



DX-80 Technical Manual

Volume II

Programming

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Introduction

This manual describes how to set up the database and related settings of the DX-80 system once you have installed it. It also contains procedures covering how to modify an existing system's programming.

This manual is intended to provide:

- basic knowledge of the functions and features of the DX-80 hardware and software
- step-by-step procedures for programming the DX-80 database, either on or off site.

Audience Description

This manual is intended for persons who:

- plan for, install, and program hardware and software in support of telecommunications switching systems, using the Comdial DX-80 switch and analog and digital phones.
- maintain and update such phone systems on a day-to-day basis.
- support their onsite client base.

This manual assumes:

- knowledge of the telephony industry, in particular small PBX switches and telephones.
- familiarity with personal computer hardware and software, including modems, and the Microsoft DOS operating environment (applicable to using PC-DBA only).

You should:

- read this manual in normal reading sequence before starting this programming task.
- refer to this manual as necessary while performing programming, servicing, and upgrading tasks.

Related Publications

This manual refers you to related publications, when appropriate, for additional information.

- *DX-80 Technical Manual, Volume 1, Installation and Maintenance*, part number IMI72-001.

Conventions Used in this Manual

Many of the procedures require you to enter settings or to choose from a list of variables. To signify when you are to act upon an item, parameter, button, etc. we italicize the name of the item being acted upon. For example, the following sentences instruct you to press a specific key on your keyboard.

- Press *Enter*.
- Press *Esc*.
- Press *Page Up* or *Page Down*.
- Press and hold the *Shift* and *Ctrl* keys simultaneously.

In contrast, the following sentence instructs you to type in a required response; notice the word "Enter" when used in this way is not italicized because you are not pushing a specific key name.

- Enter the value you want to use for this feature.

Similarly, when you select a menu option, we italicize the name of the menu item because you are required to take the action of choosing it, even though the item may not appear in italics on the system menu or display.

- Use the arrow keys to highlight *Programming* and press *Enter*.

At other times in the manual, we discuss prompts that the system displays to you. In these cases, we enclose the exact wording of the prompt in quotation marks to signify that the system is, in essence, speaking to you.

- The system prompts, “Enter your password now.”

If the system is actually playing a recording aloud, we enclose the exact wording of the prompt in quotation marks and italics to signify that the system is in actually speaking to you.

- The system says, “*You have no more new messages.*”

Italics and quotes are also of course used in their normal contexts, that is, for emphasis and to identify what words are spoken.

- This is called a *hot transfer*, that is, the system transfers the call without ringing the extension.

There are times when this manual will instruct you to enter a number from within a range of numbers. In this instance, we use the “~” character to indicate the range. For example, *05-01-1~3-001~100* tells you to enter:

- 05
- 01
- a 1, 2, or 3,
- a three-digit number that falls in the 001 to 100 range.

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1. OVERVIEW

Once you have installed the system hardware, it is time to specify how you want the system to operate, using the programmable DX-80 features. You need to set up the following:

- the numbering plan you want to use, and other system settings such as system date and time and day/evening modes,
- the interface to the CO lines coming into the system,
- how you want the system to handle and process calls,
- any restrictions you want in place for toll calls,
- Uniform Call Distribution (if applicable),
- voice mail (if applicable), internal or external,
- privileges for all extensions, and
- feature buttons on individual DET phones and DSS consoles.

1.1 Programming Methods

There are three approaches you can take when programming a DX-80 system.

- You can program the system on site using any Digital Extension Terminal (DET) phone.
- You can program the system on site using PC-DBA, the PC-based software program.
- Or, you can program the database using PC-DBA on a laptop prior to arriving at your customer's site. Then when you arrive on site, you can download the pre-programmed database into the DX-80 system in a minimal amount of time.

Each approach has its advantages and disadvantages. You may prefer one approach and use it often, but you may occasionally need to use an alternative approach.

Programming Interface	Advantages	Disadvantages
DET phone	<ul style="list-style-type: none"> • You do not need a laptop PC to program the database. • The phone is a direct interface to the CPU, so there is no chance of database corruption during transmission. If you are having a unidentifiable or persistent problem, use DET phone programming to eliminate the possibility of a corrupt database. 	<ul style="list-style-type: none"> • You have a limited visual interface (the phone display) vs. a menu screen. • You have to do all programming on site. • DET phone programming can take longer to perform than PC-DBA programming. • You cannot save the current switch database. If you lose this database because of battery failure or because you have to perform a Master Clear, you will have to completely reprogram the database.
PC-DBA laptop on site	<ul style="list-style-type: none"> • You can save the existing database residing on the switch via a RECEIVE ALL command. When you need to modify the database, you can use the switch version as a basis so you will not have to reprogram all its custom settings. • If you lose the switch database because of battery failure or because you must perform a Master Clear, you will NOT have to completely reprogram the database (provided you have previously saved a copy of the custom switch database onto your laptop). 	<ul style="list-style-type: none"> • You need a laptop with a serial port. • You do all programming on site. • PC-DBA is not a direct interface to the CPU. Therefore, the possibility exists that a corruption can occur when transmitting the laptop database to the switch. • You must be diligent in performing a RECEIVE ALL when first arriving on the customer site, and prior to modifying their database. If you neglect to do so, you may inadvertently perform a SEND ALL first, thus writing over their custom programmed database with whatever database you last used on the laptop.

