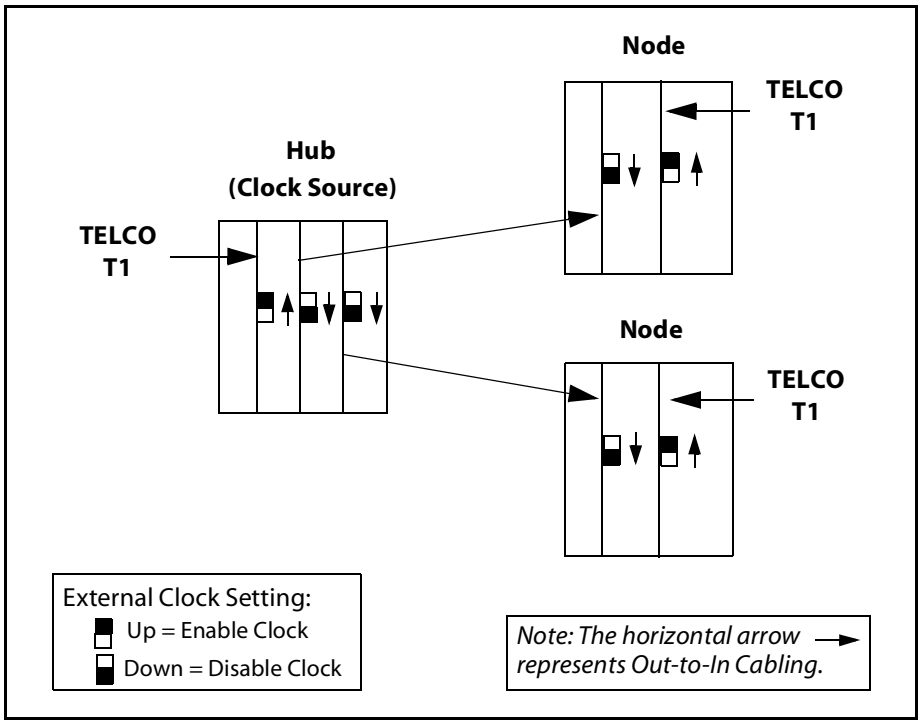


Figure C-8: All Systems have TELCO T1 Connection

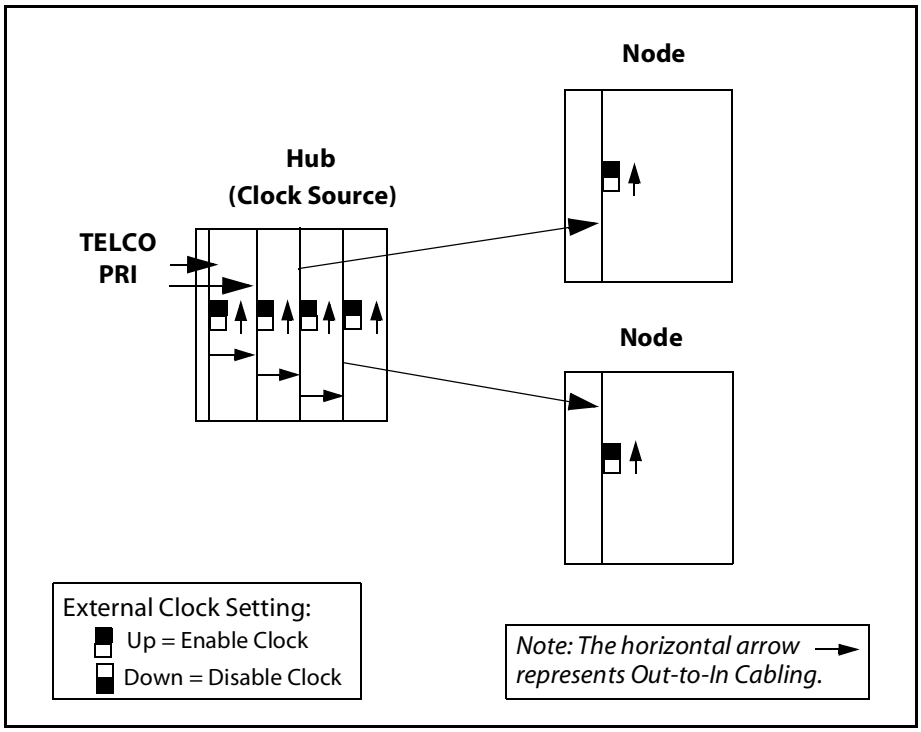


Figure C-9: Two PRIs from TELCO to Nodes

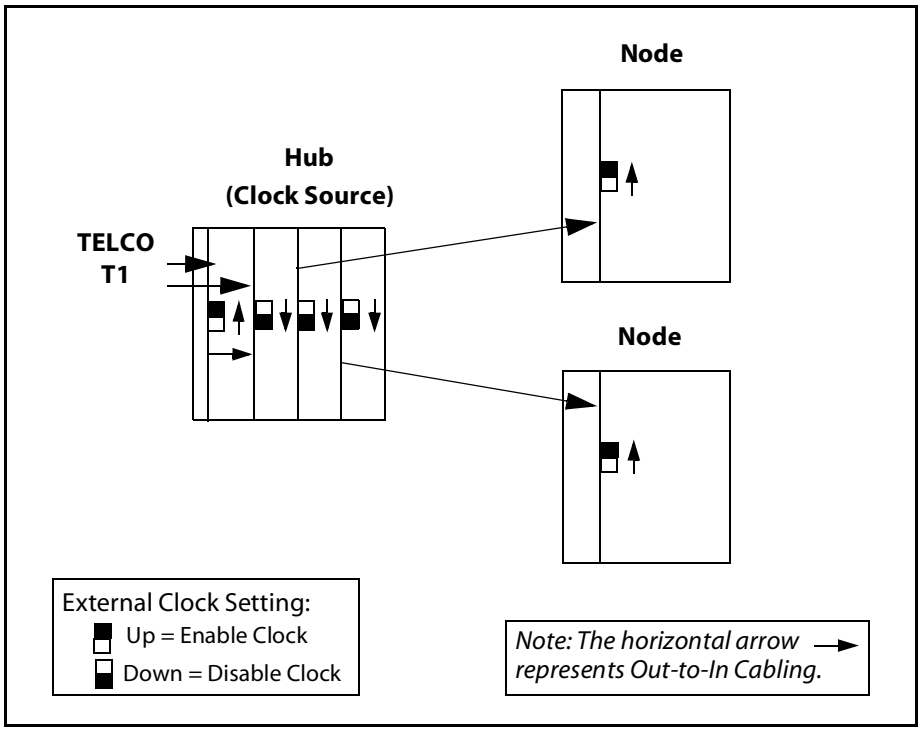


Figure C-10: Two T1s in Hub Connected to PRI in Nodes

Programming

Programming must be done with a 24-button display telephone or with WinDBA. It is recommended that WinDBA be used for network programming. The following sections describe programming steps that pertain to networking. Each section assumes that you have already entered system programming. The following sections provide a detailed description of programming steps necessary for networking. A Quick Start procedure is provided at the end of this document as an aid to understanding the flow of programming.

Node/Hub Identification Programming

Description

In networking, there must be a central Hub. All communication within the network must be linked via the Hub. The Hub should be identified as system 1. Each Node should be identified with its own unique number between 2 and 16. Networking requires 4-digit dialing. Complete the following programming steps to specify numbers that identify Hub/Nodes and to specify the leading digit to be used for dialing.

Programming Steps

1. Press **FLASH** and dial **[09]**. The following message displays:

```
SYSTEM PARAMETERS
ENTER BUTTON NUMBER
```

2. Press Button #8. The following message displays:

```
SYSTEM NODE          1-16
01
```

3. Dial a valid number (01-16) to identify the system by number.

The Hub should be identified as system 1. Each Node should be identified with its own unique number between 2 and 16.

4. Press HOLD to save the entry.
5. Press Button #9. The following message displays:

```
LEADING DIGIT        0-8
0
```

6. Dial a valid number (0-8) to identify the desired leading digit.

7. Press HOLD to save the entry.

Only 3-digit codes will be changed to include a leading digit, e.g., 2-digit codes such as group call pickup (#0) are not affected.

Networking Tables Programming

Description

The Networking Table is used to route calls between systems. It identifies the table number (01-16), the CO Group (00-23), the range of station numbers (from xxxx to xxxx), which card sends DSS/BLF information to an external location (programming for external BLF is only done on the Hub system), and whether the Status Check is enabled or disabled.

The Table Number establishes the sequence that the system uses to search for a match to the number being called. The system searches based on table number 01 parameters. If no match is found, then the system searches based on table number 02 parameters. This process continues until a match is found and the call is placed, or no match is found and the caller receives an error tone.

An automatic Status Check is designed to cope with unique network configurations that have a system's extension range that overlaps another system's extension range. Status Check screens a call to determine if the station number is assigned within the network. If the extension number is unassigned, the call is not forwarded to another system in the network and the caller receives an error tone.

EXAMPLE OF THE ISSUE -- System A has station numbers 6005, 6006, 6007, 6024 and 6048; System B has station numbers 6008, 6009, 6010, 6025, and 6049. Station number 6022 is not assigned. In this example, both Systems have overlapping station ranges. A problem can occur when an incoming call for station number 6022 enters System A. System A checks to determine if this is an assigned number within System A. Since it is not an assigned number within System A, the call is forwarded to System B. System B completes the same process, then forwards the call back to System A, etc.

You should use the disabled setting for Status Check if your network has no overlapping ranges. To maximize routing efficiency for a system with overlapping station ranges, it is recommended that you enable the remote system's Status Check.

Networking Tables For Nodes (refer to Figure C-11 and Figure C-12)

Table Number 01 of a Node's networking tables should include:

- CO Group = valid CO Group Number 01-23
- Extension Range = the Node's extension range

Table Number 02 of a Node's networking tables should include:

- CO Group = valid CO Group Number 01-23
- Extension Range = entire network's extension range

Table Number 03 of a Node's networking tables should include:

- CO Group = CO Group Number 00
- Extension Range = complete range of possible extension numbers (i.e., 1000-8999)

The system will screen and process calls in the following sequence:

If the call matches an extension specified in Flash 52 programming, the call will be connected within the same system.

-or-

If the call matches an extension associated with Table Number 02, the call will be routed to the appropriate remote device.

-or-

If the call matches an extension associated with Table Number 03, the caller will receive an error tone.

Networking Tables For the Hub (refer to Figure C-11 and Figure C-12)

Table Number 01 of a Hub's networking tables should include:

- CO Group = valid CO Group Number 01-23
- Extension Range = the Hub's range of extension numbers

Table Number 02 of a Hub's networking tables should include:

- CO Group = valid CO Group Number 01-23
- Extension Range = the first Node's range of extension numbers
- External Busy Lamp Field Slots = numbers identifying PRIB slot locations associated with each Node in the network, other than the Node being defined

Table Numbers greater than 02 of a Hub's networking tables (one Table Number to define each Node) should include:

- CO Group = valid CO Group Number 01-23
- Extension Range = the Node's range of extension numbers
- External Busy Lamp Field Slots = numbers identifying PRIB slot locations associated with each Node in the network, other than the Node being defined

The last Table Number of a Hub's networking tables should include:

- CO Group = CO Group Number 00
- Extension Range = complete range of possible extension numbers (i.e., 1000-8999)

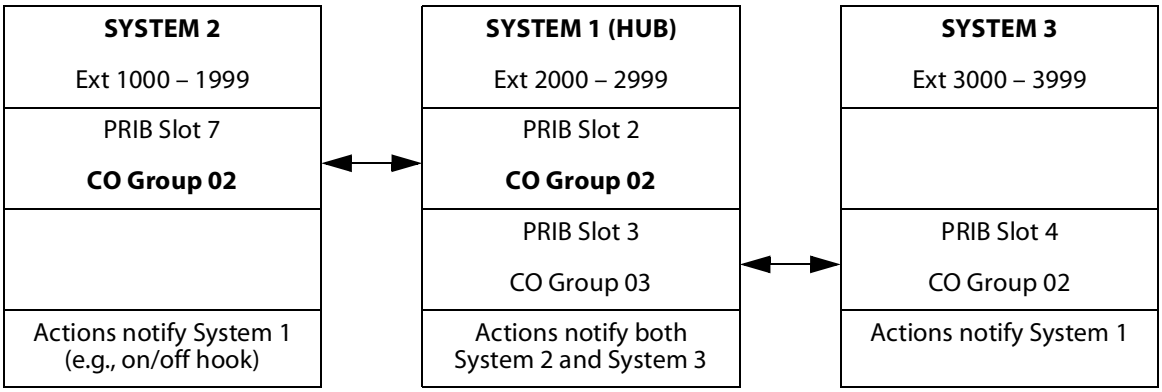


Table Number	CO Group	Extn Range	Ext BLF Slot
01	00	1000 - 1999	---
02	02	1000 - 3999	---
03	00	1000 - 8999	---
		…. to ….	---
		…. to ….	
16		…. to ….	---

Table Number	CO Group	Extn Range	Ext BLF Slot
01	00	2000 - 2999	--
02	02	1000 - 1999	3
03	03	3000 - 3999	2
04	00	1000 - 8999	---
		…. to ….	
16		…. to ….	

Table Number	CO Group	Extn Range	Ext BLF Slot
01	00	3000 - 3999	---
02	02	1000 - 3999	---
03	00	1000 - 8999	---
		…. to ….	
		…. to ….	
16		…. to ….	---

Figure C-11: Two-Node Networking Table Example

LEGEND:

***Table Number** = the identification number assigned to each array within the system.*

***CO Group** = the line group used to access each system. Co Group 00 = internal calls only.*

***Extn Range** = the extension numbering range for the array.*

***Ext BLF Slot** = identifies PRIB slot locations in the Hub that are associated with each Node within the network, other than the Node being defined by the Table Number row. This allows DSS/BLF updates to be sent to the correct systems within the network. Node systems do not identify Ext BLF Slot locations because the Hub system controls passing of information.*

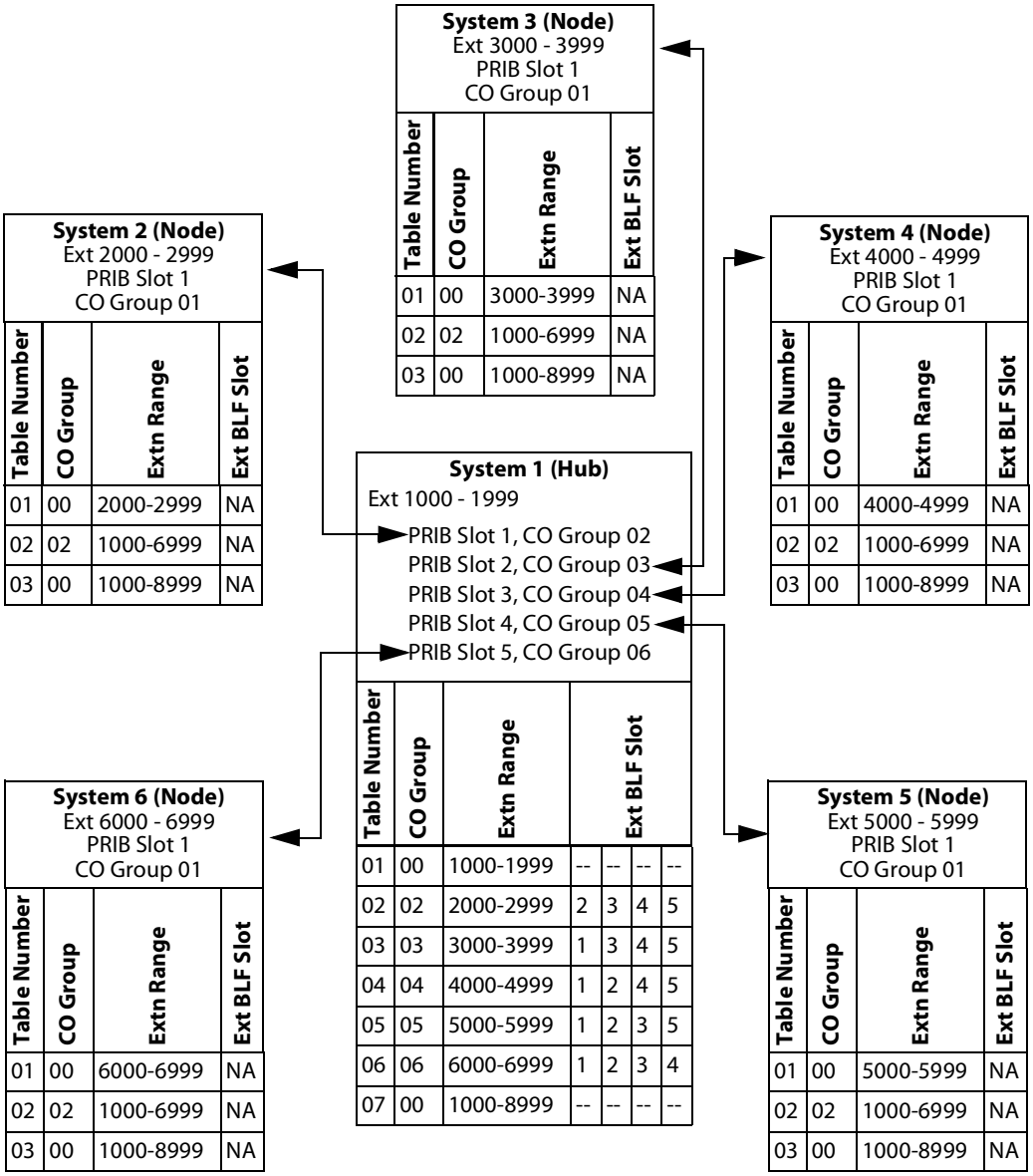


Figure C-12: Five-Node Networking Table Example

LEGEND:

***Table Number** = the identification number assigned to each array within the system.*

***CO Group** = the line group used to access each system. Co Group 00 = internal calls only.*

***Extn Range** = the extension numbering range for the array.*

***Ext BLF Slot** = identifies PRIB slot locations in the Hub that are associated with each Node within the network, other than the Node being defined by the Table Number row. This allows DSS/BLF updates to be sent to the correct systems within the network. Node systems do not identify Ext BLF Slot locations because the Hub system controls passing of information.*

Programming Steps

1. Press **FLASH** and dial **[16]**. The following message displays:

```
NETWORKING TABLES
SELECT TBL NO
```

2. Select a valid table number (01-16), then press HOLD. The following message displays:

```
TBL 01
ENTER BUTTON NUMBER
```

3. Press the desired button to select a trunk group, station range, external busy lamp field, and system number:

   [1] = Select Trunk Group (00-23), then press HOLD.

   [2] = Station Range – START (1000-8999), then press HOLD.

   [3] = Station Range – END (1000-8999), then press HOLD.

   [5] = External Busy Lamp Field (BLF)(1-28), followed by [1] to add or [0] to delete, then press HOLD. (This button is for Hub programming only.) To add more than one BLF slot location, press the digit identifying the next slot location, followed by [1], then press HOLD. Repeat as necessary, until all slot locations are added.

   [6] = Status Check - press [0] to disable (default) or press [1] to enable.

   [22] = Page Up

   [23] = Page Down

   [24] = Returns you to Networking Tables display (shown in Step 1)

Button #4 is an active button used for VoIP programming, but it is not used for network programming. The VoIP card cannot be used for networking applications.

Conditions

» Feature access codes must not conflict with station numbering.

» CO line numbers are fixed and cannot be changed other than the current FLASH 42 reassignment.

» The VMID digits need to be programmed separately.

» The SMDR will output up to 4-digit numbers in the station field. If less than 4 digits are selected in the numbering plan, leading spaces will be added in place of numbers. Call Accounting devices need to be configured to accept 4 digits.

» When systems are tied together, each system has to have access to 911 through local lines.

Cabinet/Card Programming

Description

The Cabinet/Card Programming feature provides a means to assign the peripheral cards to alternative peripheral card slots.

Flash 24 also allows for partial signaling over T1IBs (9) or PRIBs (8). For example, card slots ordinarily accommodate 24 CO line time slots each. This feature allows you to limit the amount of time slots per card to four (4), or multiples of four (4) up to 20. To use this feature, the card ID is programmed followed by the number of CO lines to be used in groups of four (4). A group of four (4) is known as a cluster. If the card number is programmed without a cluster number, all COs on that card are active.

When using partial signaling, the last channel in the cluster and the 24th channel are data channels (e.g., for partial signaling with one cluster, the 4th and 24th channels are data channels. If two clusters are used, then the 8th and 24th channels are data channels.)

Programming Steps

1. Press **FLASH** and dial **[24]**. The following message displays

```
CABINET 0
ENTER BUTTON NUMBER
```

2. Press the button corresponding to the desired cabinet. Button #17-19 represent cabinets 0-2. The following message displays:

```
CAB  X  SLOT XX       00-12
DTIB
```

   Button #1 LED is lit to indicate that you are programming for peripheral card slot 0.

3. Press the button corresponding to the desired slot location. (Buttons #1-9 indicate peripheral card slots 0-8.)

Electrical bus configurations restrict the slots that can support T1 and PRI cards to slots 1-7 of Cabinet 0 and to slots 0-7 of Cabinets 1 and 2.

4. Enter a valid number for the type of card plugged into the current peripheral card slot.

[00] = None	[06] = GCOB	[12] = VOIP
[01] = ETIB	[07] = DIDB	[13] = SL12
[02] = DTIB	[08] = PRIB	[14] = LC08
[03] = DT24	[09] = T1IB	[15] = LCI8
[04] = SLIB	[10] = BRIB	[16] = SI12
[05] = LCOB	[11] = BR16	

5. Enter a valid number (1-5) to specify the desired cluster (partial) quantity.
   [1] = cluster of 4 [3] = cluster of 12 [5] = cluster of 20
   [2] = cluster of 8 [4] = cluster of 16 No Entry = All CO lines
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.
7. Press the reset button on the Main Processing Board (MPB).

Ring Assignment Programming

The local KSU will program ringing assignments by the fixed station number. For example, for CO line 1 to ring at station 100, use the sequence of Flash 40, 001001, HOLD, Page A, Button #10, dial 1007, HOLD.

A remote system programs ringing assignments by the flexible station number. For example, for CO line 1 to ring at station 2000, use the sequence of 20007 + HOLD.

A CO can only ring one remote device/extension at a time.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (e.g., 001 001).