Programming Interface	Advantages	Disadvantages
PC-DBA laptop remotely	<ul style="list-style-type: none"> • You can program the customer's database while off site, and simply download it to the switch when you arrive on site. This reduces the amount of time you have to spend on site. • You can save the existing database residing on the switch via a RECEIVE ALL command. When you need to modify the database, you can use the switch version as a basis so you will not have to reprogram all its custom settings. • If you lose the switch database because of battery failure or because you must perform a Master Clear, you will NOT have to completely reprogram the database (provided you have previously saved a copy of the switch database on your laptop). 	<ul style="list-style-type: none"> • You need a laptop with a serial port. • PC-DBA is not a direct interface to the CPU. Therefore, the possibility exists that a corruption can occur when transmitting the database to the switch. • You must be diligent in performing a RECEIVE ALL prior to modifying their database. If you neglect to do so, you may inadvertently perform a SEND ALL first, thus writing over their custom programmed database with whatever database you last used on the laptop.

For step-by-step procedures on programming using the PC-DBA, see Section 2.1, *Using PC-Database Administration (PC-DBA)*. For step-by-step procedures on programming using the DET phone, see Section 2.2, *Using Any Digital Extension Telephone (DET)*.

1.2 Upgrading an Existing System

Occasionally you may need to perform maintenance programming or install an upgrade to an existing system.

When you are upgrading an existing system, the database is already in place and functional. You may want to program your changes offline using PC-DBA on a laptop, and then download the newly modified database to the system. When you use this method, be sure to perform a RECEIVE ALL command first to overwrite the database currently on your laptop with the database the switch is using. Then make your programming changes to the laptop database, and when you are finished perform a SEND ALL to upload the new modified version onto the DX-80 switch.

	CAUTION	
<p>If you fail to perform a RECEIVE ALL before you make your programming changes and you then perform a SEND ALL, the system writes over the switch database with whatever DX-80 database resides on your desktop. Use care that you do not overwrite the current site's database with a database residing on your laptop from your previous customer site. It is a good practice to always perform a RECEIVE ALL when first arriving at a new customer site or prior to modifying your customer's database.</p>		

During a hardware upgrade, you need to add the new hardware and then program the corresponding feature set in the existing database. There are specific procedures to follow when adding new hardware to an existing system. See the *DX-80 Technical Manual, Volume 1, Installation and Maintenance*, part number IMI72-001, for more information.

1.3 Programming a New System

This manual provides information for completely programming a new DX-80 system from scratch. Comdial also provides you with some tools you can use to reduce your programming time. These tools include:

- a series of worksheets for you to plan your system structure, and record the programming for future reference if necessary. For more details, see Appendix A, *Worksheets*.
- copying a base CO line or extension's setups to several other CO line or extensions thereby eliminating the need to program them individually, and
- using one of four standard database programming templates provided with the DX-80 on CD part number DX80UTILCD. You can choose the template that most closely matches your new customer's site needs, and then add whatever custom changes you need to make. This approach saves you the time of programming the entire system from scratch.

For more information on these and other aids the DX-80 provides to allow you to program a system efficiently, see Section 3.1, *Shortcuts to Help You Work Faster*.

When you are programming a new system from scratch, perform the following basic tasks:

1. Set up the system features.
2. Set up the CO lines.
3. Set up call handling.
4. Set up the toll restrictions.
5. Set up the UCD groups.
6. Set up Voice Mail (if applicable).

7. Set up the extensions.
8. Program the feature buttons on the individual DET phones and DSS consoles.

The DX-80 provides some shortcuts to help you perform these tasks efficiently. For example, when you are setting up the individual extensions, you can first set up a “base” extension that is typical of how you will set up the majority of extensions. After you have set up this base extension, you can copy its programming to all of the other extensions in the system. Then, you can modify the few specific extensions that require different programming.

The DX-80 provides a similar shortcut for setting up CO lines with a CO Line Copy command. For more details on helpful shortcuts provided with your system, see Section 3.1, *Shortcuts to Help You Work Faster*.

1.3.1 SETTING UP THE SYSTEM FEATURES

The system features allow you to control system administration and to assign system resources. Perform the following steps.