If HOLD is pressed without entering a CO range, all CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the RING ASSIGNMENT flexible button **(FLASH 40, Page A, Button #10)**. The display shows the following information:

```
RING  ASSIGNMENTS
ENTER  DDDR
```

The actual LCD displays a 3-digit destination field (DDD), but both a 3- or 4-digit entry is possible.

5. Enter a valid Destination (DDD) or (DDDD) and Ring type (R) followed by the HOLD button (refer to *Table C-6*). A confirmation tone sounds and the display updates.

Only one Node or the Hub can ring at any one time.

Table C-6: CO Line Ringing Assignments

Valid 3- and 4-Digit Destinations (DDD) and (DDDD)	Valid Ring Types (R)
System Speed Bins [9020–9999], for Off-Net Ringing	[0] = No Ring; unassigned; or to delete a station
Flexible Extension Numbers*	[1] = Day Ring [D]
Flexible Numbers for Voice Mail Groups 1–8* [a]	[2] = Night Ring [N]
Flexible Numbers for Hunt Groups 1–8*	[3] = Day/Night Ring [DN]
Flexible Numbers for Direct Ringing to Modem*	[4] = Special Only [S]
Flexible Numbers for ACD Groups 1–16*	[5] = Day/Special [DS]
Flexible Numbers for UCD Groups 1–8*	[6] = Night/Special [NS]
Remote Device Numbers**	[7] = All Modes [Day/Night/Special [A]

** Internal flexible numbers range = 100-8999*

*** Remote device numbers can be any numbers between 1000-8999, excluding those numbers assigned for internal use.*

[a] *For Remote Voice Mail Ring Assignment, refer to Flash 67.*

To add multiple stations:

Enter: DDDDR HOLD DDDDR HOLD DDDDR HOLD...etc.

(Example: 10073 HOLD, 10083 HOLD, 10093 HOLD)

To delete a single station:

Enter: DDDD0 HOLD

(Example: 10080 HOLD)

To delete multiple stations:

Enter: DDDD0 HOLD DDDD0 HOLD...etc.

(Example: 10080 HOLD, 10090 HOLD)

Trunk Direction Programming

CO Lines can be programmed on a per CO Line basis for the type of CO Line desired: Incoming, Outgoing, or Incoming and Outgoing.

The 24th channel must be marked as Out-of-Service (OOS). This is true on all PRI cards, not just for networking.

To eliminate collisions (referred to as "glare"), it is best to either:

- Divide CO Lines into Incoming or Outgoing lines,

  -or-

- Renumber the CO Lines on all of the Nodes to hunt in reverse order (refer to "Flash 42, Flexible Port Assignment").

Programming Steps

1. Press the TRUNK DIRECTION flexible button. **(FLASH 40, Page A, Button #12).** The following message displays:

```
CO DIRECTION                    0-3
INCOMING - OUTGOING
```

2. Enter a valid number (0-3) on the dial pad which corresponds to the desired trunk type:

   [0] = Out-of-Service (OOS)

   [1] = Incoming Only

   [2] = Outgoing Only

   [3] = Both Incoming and Outgoing

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

T-1 / ISDN Signaling Type Programming

Description

TIE signaling is used for networking systems.

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode. If Page B CO Line features must be changed:

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit.
4. Press the Page B flexible button (Button #20). The following message displays:

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

5. Press the T-1/ISDN SIGNALING flexible button **(FLASH 40, Page B, Button #1)**. The following message displays:

```
T-1/ISDN SIGNAL TYPE          0-7
LOOP START
```

6. Enter [5] on the dial pad to select the TIE signaling type, then press HOLD. The following message displays:

```
T-1/ISDN SIGNAL TYPE          0-7
TIE
```

7. Press the reset button on the Main Processing Board (MPB).

DID/ICLID Ringing Assignments Programming

Description

DID or DNIS numbers are supplied by the telephone company. The ringing assignment, whether internal (xxx) or external (xxxx), is controlled by the Hub or Node where the call enters the Networking System.

Programming Steps

1. Press **FLASH** and dial **[43]**. The following message displays:

```
ROUTE 000  XXXXY
```

000 = Route Number (000–499)
XXXX = 3- or 4-Digit Ring Destination Number
Y = Ring Type

2. Press the RING ASSIGNMENT flexible button **(FLASH 43, Button #1)**. LED #1 is lit indicating Route 000 is ready for programming.

3. Enter a valid Destination (DDD) or (DDDD) and Ring Type (R) followed by HOLD (refer to *Table C-7*). A confirmation tone sounds and the display updates.

A DID line can only be programmed to ring one remote device at a time.

Table C-7: DID/ICLID Ringing Assignments

Valid 3- and 4-Digit Destinations (DDD) and (DDDD)	Valid Ring Types (R)
System Speed Bins [9020–9999], for Off-Net Ringing	[0] = No Ring; unassigned; or to delete a station
Flexible Extension Numbers*	[1] = Day Ring [D]
Flexible Numbers for Voice Mail Groups 1–8* [a]	[2] = Night Ring [N]
Flexible Numbers for Hunt Groups 1–8*	[3] = Day/Night Ring [DN]
Flexible Numbers for Direct Ringing to Modem*	[4] = Special Only [S]
Flexible Numbers for ACD Groups 1–16*	[5] = Day/Special [DS]
Flexible Numbers for UCD Groups 1–8*	[6] = Night/Special [NS]
Remote Device Numbers**	[7] = All Modes [Day/Night/Special [A]
Local Number/Name Translation Table Number [600-799]	

** Internal flexible numbers range = 100-8999*
*** Remote device numbers can be any numbers between 1000-8999, excluding those numbers assigned for internal use.*
[a] *For Remote Voice Mail Ring Assignment, refer to Flash 67.*

ISDN Programming

Description

If tying two systems together, they must be identified as PPNI2, which is Point-to-Point NI2 protocol.

The Hub system will be denoted as an NT and each Node will be denoted as a TE. When tying two systems together, an NT can only be connected to a TE.

Programming Steps

1. Press **FLASH** and dial **[45]**. The following message displays:

```
ISDN ATTRIBUTES
SELECT A SLOT RANGE
```

2. Enter a valid number for the range of slots being programmed. If only one slot is being programmed, enter that slot number twice (e.g., 11 for slot one only).

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that slot or range of slots:

```
XY - XY PAGE A
ENTER BUTTON NUMBER
```

XY-XY = Slot Range
X = Cabinet (0, 1, 2)
Y = Slot (0-8)
NOTE -- Slot 8, Cabinet is reserved for the MISB.

4. Press the PRI CO TYPE flexible button **(FLASH 45, Page A, Button #2)**. The following message displays:

```
PRI CO TYPE                    1-4
NI2
```

5. Dial [2] to select the PPNI2 signal protocol.
6. Press HOLD to save the entry.
7. Press the NT/TE MODE flexible button **(FLASH 45, Page A, Button #4)**. The following message displays:

```
NT / TE MODE                   0-1
TE
```

8. Dial [0] for NT or [1] for TE.
9. Press HOLD to save the entry.
10. Press the reset button on the Main Processing Board (MPB).

Remote Voice Mail Programming

Description

This feature is used to specify the VMID digit length and the pilot hunt number of the centralized voice mail system. For example, if the centralized voice mail is installed on the Hub system and is accessed by dialing 1440, then 1440 must be programmed in Flash 67, Button #5 by each remote system administrator.

Programming Steps

1. Press **FLASH** and dial **[67]**. The following message displays:

```
VM FEATURES
ENTER BUTTON NUMBER
```

2. Press Button #4 to access VMID DIGITS programming and the following message displays:

```
VM ID DIGITS              2-4
3
```

3. Enter a value of 4, then press HOLD to save the entry.
4. Press Button #5 to access remote voice mail programming and the following message displays:

```
REMOTE VM NO #,1000-8999
####
```

5. Enter a valid number (1000-8999) or the # symbol. The number represents the pilot hunt number of the centralized voice mail system. The # symbol is used to disable remote voice mail.
6. Press HOLD to save the entry.
7. Press VMID STATION button **(FLASH 06, Button #15)**. The following message displays:

```
VMID SAME AS STA #
PRESS HOLD
```

8. Press HOLD to set VMID numbers to be the same as the station numbers.

Station User Impacts

Digital Station Displays

Node to Node

When dialing from one Node to another Node, the display of the dialing station reflects the station dialed (e.g., 3400). The display then updates with either the name or the number of the dialed station.

When receiving a call from another Node, it resembles a station call.

Node 1 (Paul at Station 2000) dials William ext. 3400

```
STA 2000

MMM DD YY      HH:MM am
```

The display updates as shown:

```
CALL TO WILLIAM

LINE 023       HH:MM am
```

-or-

```
Call To STA3400

LINE 023       HH:MM am
```

Node 2 at Station 3400 receives the following display

```
PAUL CALLING

LINE 023       HH:MM am
```

- or-

```
STA2000 CALLING

LINE 023       HH:MM am
```

Node to Node - DND or Forwarding In Use

When calling from one Node to another, it is possible to encounter a station that is in DND or in a forwarding mode. When this happens, one of the following displays appears.

```
WILLIAM IN DND
LINE 023                  hh:mm:ss
```

-or-

```
STA3400 IN DND
LINE 023                  hh:mm:ss
```

-or-

```
FWD TO WILLIAM
LINE 023                  hh:mm:ss
```

-or-

```
FWD TO STA1234
LINE 023                  hh:mm:ss
```

Conference

When a conference is established between several extensions, either local or remote, the display will show the following message:

```
CONFERENCE
LINE 023                    hh:mm:ss
```

Quick Start Procedure

Networking uses PRI cards for connecting the systems together; however the telco circuit is a point-to-point T1, **not** a PRI. Most telco circuits will reverse the transmit and receive pairs from end to end, so it is important that this is corrected by swapping transmit and receive at the **hub** network PRI(s). The connection should end up as **straight through** from hub to node(s).

Enable LCR on all systems for outbound dialing. (See the LCR programming section of this Quick Start procedure)

Extension range 9000-9999 is reserved for speed dial.

Programming

Flash 09 – System Parameters

Button #8 - Identify system node (1-16)

Each system in the network must be identified e.g., **Hub** is always system Node 1, the first **Node** is system Node 2, the second **Node** is system Node 3, etc.

Button #9 – Enter leading digit (0-8)

Each system needs it's own numbering plan. This will place leading digit before all **3-digit codes**, 2-digit codes are not affected. Example: Hub numbers are 1000's, so enter 1 HOLD.

Flash 16 – Network tables

Select table number (Table 01 will always contain the numbering plan for the system you are programming and will use CO group 00 (internal)). **CO group 01 is reserved for outdialing and dial '9' access.**

Button #1 – Select CO group (group assigned to **network** PRIB)

Button #2 – Station range START (1000-8999)

Button #3 – Station range END (1000-8999)

Button #5 – External BLF (1-9) This is programmed at the **Hub** only. You identify the PRIB slot locations in the **Hub** that are associated with each **Node** in the network, other than the node being defined by the table number you are programming. You **do not** identify External BLF slot locations in the **Node**(s) programming because the **Hub** controls passing of this information. **If you only have 1 Node you do not have to program the external BLF.** All unused tables **must** be programmed for CO group 00 and contain the entire numbering range (1000-8999). This will prevent any invalid numbers from trying to dial across the network, the system will check the networking tables in order before attempting to dial.

Example: Hub and 3 Nodes

Hub Programming:

Table No	CO Group	Ext. Range	External BLF
01	00	Ext. range for Hub	NA
02	02	Ext. range for Node 1	PRIB slots for Node 2,3
03	03	Ext. range for Node 2	PRIB slots for Node 1,3
04	04	Ext. range for Node 3	PRIB slots for Node 1,2
05-16	00	Entire Ext. range	NA

Node 1 Programming:

Table No	CO Group	Ext. Range	External BLF
01	00	Ext. range for Node 1	NA
02	02	Ext. range for Hub and Node 1, 2, 3	NA
03-16	00	Entire Ext. range	NA

Node 2 Programming:

Table No	CO Group	Ext. Range	External BLF
01	00	Ext. range for Node 2	NA
02	02	Ext. range for Hub and Node 1, 2, 3	NA
03-16	00	Entire Ext. range	NA

Node 3 Programming:

Table No	CO Group	Ext. Range	External BLF
01	00	Ext. range for Node 3	NA
02	02	Ext. range for Hub and Node 1, 2, 3	NA
03-16	00	Entire Ext. range	NA

Flash 24 –Cabinet/Card programming

Partial signaling is allowed on PRIBs (8). Normally a PRIB uses 24 time slots each. You can limit the number of time slots per card to four (4), or multiples of four (4) up to 20. To use the feature, program the card ID followed by the number of CO lines to be used in groups of four (4). A group of four (4) is called a cluster. **If a card number is programmed without a cluster number, all COs on that card are active.** This feature is useful if data is to be shared with voice using a CSU/DSU.

1. Select cabinet (Button 17-19).
2. Select slot for PRIB (Button #1-#8).
3. Enter card number (08).
4. Enter cluster number (1-5) e.g., 081=PRIB4, 082=PRIB8, 083=PRIB12, etc.
5. Press the reset button on the MPB (make sure switch 8 is off!).

Flash 40 – CO line attributes

Enter CO range for the PRIB(s).

Page A, Button #12 – Trunk direction (at the **Hub** set the first half of the trunks to incoming only, at the **Node(s)** set the second half of the trunks to incoming only) this will prevent collisions from occurring.

Page B, Button #1 – T1/ISDN Signaling type

Enter 5 HOLD for TIE.

Flash 45, Page A – ISDN Programming

Enter PRIB slot number, e.g., for slot 1, enter 11 HOLD.

Button #2 – Enter 2 HOLD (PPNI2)

Button #4 – Enter 0 HOLD (NT=Hub), 1 HOLD (TE=Node)

Flash 67 – Remote Voice Mail Programming

Button #4 – VMID – set to **4** digits

Button #5 – Enter valid number (1000-8999) Pilot VM group number of centralized VM. **This is not entered in the system where the voice mail is connected.**

NOTE: If flexible numbering is done, be sure to go to **Flash 06, Button #15** and press HOLD. (VMID same as station number).

LCR Programming

When outbound trunks reside in only one system on the network (i.e., Hub), then LCR must be activated on all systems to allow dialing out. This is accomplished in Flash 75 programming by routing all outgoing calls over the network and by programming the LCR access code (800) to be inserted in front of the number being dialed, thus ensuring that all outbound calls access the main trunk group of the Hub.

LCR Programming (Hub)

Flash 05

Button 7 – Enable

LCR programming (Node)

Flash 05

Button 7 – Enable

Flash 75

Button 4 – Route List Table

Enter 001xx001 HOLD

Enter 011xx001 HOLD

Where xx = Trunk group for PRIB

Button 7 – Weekly Schedule Table

Enter 01111 HOLD

Enter 11111 HOLD

Enter 21111 HOLD

Enter 31111 HOLD

Enter 41111 HOLD

Enter 51111 HOLD

Enter 61111 HOLD

Button 5 – Enter 001800 HOLD

Call Park Programming

Park zones need to be set up for each system in the network so that calls can be parked and retrieved from any system. The following is an example of how to set this up for a 2-system network.

Hub

Flash 52 – Flexible numbering

Fixed	Flex
430-437	2430-2437 (to park call)
#430-#437	3430-3437 (to retrieve call)

Node

Flash 52 – Flexible numbering

Fixed	Flex
430-437	2438-2445 (to park call)
#430-#437	3438-3445 (to retrieve call)

You need to divide the park zone locations and allow all systems to dial each other's park and retrieve codes. In this example, the 16 park zones were divided in half. **You can only park a call in the system you are on.**

D Voice Over the Internet Protocol

This chapter contains detailed information about Voice Over the Internet Protocol.

Product Description

The *Discovery* Voice Over the Internet Protocol (VoIP) printed circuit board (PCB) is for use on Vodavi *XTS* key service units (KSUs), that includes the Vodavi telephone systems. It provides an Ethernet interface to connect the KSU to an Internet Protocol (IP) network. The latest in voice processing protocols and hardware technologies are used to provide the highest quality voice over an IP network. In addition to supporting a Vodavi KSU, compatible IP phones can establish calls with the *Discovery* VoIP card, allowing calls to be made to and from the IP phone.

The *Discovery* VoIP card allows voice communication to other devices via an IP network such as an internal Local Area Network (LAN), the Internet, or a Wide Area Network (WAN) using the Ethernet interface. The *Discovery* VoIP card employs H.323 Revision 2 fast protocol to ensure Quality of Service (QoS). This protocol reduces echo, jitter, and latency whether the voice traffic is travelling via the Internet or a dedicated WAN. The result is a QoS that can be equal to or better than "Toll Quality".*

Voice, call transfer, call conference, and DTMF capabilities for Interactive Voice Response (IVR) and Voice Mail (VM) systems are provided by the *Discovery* VoIP card through the IP network. By taking advantage of the existing telephony infrastructure, the *Discovery* VoIP card extends the reach of the KSU to remote and home offices. Bandwidth is allocated only when a call is established and can be managed through programmable voice encoder standards.

** Assumes high network availability and performance (<120 ms latency).*

Benefits

The *Discovery* VoIP card offers many advantages over conventional long-distance and other telephony standards.

- Eliminates long-distance charges accrued between remote offices.
- Retains current telephony infrastructure while providing state of the art technology.
- Provides internal extension dialing for remote sites, with little installation effort.
- Takes advantage of existing data network connections (WAN, LAN, or Internet).

Specifications

The *Discovery* VoIP card uses Transmission Control Protocol/Internet Protocol (TCP/IP) for packet delivery over an IP network. Additional standards and protocols are used to provide DTMF, voice processing, and compression.

The *Discovery* VoIP card can accommodate up to four *Discovery* VoIP modules. Each *Discovery* VoIP module provides capability for two ports, resulting in a maximum of eight ports when all four modules are installed.

Features

The following describes many of the features built into the *Discovery* VoIP card.

On-Board Processor

50 Mhz PowerPC RISC Processor

Protocols

- TCP/IP
- H.323 Revision 2

Multiple Voice Compression Technologies

- G.723.1
- G.729
- G.711 A-Law
- G.711 U-Law

Connections

- One 10 / 100 Mps RJ45 Ethernet port
- One RS-232 Port (for Administration and Troubleshooting)

VoIP Card Reset Button

The *Discovery* VoIP card can be reset separately from the rest of the KSU.

Network/Voice Troubleshooting Tools

The Admin port (RS-232) provides troubleshooting tools to determine network connectivity and to trace the current call status via HyperTerminal, ProComm, or other terminal emulation programs. Network connectivity is tested through the PING utility. Tracing call status will show H.323 and IP events during any call sent or received by the *Discovery* VoIP card. Also, the current VoIP configuration can be viewed through the Admin port.

Installation

Multiple connection types can be used to implement the *Discovery* VoIP card in the business environment. The speed of a network connection is measured in bandwidth or kilobytes per second (K or kbs). Business connections generally have a speed of 256K or greater. In comparison, a home user dialing into the Internet with a modem can reach a maximum speed of 56K.

The two main types of connections are managed and unmanaged. A managed connection is a private connection with a guaranteed amount of bandwidth. In this type of connection, the connection is completely managed by the business. This might be compared to a parking lot that is for employee use only. An unmanaged connection, however, is one that shares bandwidth with other users. The Internet is the best example of this type of connection. The Internet connects many different businesses, but no one is able to control the data travelling on the Internet. In this case, the performance of the connection depends on how many people are using the Internet. It is like a freeway, in that travel is slower when traffic is heavy and faster when traffic is light.

Hardware Requirements

See your network administrator before installation.

- At least two installed *XTS* systems with available card slots.
- At least one *Discovery* VoIP card installed in each system

Network Requirements

- A 10 / 100 MB LAN, Internet connection (256K or higher), or WAN (256K or higher) between each KSU or other device connection. WAN connections can be point-to-point, frame relay, or equivalent connections as long as the connection supports IP.

Refer to Table D-1 for minimum and recommended bandwidths.

- Available static IP addresses for each *Discovery* VoIP card. For example, an Internet routable address must be used if the Internet will be used to connect remote offices. Internal IP addresses are used on a private WAN.

Network Address Translation (NAT) cannot be used to provide a routable address for the KSU.

System Requirements

A 4-digit dialing plan should be implemented before setting up the *Discovery* VoIP card.

Technical Data

Lower bandwidths, lower connection reliability, and high network latency will decrease *Discovery* VoIP performance. Bandwidths lower than 256K and network latency higher than 120 ms may cause unacceptable performance. Intermittent fluctuating connections (i.e., some wireless broadband connections) will cause unacceptable performance problems. Have your network administrator check your network performance and bandwidth to determine your network constraints before installing the *Discovery* VoIP card.

Recommended Bandwidths

The following table shows the recommended and minimum bandwidths for use with *Discovery* VoIP. The values are based on the number of ports.

Table D-1: Bandwidths

	2 Ports	4 Ports	6 Ports	8 Ports
Recommended	512K	640K	T1	T1
Minimum	256K	256K	512K	512K

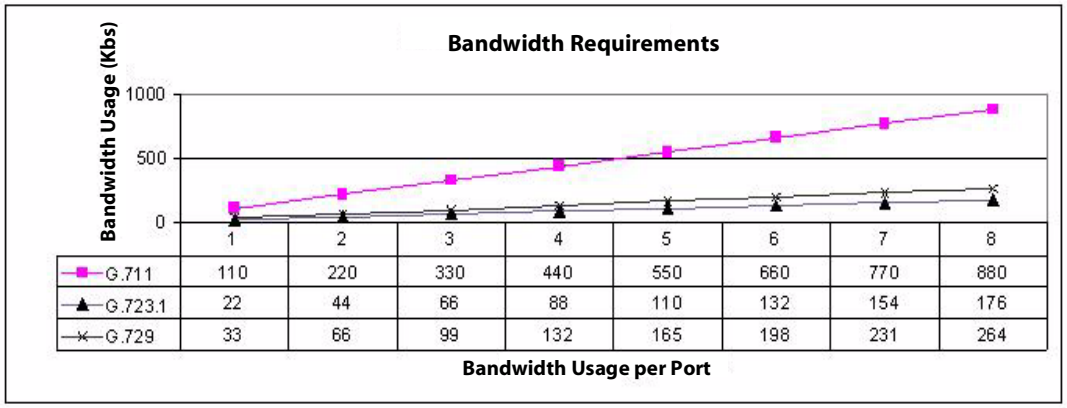
Note: Assumes network latency is below 120 ms

Voice Encoder Information

There are four built-in voice encoding standards (vocoders) in the *Discovery* VoIP card. The most bandwidth-efficient standard is G.723.1 due to its compression technology. The highest voice quality is provided by the G.711 standard (both A-law and U-law) because no compression is used. The G.729 standard is between the G.723.1 and G.711 standards in terms of bandwidth usage and performance. The G.729 standard loses some voice quality due to the use of compression. The default vocoder standard is G.723.1 to conserve bandwidth.

The *Discovery* VoIP card intelligently handles incoming VoIP calls by negotiating with the initiating system to determine the preferred vocoder standard to use during that call. For example, a system that is set for the default standard (G.723.1) can initiate a call with another system set to the G.711 A-law standard. The entire call will be established with the G.723.1 standard. The same is true for a G.711 A-law system establishing a call with the G.723.1 system. In this case, the G.711 A-law standard will be used for that call. Lower bandwidth connections, however, may be saturated when using the G.711 standards.

The following chart shows the bandwidth consumption by vocoder.



	1	2	3	4	5	6	7	8
G.711	110	220	330	440	550	660	770	880
G.723.1	22	44	66	88	110	132	154	176
G.729	33	66	99	132	165	198	231	264

Figure D-1: Bandwidth Consumption by Vocoder

IP Phones

IP phones using the H.323 Revision 2 protocol will work with the *Discovery* VoIP card. The IP phone, however, will not be integrated into the system. Instead, the IP phone resembles a single-line telephone that uses the Internet or other IP network instead of the PSTN. IP phones allow dialing using the IP address of the destination system. Most IP phones allow the user to program a button with the IP address of the system to dial. This allows the user to dial in to the VoIP card where they are directed to the attendant. The attendant then transfers the user to the desired extension.

The vocoder standards may not be as flexible for the IP phone as the *Discovery* VoIP card. Ensure that the vocoder standards used on the KSU match the standards that are used on the IP phone. For example, a phone that uses only the G.711 U-law standards can initiate a call with any *Discovery* VoIP card. However, for a call to be initiated successfully by the KSU to the IP phone used in this example, the KSU default standard (G.723.1) must be changed to the G.711standard.

Not all IP phone manufacturers have adopted the H.323 Revision 2 standard. Therefore, Vodavi cannot guarantee the compatibility or performance of IP phones.

Quick Start

This quick-reference diagram shows the configuration necessary to connect the *Discovery* VoIP card to the Internet, WAN network, or VPN network:

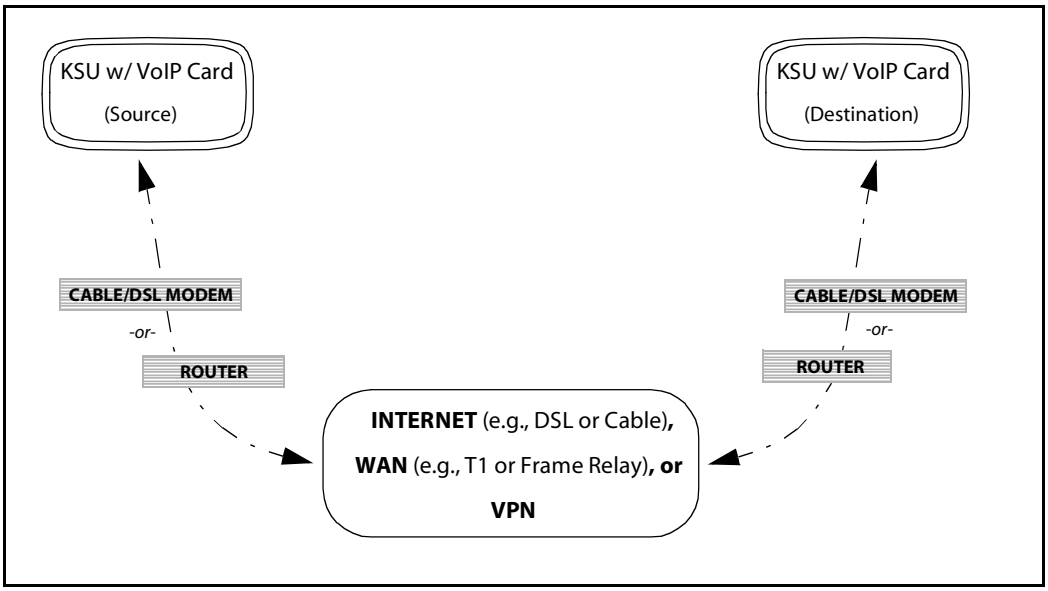


Figure D-2: *Discovery* VoIP Card Connection Diagram

Programming

The following Table shows the Network programming requirements.

Table D-2: VoIP Card Network Programming Requirements

Requirement	Description
IP Address(es)	An IP Address is required to properly program a *Discovery* VoIP card in the KSU. If the Internet will be the connection medium, an Internet routable address is necessary. The network administrator should be able to provide this address.
Subnet Mask	A Subnet Mask is required to establish communications between endpoints. This address is critical to establish a connection between two or more switches. The *Discovery* VoIP card will not function without it.
Router	An address must be supplied for the Gateway Router to provide connectivity. If no router exists between the KSUs (i.e., an internal LAN setup), then the other router's IP address should be programmed here.
Domain Name	The Domain Name is entered in Database Administration programming as follows: *name*.com (e.g., vodavi.com). The "www" is not needed for programming. A dot or period (".") is added by dialing [24].
Vocoder	This command is used to change the default audio capability. When establishing a call, the system making the call requests the preferred audio capability from the receiving system and negotiates the audio encoding to be used. This setting defines that preferred audio encoding.

Identifying the VoIP Card (FLASH 24)

The *Discovery* VoIP card can be placed in slots 1-7 of Cabinet 0 and in slots 0-8 of Cabinet 1 and Cabinet 2. Once the slot is identified, it takes the required time slots and deducts them from the available ones. It activates all 8 circuits. If more then one card is identified, each card is identified in the same manner and it requires its own unique IP address.

1. While in the programming mode, dial [FLASH 24].
2. Press the button that corresponds with the Cabinet location of the VoIP card (Button #17-19 represents Cabinets 0, 1, and 2).
3. Press the button corresponding to the desired slot location. Buttons 1-9 indicate peripheral card slots 0-8.
4. Dial the code (12) for the VoIP card and press HOLD.

```
CAB  0 SLOT 04   00-14
VOIP
```

Entering Network Programming Requirements (FLASH 46)

Flash Code 46 is for the specific network programming requirements for the *Discovery* VoIP card. IP address, subnet and router address information must be entered for the VoIP card to work. Each card installed in the system requires a separate IP address and subnet mask. The router address and domain name may be shared. See your network administrator for networking information.

1. Enter programming mode and dial [FLASH 46].
2. Enter the Cabinet number followed by the slot number where the *Discovery* VoIP card is installed twice (e.g., 0404 for a VoIP card installed in slot 4 of Cabinet 0) and press HOLD.

The first two digits indicate the FROM Cabinet/slot where the programming will come from. The second two digits indicate the TO Cabinet/slot (i.e., the programming destination). This method is used to provide for future functionality.

```
04-04 PAGE A
ENTER BUTTON NUMBER
```

3. Press Button #1, enter the IP address for the card, then press HOLD to save the entry.

   When entering an IP Address, the "✳" key on the telephone acts the same as the <Tab> key on a computer. An IP address can be entered using zeros where there is no number. For example: 10238✳56✳1 can be entered 102038056001, thus eliminating the need for using the "✳" key. Either entry will display: 102. 038. 056. 001 (a zero is displayed as a "space" or "Null" character).

```
IP ADDRESS
102.038.056.001
```

Each card requires its own IP address and its own Subnet Mask, using the standard format for each: xxx.xxx.xxx.xxx Without these numbers, the VoIP card will not operate and will show as Out of Service (OOS) in the system.

4. Press Button #2, enter Subnet Mask, then press HOLD to save the entry.

   A Subnet Mask of 255.255.255.0 is entered as 255255255 + [HOLD]; the telephone will display 255.255.255., which is correct.

```
SUBNET MASK
255.255.255.
```

5. Press Button #3, enter Router IP address, then press HOLD to save the entry.

```
ROUTER ADDRESS
102.038.056.100
```

6. Press Button #4, enter Domain Name (up to 64 characters), then press HOLD to save the entry.

```
DOMAIN NAME
VODAVI.COM
```

   The domain name is entered in standard Vodavi format:

   - The first number pressed identifies the three-digit group of alpha characters to be selected.
   - The second number (1,2, or 3) specifies the exact alpha character within the group.
   - The "." symbol is represented by dialing [24].

     Example -- Dialing 83633121834324236361 represents VODAVI.COM

7. Press Button #5, enter the desired vocoder value (0-4), then press HOLD to save the entry.

```
VOCODER                    0-4
G.723.1
```

   [0] = None

   [1] = G.723.1 (default)

   [2] = G.729

   [3] = G.711 A-Law

   [4] = G.711 U-Law

Setting Up the CO Line Groups (FLASH 40)

The CO Line Group must be programmed for the *Discovery* VoIP CO lines. In addition, a TIE circuit must be established to provide system-to-system connectivity.

1. While in programming mode, dial [FLASH 40].
2. Dial the appropriate range that equals the CO time slots used (e.g., 001-008 or 006-013), then press HOLD.
3. Press Button 8, enter an available Line Group (01-23) based on your existing system programming, then press HOLD.

The Discovery VOIP card uses 8 CO time slots.

Unused COs on the Discovery VoIP card do not have to be placed in Line Group 00 (e.g., a 4-port VoIP card takes 8 CO time slots, but only 4 CO lines are used) since the software disables unavailable VoIP ports automatically.

4. Press Button 20 (Page B), then press Button 1.
5. Dial [5], then press HOLD.

```
T1/ISDN    SIGNAL TYPE 0-7
TIE
```

Networking Tables (FLASH 16)

Networking Tables identify the system number (01-16), the CO or line Group (00-23), the range of station numbers (from xxxx to xxxx), and the IP address for each system. The system number is a database identifier. The CO or line group identifies the line group the system should access when the associated extension number is dialed. The extension range defines the extensions that can be reached at the associated remote system. The IP address provides the IP information of the remote system that is associated to the extension range, CO or line group, and the system number.

When a specific extension is dialed, the system looks up the extension in the networking table to determine the line group to use. The line group is then accessed and the *Discovery* VoIP card establishes the IP connection to the remote system using the associated IP address.

Make sure that your 4-digit dialing plans on the remote systems do not conflict with your local dialing plan. If there is a conflict, users will be required to access the VoIP line group first and then dial the remote extension. Otherwise, dialing the 4-digit extension directly will connect the caller to a local system extension and not the remote system extension. For example, if System A uses extensions 1000-1099 and System B uses 1000-1099, a user on either system could not dial the remote system directly because local system extensions take precedence over remote system extensions. In this case, a user would have to access the Discovery VoIP line group and dial the remote system extension to bypass the local system's dialing plan.

The Discovery VoIP CO's default into Line Group 1. The line group may need to be changed for proper operation on your particular system. Refer to the FLASH 40 programming section for more information on changing line groups.

1. Enter programming, then dial [FLASH 16].
2. Enter the system to be modified (01 to 16).

3. Press the appropriate button listed below to modify the table.

Button 1 - Line group programming (00 to 23).
Button 2 - Station from (start) range – must be 4 digits.
Button 3 - Station to (end) range – must be 4 digits.
Button 4 - IP address to dial when any station within that range is dialed. For example, if station 3001 is dialed, the telephone switch connects the call using the IP address: 102. 38. 56. 1 (refer to *Table D-3*)
Button 22 - Page to next Networking table.
Button 23 - Page to previous Networking table.
Button 24 - Enter a new Networking table.

Table D-3: System Networking Tables

System	CO Group	Station Range From	Station Range To	IP Address
01	1	1000	1200	172.016.016.001
02	2	2000	2400	209.054.002.001
03	2	3000	3500	102.038.056.001
04				
05				
06				
07				
08				
15				
16				

Conditions

» Feature access codes must not conflict with station numbering.
» CO line numbers are fixed and cannot be changed other than the current FLASH 42 reassignment.
» The VMID digits need to be programmed separately.
» The SMDR will output up to 4-digit numbers in the station field. If less than 4 digits are selected in the numbering plan, leading spaces will be added in place of numbers. Call Accounting devices need to be configured to accept 4 digits.
» When systems are tied together, each system has to have access to 911 through local lines.

Operation

The *Discovery* VoIP card operates like all other Central Office cards. There are up to 8 lines per card, and each line functions as any other CO line functions. It allows bi-directional communication and monitors for disconnect while using minimal bandwidth. It also allows four-digit dialing and other features.

When using *Discovery* VoIP lines:

- If a button is programmed, a busy lamp field (BLF) will illuminate (on initiating station only) when a CO line is in use.
- Calling can be done using speakerphone, handset, or headset; bi-directional communication is the default.
- After a call is connected, it has the ability to use End to End signaling, which allows DTMF to be sent over the connection. This is used for functions such as remote VM systems.
- Each line monitors for disconnect signaling, simulating Loop Supervision. When a line is off hook for 5 seconds or more, and no action is taken, an error tone sounds.

Network Connection

When the network cable is removed, or the network goes down, all COs will go out of service. All calls will be denied and an error tone will be heard if the line is accessed.

Dialing

Use Networking Tables (FLASH 16) to program stations to automatically use the appropriate line group and IP connection for a dialed number.

Line Access

Off Net Forward

A line is allowed to be transferred to a station that is Off Net Forwarded to a remote location.

DTMF Only

The VoIP card only supports tone dialing (DTMF).

911 Support

The *Discovery* VoIP card does **not** support 911 calls. Therefore, the system cannot solely use *Discovery* VoIP CO cards.

Station Access

Discovery VoIP CO access for each station is allowed or denied access to these trunks through standard CO Line access.

IP Telephony Standards and Protocols

The *Discovery* VoIP card uses the H.323 Revision standard for call processing. This is an updated version of the H.323 standard. It provides a set of standards defining real-time multimedia communications and conferencing over packet-based networks. These standards define how components that are built in compliance with H.323 set up calls, exchange compressed audio and video, participate in multi-unit conferences, and operate with non-H.323 endpoints.

The IP telephony standards/protocols shown in *Table D-4* are adhered to by the *Discovery* VoIP card.

Table D-4: IP Telephony Standards/Protocols

Standard		Description
H.323	Revision 2	Supports H.323 terminals and is the basis for all IP telephony.
H.225	Media Packetization	Provides media packetization and synchronization for video/ audio telephony on non-guaranteed quality of service LANs.
H.245	DTMF Signaling	Arbitration of GSM compression -- provides the new audio capabilities and supports the signaling entities required for call control functions for multimedia communications, while it specifies the in-band signaling protocol necessary to establish a call, determine capabilities, and issue the commands necessary to open/close the media channels.
	Close Logic Signaling	Supports signaling of a pair of associated unidirectional channels which allows for the establishment of a T.120 data channel.
	Round Trip Signal	Allows determination of the round trip delay between two communicating channels.
G.165	Echo Cancellation	When echo is present, a preprogrammed button is available to increase or decrease the latency of that call. Upon termination of each call, the unit restores the default setting.
G.711	Pulse Code Modulation of Voice Frequencies	Transmits and receives A-law and U-law PCM voice at digital bit rates of 48, 56, and 64 Kbps. It is used for digital telephone sets on digital PBX and ISDN channels. Support for this algorithm is required for ITU-T compliant videoconferencing. (slowest protocol)
G.723.1	5.3 Kbps compression for dual rate speech coders for multimedia communications	Runs at 6.3 or 5.4 Kbps a compression and uses linear predictive coding directory for an open architecture to ensure connectivity with other switches. Moreover, this compression helps provide smoothness. (Default)
G.729	Speech encoding 8 Kbps	Encodes/decodes speech at the rate of 8 Kbps using conjugate-structure, algebraic-code excited linear predictive methods.
Q.931	Messages: - Progress - Setup - Acknowledgment	Creates a unique global identifier that allows all messages associated with a call to be interoperable between the registration, administration and status protocol used in IP networks utilizing the Q.931 signaling protocol used in circuit-switched telephony networks. Supports messages that are used for call signaling, including all mandatory and conditionally mandatory messages, some optional messages and information elements, and the facility message defined in Q.931 and Q.932.

VoIP Glossary

This table describes the Internet Telephony terms used in this section:

Term	Definition
Asynchronous Transmission	A method of data transmission which allows characters to be sent at irregular intervals by preceding each character with a start bit and following it with a stop bit
bps	Data bits per second, also known as Baud Rate
DTMF	Dual Tone Multi-Frequency
Gateway	Bridges H.323 conferences to other network communications protocol and multimedia formats
Header	Protocol control information located at the beginning of a protocol data unit. This portion of a message contains information that will guide the message to the correct destination by including sender's and receiver's addresses, routing instructions, etc.
Hub	A physical connection for multiple LAN devices. Commonly, 10/100 Base-T Ethernet support through a RJ-45 connection is provided.
IANA	Internet Assigned Number Authority – the one agency that issues all IP addresses
ISP	Internet Service Provider. A vendor who provides access to the Internet and World Wide Web.
Jitter	Network-provided variations in latency for different packets, which is particularly disruptive to audio communications.
LAN	Local Area Network
Latency	A term used to indicate waiting time or time delay in delivering packets over a network.
Octet	Three digits between decimal points in an IP address. There are eight binary bits for numbers from 0-255, making it an octet.
PSTN	Public Switching Telephone Network
QoS	Quality of Service
Router	A unit that routes Packeted information interfacing two separate networks
TTL	Time to Live. Used with the IP protocol, it is the time after which the packet can be deleted from the network. This is typically measured in milliseconds.
VoIP	Voice Over Internet Protocol
VPN	Virtual Private Network. The definition is very broad. Typically, this means some form of "virtually private" network created over a public network (i.e., the Internet) using encryption technologies to create a secure connection between two or more sites.
WAN	Wide Area Network. A computer or voice network bigger than a metropolitan area. Sometimes used to define a network that spans a metropolitan area which could also be called a MAN (Metropolitan Area Network).

E Customer Database Programming

This appendix provides information about database programming. Use the detailed procedures contained in other chapters and appendices for actual programming via executive display telephone. Use the Customer Database Worksheets in this appendix to help keep track of the system programming changes made for each individual system.

Introduction

The *XTS* system is programmed to meet each customer's individual needs. All programming is done at any 24-Button Executive Telephone as the programming station or through an ASCII terminal or PC. The digital display model is required for programming.

When the programming mode is entered, the digital telephone being used no longer operates as a telephone but as a programming station with all of the buttons redefined. The keys on the dial pad are used to enter data fields (Program Codes) associated with system, station, and CO line features as well as specific data that requires a numeric entry. Flexible buttons toggle on or off features, or enable entry of specific data fields. LEDs and the LCD display provide a visual indication of entered data and their value.

Programming is also performed using an ASCII terminal, or a computer capable of emulating an ASCII terminal. This form of programming is done locally (on-site) by connecting the terminal directly to the RS-232C connector on the Main Processing Board (MPB) or is performed remotely (off-site) through the use of the 19.2K baud modem. The method and steps to program the system via a PC are identical to those used when programming from a digital key set. A button to keyboard mapping is provided (refer to *Figure E-2 on page E-4*) to help minimize familiarization and training time.

The system must be initialized to load default data into memory at the time of installation. If this pre-programming is acceptable to the customer, initialization is all that is needed. Refer to *Table F-1 on page F-3* for a listing of all the default values.

When features are programmed, tones are provided to determine if a correct or incorrect entry has been made. A solid one second tone indicates the data was accepted. An interrupted tone means an error was made. When this occurs, re-enter the data and information.

Until new data is entered and accepted, the system continues to operate under default or previously entered values.

The system database is updated on a real-time basis as new data is entered, by pressing the Hold button. The system continues to operate with the current database and is updated with any newly entered or changed data without interruption to telephone operation or call processing in progress. However, if for example a station's attributes are changed while that station is off-hook on an active call, the newly entered data does not take effect until the station goes on-hook or becomes idle.

When using a PC to program the system, the following chart presents the data terminal characters that are equivalent to the key set buttons.

Some features must have more than one data field programmed for that feature to work. This information is stated in the instructions.

```
adm>
REMOTE ADMIN KEY DEFINITION
Keyset   Term   Keyset   Term   Keyset   Term
-----------------------------------------------
0        0      FLEX 1   Q      FLEX 13   D
1        1      FLEX 2   W      FLEX 14   F
2        2      FLEX 3   E      FLEX 15   G
3        3      FLEX 4   R      FLEX 16   H
4        4      FLEX 5   T      FLEX 17   J
5        5      FLEX 6   Y      FLEX 18   K
6        6      FLEX 7   U      FLEX 19   L
7        7      FLEX 8   I      FLEX 20   ;
8        8      FLEX 9   O      FLEX 21   Z
9        9      FLEX 10  P      FLEX 22   X
*        *      FLEX 11  A      FLEX 23   C
#        #      FLEX 12  S      FLEX 24   V
TRANS    B      MUTE     N      ON-OFF    M
FLASH    ,      HOLD     CR
adm>
```

Figure E-1: Data Terminal Program Codes Cross Reference

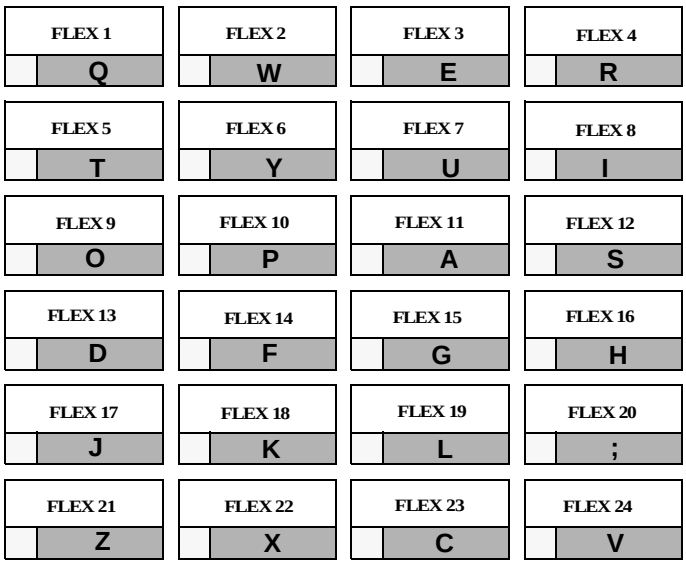


Figure E-2: Programming Button Mapping

Program Mode Entry (Key Station)

Programming is performed at any 24-button Digital Display Terminal. Programming is always done at this type of station regardless of the class of service or which station has been assigned the attendant(s).