1. Establish the database administrator password.
2. Assign the attendant extension for each tenant group.
3. Assign the system reminder for each tenant group.
4. Set the user passwords for extensions 101, 102, and 108.
5. Specify the user names for extensions 101 and 108.
6. Name each CO line (1-8).
7. Set up the pre-programmed incoming and outbound messages.
8. Program speed dial numbers.
9. Set the number of items in the Caller ID table.
10. Establish the music source for the each tenant group.
11. Assign the external pager ID to a tenant group. Enable/disable page group 1 and 8.
12. Program ancillary devices (loud bell, external page, music on hold source).
13. Allocate the DSS.
14. Set up the optional internal modem.
15. Select the PC-DBA transmit rate.
16. Select the SMDR transmit rate.
17. Set up the ring scheme.
18. Specify the letter type.
19. Set up the system time, date, and hour mode.
20. Set up the numbering plan you want to use. The DX-80 has a built-in numbering plan that you can use as is or modify if necessary.

Details on how to perform these tasks are included in Section 4, *Programming System Features*. The DX-80 provides programmable features that allow you to establish these various settings.

1.3.2 SETTING UP CO LINES

Once you have set up the extensions, you can begin programming the CO lines into the system. Perform the following tasks for each CO line.

1. Assign the CO line to a tenant group.
2. Assign the CO line to a pickup group.
3. Assign the Day classification for the CO line.
4. Assign the Evening classification for the CO line.
5. Select the MOH source for the CO line.
6. Assign the dial type this CO line.
7. Assign the CO line type.
8. Enable/disable call abandon.
9. Set up privacy for this CO line.
10. Set up the CO ring type.
11. Assign the answer position for Day and Evening modes for this CO line.
12. Set up Time Switching.
13. Set up Pre-Defined Call Forward for this line.
14. Set up the PBX code for line group 1-8.
15. Set up the hunt method
16. Set up the alternate CO group.
17. Set up Fax detection.

Details on how to perform these tasks are included in Section 5, *Programming CO Lines*. The DX-80 provides programmable features that allow you to establish these various settings.

1.3.3 SETTING UP CALL HANDLING

Next, set up how you want the DX-80 to handle calls. Perform the following steps.

1. Program conference calls.
2. Specify the CO flash time.
3. Specify the PBX flash time.
4. Specify the pause time.
5. Specify the ring abandon.
6. Set up the hold remind.
7. Select the exclusive hold time.
8. Establish the warning time.
9. Set the transfer intercom recall and transfer busy recall.
10. Set up hold recall.
11. Set up the dial wait time and dial delay.
12. Establish the dialing ratio.
13. Establish the start and end of the SLT hook flash.
14. Program auto redial.

15. Set up external call forward.
16. Set up conference talk time intervals and conference tones.
17. Set up the camp on interval.
18. Set up the alarm play intervals.
19. Enable/disable the hotel feature.
20. Enable/disable the system speed check.
21. Enable/disable the TSI connection.
22. Enable/disable the conference tone.
23. Specify the call duration.
24. Specify caller ID codes and establish the local area code.
25. Enable/disable tenant calling per tenant group.
26. Enable/disable SMDR call output.
27. Program the voice mail
28. Set the Fax ring time.
29. Set the pre-defined call forward time.
30. Program the recognition time interval.
31. Set the conference talk time intervals.
32. Set the hold abandon time interval.
33. Set the unsupervised talk time.
34. Program the auto attendant.
35. Set the DISA access.

Details on how to perform these tasks are included in Section 6, *Programming Call Handling*. The DX-80 provides programmable features that allow you to establish these various settings.

1.3.4 SETTING UP TOLL RESTRICTIONS

Toll restrictions allow you to place restrictions on outbound toll calls, per tenant group and account code. Perform the following steps.

1. Set up the Class of Services.
2. Set up the digit interval from 1 to 100, per tenant group.
3. Assign the account code length.
4. Program the account code passwords, from 1 to 600 as necessary.

Details on how to perform these tasks are included in Section 7, *Programming Toll Restrictions*. The DX-80 provides programmable features that allow you to establish these various settings.

1.3.5 SETTING UP UCD GROUPS

Uniform Call Distribution (UCD) groups allow you to link extensions for call handling. To set up the UCD groups, perform the following steps for each UCD group (maximum of 24).

1. Assign the tenant group for this UCD.
2. Select the UCD attribute (UCD or VA).

3. Assign the UCD group member numbers 1 through 24 as applicable.
4. Select the hunt method you want to use for this UCD group.
5. Specify the no answer time.
6. Set up the timer and destination for overflow 1.
7. Set up the timer and destination for overflow 2.
8. Specify the overflow count.
9. Specify the reroute destination (extension number).
10. Set the UCD Voice Announce (VA) groups.

Details on how to perform these tasks are included in Section 8, *Programming Uniform Call Distribution (UCD) Groups*. The DX-80 provides programmable features that allow you to establish these various settings.

1.3.6 SETTING UP VOICE MAIL

You can set up the DX-80 to interface with either an external, analog third party voice mail system or to the internal digital DX-80 Voice option. If you use analog voice mail, you must assign system ports to the voice mail system. If you use the digital in-skin voice mail, you do not use analog system ports and therefore do not have any port loss.