To enter the Program Mode:

1. Press the ON/OFF button (optional). LED lights and intercom dial tone sounds.
2. On the dial pad, press [✳][✳][3][2][2][6] (default password). A confirmation tone sounds.
3. The ON/OFF button LED is lit. The system is ready to program.

Program Mode Entry (Data Terminal or PC)

A PC terminal connected to the RS-232C port on the MPB, or remotely through the 19.2K baud modem, is used for database programming. When using a data terminal (ASCII or PC capable of emulating an ASCII terminal) on-site or locally, to program the system:

1. Press <Enter> on the terminal.
2. Enter the password [default = **3226vodavi**], and press <Enter> again. Proper entry of the password results in the Adm> prompt. Proceed with programming referring to *Figure E-1 on page E-4* for terminal characters that represent the key set buttons. By entering [?] from the terminal, a Help screen displays.

When entering the system remotely via a PC, access to the modem is accomplished by accessing Port 499 through a direct ringing assignment or through DISA or by being transferred to Port 499.

Initialization

The system has been preprogrammed with certain features called default data (refer to *Table F-1 on page F-3*). These features are loaded into memory when the system is initialized.

The system should be initialized when installed or at any time the database has been corrupted.

To Return the Database to the System Default Values:

1. Place Switch #8 on the MPB in the ON position.
2. Turn the power off and on to initialize the system database to the default.
3. Once database is initialized, place Switch #8 in the OFF position to protect the database.

Database Programming Worksheets

Before attempting programming, it is strongly recommended that customer database worksheets be prepared (Refer to *"Programming Tables" on page E-11*). These worksheets should become part of the permanent record of customer programming. Refer to the following sections when preparing the worksheets.

Database Upload/Download Routine

The Database Upload/Download Routine (**FLASH 86**) provides a maintenance facility which permits the user to download the database to a PC, when a software change is made or when the system needs to be initialized and reprogrammed. The Upload/Download Routine facilitates the programming of a database on an in-house system which is downloaded to a PC and then uploaded to a system in the field.

After the system maintenance is completed, the file saved in the PC can then be uploaded to the system.

All trace modes such as: SMDR (Flash 21), ICLID (Flash56), and Maintenance Event Traces MUST be turned off before a download is performed!

Default telephone type = 24 button model

Upload/Download through Remote Administration

First, connect one end of an RS-232C serial cable from the RS-232C connector on the MPB to the desired Comm Port on the PC.

Use a straight-through DB-9 to DB-9 (female to female) cable.

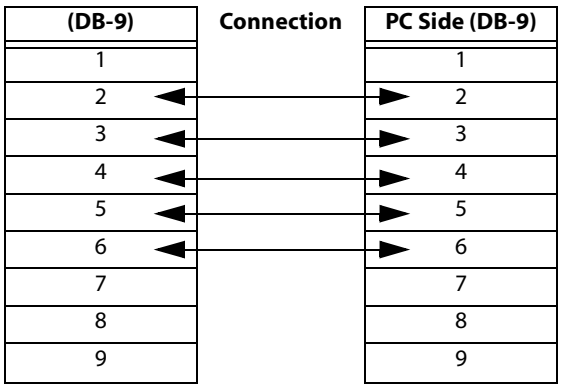


Figure E-3: KSU to PC Connection Configuration

Then load a communication software package (e.g., Hyperterminal) into the PC and complete the following steps to reconfigure the system.

HYPERTERMINAL -- Uploading a Database File

After opening HyperTerminal, and the New Connection screen displays, complete the following steps:

1. Type a connection name and select the appropriate icon, then click <OK>.
2. When the Phone Number screen displays, change the setting in the Connect Using box to: Direct to COM1, and then click <OK>.
3. Once the COM1 Properties screen displays, change the settings as shown, and then click <OK>.
   - Baud Rate = 19.2K
   - Parity = None
   - Data Bits = 8
   - Stop Bits = 1
   - Flow Control = Xon/Xoff
4. Press <Enter> and complete the following fields:

Screen Field	Action
ENTER PASSWORD:	Type password: XXXXVODAVI (XXXX = default password for online administration)
ADM>,	Type program number.
ADM>86	Load database routine. Type button number.
ADM>Q	Upload database. Press HOLD button.
ADM>	Press <Enter> key twice.

5. On the tool bar, click <Transfer> and select Send File.
6. Change Protocol setting to XMODEM.
7. Click <Browse> to locate database file; double-click on the filename.
8. Click <Send>. Adm> prompt displays when file transfer is complete.

HYPERTERMINAL -- Downloading a Database File

After opening HyperTerminal, and the New Connection screen displays, complete the following steps:

1. Type connection name and select appropriate icon, then click <OK>.
2. When the Phone Number screen displays, change the setting in the Connect Using box to: Direct to COM1, and then click <OK>.
3. Once the COM1 Properties screen displays, change the settings as shown, and then click <OK>.
   - Baud Rate = 19.2K
   - Parity = None
   - Data Bits = 8
   - Stop Bits = 1
   - Flow Control = Xon/Xoff
4. Press <Enter> and complete the following fields:

Screen Fields	Action
ENTER PASSWORD:	Type password: XXXXVODAVI (XXXX = default password for online administration)
ADM>,	Type program number.
ADM>86	Load database routine. Type button number.
ADM>W	Download database. Press HOLD button.
ADM>	Press <Enter> key twice.

5. On the tool bar, click <Transfer> and select Receive File.
6. Change Receive Protocol setting to XMODEM, and click <Receive>.
7. Type database filename and click <OK>. The Adm> prompt displays when the file transfer is complete.

ECOM -- Uploading a Database File

After opening ECOM:

1. Press< Alt> + <P> to open COM Port Options.
2. Change COM port settings as follows, and click <OK>.
   - Baud Rate = 19.2K
   - Parity = None
   - Data Bits = 8
   - Stop Bits = 1
   - Flow Control = no boxes checked, Xon=17, Xoff=19
3. Press <Enter> and complete the following fields:

Screen Fields	Action
ENTER PASSWORD:	Type password: XXXXVODAVI (XXXX = default password for online administration)
ADM>,	Type program number.
ADM>86	Load database routine. Type button number.
ADM>Q	Upload database. Press HOLD button.
ADM>	Press <Enter> key twice.

4. Press <PgUp> on keyboard or locate file and select Upload.
5. Highlight XMODEM and click <OK>.
6. Type or select upload filename and click <OK>. The Adm> prompt displays when the file transfer is complete.

ECOM -- Downloading a Database File

After opening ECOM:

1. Press< Alt> + <P> to open COM Port Options.
2. Change COM port settings as follows, and click <OK>.
   - Baud Rate = 19.2
   - Parity = None
   - Data Bits = 8
   - Stop Bits = 1
   - Flow Control = no boxes checked, Xon=17, Xoff=19
3. Press <Enter> and complete the following fields:

Screen Fields	Action
ENTER PASSWORD:	Type password: XXXXVODAVI (XXXX = default password for online administration)
ADM>,	Type program number.
ADM>86	Load database routine. Type button number.
ADM>W	Download database. Press HOLD button.
ADM>	Press <Enter> key twice.

4. Press <PgDn> on keyboard or locate file and select Download.
5. Highlight XMODEM and click <OK>.
6. Type or select download filename and click <OK>. The Adm> prompt displays when the file transfer is complete.

Programming Tables

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 01	**System Timers**				
	1	System Hold Recall Timer	000-300	060 sec	
	2	Exclusive Hold Recall Timer	000-300	180 sec	
	3	Attendant Recall Timer	00-60	01 min	
	4	Transfer Recall Timer	000-300	045 sec	
	7	Pause Timer	1-9	2 sec	
	8	Call Park Recall Timer	000-600	180 sec	
	9	Conference/DISA Timer	00-99	10 min	
	10	Paging Time-out Timer	00-60	15 sec	
	11	CO Ring Detect Timer	2-9	3=300 ms	
	12	SLT DTMF Receiver Timer	005-100	020 sec	
	13	Message Wait Reminder Tone	000-104	000 min	
	14	SLT Hook Switch Timer	05-20	10=1 sec	
	15	SLT Hook Switch Bounce Timer	000-100	030=300 ms	
	16	SMDR Call Qualification Timer	00-60	30 sec	
	17	Automatic Call Back Timer	00-99	03 sec	
	18	Reminder Ring Timer	00-99	00 sec	
	20	Flexible Inter-Digit Time-out	01-99	5 sec	
FLASH 02	**Additional System Timers**				
	1	Repeat Redial Timer	006-999	060 sec	
	2	Attendant Display Timer	00-99	01 sec	
	3	Call Coverage Ring Timer	00-99	05 sec	
	4	Modem Answer T/O	25-99	025 sec	
	5	Pulse Dial Inter-Digit Timer	300-600	300 ms	
	6	DTMF Time Operation	1-9	1=100ms	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 05	**System Features 1 Programming**				
	1	Attendant Override	Disabled/Enabled	Disabled	
	2	Hold Preference	System/Exclusive	System	
	3	External Night Ring	Disabled/Enabled	Disabled	
	4	Executive Override Warning Tone	Disabled/Enabled	Enabled	
	5	Page Warning Tone	Disabled/Enabled	Enabled	
	6	Background Music Channel	Disabled/Enabled	Enabled	
	7	Least Cost Routing	Disabled/Enabled	Disabled	
	8	Account Codes - Forced	Disabled/Enabled	Disabled	
	9	Group Listening	Disabled/Enabled	Disabled	
	10	Idle Speaker Mode	Disabled/Enabled	Disabled	
	11	Call Cost Display Feature	Disabled/Enabled	Disabled	
	12	Music-On-Hold	Disabled/Enabled	Enabled	
	13	Call Qualifier Tone Option	Disabled/Enabled	Disabled	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 06	**System Features 2 Programming**				
	1	Privacy Release Tone Option	Disabled/Enabled	Enabled	
	2	Distinctive CO Ringing	Disabled/Enabled	Enabled	
	3	Verified Account Code	Disabled/Enabled	Disabled	
	4	Call Forward Display	Disabled/Enabled	Enabled	
	5	External Day Ring	Disabled/Enabled	Disabled	
	6	Overflow Station Forward	Disabled/Enabled	Disabled	
	7	Direct Transfer Mode	Disabled/Enabled	Enabled	
	8	Station ID Lock	Disabled/Enabled	Disabled	
	9	LCR Call Progress	Disabled/Enabled	Enabled	
	10	One-Touch Recording Warning Tone	Disabled/Enabled	Enabled	
	11	Ringback on Transfer	Disabled/Enabled	Disabled	
	12	ACD Agent Recall	Disabled/Enabled	Disabled	
	13	911 Feature (Attendant Alert)	Disabled/Enabled	Disabled	
	14	E911 Feature	Disabled/Enabled	Disabled	
	15	VMID Station Numbers		STA #s=VMID	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 07	**Flash Rates (Programmable)**				
	1	Incoming CO Line Ringing	00-28	Red 480ipm flutter (08)	
	2	Incoming Intercom Ringing	00-28	Red 120ipm flutter (11)	
	3	Call Forward Button	00-28	Red Steady On (01)	
	4	Message Wait/VM Button	00-28	Red Steady On (01)	
	5	Message CallBack DSS/BLF	00-28	Red 120ipm flutter (11)	
	6	Do Not Disturb DSS/BLF	00-28	Red 60ipm dbl wink off (04)	
	7	Auto CallBack DSS/BLF	00-28	Red 120ipm flash (10)	
	8	ACD/UCD Available/Unavailable DSS/BLF	00-28	Red 60ipm dbl wink off (04)	
	9	Transfer CO Ringing	00-28	Red 120ipm flash (10)	
	10	Recall CO Ringing	00-28	Red 480ipm flutter (08)	
	11	Queued CO Ringing	00-28	Green 480ipm flutter (22)	
	12	Exclusive Hold	00-28	Green 120ipm flash (24)	
	13	System Hold	00-28	Red 60ipm dbl wink off (04)	
	14	In Use Hold (I-Hold)	00-28	Green 60ipm flash (17)	
	15	Camp-On Button	00-28	Red 120ipm flash (10)	
	16	Call Back Button	00-28	Red 120ipm flash (10)	
	17	Line Queue Button	00-28	Red 480ipm flutter (08)	
	18	Do Not Disturb Button	00-28	Red Steady On (01)	
	19	Intercom Hold Button	00-28	Red 15ipm flash (09)	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 09	2	MOH Assignments	Channel 4	None	
	3	MOH Assignments	Channel 5	None	
	4	MOH Assignments	Channel 6	None	
	5	MOH Assignments	Channel 7	None	
	6	MOH Assignments	Channel 8	None	
	7	Proctor 911 Power Failure	SLT Sta #	None	
	8	Node/Hub Identification	01-16	01	
	9	Leading Digit	0-9	0	
FLASH 10		Attendant Station Assignment		STA 100	
FLASH 11	1	System Time And Date	MMM/DD/YY, 12/24	MMM/DD/ YY, 12Hr	
FLASH 12		PBX Dialing Codes	5 (2-digits)	None	
FLASH 13	1	Executive/Secretary Pairs	Sta #, Sta #	None	
	2	Executive/Secretary Pairs	Sta #, Sta #	None	
	3	Executive/Secretary Pairs	Sta #, Sta #	None	
	4	Executive/Secretary Pairs	Sta #, Sta #	None	
FLASH 14	1	Relay Programming		None	
	2	Relay Programming		None	
	3	Relay Programming		None	
	4	Relay Programming		None	
	5	Relay Programming		None	
	6	Relay Programming		None	
	7	Relay Programming		None	
FLASH 15	**Baud Rate Assignments**				
	1	Port #1 (RS-232Cport labeled SCMI on MPB)		19.2K	
	2	Port #2 (Modem - baud auto-negotiated)		None	N/A
	3	Port #3 (RS-232C port on optional SIU on MPB)		9600	
	4	Port #4 (RS-232C port on optional SIU on MPB)		9600	
	5	Port #5 (UART on MPB)		9600	
FLASH 20	**Access Codes**				
	1	DISA Access Code	100-999	100	
	2	Database Admin Password	0000-9999	3226	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 21	**Station Message Detail Recording**				
	1	SMDR Enable/Disable	Disabled/Enabled	Disabled	
	2	Long Distance/Local Assignment	LD/All	LD Only	
	3	Character Print Assignment	80/30	80	
	5	SMDR Port Assignments	1/3/4/5	Port #1	
FLASH 22	**Weekly Night Mode Schedule**				
	1	Automatic/Manual Operation	Auto/Manual	Manual	
	2	Day of Week Programming	08:00–17:00 ####-####	(0-4) (5-6)	
	3	Day of Week Programming	08:00–17:00 ####-####	(0-4) (5-6)	
	4	Day of Week Programming	08:00–17:00 ####-####	(0-4) (5-6)	
	5	Day of Week Programming	08:00–17:00 ####-####	(0-4) (5-6)	
	6	Day of Week Programming	08:00–17:00 ####-####	(0-4) (5-6)	
	7	Day of Week Programming	08:00–17:00 ####-####	(0-4) (5-6)	
	8	Day of Week Programming	08:00–17:00 ####-####	(0-4) (5-6)	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 42	**Flexible CO Port Assignments**				
	1	Flexible CO Port		Ports 1-8	
	2	Flexible CO Port		Ports 9-16	
	3	Flexible CO Port		Ports 17-24	
	4	Flexible CO Port		Ports 25-32	
	5	Flexible CO Port		Ports 33-40	
	6	Flexible CO Port		Ports 41-48	
	7	Flexible CO Port (MPB2)		Ports 49-56	
	8	Flexible CO Port (MPB2)		Ports 57-64	
	9	Flexible CO Port (MPB2)		Ports 65-72	
	10	Flexible CO Port (MPB2)		Ports 73-80	
	11	Flexible CO Port (MPB2)		Ports 81-88	
	12	Flexible CO Port (MPB2)		Ports 89-96	
	13	Flexible CO Port (MPB2)		Ports 97-104	
	14	Flexible CO Port (MPB2)		Ports 105-112	
	15	Flexible CO Port (MPB2)		Ports 113-120	
	16	Flexible CO Port (MPB2)		Ports 121-128	
	17	Flexible CO Port (MPB2)		Ports 129-136	
	18	Flexible CO Port (MPB2)		Ports 137-144	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 45	**ISDN Page A Programming**				
	1	BRI CO Type	NI1	NI1	
	2	PRI CO Type	NI2	NI2	
	3	Framing	T1, ESF, D4	ESF	
	4	NT/TE Mode	NT, TE	TE	
	5	Power	Disabled/Enabled	Disabled	
	6	Directory Number (PRI)	0-9, *, #	None	
	7	Max Out I-Frames	001-127	K001	
	8	Leading 1	Disabled/Enabled	Enabled	
	9	Leading 011	Disabled/Enabled	Enabled	
	10	7/8 Digit Number Plan	ITU, CO	ITU	
	11	Calling Number	Disabled/Enabled	Enabled	
	12	Loopback	Normal, Near End, Far End	Normal	
	13	10 Digit Number Plan	ITU, CO	ITU	
	14	11 Digit Number Plan	ITU, CO	ITU	
FLASH 45	**ISDN Page B Programming**				
	1	Maximum Number Retransmission	0-9	3	
	2	Maximum Octets	000-999	260	
	3	Maximum TEI ID Request	000-999	003	
	4	Maximum XID Retransmission	0-9 sec	3 sec	
	5	T-200	00-99 sec	01 sec	
	6	Minimum TEI ID Check Message	00-99 sec	01 sec	
	7	Minimum TEI ID Request	00-99 sec	02 sec	
	8	Message Exchange Timer	00-99 sec	15 sec	
	9	Minimum XID Retransmission	0-9 sec	3 sec	
	10	Inter Digit T/O	00-99 sec	25 sec	
	11	Set-up Timer	00-99 sec	10 sec	
	12	Disconnect Timer	00-99 sec	04 sec	
	13	Release Request	00-99 sec	04 sec	
	14	Link Disconnect	20-30 sec	30 sec	
	15	Call Proceeding	00-99 sec	60 sec	
	16	Connect Request	00-99 sec	04 sec	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
	17	Restart Request Timer		120 sec	
FLASH 46	**VoIP Network Programming**				
	1	IP Address		None	
	2	Subnet Request		None	
	3	Router IP Address		None	
	4	Domain Name		None	
	5	Vocoder Value		G.723.1	
FLASH 47	**T-1/ISDN Alarm Programming**				
	1	Carrier Loss Alarm	Disabled/Enabled	Enabled	
	2	Blue Alarm	Disabled/Enabled	Enabled	
	3	Yellow Alarm	Disabled/Enabled	Enabled	
	4	Red Alarm	Disabled/Enabled	Enabled	
	5	Bipolar Alarm	Disabled/Enabled	Enabled	
	6	Frame Slip Alarm	Disabled/Enabled	Enabled	
	7	Data Errors Alarm	Disabled/Enabled	Enabled	
	11	Enable/Disable (Carrier Loss Alarm)	Disabled/Enabled	Enabled	
	12	Clear Alarm	Disabled/Enabled	Enabled	
	13	Minor Alarm	00-99 min	15 min	
	14	Major Alarm	00-99 min	30 min	
	15	Time Period	00-99 min	5 min	
	16	Attendant Display	Disabled/Enabled	Enabled	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Station**		**Port**	**Flexible**
		100		100	
		101		101	
		102		102	
		103		103	
		104		104	
		105		105	
		106		106	
		107		107	
		108		108	
		109		109	
		110		110	
		111		111	
		112		112	
		113		113	
		114		114	
		115		115	
		116		116	
		117		117	
		118		118	
		119		119	
		120		120	
		121		121	
		122		122	
		123		123	
		124		124	
		125		125	
		126		126	
		127		127	
		128		128	
		129		129	
		130		130	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Station**		**Port**	**Flexible**
		131		131	
		132		132	
		133		133	
		134		134	
		135		135	
		136		136	
		137		137	
		138		138	
		139		139	
		140		140	
		141		141	
		142		142	
		143		143	
		144		144	
		145		145	
		146		146	
		147		147	
		148		148	
		149		149	
		150		150	
		151		151	
		152		152	
		153		153	
		154		154	
		155		155	
		156		156	
		157		157	
		158		158	
		159		159	
		160		160	
		161		161	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Station**		**Port**	**Flexible**
		162		162	
		163		163	
		164		164	
		165		165	
		166		166	
		167		167	
		168		168	
		169		169	
		170		170	
		171		171	
		172		172	
		173		173	
		174		174	
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		176		176	
		177		177	
		178		178	
		179		179	
		180		180	
		181		181	
		182		182	
		183		183	
		184		184	
		185		185	
		186		186	
		187		187	
		188		188	
		189		189	
		190		190	
		191		191	
		192		192	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Station**		**Port**	**Flexible**
		193		193	
		194		194	
		195		195	
		196		196	
		197		197	
		198		198	
		199		199	
		200		200	
		201		201	
		202		202	
		203		203	
		204		204	
		205		205	
		206		206	
		207		207	
		208		208	
		209		209	
		210		210	
		211		211	
		212		212	
		213		213	
		214		214	
		215		215	
		216		216	
		217		217	
		218		218	
		219		219	
		220		220	
		221		221	
		222		222	
		223		223	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Station**		**Port**	**Flexible**
		224		224	
		225		225	
		226		226	
		227		227	
		228		228	
		229		229	
		230		230	
		231		231	
		232		232	
		233		233	
		234		234	
		235		235	
		236		236	
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		239		239	
		240		240	
		241		241	
		242		242	
		243		243	
		244		244	
		245		245	
		246		246	
		247		247	
		248		248	
		249		249	
		250		250	
		251		251	
		252		252	
		253		253	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52		**Flexible Numbering Assignments**			
	21/24	**Station**		**Port**	**Flexible**
		254		254	
		255		255	
		256		256	
		257		257	
		258		258	
		259		259	
		260		260	
		261		261	
		262		262	
		263		263	
		264		264	
		265		265	
		266		266	
		267		267	
		268		268	
		269		269	
		270		270	
		271		271	
		272		272	
		273		273	
		274		274	
		275		275	
		276		276	
		277		277	
		278		278	
		279		279	
		280		280	
		281		281	
		282		282	
		283		283	
		284		284	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Station**		**Port**	**Flexible**
		285		285	
		286		286	
		287		287	
		288		288	
		289		289	
		290		290	
		291		291	
		292		292	
		293		293	
		294		294	
		295		295	
		296		296	
		297		297	
		298		298	
		299		299	
		300		300	
		301		301	
		302		302	
		303		303	
		304		304	
		305		305	
		306		306	
		307		307	
		308		308	
		309		309	
		310		310	
		311		311	
		312		312	
		313		313	
		314		314	
		315		315	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Station**		**Port**	**Flexible**
		316		316	
		317		317	
		318		318	
		319		319	
		320		320	
		321		321	
		322		322	
		323		323	
		324		324	
		325		325	
		326		326	
		327		327	
		328		328	
		329		329	
		330		330	
		331		331	
		332		332	
		333		333	
		334		334	
		335		335	
		336		336	
		337		337	
		338		338	
		339		339	
		340		340	
		341		341	
		342		342	
		343		343	
		344		344	
		345		345	
		346		346	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Station**		**Port**	**Flexible**
		347		347	
		348		348	
		349		349	
		350		350	
		351		351	
		Numbering Plan		**Fixed**	**Flexible**
		911 Attendant Alert		608	
		Account Code		627	
		ACD Call Factor		580	
		ACD Call Qualifier		570	
		ACD CIQ Display Button (specific ACD Group)		579	
		ACD Group 1		550	
		ACD Group 2		551	
		ACD Group 3		552	
		ACD Group 4		553	
		ACD Group 5		554	
		ACD Group 6		555	
		ACD Group 7		556	
		ACD Group 8		557	
		ACD Group 9		558	
		ACD Group 10		559	
		ACD Group 11		560	
		ACD Group 12		561	
		ACD Group 13		562	
		ACD Group 14		563	
		ACD Group 15		564	
		ACD Group 16		565	
		ACD Group Status		567	
		ACD Help		574	
		ACD Member Status		573	
		ACD Overflow AVA/UNA		578	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Numbering Plan**		**Fixed**	**Flexible**
		ACD Login (Primary)		572	
		ACD Login (Secondary)		582	
		ACD Logout (Primary)		571	
		ACD Logout (Secondary)		581	
		ACD Supervisor Display		577	
		ACD Supervisor Login		576	
		ACD Supervisor Logout		575	
		ACD/UCD AVA/UNA		566	
		ACD/UCD CIQ Status Display (any group)		567	
		All Call Page		700	
		Answering Machine Ring		6540	
		Answering Machine Speaker		6541	
		Attendant Clear Alarm (T-1)		606	
		Attendant CO Line External (Off-Net) Forward		603	
		Attendant Custom Message		694	
		Attendant Day/Night/Special (DND Key)		631	
		Attendant Directory List Programming		693	
		Attendant Disable Outgoing CO Line		602	
		Attendant Override		601	
		Attendant Setting Time and Date		692	
		Attendant Unavailable		607	
		Attendant Voice Mail Alarm Clear		656	
		Background Music		632	
		Call Back		622	
		Call Coverage - Non-Ringing		647	
		Call Coverage - Ringing		646	
		Call Forward		640	
		Call Forward - Follow Me		642	
		Call Park Group 1		430	
		Call Park Group 2		431	
		Call Park Group 3		432	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Numbering Plan**		**Fixed**	**Flexible**
		Call Park Group 4		433	
		Call Park Group 5		434	
		Call Park Group 6		435	
		Call Park Group 7		436	
		Call Park Group 8		437	
		Call Park - Personal		438	
		Call Park - Station		439	
		Call Park Pickup - Station		#6	
		Call Park Pickup - System (group 1)		#430	
		Call Park Pickup - System (group 2)		#431	
		Call Park Pickup - System (group 3)		#432	
		Call Park Pickup - System (group 4)		#433	
		Call Park Pickup - System (group 5)		#434	
		Call Park Pickup - System (group 6)		#435	
		Call Park Pickup - System (group 7)		#436	
		Call Park Pickup - System (group 8)		#437	
		Caller ID Display (Answered Calls)		659	
		Caller ID Display (Unanswered Call)		635	
		Caller ID Name/Number		653	
		Calling Forward Override		5#	
		Calling Station Handsfree Mode Override		7#	
		Calling Station Tone Mode Override		6#	
		Camp On		620	
		Clear Fwd, DND, Msg		662	
		CO Line (Idle) Direct Access		88	
		CO Line Group Access Code (group 0)		800	
		CO Line Group Access Code (group 1)		801	
		CO Line Group Access Code (group 2)		802	
		CO Line Group Access Code (group 3)		803	
		CO Line Group Access Code (group 4)		804	
		CO Line Group Access Code (group 5)		805	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Numbering Plan**		**Fixed**	**Flexible**
		CO Line Group Access Code (group 6)		806	
		CO Line Group Access Code (group 7)		807	
		CO Line Group Access Code (group 8)		808	
		CO Line Group Access Code (group 9)		809	
		CO Line Group Access Code (group 10)		810	
		CO Line Group Access Code (group 11)		811	
		CO Line Group Access Code (group 12)		812	
		CO Line Group Access Code (group 13)		813	
		CO Line Group Access Code (group 14)		814	
		CO Line Group Access Code (group 15)		815	
		CO Line Group Access Code (group 16)		816	
		CO Line Group Access Code (group 17)		817	
		CO Line Group Access Code (group 18)		818	
		CO Line Group Access Code (group 19)		819	
		CO Line Group Access Code (group 20)		820	
		CO Line Group Access Code (group 21)		821	
		CO Line Group Access Code (group 22)		822	
		CO Line Group Access Code (group 23)		823	
		CO Line Group Access Code (all groups)		824	
		CO Line Queue		621	
		CO Line Queue Cancel		626	
		Conference		624	
		Dial By Name		6✳	
		Directory Dial		680	
		Do Not Disturb		631	
		DTMF Receiver Test		657	
		Executive Override		625	
		Flash (Centrex) (8-button digital)		660	
		Group Call Pickup		#0	
		Headset Mode		634	
		HPT		667	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Numbering Plan**		**Fixed**	**Flexible**
		Hunt Group (group1)		450	
		Hunt Group (group 2)		451	
		Hunt Group (group 3)		452	
		Hunt Group (group 4)		453	
		Hunt Group (group 5)		454	
		Hunt Group (group 6)		455	
		Hunt Group (group 7)		456	
		Hunt Group (group 8)		457	
		Intercom Button		645	
		Keyset Mode		648	
		LCR (E911 active on CO Line)		800	
		LCR (if active) or CO Line Group 1		9	
		Loop Key		89	
		Message Wait		623	
		Modem		499	
		Modem - Voice Mail Access		498	
		Mute		629	
		Name In Display		690	
		Night Service		604	
		Off Hook Voice Over		628	
		Page - All Call		700	
		Page - External Zone (zone1)		761	
		Page - External Zone (zone2)		762	
		Page - External Zone (zone3) (MPB2)		763	
		Page - External Zone (all zones)		760	
		Page - Internal (zone 1)		701	
		Page - Internal (zone 2)		702	
		Page - Internal (zone 3)		703	
		Page - Internal (zone 4)		704	
		Page - Internal (zone 5)		705	
		Page - Internal (zone 6)		706	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Numbering Plan**		**Fixed**	**Flexible**
		Page - Internal (zone 7)		707	
		Page - Internal (zone 8)		708	
		Page - Internal (all zones)		709	
		Page - Meet Me		770	
		Personal Messages		633	
		Release Button		641	
		Repeat Redial		643	
		Ring Down / Hot Line / Off-Hook Preference		691	
		Ring Tone		695	
		Serial Number (MPB)		609	
		SLT Conference Park		664	
		SLT Directed Call Pickup		#1	
		SLT Message Wait Answer		663	
		SLT Speed Dial		668	
		SLT Speed Programming		661	
		SLT Volume		638	
		Software Identification (MPB)		610	
		Software Version (MPB)		605	
		Station/Port Fixed Number		611	
		Station Relocate		636	
		Stop Trace		658	
		UCD Group 1		550	
		UCD Group 2		551	
		UCD Group 3		552	
		UCD Group 4		553	
		UCD Group 5		554	
		UCD Group 6		555	
		UCD Group 7		556	
		UCD Group 8		557	
		Unanswered CO Call Transfer		639	
		Universal Day/Night Answer		#5	