To set up voice mail, perform the following tasks for each tenant group.

1. Program third-party voice mail on analog ports.
- Or,
2. Program the optional, internal, digital voice mail.

Details on how to perform these tasks are included in Section 9, *Programming Voice Mail*. The DX-80 provides programmable features that allow you to establish these various settings.

1.3.7 SETTING UP EXTENSIONS

Once you have set up the system, CO line, call handling, toll restriction, UCD (if applicable), and voice mail (if applicable), the next task in setting up a new system is to program the extensions. To program the extensions in the system, perform the following steps for each extension in the system.

1. Assign a user name and password to the extension.
2. Assign the extension to a tenant group.
3. Assign the extension to a pickup group.
4. Assign the extension to a paging group.
5. Assign a class of service to the extension.
6. Set up the Monitor classification.
7. Set up intrusion—active, accept, and tone.
8. Set up warning tones, incoming call drops, outgoing call drops.
9. Set up Off Hook Voice Announce (OHVA).
10. Enable/disable paging.
11. Set up external call forward.
12. Set up SMDR output.

13. Assign RAD devices.
14. Enable/disable recording.
15. Set up port type.
16. Set up CO line assignment
17. Set up receive assignment.
18. Set up extension ring level.
19. Assign feature buttons.
20. Perform directory/extension swapping.
21. Configure Single Line Telephones (SLTs).

Details on how to perform these tasks are included in Section 10, *Programming Extensions*. The DX-80 provides programmable features that allow you to establish these various settings.

1.3.8 SETTING UP FEATURE BUTTONS ON PHONES

The final task in setting up a new system is to program the feature buttons on the individual DET phones and DSS consoles. You can program feature buttons for directory numbers or feature codes.

Note: You can only program feature buttons on DSS consoles for directory numbers. Buttons assigned to feature codes are not permitted on the DSS.

Details on programming feature buttons for the DET and the DSS are provided in Section 11, *Programming Feature Buttons*.

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2. PROGRAMMING OPTIONS

There are two programming interfaces you can use to program the DX-80:

- PC-DBA
- Digital Extension Telephone (DET).

2.1 Using PC-Database Administration (PC-DBA)

The DX-80 system allows you to administer system database parameters using any IBM[®] compatible Personal Computer (PC).

The use of a PC has distinct advantages over programming the system using the digital telephone, including:

- specific database archiving (via save function),
- remote programming, and
- outboard programming (programming the system template in the PC memory, then downloading it to the DX-80 switch memory when ready).

The PC program that interfaces with the DX-80 system is called PC-Database Administration (PC-DBA).

PC-DBA requires the following resources in the PC environment:

- PC running DOS. *Note: While you can run PC-DBA in a DOS Window, performance can be impacted by other Windows modules. Comdial does not guarantee or provide warranty for any level of performance in the Windows environment.*
- 640k minimum RAM.
- 386 minimum microprocessor.
- minimum 2 megabytes space on the hard disk.

CAUTION

 PC-DBA is available on the Comdial Web page at www.comdial.com. 
This software is not available by any other means.

You must have a well-rounded understanding of the PC environment and the DOS file structure to use this DX-80 utility. Comdial cannot support users who are unfamiliar with these basic requirements. If any of these issues concern you, program the DX-80 instead by using any DET phone. (See Section 2.2, *Using Any Digital Extension Telephone (DET)*).

2.1.1 LOADING PC-DBA SOFTWARE

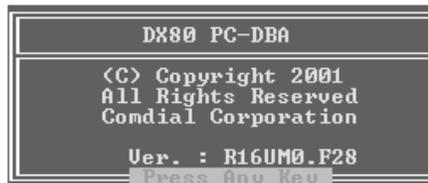
When you download PC-DBA from the Comdial web site it is contained in an archived format to expedite the download. Comdial recommends that you perform the following steps when downloading PC-DBA.

1. Create a separate directory on the PC where you can load PC-DBA (typically “DX-80”). This becomes the working directory.
2. Copy the archive file into that directory and then open the archived format.

When you want to use PC-DBA, start the computer and open the PC-DBA directory. To start PC-DBA type *DX-80* at the DOS prompt. Then press *Enter*.

2.1.2 PROGRAMMING USING PC-DBA

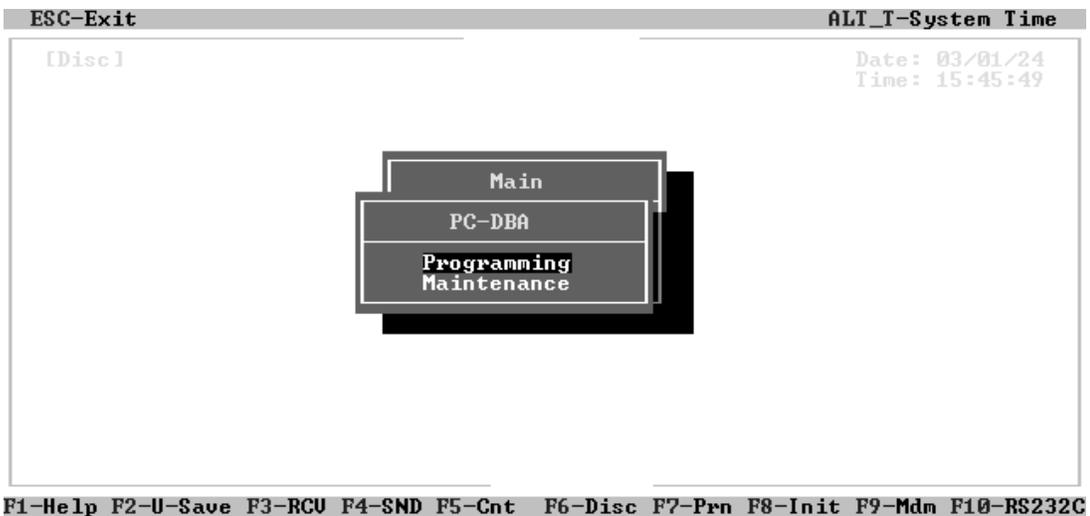
1. Enter PC-DBA by typing *DX-80* at the DOS prompt in the PC-DBA working directory, and then pressing *Enter*. The system responds by displaying the title page.



2. When you press a key, the system displays the Main menu and positions the cursor on PC-DBA.



3. Press *Enter* to enter into the programming and maintenance functions of PC-DBA. The system responds by displaying the PC-DBA screen and positioning the cursor on Programming.



4. Press *Enter* to begin programming. The system displays the Database Programming screen and positions the cursor on Extension. You access all of the various programming parameters of the system from the Database Programming screen.



While you are programming the database using PC-DBA programming, the system stores any changes you make in its working directory—not in the DX-80 system memory. When you have finished making your programming changes, you must perform a SEND operation. The system then overwrites the system memory with whatever you have programmed into the working directory. Until you perform the SEND command, **none of your changes are in effect**.

- Use the arrow keys to highlight the category of your choice, then press *Enter* to open that category and begin programming database parameters as required.
 - Use the arrow keys on your keyboard to select (highlight) the various menu levels and database parameters. Then press *Enter* to open that level/parameter.
 - There are many menu levels within Database Programming. It is often necessary to use *Page Up* and *Page Down* to view all elements of some categories.
 - Use *Esc* (the escape key on your keyboard) to exit one category and return to the previous level.
5. When you have completed all changes, press the *Esc* key to exit this database programming screen. You will see the prompt: “Exit This Feature”; press *Y* for yes.
 6. You will then be prompted to “Save Current Setting?”
Press *N* to abort changes and leave all data unchanged.
Press *Y* to save changes.
 7. If you press *Y*, you will then be prompted “File Exists, Override?”
Press *N* to abort changes and leave all data unchanged.
Press *Y* to continue with the save operation.

- Press *Esc* again to return to the Database Programming menu. Continue making other programming changes, or exit PC-DBA programming by pressing *Esc* again to return to the Main menu. Then select *Exit to DOS* and press *Enter*.

	CAUTION	
<p>The changes you make using PC-DBA are stored in a temporary working directory. They are not uploaded to the DX-80 system memory until you perform a SEND function. Do not forget this crucial step, or you may lose the programming changes you just made, and have to start over again.</p>		

2.1.3 DATABASE SAVE AND RESTORE

The *working directory* is the location allocated in the PC for all changes while the PC-DBA programming session is in progress. You may want to save the data in this directory for later retrieval since you may be working on many various databases.

	CAUTION	
<p>Always perform a database SAVE prior to database RESTORE if you intend to preserve the current contents of the working directory.</p>		

2.1.3.1 Performing a Save

To perform a database save, follow these steps.

- Go to the Main menu. Use the arrow keys to highlight *Database Save* then press *Enter*. The system displays the following window to confirm your requested operation.

```

+-----+
|                                     |
|           Do you want to backup data files ? (Y/N)           |
|                                     |
+-----+

```

- Press *Y*. The system responds as follows.

```

+-----+
|                                     |
|           Do you want to backup data files ? (Y/N)           |
| Backup to : C:\DX-80                                         |
|                                     |
+-----+

```

- Enter a new directory (DOS file system directory) where you want to store these files. You can also specify the "A" drive if you want to store the files on a floppy disk. Regardless of where the files are to be stored, remember the location so you can retrieve them at the appropriate time.
- After you enter the drive/directory name, press *Enter*. If it is a new directory the following alert displays.