Table E-1: System Parameters

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 52	**Flexible Numbering Assignments**				
	21/24	**Numbering Plan**		**Fixed**	**Flexible**
		Voice Mail Group (group 1)		440	
		Voice Mail Group (group 2)		441	
		Voice Mail Group (group 3)		442	
		Voice Mail Group (group 4)		443	
		Voice Mail Group (group 5)		444	
		Voice Mail Group (group 6)		445	
		Voice Mail Group (group 7)		446	
		Voice Mail Group (group 8)		447	
		Voice Mail Message Cancel		421	
		VM Message Set		420	
		Voice Mail Message Set w/ Count		422	
		Voice Mail One Touch Recording		649	
		Voice Mail Pause/Resume Recording		655	
		Voice Mailbox Button (group 1)		460	
		Voice Mailbox Button (group 2)		461	
		Voice Mailbox Button (group 3)		462	
		Voice Mailbox Button (group 4)		463	
		Voice Mailbox Button (group 5)		464	
		Voice Mailbox Button (group 6)		465	
		Voice Mailbox Button (group 7)		466	
		Voice Mailbox Button (group 8)		467	
		Voice Mailbox Button - Remote		468	
		Volume Increase/Decrease		638	

Table E-2: Networking Tables (FLASH 16)

Table Number	**CO Group** Button #1	**Station Range** **FROM** Button #2	**TO** Button #3	**IP Address** (VoIP only) Button #4	**Ext BLF** (Hub only) Button #5	**Status Check** Button #6
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						

Table E-3: Directory Dialing Defaults (FLASH 23)

Route	Bin	Name	Route	Bin	Name
000	100		035	135	
001	101		036	136	
002	102		037	137	
003	103		038	138	
004	104		039	139	
005	105		040	140	
006	106		041	141	
007	107		042	142	
008	108		043	143	
009	109		044	144	
010	110		045	145	
011	111		046	146	
012	112		047	147	
013	113		048	148	
014	114		049	149	
015	115		050	150	
016	116		051	151	
017	117		052	152	
018	118		053	153	
019	119		054	154	
020	120		055	155	
021	121		056	156	
022	122		057	157	
023	123		058	158	
024	124		059	159	
025	125		060	160	
026	126		061	161	
027	127		062	162	
028	128		063	163	
029	129		064	164	
030	130		065	165	
031	131		066	166	
032	132		067	167	
033	133		068	168	
034	134		069	169	

Table E-3: Directory Dialing Defaults (FLASH 23)

Route	Bin	Name	Route	Bin	Name
070	170		106	206	
071	171		107	207	
072	172		108	208	
073	173		109	209	
074	174		110	210	
075	175		111	211	
076	176		112	212	
077	177		113	213	
078	178		114	214	
079	179		115	215	
080	180		116	216	
081	181		117	217	
082	182		118	218	
083	183		119	219	
084	184		120	220	
085	185		121	221	
086	186		122	222	
087	187		123	223	
088	188		124	224	
089	189		125	225	
090	190		126	226	
091	191		127	227	
092	192		128	228	
093	193		129	229	
094	194		130	230	
095	195		131	231	
096	196		132	232	
097	197		133	233	
098	198		134	234	
099	199		135	235	
100	200		136	236	
101	201		137	237	
102	202		138	238	
103	203		139	239	
104	204		140	240	
105	205		141	241	

Table E-3: Directory Dialing Defaults (FLASH 23)

Route	Bin	Name	Route	Bin	Name
142	242		171	271	
143	243		172	272	
144	244		173	273	
145	245		174	274	
146	246		175	275	
147	247		176	276	
148	248		177	277	
149	249		178	278	
150	250		179	279	
151	251		180	280	
152	252		181	281	
153	253		182	282	
154	254		183	283	
155	255		184	284	
156	256		185	285	
157	257		186	286	
158	258		187	287	
159	259		188	288	
160	260		189	289	
161	261		190	290	
162	262		191	291	
163	263		192	292	
164	264		193	293	
165	265		194	294	
166	266		195	295	
167	267		196	296	
168	268		197	297	
169	269		198	298	
170	270		199	299	

Table E-4: Cabinet/Card Programming (FLASH 24)

	Slot	Board	Options	# Of Ports	Port Assignment
C	0				
A	1				
B	2				
I	3				
N	4				
E	5				
T	6				
	7				
0	8				
C	0				
A	1				
B	2				
I	3				
N	4				
E	5				
T	6				
	7				
1	8				
C	0				
A	1				
B	2				
I	3				
N	4				
E	5				
T	6				
	7				
2	8				
	BOARD CODES				**TOTAL**
	00 =	None		NA	
	01 =	ETIB		12	
	02 =	DTIB		12	
	03 =	DT24		24	
	04 =	SLIB		6	
	05 =	LCOB		6	
	06 =	GCOB		6	
	07 =	DIDB		4	
	08 =	PRIB		24	
	09 =	T1IB		24	
	10 =	BRIB		8	
	11 =	BRI6		NA	
	12 =	VOIP		8	
	13 =	SL12		12	
	14 =	LC08		8	
	15 =	LCI8		8	
	16 =	SI12		12	

Table E-5: Hunt Group Parameters (FLASH 30)

Program Code	Flexible Button	Function	Pilot, Pilot Ring All, or Station	Stations (Up To 8)
FLASH 30	**Hunt Groups:**			
	1	Hunt Group 1 (450)		
	2	Hunt Group 2 (451)		
	3	Hunt Group 3 (452)		
	4	Hunt Group 4 (453)		
	5	Hunt Group 5 (454)		
	6	Hunt Group 6 (455)		
	7	Hunt Group 7 (456)		
	8	Hunt Group 8 (457)		
	9	Hunt Group 9 (458)	RAN	
	10	Hunt Group 10 (459)	RAN	
	11	Hunt Group 11 (460)	RAN	
	12	Hunt Group 12 (461)	RAN	
	13	Pilot/All Ring/Circular		

Table E-6: Verified Account Codes (FLASH 31)

Entry	Default		New COS		Digits (12 Max.)	Entry	Default		New COS		Digits (12 Max.)
	D	N	D	N			D	N	D	N	
00	1	1				35	1	1			
01	1	1				36	1	1			
02	1	1				37	1	1			
03	1	1				38	1	1			
04	1	1				39	1	1			
05	1	1				40	1	1			
06	1	1				41	1	1			
07	1	1				42	1	1			
08	1	1				43	1	1			
09	1	1				44	1	1			
10	1	1				45	1	1			
11	1	1				46	1	1			
12	1	1				47	1	1			
13	1	1				48	1	1			
14	1	1				49	1	1			
15	1	1				50	1	1			
16	1	1				51	1	1			
17	1	1				52	1	1			
18	1	1				53	1	1			
19	1	1				54	1	1			
20	1	1				55	1	1			
21	1	1				56	1	1			
22	1	1				57	1	1			
23	1	1				58	1	1			
24	1	1				59	1	1			
25	1	1				60	1	1			
26	1	1				61	1	1			
27	1	1				62	1	1			
28	1	1				63	1	1			
29	1	1				64	1	1			
30	1	1				65	1	1			
31	1	1				66	1	1			
32	1	1				67	1	1			
33	1	1				68	1	1			
34	1	1				69	1	1			

Table E-6: Verified Account Codes (FLASH 31)

Entry	Default		New COS		Digits (12 Max.)	Entry	Default		New COS		Digits (12 Max.)
	D	N	D	N			D	N	D	N	
70	1	1				105	1	1			
71	1	1				106	1	1			
72	1	1				107	1	1			
73	1	1				108	1	1			
74	1	1				109	1	1			
75	1	1				110	1	1			
76	1	1				111	1	1			
77	1	1				112	1	1			
78	1	1				113	1	1			
79	1	1				114	1	1			
80	1	1				115	1	1			
81	1	1				116	1	1			
82	1	1				117	1	1			
83	1	1				118	1	1			
84	1	1				119	1	1			
85	1	1				120	1	1			
86	1	1				121	1	1			
87	1	1				122	1	1			
88	1	1				123	1	1			
89	1	1				124	1	1			
90	1	1				125	1	1			
91	1	1				126	1	1			
92	1	1				127	1	1			
93	1	1				128	1	1			
94	1	1				129	1	1			
95	1	1				130	1	1			
96	1	1				131	1	1			
97	1	1				132	1	1			
98	1	1				133	1	1			
99	1	1				134	1	1			
100	1	1				135	1	1			
101	1	1				136	1	1			
102	1	1				137	1	1			
103	1	1				138	1	1			
104	1	1				139	1	1			

Table E-6: Verified Account Codes (FLASH 31)

Entry	Default		New COS		Digits (12 Max.)	Entry	Default		New COS		Digits (12 Max.)
	D	N	D	N			D	N	D	N	
140	1	1				173	1	1			
141	1	1				174	1	1			
142	1	1				175	1	1			
143	1	1				176	1	1			
144	1	1				177	1	1			
145	1	1				178	1	1			
146	1	1				179	1	1			
147	1	1				180	1	1			
148	1	1				181	1	1			
149	1	1				182	1	1			
150	1	1				183	1	1			
151	1	1				184	1	1			
152	1	1				185	1	1			
153	1	1				186	1	1			
154	1	1				187	1	1			
155	1	1				188	1	1			
156	1	1				189	1	1			
157	1	1				190	1	1			
158	1	1				191	1	1			
159	1	1				192	1	1			
160	1	1				193	1	1			
161	1	1				194	1	1			
162	1	1				195	1	1			
163	1	1				196	1	1			
164	1	1				197	1	1			
165	1	1				198	1	1			
166	1	1				199	1	1			
167	1	1				200	1	1			
168	1	1				201	1	1			
169	1	1				202	1	1			
170	1	1				203	1	1			
171	1	1				204	1	1			
172	1	1				205	1	1			

Table E-6: Verified Account Codes (FLASH 31)

Entry	Default		New COS		Digits (12 Max.)	Entry	Default		New COS		Digits (12 Max.)
	D	N	D	N			D	N	D	N	
206	1	1				228	1	1			
207	1	1				229	1	1			
208	1	1				230	1	1			
209	1	1				231	1	1			
210	1	1				232	1	1			
211	1	1				233	1	1			
212	1	1				234	1	1			
213	1	1				235	1	1			
214	1	1				236	1	1			
215	1	1				237	1	1			
216	1	1				238	1	1			
217	1	1				239	1	1			
218	1	1				240	1	1			
219	1	1				241	1	1			
220	1	1				242	1	1			
221	1	1				243	1	1			
222	1	1				244	1	1			
223	1	1				245	1	1			
224	1	1				246	1	1			
225	1	1				247	1	1			
226	1	1				248	1	1			
227	1	1				249	1	1			

Table E-7: CO Line Programming (FLASH 40)

Data Field	Pge/Btn	CO Line Port Number								Default
		1	2	3	4	5	6	7	8	
PAGE A		Page A is selected by pressing PAGE A flexible button.								
DTMF/Dial Pulse Programming	A/1									DTMF
CO/PBX Programming	A/2									CO
UNA Programming	A/3									Enabled
DISA Trunk-to-Trunk	A/4									Enabled
Privacy	A/5									Enabled
Loop Supervision Programming	A/6									4=400 ms
DISA Programming	A/7									None
Line Group Programming	A/8									Group 01
Class of Service Programming	A/9									COS 1
CO Line Ringing Assignments	A/10	Refer to CO Line Ringing Assignments								Sta 100
CO Line Identification Display	A/11									Line XXX
CO1:										Line XXX
CO2:										Line XXX
CO3:										Line XXX
CO4:										Line XXX
CO5:										Line XXX
CO6:										Line XXX
CO7:										Line XXX
CO8:										Line XXX
Trunk Direction	A/12									Incoming/Outgoing
Display Ring Assignments	A/13									None
DID/TIE Signal	A/14									Wink
911 Trunk	A/15									Disabled
EKTS	A/16									Disabled
Data Field	**Pge/Btn**	**CO Line Port Number**								**Default**
		1	2	3	4	5	6	7	8	
PAGE B		Page B is selected by pressing PAGE B flexible button.								
T-1 Signaling Type Option	B/1									Loop Start
T-1 Ringback Option	B/2									Enabled
T-1 Dial Tone Option	B/3									Disabled
Transmit Volume Option	B/4									5=0 dB
Preset Call Forward Destination	B/5									None
Preset Forward Voice Mail	B/6									None
Universal Day Answer	B/7									Disabled
Music-On-Hold	B/8									Channel 1
Ring Tone	B/9									00
Directory Number (BRI)	B/10									None
SPID	B/11									None

Table E-7: CO Line Programming (FLASH 40)

Data Field	Pge/Btn	CO Line Port Number								Default
		1	2	3	4	5	6	7	8	
PAGE C		Page C is selected by pressing PAGE C flexible button.								
Flash Timer	C/1									10=1.0 sec
Ring Delay Timer	C/2									Disabled
Wink Timer	C/3									140 ms
Release Timer	C/4									200 ms
Reseize Timer	C/5									2.0 sec
Guard Timer	C/6									5 sec
Seize Timer	C/7									0.1 sec
Preset Forward Timer	C/8									10 sec
DID Collect Timer	C/9									150 ms
T-1 Collect Timer	C/10									150 ms

Table E-8: Miscellaneous CO Parameters & Timers (FLASH 40/41)

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 41	1	Dial Pulse Parameters	60/40, 66/33	60/40, 10 pps	
	3	DID Digits	2-7	3	
	5	DID Incoming Signaling	Dial Pulse/DTMF	DTMF	
	6	T-1 Incoming Signaling	Dial Pulse/DTMF	DTMF	
	7	T-1 Framing Type	D4SF-AMI/ESF-B8ZS	D4SF-AMI	

Table E-9: CO Line Ringing Assignments (FLASH 40)