Directory Not Exist! Create it ? (Y/N)

5. Press *Y*. The files are copied to the location specified and the following message displays to confirm the procedure:

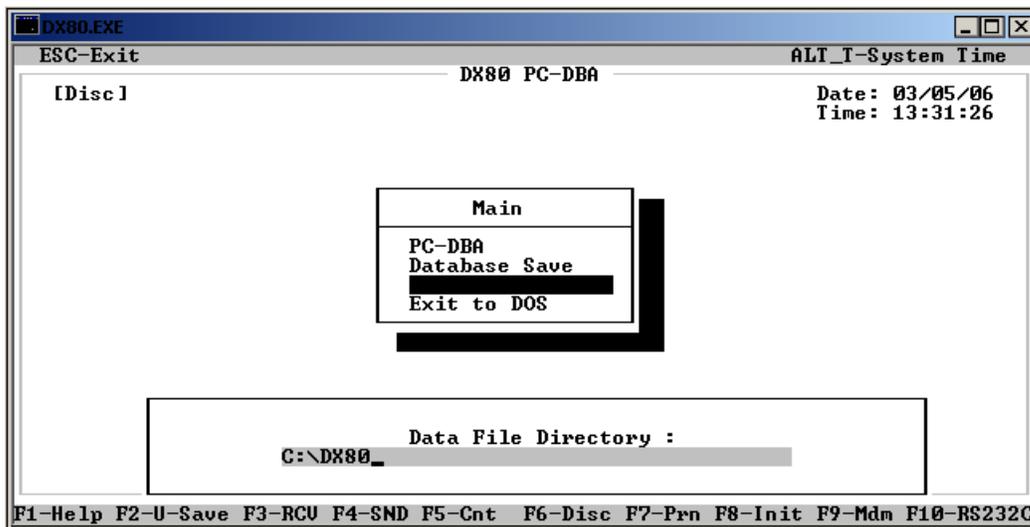
Backup Completed, Press Any Key To Exit

6. Press any key. Your database save is now complete.

2.1.3.2 Performing a Restore

To perform a database restore, follow these steps.

1. Go to the Main menu.
2. Use the arrow keys to highlight *Database Restore*, then press *Enter*. The system prompts you to enter the destination for the restored database.



3. Enter the directory/drive data and press *Y*. The system asks you to confirm the action, “Replace Files in Current Directory? (Y/N).”

When the system performs a database restore operation it copies the files from the selected directory or floppy disk into the working directory on your laptop, overwriting the current files in that directory.

CAUTION

 It is imperative that you are sure you no longer need the files in the working directory. You cannot retrieve them later without using specific DOS retrieval steps outside of PC-DBA. 

4. Press *Y*. The system copies the files into the working directory. When this is done, PC-DBA displays the following message.

Copy Complete, Old Data Files Are Renamed to '.BAK'
Press Any Key To Exit

5. Press any key. The restored files are now available for editing.

2.1.4 PC-DBA CONTROL KEYS

Special control functions of PC-DBA are shown at the bottom of the PC-DBA screen.

F1-Help F2-U-save F3-RCV F4-SND F5-Cnt F6-Disc F7-Prn F8-Init F9-Mdm F10-RS232C

Use the associated function keys across the top of the PC keyboard to access the various operations.

2.1.4.1 F1 – Help

Press *F1* to view the keystroke help menu of PC-DBA. There are two help screens.

2.1.4.2 F2 – A-Save/U-Save

Press *F2* to select A-Save (Automatic Save) or U-Save (User Save). This selection determines how PC-DBA will save data during the programming process. The system displays the current setting for this key, i.e., A-Save if automatic save is set or U-Save if user save is set.

If you select *U-Save*, PC-DBA prompts you to confirm all save operations. During the save process, the system writes the changed data to the working directory, not to system memory on the switch. When you have finished programming, you must perform a SAVE operation (part or all) to send the modified data in the working directory on the laptop to the system memory on the switch. Once the system saves the new data in system memory, the old switch data is lost.

If you select *A-Save*, PC-DBA automatically saves data whenever you exit any programming screen where you have made changes. This option can save time and keystrokes, but leaves **no margin for error** since the system immediately saves your changes in system memory. For this reason you must be confident that your changes are correct, and that the previous switch database is no longer needed. Once the system saves the new data in system memory on the switch, the old data is lost.

	CAUTION	
Comdial recommends using U-Save because of the risk of inadvertently writing over a working database.		
There is no recovery when using A-Save.		

2.1.4.3 F3 – Receive

Before data can be exchanged between the PC and the DX-80 system, you must make a connection between the two devices via a serial (RS-232 – COM Port or Modem) link. While on site you may connect the PC to the DX-80 via a standard RS-232C “straight-through” cable. When accessing the system remotely, you can make this connection via a modem.

You can connect the DX-80 system on site via the PC serial port (COM port). Use a straight-through 9-pin to 9-pin cable from the PC serial port to the DX-80 CPM – PC-DBA port. Once you make this connection, you can connect to the DX-80 system processor and download (receive) DX-80 database switch memory to the PC-DBA laptop working directory.

Once you make a physical connection (cable or modem) between the PC and the DX-80 system., you must link the two devices using the F5-Connect function. See Section 2.1.4.5, *F5 – Connect*.

After you establish a successful connection between the DX-80 processor and the PC-DBA software, the following icon displays in the upper left corner of the PC-DBA screen:

[Cnt]

To receive data, perform the following steps.

1. Press *F3*. The system displays the receive options.

```
+-----+
| Receive Request |
+-----+
| * Receive All  |
| * Receive Part |
| * Receive Item |
+-----+
```

2. Use the arrow keys to select the receive technique you want to use. If you select *Receive All*, the system starts the data exchange immediately. If you select *Receive Part* or *Receive Item*, you must choose either the specific data item (item) or data category (part) you wish to receive. Use the arrow keys to select from the menus provided with these two functions.

CAUTION	
	Always perform a Database Save before a Database Receive operation if you want to preserve the current contents of the working directory on the laptop.
	

CAUTION	
	Comdial recommends that if you are making database changes to a system that has been in operation for an extended period of time, that you perform a Receive All operation prior to making any database changes on the laptop. Since some database fields (including Speed Dial and Service Mode) are user adjustable, these fields will be overwritten if you perform a Send All operation using an outdated PC-DBA laptop database.
	

2.1.4.4 F4 – Send

Before data can be exchanged between the PC and the DX-80 system, you must make a connection between the two devices. This connection is a serial (RS-232 – COM port or modem) link. While on-site, you can connect the PC to the DX-80 via a standard RS-232C “straight-through” cable. When you are accessing the system remotely you can make this connection via a modem.

You can connect the DX-80 system on site via the PC serial port (COM port). Use a straight-through 9-pin to 9-pin cable from the PC serial port to the DX-80 CPM – PC-DBA port. Once you make this connection, you can connect to the DX-80 system processor and download (receive) the DX-80 database memory to the PC-DBA laptop working directory.

Once you make a physical connection (cable or modem) between the PC and the DX-80 system., you must link the two devices using the F5-Connect function. See Section 2.1.4.5, *F5 – Connect*.

3. Use the arrow keys to select Connect, then press *Enter*. The system displays the following modem control string.

```
+-----+
|          MODEM Connect          |
+-----+
| Input MODEM control string :    |
| ATX1E0Q0V0&C1&D2&H0&I0&K0&M0&N3..... |
+-----+
```

4. If your modem requires some different control string, enter that string now. Then press *Enter*.

```
+-----+
|          MODEM Connect          |
+-----+
|          Input dial number:    |
|          .....                |
+-----+
```

5. Enter the telephone number to dial (at the site location). Then press *Enter*.

```
+-----+
|          MODEM Connect          |
+-----+
|          Waiting                |
+-----+
```

6. The system begins dialing, and then the modems negotiate a connection. If this is successful, the system displays the following.

```
+-----+
|          MODEM Connect          |
+-----+
|          Connect Succeed       |
+-----+
```

The system also displays an icon in the upper left corner of the display.

[Mdm]

Once you have established a modem connection, you can perform an F4-Connect, which is required to link PC-DBA to the DX-80 system processor.

2.1.4.10 F10 – RS232C

The F10-RS232C function allows you to set up the PC COM port. To successfully do this, you must know how the PC hardware is configured. Specifically, you must know the COM port number (1 or 2) and the baud rate that will be used for the connection. By default, PC-DBA is set up to use COM port 1 at 9600 bps (9600 bps matches the default baud rate set for the DX-80 CPM – PC-DBA port.)

If you are using a modem connection, set the COM port baud rate to 2400 bps since this is the speed of the DX-80 optional modem (setting this speed can shorten the time it takes for the modem to connect). For details on setting the baud rate of the internal modem, see Section 4.14, *Setting Up Optional Internal Modem*.

2.2 Using Any Digital Extension Telephone (DET)

The DX-80 system allows you to program system database parameters using any DX-80 DET. It is possible to program the DX-80 system while the telephone is in use; however, certain button operations are used during programming and cannot be used for telephone call processing. Therefore, Comdial suggests not using these features simultaneously unless you have been directed to do so by the servicing technician.

The Database Administration password is set by default to ##### (eight #s). You can use any combination of alphanumeric characters using the conventions of extension/CO line name.

2.2.1 ENTERING THE DATABASE ADMINISTRATION MODE

1. Enter *Feature # ** to enter Database Administration. The system then prompts for the system Database Administration password. (The default set at the factory is #####.)
2. Enter the password and press *show* (*show* is an LCD interactive button).

After you have correctly entered the password, the system enters you into Database Administration.

2.2.2 LCD INTERACTIVE BUTTONS

The LCD interactive buttons are essential to completing database programming tasks. These buttons take on many functions while in the database administration mode. LCD interactive buttons include the following.

- *next*—moves the cursor to the next item or parameter
- *back*—moves the cursor back one item or parameter
- *show*—shows the contents of the current item or parameter
- *chg*—changes the contents of the current item or parameter
- *bksp*—when you are entering data, backspaces over what you entered so you can correct it
- *save*—saves entered data

2.2.3 DATABASE ITEM SELECT SCREEN

After you enter the correct password and press *show*, the system opens DX-80 Database Administration and displays the Database Item Select screen. This screen allows you to skip to the necessary database item for immediate programming of that item. The coding instructions you enter for each database item corresponds to the following list.