_____ TO _____	STA	D	N	S	STA	D	N	S	STA	D	N	S
CO LINE(S)												
TYPE: _____												
_____												
NUMBER												
_____ TO _____	STA	D	N	S	STA	D	N	S	STA	D	N	S
CO LINE(S)												
TYPE: _____												
_____												
NUMBER												
_____ TO _____	STA	D	N	S	STA	D	N	S	STA	D	N	S
CO LINE(S)												
TYPE: _____												
_____												
NUMBER												
_____ TO _____	STA	D	N	S	STA	D	N	S	STA	D	N	S
CO LINE(S)												
TYPE: _____												
_____												
NUMBER												

Btn #11 = Enter Ringing Assignments
Btn #17 = Display Ringing Assignments

Ringing Assignments:
0 = No Ringing (unassigned/ to delete a station)
1 = Day Ringing (**D**)
2 = Night Ringing (**N**)
3 = Day/Night Ringing (**DN**)
4 = Special Only (**S**)
5 = Day/Special (**DS**)
6 = Night/Special (**NS**)
7 = All Modes - Day/Night/ Special (**A**)

Table E-10: DID/ICLID Default Ringing Assignments (FLASH 43)

DID/ICLID Route	Default Destination	Ringing Assignments	DID/ICLID Route	Default Destination	Ringing Assignments
000	None		023	None	
001	None		024	None	
002	None		025	None	
003	None		026	None	
004	None		027	None	
005	None		028	None	
006	None		029	None	
007	None		030	None	
008	None		031	None	
009	None		032	None	
010	None		033	None	
011	None		034	None	
012	None		035	None	
013	None		036	None	
014	None		037	None	
015	None		038	None	
016	None		039	None	
017	None		040	None	
018	None		041	None	
019	None		042	None	
020	None		043	None	
021	None		044	None	
022	None		045	None	

*1. Route 000 in the ICLID Ringing Assignment Table is used as the intercept route. Calls to numbers not contained in the DID table will follow Route 000. If Route 000 is defaulted to **none**, the call will follow Route 001.*

*2. Route 001 in the ICLID Ringing Assignment Table is used for Busy calls. If Route 001 is defaulted to **none**, the caller is given a busy tone. Calls to busy stations (i.e., without an available Loop or CO button) will follow Route 001.*

Table E-10: DID/ICLID Default Ringing Assignments (FLASH 43)

DID/ICLID Route	Default Destination	Ringing Assignments	DID/ICLID Route	Default Destination	Ringing Assignments
046	None		070	None	
047	None		071	None	
048	None		072	None	
049	None		073	None	
050	None		074	None	
051	None		075	None	
052	None		076	None	
053	None		077	None	
054	None		078	None	
055	None		079	None	
056	None		080	None	
057	None		081	None	
058	None		082	None	
059	None		083	None	
060	None		084	None	
061	None		085	None	
062	None		086	None	
063	None		087	None	
064	None		088	None	
065	None		089	None	
066	None		090	None	
067	None		091	None	
068	None		092	None	
069	None		093	None	

*1. Route 000 in the ICLID Ringing Assignment Table is used as the intercept route. Calls to numbers not contained in the DID table will follow Route 000. If Route 000 is defaulted to **none**, the call will follow Route 001.*

*2. Route 001 in the ICLID Ringing Assignment Table is used for Busy calls. If Route 001 is defaulted to **none**, the caller is given a busy tone. Calls to busy stations (i.e., without an available Loop or CO button) will follow Route 001.*

Table E-10: DID/ICLID Default Ringing Assignments (FLASH 43)

DID/ICLID Route	Default Destination	Ringing Assignments	DID/ICLID Route	Default Destination	Ringing Assignments
094	None		118	118A	
095	None		119	119A	
096	None		120	120A	
097	None		121	121A	
098	None		122	122A	
099	None		123	123A	
100	100A		124	124A	
101	101A		125	125A	
102	102A		126	126A	
103	103A		127	127A	
104	104A		128	128A	
105	105A		129	129A	
106	106A		130	130A	
107	107A		131	131A	
108	108A		132	132A	
109	109A		133	133A	
110	110A		134	134A	
111	111A		135	135A	
112	112A		136	136A	
113	113A		137	137A	
114	114A		138	138A	
115	115A		139	139A	
116	116A		140	140A	
117	117A		141	141A	

1. Route 000 in the ICLID Ringing Assignment Table is used as the intercept route. Calls to numbers not contained in the DID table will follow Route 000. If Route 000 is defaulted to ***none****, the call will follow Route 001.*

2. Route 001 in the ICLID Ringing Assignment Table is used for Busy calls. If Route 001 is defaulted to ***none****, the caller is given a busy tone. Calls to busy stations (i.e., without an available Loop or CO button) will follow Route 001.*

Table E-10: DID/ICLID Default Ringing Assignments (FLASH 43)

DID/ICLID Route	Default Destination	Ringing Assignments	DID/ICLID Route	Default Destination	Ringing Assignments
142	142A		166	166A	
143	143A		167	167A	
144	144A		168	168A	
145	145A		169	169A	
146	146A		170	170A	
147	147A		171	171A	
148	148A		172	172A	
149	149A		173	173A	
150	150A		174	174A	
151	151A		175	175A	
152	152A		176	176A	
153	153A		177	177A	
154	154A		178	178A	
155	155A		179	179A	
156	156A		180	180A	
157	157A		181	181A	
158	158A		182	182A	
159	159A		183	183A	
160	160A		184	184A	
161	161A		185	185A	
162	162A		186	186A	
163	163A		187	187A	
164	164A		188	188A	
165	165A		189	189A	

1. Route 000 in the ICLID Ringing Assignment Table is used as the intercept route. Calls to numbers not contained in the DID table will follow Route 000. If Route 000 is defaulted to ***none****, the call will follow Route 001.*

2. Route 001 in the ICLID Ringing Assignment Table is used for Busy calls. If Route 001 is defaulted to ***none****, the caller is given a busy tone. Calls to busy stations (i.e., without an available Loop or CO button) will follow Route 001.*

Table E-10: DID/ICLID Default Ringing Assignments (FLASH 43)

DID/ICLID Route	Default Destination	Ringing Assignments	DID/ICLID Route	Default Destination	Ringing Assignments
190	190A		214	214A	
191	191A		215	215A	
192	192A		216	216A	
193	193A		217	217A	
194	194A		218	218A	
195	195A		219	219A	
196	196A		220	220A	
197	197A		221	221A	
198	198A		222	222A	
199	199A		223	223A	
200	200A		224	224A	
201	201A		225	225A	
202	202A		226	226A	
203	203A		227	227A	
204	204A		228	228A	
205	205A		229	229A	
206	206A		230	230A	
207	207A		231	231A	
208	208A		232	232A	
209	209A		233	233A	
210	210A		234	234A	
211	211A		235	235A	
212	212A		236	236A	
213	213A		237	237A	

1. Route 000 in the ICLID Ringing Assignment Table is used as the intercept route. Calls to numbers not contained in the DID table will follow Route 000. If Route 000 is defaulted to ***none****, the call will follow Route 001.*

2. Route 001 in the ICLID Ringing Assignment Table is used for Busy calls. If Route 001 is defaulted to ***none****, the caller is given a busy tone. Calls to busy stations (i.e., without an available Loop or CO button) will follow Route 001.*

Table E-10: DID/ICLID Default Ringing Assignments (FLASH 43)

DID/ICLID Route	Default Destination	Ringing Assignments	DID/ICLID Route	Default Destination	Ringing Assignments
238	238A		262	262A	
239	239A		263	263A	
240	240A		264	264A	
241	241A		265	265A	
242	242A		266	266A	
243	243A		267	267A	
244	244A		268	268A	
245	245A		269	269A	
246	246A		270	270A	
247	247A		271	271A	
248	248A		272	272A	
249	249A		273	273A	
250	250A		274	274A	
251	251A		275	275A	
252	252A		276	276A	
253	253A		277	277A	
254	254A		278	278A	
255	255A		279	279A	
256	256A		280	280A	
257	257A		281	281A	
258	258A		282	282A	
259	259A		283	283A	
260	260A		284-351	284A-351A	
261	261A		352-499	None	

1. Route 000 in the ICLID Ringing Assignment Table is used as the intercept route. Calls to numbers not contained in the DID table will follow Route 000. If Route 000 is defaulted to ***none****, the call will follow Route 001.*

2. Route 001 in the ICLID Ringing Assignment Table is used for Busy calls. If Route 001 is defaulted to ***none****, the caller is given a busy tone. Calls to busy stations (i.e., without an available Loop or CO button) will follow Route 001.*

Table E-11: DID Default Table Entry (FLASH 44)

DID Table Entry	Default Route(s)	Customer Route	DID Number	Customer DID Number	Customer DID Trunk Name
_00	100		0000_00		
_01	101		0000_01		
_02	102		0000_02		
_03	103		0000_03		
_04	104		0000_04		
_05	105		0000_05		
_06	106		0000_06		
_07	107		0000_07		
_08	108		0000_08		
_09	109		0000_09		
_10	110		0000_10		
_11	111		0000_11		
_12	112		0000_12		
_13	113		0000_13		
_14	114		0000_14		
_15	115		0000_15		
_16	116		0000_16		
_17	117		0000_17		
_18	118		0000_18		
_19	119		0000_19		
_20	120		0000_20		
_21	121		0000_21		
_22	122		0000_22		
_23	123		0000_23		
_24	124		0000_24		
_25	125		0000_25		

Table E-11: DID Default Table Entry (FLASH 44)

DID Table Entry	Default Route(s)	Customer Route	DID Number	Customer DID Number	Customer DID Trunk Name
_26	126		0000_26		
_27	127		0000_27		
_28	128		0000_28		
_29	129		0000_29		
_30	130		0000_30		
_31	131		0000_31		
_32	132		0000_32		
_33	133		0000_33		
_34	134		0000_34		
_35	135		0000_35		
_36	136		0000_36		
_37	137		0000_37		
_38	138		0000_38		
_39	139		0000_39		
_40	140		0000_40		
_41	141		0000_41		
_42	142		0000_42		
_43	143		0000_43		
_44	144		0000_44		
_45	145		0000_45		
_46	146		0000_46		
_47	147		0000_47		
_48	148		0000_48		
_49	149		0000_49		
_50	150		0000_50		
_51	151		0000_51		

Table E-11: DID Default Table Entry (FLASH 44)

DID Table Entry	Default Route(s)	Customer Route	DID Number	Customer DID Number	Customer DID Trunk Name
_52	152		0000_52		
_53	153		0000_53		
_54	154		0000_54		
_55	155		0000_55		
_56	156		0000_56		
_57	157		0000_57		
_58	158		0000_58		
_59	159		0000_59		
_60	160		0000_60		
_61	161		0000_61		
_62	162		0000_62		
_63	163		0000_63		
_64	164		0000_64		
_65	165		0000_65		
_66	166		0000_66		
_67	167		0000_67		
_68	168		0000_68		
_69	169		0000_69		
_70	170		0000_70		
_71	171		0000_71		
_72	172		0000_72		
_73	173		0000_73		
_74	174		0000_74		
_75	175		0000_75		
_76	176		0000_76		
_77	177		0000_77		

Table E-11: DID Default Table Entry (FLASH 44)

DID Table Entry	Default Route(s)	Customer Route	DID Number	Customer DID Number	Customer DID Trunk Name
_78	178		0000_78		
_79	179		0000_79		
_80	180		0000_80		
_81	181		0000_81		
_82	182		0000_82		
_83	183		0000_83		
_84	184		0000_84		
_85	185		0000_85		
_86	186		0000_86		
_87	187		0000_87		
_88	188		0000_88		
_89	189		0000_89		
_90	190		0000_90		
_91	191		0000_91		
_92	192		0000_92		
_93	193		0000_93		
_94	194		0000_94		
_95	195		0000_95		
_96	196		0000_96		
_97	197		0000_97		
_98	198		0000_98		
_99	199		0000_99		

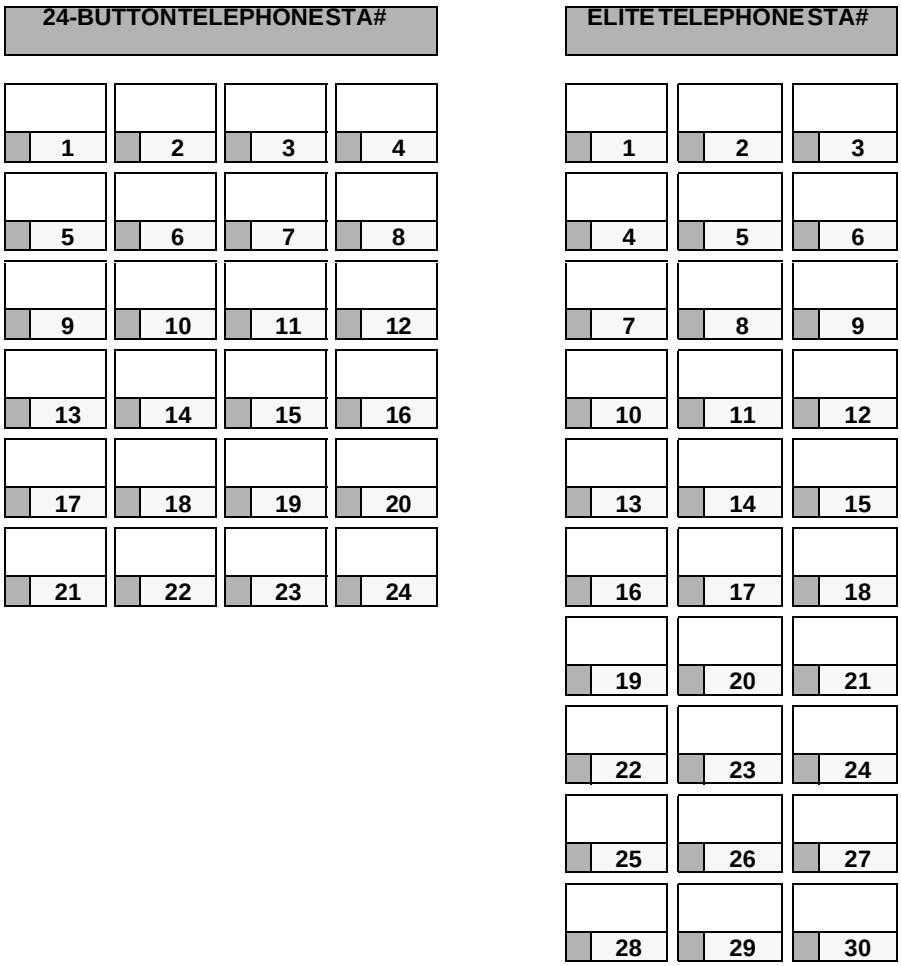
Table E-12: Station Programming (FLASH 50/51)

Data Field	Page/Btn	Station Numbers						Default
PAGE A	18	Page A is selected by pressing PAGE A flexible button						
Paging Access	A/1							Enabled
Do Not Disturb	A/2							Enabled
Conference Enable/Disable (per Station)	A/3							Enabled
Executive Override	A/4							Disabled
Privacy (per Station)	A/5							Enabled
System Speed Dial Access	A/6							Enabled
Line Queuing	A/7							Enabled
Preferred Line Answer	A/8							Enabled
Off-Hook Voice Over (OHVO)	A/9							Disabled
Call Forward - Enable/Disable	A/10							Enabled
Forced Least Cost Routing (LCR)	A/11							Disabled
ACD* Supervisor Monitor w/Barge-In	A/12							Disabled
Executive Override Blocking	A/13							Disabled
CO Line Ringing Options	A/14							Muted
Name/Number Display at Idle	A/15							Name
ACD Zap Tone	A/16							Disabled
CO Loop and Pool Buttons	A/17							Disabled
Admin Access	A/18							Disabled
PAGE B	19	Page B is selected by pressing PAGE B flexible button						
Station Identification	B/1							006 (24-Btn) 6 (SLT)
Station Day Class Of Service	B/2							1
Station Night Class Of Service	B/3							1
Speakerphone/Headset Programming	B/4							Full Speakerphone
Pick-Up Group(s) Programming	B/5							1
Paging Zone(s) Programming	B/6							1
CO Line Group Access	B/8							1
LCR Class of Service (COS)	B/9							0
Off-Hook Preference Programming	B/10							Enabled
Flexible Button Programming	B/11	Refer to Flexible Button Programming Chart						
Keyset Mode	B/12							Inactive

Table E-12: Station Programming (FLASH 50/51)

Data Field	Page/Btn	Station Numbers						Default
Voice Mail ID Translation	B/13							VMID Digits
Display Flexible Buttons	B/14							None
Cordless Key Telephone Unit (CKTU) Button	B/17							00=No Btn assigned
PAGE C	21	Page C is selected by pressing PAGE C flexible button						
Internal No Answer Forward	C/1							None
Internal Busy Forward	C/2							None
External No Answer Forward	C/3							None
External Busy Forward	C/4							None
No Answer Timer	C/5							10 sec
System Speed Bin Access	C/6							None
*Features available with optional software.								

Table E-13: Button Assignment Chart (FLASH 50/51)



This chart is to be used to assign each flexible button a function.

Defaults	Buttons 1 thru 12 are assigned as Stations 100 thru 111. Buttons 13 thru 18 are assigned as CO Lines 01 thru 06. Buttons 19 is assigned as a Loop button. Button 20 is assigned as a Pool Group button. Buttons 21 thru 30 are flexible buttons with features assigned to them.
Key Station Button Programming BB = Button Number 01-24 LLL = CO Line numbers	To assign a button as a Flexible button (user programmable) enter: BB [0] HOLD To assign a button as a CO Line button, enter: BB [1] LLL HOLD To assign a button as a Loop button, enter: BB [2] HOLD To enter a button as a Pooled Group button, enter: BB [3] G HOLD To enter a button as a Feature button, enter: BB [4] [XXX] HOLD To unassign a button, enter: BB [#] HOLD
SLT Entry (Off-Hook Preference)	When an SLT is being assigned for Off-Hook Preference, enter: 01 [1] LLL HOLD for a specific CO Line, or 01 [3] G HOLD for a CO Group Access (G = Line Group 1-7)

Table E-14: Name/Number Translation Table (FLASH 55)

ENTRY	ROUTE (Button #1)	NUMBER (Button #2)	NAME (Button #3)	ENTRY	ROUTE (Button #1)	NUMBER (Button #2)	NAME (Button #3)
600				633			
601				634			
602				635			
603				636			
604				637			
605				638			
606				639			
607				640			
608				641			
609				642			
610				643			
611				644			
612				645			
613				646			
614				647			
615				648			
616				649			
617				650			
618				651			
619				652			
620				653			
621				654			
622				655			
623				656			
624				657			
625				658			
626				659			
627				660			
628				661			
629				662			
630				663			
631				664			
632				665			

Table E-14: Name/Number Translation Table (FLASH 55)

ENTRY	ROUTE (Button #1)	NUMBER (Button #2)	NAME (Button #3)	ENTRY	ROUTE (Button #1)	NUMBER (Button #2)	NAME (Button #3)
666				700			
667				701			
668				702			
669				703			
670				704			
671				705			
672				706			
673				707			
674				708			
675				709			
676				710			
677				711			
678				712			
679				713			
680				714			
681				715			
682				716			
683				717			
684				718			
685				719			
686				720			
687				721			
688				722			
689				723			
690				724			
691				725			
692				726			
693				727			
694				728			
695				729			
696				730			
697				731			
698				732			
699				733			

Table E-14: Name/Number Translation Table (FLASH 55)

ENTRY	ROUTE (Button #1)	NUMBER (Button #2)	NAME (Button #3)	ENTRY	ROUTE (Button #1)	NUMBER (Button #2)	NAME (Button #3)
734				767			
735				768			
736				769			
737				770			
738				771			
739				772			
740				773			
741				774			
742				775			
743				776			
744				777			
745				778			
746				779			
747				780			
748				781			
749				782			
750				783			
751				784			
752				785			
753				786			
754				787			
755				788			
756				789			
757				790			
758				791			
759				792			
760				793			
761				794			
762				795			
763				796			
764				797			
765				798			
766				799			

Table E-15: System Speed Dial Numbers

Programmed from the first Attendant Station.

BIN #	Telephone Number	BIN #	Telephone Number
Monitored by Toll Restriction (COS)			
9020		9040	
9021		9041	
9022		9042	
9023		9043	
9024		9044	
9025		9045	
9026		9046	
9027		9047	
9028		9048	
9029		9049	
9030		9050	
9031		9051	
9032		9052	
9033		9053	
9034		9054	
9035		9055	
9036		9056	
9037		9057	
9038		9058	
9039		9059	

Table E-15: System Speed Dial Numbers

Programmed from the first Attendant Station.

BIN #	Telephone Number	BIN #	Telephone Number
Overridden by Toll Restriction (COS)			
9060		9080	
9061		9081	
9062		9082	
9063		9083	
9064		9084	
9065		9085	
9066		9086	
9067		9087	
9068		9088	
9069		9089	
9070		9090	
9071		9091	
9072		9092	
9073		9093	
9074		9094	
9075		9095	
9076		9096	
9077		9097	
9078		9098	
9079		9099	
Monitored by Toll Restriction (COS)			
9100		9113	
9101		9114	
9102		9115	
9103		9116	
9104		9117	
9105		9118	
9106		9119	
9107		9120	
9108		9121	
9109		9122	
9110		9123	
9111		9124	
9112		9125-9999	

Table E-16: ACD Group Parameters (FLASH 60)

Program Code	Flexible Button	Function	Data
FLASH 60	**ACD* Group 550 Programming**		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	
	ACD* Group 551 Programming		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	

Table E-16: ACD Group Parameters (FLASH 60)

Program Code	Flexible Button	Function	Data
FLASH 60	**ACD* Group 552 Programming**		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	
	ACD* Group 553 Programming		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	

Table E-16: ACD Group Parameters (FLASH 60)

Program Code	Flexible Button	Function	Data
FLASH 60	**ACD* Group 554 Programming**		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	
	ACD* Group 555 Programming		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	

Table E-16: ACD Group Parameters (FLASH 60)

Program Code	Flexible Button	Function	Data
FLASH 60	**ACD* Group 556 Programming**		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	
	ACD* Group 557 Programming		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	

Table E-16: ACD Group Parameters (FLASH 60)

FLASH 60	**ACD* Group 558 Programming**		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	
	ACD* Group 559 Programming		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	

Table E-16: ACD Group Parameters (FLASH 60)

FLASH 60	**ACD* Group 560 Programming**		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	
	ACD* Group 561 Programming		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	

Table E-16: ACD Group Parameters (FLASH 60)

FLASH 60	**ACD* Group 562 Programming**		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	
	ACD* Group 563 Programming		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	

Table E-16: ACD Group Parameters (FLASH 60)

FLASH 60	**ACD* Group 564 Programming**		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	
	ACD* Group 565 Programming		
	1	Group Name	
	2	Alternate Group	
	3	Overflow Station	
	4	Supervisor	
	5	CIQ Threshold (00-99)	
	6	Wrap-Up Timer (000-999)	
	7	Primary Agent	
	8	Secondary Agent	
	9	Guaranteed RAN	
	10	Primary RAN	
	11	Secondary RAN	
	12	Transferred RAN	
	13	Overflow Timer (000-600)	
	14	Call Factor (0-999)	

Table E-16: ACD Group Parameters (FLASH 61 & 62)

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 61	1	ACD Ring Timer	000-300	060	
	2	ACD Message Interval Timer	000-600	060	
	3	ACD Overflow Timer	000-300	060	
	5	ACD No-Answer Recall Timer	000-300	000	
	6	ACD No-Answer Retry Timer	000-999	300	
	7	Guaranteed Message Timer	000-300	05	
FLASH 62	**ACD RAN Announcement Tables**				
	1	Announcement Table #1	YXXXMMM	None	
	2	Announcement Table #2	YXXXMMM	None	
	3	Announcement Table #3	YXXXMMM	None	
	4	Announcement Table #4	YXXXMMM	None	
	5	Announcement Table #5	YXXXMMM	None	
	6	Announcement Table #6	YXXXMMM	None	
	7	Announcement Table #7	YXXXMMM	None	
	8	Announcement Table #8	YXXXMMM	None	

**Features available with optional software.*

Table E-17: UCD Group Parameters

Program Code	Flexible Button	Function	ALT	OVR	RAN	Stations (Up to 16)
FLASH 60	**UCD Group Programming**					
	1	UCD Group 0 (550)				
	2	UCD Group 1 (551)				
	3	UCD Group 2 (552)				
	4	UCD Group 3 (553)				
	5	UCD Group 4 (554)				
	6	UCD Group 5 (555)				
	7	UCD Group 6 (556)				
	8	UCD Group 7 (557)				

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 61	**UCD Timers**				
	1	UCD Ring Timer	000-300	060	
	2	UCD Message Interval Timer	000-600	060	
	3	UCD Overflow Timer	000-600	060	
	4	UCD Wrap-up Timer	000-999	004	
	5	UCD No-Answer Recall Timer	000-300	000	
	6	UCD No-Answer Retry Timer	000-999	300	

Program Code	Flexible Button	Function	Format	Default	Customer Data
FLASH 62	**UCD RAN Announcement Tables**				
	1	Announcement Table #1	YXXXMMM	None	
	2	Announcement Table #2	YXXXMMM	None	
	3	Announcement Table #3	YXXXMMM	None	
	4	Announcement Table #4	YXXXMMM	None	
	5	Announcement Table #5	YXXXMMM	None	
	6	Announcement Table #6	YXXXMMM	None	
	7	Announcement Table #7	YXXXMMM	None	
	8	Announcement Table #8	YXXXMMM	None	

Table E-18: Voice Mail Group Parameters

Program Code	Flexible Button	Function	ALT	STD LV	RTV	NO ANS LV	BUSY LV	Extensions
FLASH 65	1	Voice Mail Group 0 (440)		0	1	0	0	
	2	Voice Mail Group 1 (441)						
	3	Voice Mail Group 2 (442)						
	4	Voice Mail Group 3 (443)						
	5	Voice Mail Group 4 (444)						
	6	Voice Mail Group 5 (445)						
	7	Voice Mail Group 6 (446)						
	8	Voice Mail Group 7 (447)						
FLASH 66	**Voice Mail In-Band Signaling**							
	1	Voice Mail Outpulsing Table 0			[0] Prefix P7			
					[1] Suffix None			
	2	Voice Mail Outpulsing Table 1			[0] Prefix P7			
					[1] Suffix ✳			
	3	Voice Mail Outpulsing Table 2			[0] Prefix			
					[1] Suffix			
	4	Voice Mail Outpulsing Table 3			[0] Prefix			
					[1] Suffix			
	5	Voice Mail Outpulsing Table 4			[0] Prefix			
					[1] Suffix			
	6	Voice Mail Outpulsing Table 5			[0] Prefix			
					[1] Suffix			
	7	Voice Mail Outpulsing Table 6			[0] Prefix			
					[1] Suffix			
	8	Voice Mail Outpulsing Table 7 (One touch Record Reference Table)			[0] Prefix P7			
					[1] Suffix ✳			
	9	Voice Mail Disconnect Table 8			Disconnect			
FLASH 67	**Voice Mail In-Band Features**							
	1	Voice Mail In-Band Digits			Enabled			
	2	Voice Mail Transfer/Forward			Enabled			
	3	VM Broker			Enabled			
	4	VM ID Digits			3			
	5	Remote VM			None			
	6	VM Port			Disabled			
	7	VM Port Number (3-5)			3			

Table E-19: Exception Tables (FLASH 70)

Allow Table A		Allow Table B	
BIN 1		BIN 1	
BIN 2		BIN 2	
BIN 3		BIN 3	
BIN 4		BIN 4	
BIN 5		BIN 5	
BIN 6		BIN 6	
BIN 7		BIN 7	
BIN 8		BIN 8	
BIN 9		BIN 9	
BIN 10		BIN 10	
BIN 11		BIN 11	
BIN 12		BIN 12	
BIN 13		BIN 13	
BIN 14		BIN 14	
BIN 15		BIN 15	
BIN 16		BIN 16	
BIN 17		BIN 17	
BIN 18		BIN 18	
BIN 19		BIN 19	
BIN 20		BIN 20	
Deny Table A		**Deny Table B**	
BIN 1		BIN 1	
BIN 2		BIN 2	
BIN 3		BIN 3	
BIN 4		BIN 4	
BIN 5		BIN 5	
BIN 6		BIN 6	
BIN 7		BIN 7	
BIN 8		BIN 8	
BIN 9		BIN 9	
BIN 10		BIN 10	

Table D-19: Exception Tables (FLASH 70)

Special Table 1

Area Code:		
Office Codes		

Special Table 2

Area Code:		
Office Codes		

Special Table 3

Area Code:		
Office Codes		

Special Table 4

Home Area Code:		
Office Codes		

Table E-20: Least Cost Routing (FLASH 75)

CO Line Groups

1	2	3	4	5	6	7

Daily Start Time Table

Start Time	Default Time	Changed Time
1	0800	
2	1700	
3	2300	
4	####	

Weekly Schedule Table

Start Time (From Daily Start Table)	**Time Period Route List**						
	MON	TUE	WED	THU	FRI	SAT	SUN
1							
2							
3							
4							

Toll Information Route List Table	Default 00	

Table E-21: Route List Table

	Route (00-15)	Time (1-4)	Cost	Group (1-7)	Insert/Delete (00-19)	LCR COS
1 + 10 Digits LD Toll Route	00	1				
		2				
		3				
		4				
7-Digit Local Route	01	1				
		2				
		3				
		4				
1+7 Digits Toll Route	02	1				
		2				
		3				
		4				
Defined By Default	03	1				
		2				
		3				
		4				
	04	1				
		2				
		3				
		4				
	05	1				
		2				
		3				
		4				
	06	1				
		2				
		3				
		4				
	07	1				
		2				
		3				
		4				

Table E-21: Route List Table

	Route (00-15)	Time (1-4)	Cost	Group (1-7)	Insert/Delete (00-19)	LCR COS
Defined By Default	08	1				
		2				
		3				
		4				
	09	1				
		2				
		3				
		4				
	10	1				
		2				
		3				
		4				
	11	1				
		2				
		3				
		4				
	12	1				
		2				
		3				
		4				
	13	1				
		2				
		3				
		4				
	14	1				
		2				
		3				
		4				
	15	1				
		2				
		3				
		4				

Table E-22: Insert/Delete Tables

Table	Digits Dialed		
00	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
01	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
02	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
03	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
04	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
05	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
06	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
07	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
08	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
09	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
10	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
11	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
12	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	

Table E-22: Insert/Delete Tables

Table			Digits Dialed
13	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
14	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
15	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
16	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
17	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
18	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	
19	INSERT	[1] PRE	
		[2] POST	
	DELETE	[0] (PRE)	

Table E-23: 3-Digit Area/Office Code Route List Table

Non-Leading (0) Leading (1)	Code (NNN)	Route (RR)	No. of Digits	6-Digit (Y/N)	Non-Leading (0) Leading (1)	Code (NNN)	Route (RR)	No. of Digits	6-Digit (Y/N)
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				
0					0				
1					1				

Table E-24: 6-Digit Area Code/Routing Table

Area Code	Route					

Table E-25: 6-Digit Office Code Table

Code #	Exception Codes (XX)	Route (00-15) (RR)	Code #	Exception Codes (XX)	Route (00-15) (RR)
1			11		
2			12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

F Flash Codes and Numbering Plans

This Quick Reference chapter lists the system features available and their configurations, and includes the system part numbers for customizing the XTS System.

> When in an electronic format, click on the blue hyperlinks to quickly navigate to detailed information on the subject.

FLASH CODE INDEX - system features programming, organized in *flash code* numerical sequence.

DEFAULT NUMBERING PLAN - system features and default access codes, organized in *alphabetical* sequence.

PART NUMBERS - list of individual system parts and their respective numbers.

Quick Reference Tables

Flash Code Index

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
SYSTEM TIMERS		FLASH 01		
System Hold Recall Timer	*2-163*		1	60 sec
Exclusive Hold Recall Timer	*2-161*		2	180 sec
Attendant Recall Timer	*3-25*		3	1 min
Transfer Recall Timer	*2-242*		4	45 sec
Pause Timer	*2-231*		7	2 sec
Call Park Recall Timer	*2-43*		8	180 sec
Conference/DISA Timer	*2-99*		9	10 min
Paging Time-Out Timer	*2-228*		10	15 sec
CO Ring Detect Timer	*2-97*		11	3=300 ms
SLT DTMF Receiver Timer	*2-251*		12	020 sec
Message Wait Reminder Tone Timer	*2-210*		13	000=Disabled
SLT Hook Switch Timer	*2-252*		14	10=1 sec
SLT Hook Switch Bounce Timer	*2-252*		15	030=300 ms
SMDR Call Qualification Timer	*2-273*		16	30 sec
Automatic Call Back Timer	*2-22*		17	03 sec
Reminder Ring Timer	*2-93*		18	00 sec
Inter-Digit Time-Out	*2-189*		20	5 sec
ADDITIONAL SYSTEM TIMERS		FLASH 02		
Repeat Redial Timer	*2-243*		1	60 sec
Attendant Display Timer	*3-22*		2	01 sec
Call Coverage Ring Timer	*2-25*		3	05 sec
Modem Answer Timer	*2-245*		4	025 sec
Pulse Dial Inter-Digit Timer	*2-108*		5	300 ms
DTMF On/Off Time Operation	*2-71*		6	1=100ms
SYSTEM FEATURES 1 PROGRAMMING		FLASH 05		
Attendant Override	*3-12*		1	Disabled
Hold Preference	*2-162*		2	System
External Night Ring	*2-146*		3	Disabled
Executive Override Warning Tone	*2-143*		4	Enabled

** Features available with Optional Software*

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
Page Warning Tone	2-229		5	Enabled
Background Music	2-16		6	Enabled
Least Cost Routing (LCR)	B-18		7	Disabled
Account Codes – Forced	2-8		8	Disabled
Group Listening	2-158		9	Disabled
Idle Speaker Mode	2-167		10	Disabled
Call Cost Display Feature	B-18		11	Disabled
Music-On-Hold	2-211		12	Enabled
Call Qualifier Tone	4-12		13	Disabled
SYSTEM FEATURES 2 PROGRAMMING		FLASH 06		
Barge In Warn Tone	2-144		1	Enabled
CO Ring Tones	2-134		2	Enabled
Verified Account Codes	2-10		3	Disabled
Call Forward Display	2-34		4	Enabled
External Day Ring	2-146		5	Disabled
Overflow Station Forward	4-16		6	Disabled
Direct Transfer Mode	2-124		7	Enabled
Station ID Lock	2-268		8	Disabled
LCR Call Progress	B-14		9	Enabled
One-Touch Recording Warn Tone	2-328		10	Enabled
Ringback on Transfer	2-50		11	Disabled
ACD Agent Recall	4-11		12	Disabled
911 Feature	2-4		13	Disabled
Enhanced 911	2-6		14	Disabled
VMID Same As Station Numbers	2-315		15	STA Numbers = VMID
FLASH RATES (Programmable)	2-147	FLASH 07		
Incoming CO Line Ringing	2-79		1	Red 480 ipm flutter
Incoming Intercom Ringing	2-170		2	Red 120 ipm flutter
Call Forward Button	2-34		3	Red Steady On
Message Wait/VM Button	2-319		4	Red Steady On
Message CallBack – DSS/BLF	2-23		5	Red 120 ipm flutter
Do Not Disturb – DSS/BLF	2-139		6	Red 60 ipm Dbl Wink Off
Auto CallBack – DSS/BLF	2-22		7	Red 120 ipm flash
ACD/UCD Available/Unavailable – DSS/BLF	4-44		8	Red 60 ipm Dbl Wink Off

** Features available with Optional Software*

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
Transfer CO Ringing	2-92		9	Red 120 ipm flash
Recall CO Ringing	2-92		10	Red 480 ipm flutter
Queued CO Ringing	2-93		11	Green 480 ipm flutter
Exclusive Hold	2-161		12	Green 120 ipm flash
System Hold	2-162		13	Red 60 ipm Dbl Wink Off
In-Use Hold (I-Hold)	2-86		14	Green 60 ipm flash
Camp-On Button	2-53		15	Red 120 ipm flash
Call Back Button	2-21		16	Red 120 ipm flash
Line Queue Button	2-90		17	Red 480 ipm flutter
Do Not Disturb Button	2-138		18	Red Steady On
Intercom Hold Button	2-171		19	Red 15 ipm flash
SYSTEM PARAMETERS PROGRAMMING		FLASH 09		
MOH Assignments (Channels 4-8)	2-210		2-6	None
E911 Power Failure Station	2-7		7	None
Node/Hub Identification	C-13		8	01
Leading Digit	C-13		9	0
ATTENDANT STATION ASSIGNMENT	3-14	FLASH 10		STA 100
SYSTEM TIME AND DATE	3-26	FLASH 11	1	MMM/DD/YY, 12-hour display
PBX DIALING CODES	2-57	FLASH 12	--	None
EXECUTIVE/SECRETARY PAIRS	2-145	FLASH 13	1-4	None
RELAY PROGRAMMING	2-244	FLASH 14	1-7	None
BAUD RATE ASSIGNMENTS		FLASH 15		
Port #1 (RS-232C port labeled SCMI on MPB)	2-18		1	19.2K Baud
Port #2 (modem - baud auto-negotiated)	2-18		2	None
Port #3 (RS-232 port on optional SIU on MISB)	2-18		3	9600 Baud
Port #4 (RS-232 port on optional SIU on MISB)	2-18		4	9600 Baud
Port #5 (UART on MPB)	2-18		5	9600 Baud
NETWORKING TABLES		FLASH 16		
Trunk Group	C-18/ D-12		1	00
Station Range (FROM)	C-18/ D-12		2	1000
Station Range (TO)	C-18/ D-12		3	8999

** Features available with Optional Software*

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
IP Address	*D-12*		4	None
Ext BLF Cards 1-28	*C-18*		5	None
Check Status	*C-18*		6	Disabled
Page Up	*C-18*/ *D-12*		22	None
Page Down	*C-18*/ *D-12*		23	None
System Number	*C-18*/ *D-12*		24	None
ACCESS CODES		FLASH 20		
DISA Access Code	*2-120*		1	100
Database Admin Password	*2-103*		2	3226
STATION MESSAGE DETAIL RECORDING		FLASH 21		
SMDR Enable/Disable	*2-271*		1	No
Long Distance/All Calls	*2-272*		2	Long Distance
Character Print Assignment	*2-272*		3	80
SMDR Port Assignments	*2-273*		5	Port #1
WEEKLY NIGHT MODE SCHEDULE		FLASH 22		
Automatic/Manual Operation	*2-219*		1	Manual=No
Day of Week Programming	*2-220*		2-8	M-F 08:00 17:00, Sat-Sun ##:## ##:##
DIRECTORY DIALING		FLASH 23		
Bin/ICM/RDN Numbering	*2-126*		1	None
Name Changes	*2-127*		2	None
Clearing An Entry	*2-127*		3	None
Backspace To Correct Error	*2-127*		4	None
CABINET/CARD PROGRAMMING		FLASH 24		
Card Slots (0-8)	*2-19*		1-9	Slot 0
Cabinets (0-2)	*2-19*		17-19	Cabinet 0
HUNT GROUPS		FLASH 30		
Hunt Group Programming	*2-164*		1-12	None
Station/Pilot/Pilot Ring All -- Hunting Assignments	*2-165*		13	Pilot
VERIFIED ACCOUNT CODES		FLASH 31		
Account Code	*2-11*		1	None
Class of Service	*2-11*		2	None

** Features available with Optional Software*

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
Delete Code	2-11		3	None
Erase Digits	2-11		4	None
CO LINE ATTRIBUTES PAGE A PROGRAMMING		FLASH 40	Btn 19	
DTMF/Dial Pulse Programming	2-70	Page A	1	DTMF
CO/PBX Programming	2-54		2	CO
Universal Night Answer (UNA)	2-220		3	Enabled
DISA CO-to-CO	2-122		4	Enabled
Privacy	2-238		5	Enabled
Loop Supervision Programming	2-87		6	4=400 ms
DISA Programming	2-121		7	None
CO Line Group Programming	2-74		8	Group 01
Class of Service (COS) Programming	2-59		9	COS 1
CO Line Ringing Assignments	2-77		10	Station 100
CO Line Identification Display	2-75		11	Line XXX
CO Direction	2-94		12	Incoming/Outgoing
Display Ring Assignments	2-79		13	100A
DID/TIE Signal	2-117		14	Wink
Lines for 911Use	2-4		15	Disabled
BRIB EKTS	2-173		16	Disabled
CO LINE ATTRIBUTES PAGE B PROGRAMMING		FLASH 40	Btn 20	
T-1 Signaling Type	2-282	Page B	1	Loop Start
T-1 Ringback	2-284		2	Enabled
T-1 Dial Tone	2-284		3	Disabled
Transmit Volume	2-83		4	5=0 dB
Preset Call Forward Destination	2-38		5	None
Preset Forward Voice Mail ID	2-39		6	None
Universal Day Answer (UDA)	2-309		7	Disabled
Music-On-Hold (per CO Line)	2-212		8	Channel 1
Ring Tone (per CO Line)	2-176		9	Tone # 00
Directory Number (BRI)	2-175		10	None
SPID	2-176		11	None
CO LINE ATTRIBUTES PAGE C PROGRAMMING		FLASH 40	Btn 21	
Flash Timer Programming	2-56	Page C	1	10=1.0 sec
Ring Delay Timer	A-10		2	00=Disabled

** Features available with Optional Software*

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
Wink Timer	2-285		3	140 ms
Release Timer	2-81		4	020=200 ms
Reseize Timer	2-82		5	200=200 sec
Guard Timer	2-82		6	05=.5 sec
Seize Timer	2-83		7	010=0.1 sec
Preset Forward Timer	2-40		8	10 sec
DID Collect Timer	2-118		9	015=150 ms
T-1 Collect Timer	2-286		10	015=150 ms
MISCELLANEOUS CO PARAMETERS		FLASH 41		
Dial Pulse Parameters	2-107		1	60/40, 10 pps
DID Digits	2-116		3	3
DID Incoming Signal	2-116		5	DTMF
T-1 Incoming Signal	2-286		6	DTMF
T-1 Framing Type	2-287		7	D4SF-AMI
CO FLEXIBLE PORT ASSIGNMENT	2-64	FLASH 42	1-6 (MPB1); 1-18 (MPB2)	CO Ports 1-48 (MPB1); 1-144 (MPB2)
ICLID PROGRAMMING		FLASH 43		
ICLID Ringing Assignment(s)	2-113		1	None
View ICLID Ringing Assignments	2-114		17	
Next ICLID Route Number	2-115		18	
Previous ICLID Route Number	2-115		19	
Select Route Number	2-115		20	
DID PROGRAMMING		FLASH 44		
Route Number	2-110		1	refer to *Figure A-3* on *page A-15*
DID Phone Number	2-111		2	None
Name Assigned to Number	2-112		3	None
Erasing a DID Table Entry	2-112		4	None
ISDN PAGE A PROGRAMMING		FLASH 45	Btn 19	
BRI CO Type	2-178	Page A	1	NI1
PRI CO Type	2-179		2	NI2
Framing	2-179		3	ESF
NT/TE Mode	2-180		4	TE
Power	2-180		5	Disabled

** Features available with Optional Software*

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
Directory Number (PRI)	2-181		6	None
Max Out I-Frames	2-181		7	K 001
Leading 1	2-181		8	Enabled
Leading 011	2-182		9	Enabled
BRI 7/8 Digit or PRI 7-11 Digit Number Plan	2-182		10	ITU
Calling Number	2-183		11	Enabled
Loopback	2-183		12	Normal
BRI 10 Digit Number Plan	2-184		13	ITU
BRI 11 Digit Number Plan	2-184		14	ITU
ISDN PAGE B PROGRAMMING		FLASH 45	Btn 20	
Maximum Number Retransmission	2-186	Page B	1	3
Maximum Octets	2-186		2	260
Maximum TEI ID Request	2-187		3	003
Maximum XID Retransmission	2-187		4	3 sec
T-200	2-187		5	01 sec
Minimum TEI ID Check Message	2-188		6	01 sec
Minimum TEI ID Request	2-188		7	02 sec
Message Exchange Timer	2-188		8	15 sec
Minimum XID Retransmission	2-189		9	3 sec
Inter Digit T/O	2-189		10	25 sec
Set-up Timer	2-190		11	10 sec
Disconnect Timer	2-190		12	04 sec
Release Request	2-191		13	04 sec
Link Disconnect	2-191		14	30 sec
Call Proceeding	2-191		15	60 sec
Connect Request	2-192		16	04 sec
Restart Request Timer	2-192		17	120 sec
VOIP NETWORK PROGRAMMING		FLASH 46		
IP Address	D-9		1	None
Subnet Mask	D-10		2	None
Router IP Address	D-10		3	None
Domain Name	D-10		4	None
Vocoder Value	D-10		5	G.723.1

** Features available with Optional Software*

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
T-1/ISDN ALARM PROGRAMMING		FLASH 47		
Carrier Loss Alarm	*2-289*		1	Enabled
Blue Alarm	*2-289*		2	Enabled
Yellow Alarm	*2-290*		3	Enabled
Red Alarm	*2-290*		4	Enabled
Bipolar Alarm	*2-291*		5	Enabled
Frame Slip Alarm	*2-291*		6	Enabled
Data Errors Alarm	*2-292*		7	Enabled
Enable/Disable (Carrier Loss Alarm)	*2-289*		11	Enabled
Clear Alarm	*2-292*		12	Enabled
Minor Alarm	*2-293*		13	15 min
Major Alarm	*2-293*		14	30 min
Time Period	*2-294*		15	5 min
Attendant Display	*2-294*		16	Enabled
STATION ATTRIBUTES PAGE A PROGRAMMING		FLASH 50/51	Btn 19	
Paging Access	*2-227*	Page A	1	Enabled
Do Not Disturb	*2-136*		2	Enabled
Conference Enable/Disable (Per Station)	*2-98*		3	Enabled
Executive Override	*2-139*		4	Disabled
Privacy (Per Station)	*2-240*		5	Enabled
System Speed Dial Access	*2-258*		6	Enabled
Line Queuing	*2-88*		7	Enabled
Preferred Line Answer	*2-236*		8	Enabled
Off-Hook Voice Over (OHVO)	*2-221*		9	Disabled
Call Forward - Enable/Disable	*2-26*		10	Enabled
Forced Least Cost Routing (LCR)	*B-15*		11	Disabled
ACD Supervisor Monitor with Barge-In	*4-27*		12	Disabled
Executive Override Blocking	*2-142*		13	Disabled
CO Line Ringing Options	*2-90*		14	Muted Ring
Name/Number Display at Idle	*2-215*		15	Name (Enabled)
ACD Zap Tone	*4-31*		16	Disabled
CO Line, Loop, and Pool Buttons	*2-84*		17	Disabled
Admin Access	*2-103*		18	Disabled

** Features available with Optional Software*

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
STATION ATTRIBUTES PAGE B PROGRAMMING		FLASH 50/51	Btn 20	
Station Identification	*2-266*/ *3-22*	Page B	1	006 (24-Btn Key set) 6 (SLT w/o MW)
Station Day Class of Service (COS)	*2-60*		2	COS 1
Station Night Class of Service (COS)	*2-61*		3	COS 1
Speakerphone/Headset Programming	*2-254*		4	0 (Full Speakerphone)
Pick-Up Group(s) Programming	*2-46*		5	Group 1
Paging Zone(s) Programming	*2-229*		6	Zone 1
Line Group Access - Station	*2-72*		8	Group 1
LCR Class of Service (COS)	*B-16*		9	0 (Unrestricted Access)
Off-Hook Preference Programming	*2-247*		10	00=No specific button preferred; Enabled
Flexible Button Programming	*2-148*		11	(blank)
Keyset Mode	*2-196*		12	Inactive Mode
Voice Mail ID Translation	*2-317*		13	XXXX=Station #
Display Flexible Buttons	*2-153*		14	None
Cordless Key Telephone Unit (CKTU) Button	*2-102*		17	00=No button assigned
STATION ATTRIBUTES PAGE C PROGRAMMING		FLASH 50/51	Btn 21	
Internal No Answer Forward	*2-37*	Page C	1	None
Internal Busy Forward	*2-37*		2	None
External No Answer Forward	*2-37*		3	None
External Busy Forward	*2-38*		4	None
No Answer Timer	*2-38*		5	10 sec
System Speed Bin Access	*2-260*		6	None
FLEXIBLE NUMBERING ASSIGNMENT		FLASH 52		
Changing a Flexible Code	*2-157*		1	None
Erasing a Flexible Code	*2-157*		2	None
Selecting a Flexible Code	*2-156*		21	None
Next Code Entry	*2-157*		22	None
Previous Code Entry	*2-157*		23	None
Selecting a Fixed Code	*2-156*		24	None
NAME/NUMBER TRANSLATION TABLE		FLASH 55		
Route Number	*2-217*		1	1
Phone Number	*2-217*		2	None

** Features available with Optional Software*

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
Name	2-217		3	None
Clear Entry	2-217		4	None
ICLID FEATURES		FLASH 56		
Enable/Disable	A-8		1	NO=Disabled
Name in Display	A-8		2	YES=phone number in display
Baud Rate Display	A-8		3	19.2K
Port Assignment	A-9		4	Port #1
ACD GROUP PROGRAMMING*		FLASH 60		
Group Name	4-13		1	None
Alternate Group	4-11		2	None
Overflow Station	4-8		3	None
Supervisor	4-29		4	None
CIQ Threshold	4-12		5	Disabled
Wrap-up Timer	4-30		6	4 sec
Primary Agents	4-20		7	None
Secondary Agents	4-24		8	None
Guaranteed RAN	4-14		9	None
Primary RAN	4-20		10	None
Secondary RAN	4-25		11	None
Transferred RAN	4-30		12	None
Overflow Timer	4-18		13	60 sec
Call Factor	4-6		14	None
UCD GROUP PROGRAMMING		FLASH 60		
Alternate UCD Group Assignment	4-34		2	None
UCD Overflow Station Assignment	4-37		3	None
UCD Primary Agent Assignments	4-39		7	None
UCD Primary RAN	4-40		10	None
UCD Secondary RAN	4-43		11	None
ACD TIMERS		FLASH 61		
ACD Ring Timer	4-24		1	60 sec
ACD Message Interval Timer	4-15		2	60 sec
ACD No-Answer Recall Timer	4-15		5	000=Disabled
ACD No-Answer Retry Timer	4-16		6	300 sec
ACD Guaranteed Message Timer	4-14		7	5 sec

** Features available with Optional Software*

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
UCD TIMERS		FLASH 61		
UCD Ring Timer	*4-43*		1	60 sec
UCD Message Interval Timer	*4-35*		2	60 sec
UCD Overflow Timer	*4-38*		3	60 sec
UCD Auto Wrapup Timer	*4-45*		4	004 sec
UCD No-Answer Recall Timer	*4-36*		5	000=Disabled
UCD No-Answer Retry Timer	*4-36*		6	300 sec
ACD RAN ANNOUNCEMENT TABLES*	*4-21*	FLASH 62	1–8	None
UCD ANNOUNCEMENT TABLES (RAN)	*4-40*	FLASH 62	1–8	None
ACD - PC INTERFACE TRACE		FLASH 63		
Event Trace Disable/Enable	*4-19*		1	No (Disabled)
Trace Port Assignment	*4-19*		2	Port #1
Baud Rate Display	*4-18*		--	19.2K
TAPI EVENT TRACE (Future feature)		FLASH 64		
Enable/Disable	--		1	No
Port	--		2	Port 1
VOICE MAIL PROGRAMMING		FLASH 65		
Voice Mail Groups (440-447)	*2-312*		1–8	None
Alternate Voice Mail Group	*2-312*		9	None
Standard Leave Mail Index Entry	*2-313*		10	VM Group 1 Index = 0
Retrieve Mail Index Entry	*2-313*		11	VM Group 1 Index = 1
Station Assignment(s)	*2-314*		12	None
No Answer Leave Mail Index Entry	*2-314*		13	VM Group 1 Index = 0
Busy Leave Mail Index Entry	*2-315*		14	VM Group 1 Index = 0
VOICE MAIL OUTPULSING TABLE		FLASH 66		
Voice Mail In-Band Signaling				
(Table 0)	*2-330*		1	Pre=P7 Suf=None
(Table 1)	*2-330*		2	Pre=P7 Suf=*
(Tables 2-6)	*2-330*		3-7	None
(Table 7)	*2-330*		8	Pre=P7; Suf=2 (one-touch record)
Voice Mail Disconnect Table	*2-331*		9	None
VOICE MAIL IN-BAND FEATURES		FLASH 67		
Voice Mail In-Band Digits	*2-329*		1	Enabled
Voice Mail Transfer/Forward	*2-324*		2	Enabled

** Features available with Optional Software*

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
Voice Mail Broker	2-325		3	Enabled
VMID Digit Length	2-325		4	3
Remote VM Number (Networking)	C-26		5	None
VM Port	2-326		6	Disabled
VM Port Number	2-326		7	3
TOLL RESTRICTION PROGRAMMING		FLASH 70		
Allow Table A Programming	2-300		1	None
Deny Table A Programming	2-302		2	None
Allow Table B Programming	2-300		3	None
Deny Table B Programming	2-302		4	None
Special Table 1 Programming	2-303		5	All Codes Denied
Special Table 2 Programming	2-303		6	All Codes Denied
Special Table 3 Programming	2-303		7	All Codes Denied
Special Table 4 Programming	2-303		8	Home
Area Code for Special Table 1	2-303		9	None
Area Code for Special Table 2	2-303		10	None
Area Code for Special Table 3	2-303		11	None
Displaying Toll Table Entries	2-304		12	None
LCR TABLES PROGRAMMING		FLASH 75		
3-Digit Area/Office Code Table	B-6		1	None
6-Digit Area/Office Code Table	B-7		2	None
Exception Code Table	B-7		3	None
Route List Table	B-8		4	None
Digit Insert/Delete Table	B-10		5	None
Daily Start Time Table	B-11		6	None
Weekly Schedule Table	B-12		7	None
LCR Routing for Toll Information	B-14		8	Table 0
INITIALIZE DATABASE PARAMETERS		FLASH 80		
Initialize System Parameters	2-275		1	Default
Initialize CO Line Attributes	2-67		2	Default
Initialize Station Attributes	2-263		3	Default
Initialize CO Port Assignments / Codes	2-95		4	Default
Initialize Exception Tables	2-305		5	Default
Initialize System Speed Numbers	2-261		6	Default

** Features available with Optional Software*

Table F-1: Feature Default Values

Features	Page #	Program Code	Flexible Button	Default Value
Initialize LCR Tables	*B-19*		7	Default
Initialize ICLID-DID Tables	*A-11*		8	Default
Initialize Dir Dialing Table Parameters	*2-129*		9	Default
Initialize Hunt Group Parameters	*2-166*		10	Default
Initialize ACD*/UCD Group Parameters	*4-32*/ *4-46*		11	Default
Initialize Voice Mail* Group Parameters	*2-321*		12	Default
Initialize DID-TIE Parameters	*2-119*		13	Default
Initialize Verified Account Code Table	*2-13*		14	Default
Initialize ISDN/VoIP Parameters	*2-193*		15	Default
System Reset	*2-281*		20	---
PRINTING SYSTEM DATABASE PARAMETERS		FLASH 85		
Printing System Parameters	*2-279*		1	Default
Printing CO Line Attributes	*2-69*		2	Default
Printing Station Attributes	*2-265*		3	Default
Printing CO Port Parameters / Codes	*2-96*		4	Default
Printing Exception Tables	*2-306*		5	Default
Printing System Speed Numbers	*2-262*		6	Default
Printing LCR Tables	*B-20*		7	Default
Printing Entire System Database	*2-106*		8	Default
Printing ICLID-DID Tables	*A-12*		9	Default
Printing Directory Dial Table Parameters	*2-130*		10	Default
Printing Hunt Group Parameters	*2-166*		11	Default
Printing ACD*/UCD Group Parameters	*4-33*/ *4-47*		12	Default
Printing Voice Mail* Group Parameters	*2-322*		13	Default
Printing DID-TIE Parameters	*2-119*		14	Default
Printing Verified Account Codes	*2-13*		15	Default
Printing ISDN/VOIP Parameters	*2-195*		16	Default
LOAD DATABASE ROUTINE		FLASH 86		
Upload Database	*E-6*		1	PC Only
Download Database	*E-6*		2	PC Only

** Features available with Optional Software*

Default Numbering Plan

Function	Code	Digital	Electronic	Attendant	Single Line	Page
911 Alert View/Delete (requires button)	608/608+FLASH	•		•		3-5
Account Code (requires button)	627	•	•	•	•	2-8
ACD Call Factor* (requires button)	580+[UUU]+[FFF]	•		•		4-6
ACD Call Qualifier*	570+[YYY]	•	•	•		4-7
ACD CIQ Display Button* (specific ACD group) (requires btn)	579+[UUU]	•	•	•		4-5
ACD Group* (group 1-16)	550-565	•	•	•	•	--
ACD Help* (requires button)	574	•	•	•		4-3
ACD Member Status*	573	•	•	•		4-7
ACD Overflow Available/Unavailable*	578	•	•	•		4-9
ACD Login (Primary)*	572+[UUU]+[UUUU]	•	•	•	•	4-10
ACD Login (Secondary)*	582+[UUU]+[UUUU]	•	•	•	•	4-10
ACD Logout (Primary)*	571	•	•	•	•	4-10
ACD Logout (Secondary*	581	•	•	•	•	4-10
ACD Supervisor Display*	577+[UUU]	•	•	•		4-25
ACD Supervisor Login*	576+[UUU]+[UUUU]	•	•	•		4-26
ACD Supervisor Logout*	575+[UUU]	•	•	•		4-27
ACD*/UCD Available/Unavailable	566	•	•	•	•	4-5
ACD*/UCD Calls In Queue Status Display (any group)	567+[UUU]	•	•	•		4-4
Answering Machine Ring	654+[0]	•	•	•		2-15
Answering Machine Speaker	654+[1]	•	•	•		2-15
Attendant	0	•	•		•	--
Attendant Clear Alarm (T-1)	606			•		2-294
Attendant CO Line External (Off-Net) Forward	603+[NNN]+[YYYY]			•		3-5
Attendant Custom Message	694+[XX]+message			•		3-6
Attendant Day/Night/Special (requires button)	631 (DND key)			•		3-8
Attendant Directory List Programming	693			•		3-8
Attendant Disable Outgoing CO Line	602+press CO line button			•		3-12
Attendant Override (requires button)	601			•		3-12
Attendant Setting Time and Date	692+date and time entry			•		3-13
Attendant Unavailable	607			•		3-15
Attendant Voice Mail Alarm Clear	656			•		3-16

Function	Code	Digital	Electronic	Attendant	Single Line	Page
Background Music (Channel 3=MPB3 only)	632+[0 (off), 1, 2, or 3]	•	•	•		2-16
Call Back	622				•	2-21
Call Coverage - Non-Ringing (requires button)	647+[XXX]	•	•	•		2-24
Call Coverage - Ringing (requires button)	646+[XXX]	•	•	•		2-24
Call Forward	640+[C]	•	•	•	•	2-26
Call Forward - External (Off-Net)	[640]+[✳]+[YYYY]	•	•	•	•	2-32
Call Forward - Follow Me	642+[XXX]+[C]+destination	•	•	•	•	2-30
Call Park (location 1-8)	430-437	•	•	•	•	2-42
Call Park - Personal	438	•	•	•	•	2-43
Call Park - Station	439+[XXX]	•	•	•	•	2-45
Call Park Pickup - Station	#6+[XXX]	•	•	•	•	2-45
Call Park Pickup - System (location 1-8)	#430-#437	•	•	•	•	2-42
Call Pickup (requires button)	#0	•	•	•	•	2-48
Caller ID Display (Answered Calls)	659	•	•	•		A-23
Caller ID Display (Unanswered Calls)	635	•	•	•		A-24
Caller ID Name/Number (requires button)	653	•	•	•		A-4
Calling Forward Override	5#+[XXX]+press[B]	•	•	•	•	2-41
Calling Station Handsfree Mode Override	7#+[XXX]	•	•	•	•	2-41
Calling Station Tone Mode Override	6#+[XXX]	•	•	•	•	2-41
Camp On (8 btn)	620	•			•	2-52
Clear Call Forward, DND, Personal Message	662	•	•	•	•	2-26, 2-136, 2-231
CO Line (Idle) Direct Access	88+[LLL]	•	•	•	•	2-66
CO Line Group Access Code (group 1-23)	801-823	•	•	•	•	3-6
CO Line Group Access Code (all groups)	824	•	•	•	•	3-6
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HPT (8-btn digital)	667	•				2-171
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Intercom Button (requires button)	645	•	•	•		2-168
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LCR (E911 active on CO Line)	800	•	•	•	•	B-5
LCR (if active) or CO Line Group 1	9	•	•	•	•	B-5
Loop Key (requires button)	89	•	•	•		2-86
Message Wait	623	•	•	•	•	2-209
Modem	499				•	2-78
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Off Hook Voice Over (requires button)	628	•		•		2-223
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Page - Internal Zones 1-8, All	701-709	•	•	•	•	2-226
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Personal Messages	633+[ZZ]	•	•		•	2-231
Release Button (requires button)	641	•	•	•		3-25
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Ring Tone	695+[RR]	•		•		2-134
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Function	Code	Digital	Electronic	Attendant	Single Line	Page
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Voice Mail Message Set (VM Port only)	420+[MMMM]				•	--
Voice Mail Message Set w/count (VM Port only)	422+[MMMM]				•	--
Voice Mail One Touch Recording (requires button)	649+[VVV]	•	•	•		2-327
Voice Mail Pause/Resume Recording (Digital VM) (reqs btn)	655	•	•	•		2-327
Voice Mailbox Button (requires button)	460-467+[VMID]	•	•	•		2-320
Voice Mailbox Button - Remote (requires button)	468+[VMID]	•	•	•		2-320
Volume Increase/Decrease (8 btn)	638+[#]/[*]	•				2-332

LEGEND --

B = Button w/ feature code: 622=Call Back, 620=Camp On, 625=Executive Override, 623=Message Wait, 628=OHVO

BB = Button Number

C = Call Forward Condition Code (6-9=All Calls, No Answer, Busy, Busy/No Answer)

FFF = ACD Call Factor (000-999)*

LLL = CO Line Number (001-048, MPB1; 001-144, MPB2)

MMMM = 2- to 4-digit Mailbox Number

NNN = CO Line Group Access Code of group to be forwarded (801-823 = CO Group 1-23, 824 = All CO Groups)

RR = Ring Tone Number (00-36)

UUU = ACD Group 1-16 (550-565)*

UUUU = ACD Supervisor/Agent ID Code (0000-9999)

V = Volume Control Level (0-9)

VVV = Voice Mail Group Number (440-447)

XX = Custom Message Number (21-30)

XXX = Intercom Station Numbers

YYY = Last three digits of Speed Dial Bin Numbers (for use with ACD Call Quallifier)

YYYY = Speed Dial Bin Numbers (9000-9999)

ZZ = Personalized Messages

** = Feature is available with optional software*

Part Numbers

Table F-2: *XTS* Part Numbers

Cabinet	3000-00
Rack Mount	3002-00
DSS Console (Off-White)	TR9010-08
DSS Console (Charcoal)	TR9010-71
Single Line Adapter (SLA)	9854-00
8-Button Basic (Off-White)	TR9011-08
8-Button Basic (Charcoal)	TR9011-71
24-Button Enhanced (Off-White)	TR9013-08
24-Button Enhanced (Charcoal)	TR9013-71
12-Button Executive (Off-White)	TR9014-08
12-Button Executive (Charcoal)	TR9014-71
24-Button Executive (Off-White)	TR9015-08
24-Button Executive (Charcoal)	TR9015-71
30-Button Large LCD (Charcoal)	TR9016-71
CTI Connector Box	9020-00
Caller ID Box	SP7480-00
Caller ID Unit (CIDU - mounts to LCOB8)	3031-04
Caller Identification Interface Unit	1480-00
Caller Identification Interface Unit, 4 Port	1440-00
Basic Rate Interface Board (BRIB)	8031-41
Digital Telephone Interface Board (DTIB12), 12-Circuit	8032-30
Digital Telephone Interface Board Expansion (DTIBE), 24-Circuit	8032-40
Direct Inward Dial Board (DIDB), 4-Circuit	8031-10
DTMF Receiver Unit (DTRU), 2-Circuit	8031-50
DTMF Receiver Unit (DTRU4), 4-Circuit	3031-60
Electronic Telephone Interface Board (ETIB), 12-Circuit	8032-20
Link Module Unit (LMU1), (Cabinet 0 only)	3035-01
Link Module Unit (LMU2), (Cabinets 1 & 2 only)	3035-02

Table F-2: *XTS* Part Numbers

Loop Start CO Board (LCOB), 6-Circuit	8031-00
Loop Start CO Board (LCOBE), 8-Circuit	3031-02
Loop Start CO Board (LCOB8), 8-Circuit	3031-03
Loop Start CO Board (LCOB8) Kit, 8-Circuit (includes CIDU)	TR3031-00
Main Processing Board (MPB1)	3030-01
Main Processing Board (MPB2)	3030-03
Message Waiting Unit (MSGU)	8033-10
Message Waiting Unit (MSGU48)	3033-10
Miscellaneous Board (MISB), (Cabinet 0 only)	8035-00
Modem Unit (MODU), 19.2K Internal	3030-30
Power Failure Transfer Unit (PFTU)	8036-00
Power Supply Unit (PSU), 350W	3071-10
Primary Rate Interface Board (PRIB - Card)	8031-40
Program Module Unit (PMU), 4 MB ROM (for use with MPB1)	3030-10
Program Module Unit (PMU), 8 MB ROM (for use with MPB2)	3030-20
Relay Alarm Unit (RAU)	3035-03
Ring Generator Unit (RGU3)	3073-00
Serial Interface Unit (SIU)	8035-00
Single Line Interface Board (SLIB), 6-Circuit	8033-00
Single Line Interface Board (SLIBE), 12-Circuit	3033-02
Single Line Interface Board (SLIBC), 12-Circuit w/Caller ID	3033-03
T-1 Interface Board (T1IB), 24-Circuit	8031-31
Voice Over Internet Protocol (VoIP) card with one VoIP module	TR8037-02
Voice Over Internet Protocol (VoIP) card with two VoIP module	TR8037-04
Voice Over Internet Protocol (VoIP) card with three VoIP module	TR8037-06
Voice Over Internet Protocol (VoIP) card with four VoIP module	TR8037-08
VoIP Module Only (for upgrade)	8037-10

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