To Program	Enter
EXTENSION	01-
CO LINE	02-
CALL HANDLING	03-
SYSTEM RESOURCE	04-
RESTRICTION	05-

To Program	Enter
EXTENSION APPLICATION	06-
CO LINE APPLICATION	07-
SYSTEM APPLICATION	08-

For example, to skip to the extension application section of database administration, enter *06* at the DB Item Select screen and press *save*. If you want instead to go to system resources, enter *04* at the DB Item Select screen and press *save*.

2.2.4 EXITING DATABASE ADMINISTRATION

To exit Database Administration press the *ON/OFF* button twice. Or, lift and replace the handset in the hook-switch cradle.

2.2.5 CHANGING DATABASE ADMINISTRATION PASSWORD

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password. The default set at the factory is *#####*.
2. Press *show*. The DB Item Select screen displays.
3. Enter *04-01* and press *save*. The system advances to the System Resources – DB PSWD screen and displays the current password. The default is all spaces (blanks).
4. Press *chg* to change the password. Enter the new eight-character, alphanumeric password.
5. Press *save*.
6. Exit the programming mode.

3. GETTING STARTED

Before beginning to program a new system, it is important that you determine what configuration will best meet your customer's needs.

The DX-80 Numbering Plan contains all of the configuration defaults provided with the system. If you need settings other than those provided, you will need to customize the Numbering Plan. Since you will be programming aspects that can be affected by the Numbering Plan, it is best to customize the plan before programming the remainder of the system. For details on modifying the default Numbering Plan see Section 4.20, *Customizing the Numbering Plan*.

3.1 Shortcuts to Help You Work Faster

Comdial also provides you with some tools you can use to reduce your programming time. These tools include:

- a series of worksheets for you to plan your system structure, and to record the programming for future reference if necessary. These worksheets are provided in Appendix A, *Worksheets*.
- using one of four standard database programming templates provided with the DX-80 on CD part number DX80UTILCD. You can choose the template that most closely matches your new customer's site needs, and then add whatever custom changes you need to make. This approach saves you the time of programming the entire system from scratch.
- copying a baseline CO line or extension's setups to several other CO line or extensions, thereby eliminating the need to program them individually.
- using the directory number/feature number lookup when you need to know a specific directory number or feature code you need to enter at the DET speakerphone, and
- resetting an extension to its default settings during troubleshooting and fault isolation procedures.

In addition, button label templates for customizing individual DET button definitions are provided in Appendix B, *Button Labeling*.

3.1.1 USING A DATABASE PROGRAMMING TEMPLATE

Comdial supplies six programming templates that you may use as a shortcut to setting up your customer's database; one template with no voice mail and five templates with voice mail options. You can copy the template that is closest to your customer's requirements, and then customize it further if necessary to further meet their needs.

File Name	Summary	Settings
default.zip	Modified Default Database	<p>Call Handling Category 1, corrects premature recall issues:</p> <p>Hold Reminder: 60 sec. XFER_I Recall: 60 sec. Hold Recall Sl: 5 min. Hold Recall Dekt: 5 min.</p> <p>Call Handling Category 3, corrects VM transfer issues: VM Dialing Ratio Tone Time: 60 ms. Int_Dgt Time 60 ms.</p> <p>Call restriction table added. To restrict an extension from dialing long distance, change the extension class of service to 7.</p>
novm.zip	No Voice Mail Installed	All of the settings in default.zip, plus no voice mail
del8port.zip	Delayed Ring to In-skin 8 Port Voice Mail	<p>All of the settings in default.zip, plus 8 port voice mail, plus the following.</p> <p>Incoming CO calls ring phones in UCD group 23 (directory 432) three or four times, then re-routes to the Auto Attendant main greeting. Currently the only extension in UCD group 23 is extension 101. Extension call forwarding to voice mail is also enabled.</p>
del4port.zip	Delayed Ring to In-skin 4 Port Voice Mail	<p>All of the settings in default.zip, plus 4 port voice mail, plus the following.</p> <p>Incoming CO calls ring phones in UCD group 23 (directory 432) three or four times, then re-routes to the Auto Attendant main greeting. Currently the only extension in UCD group 23 is extension 101. Extension call forwarding to voice mail is also enabled.</p>
aa8port.zip	Auto Attendant Answer, In-skin 8 port Voice Mail	<p>All of the settings in default.zip, plus 8 port voice mail, plus the following.</p> <p>All incoming CO calls will be answered immediately by the Auto Attendant main greeting. Extension call forwarding to voice mail is also enabled.</p>
aa4port.zip	Auto Attendant Answer, In-skin 4 port Voice Mail	<p>All of the settings in default.zip, plus 4 port voice mail, plus the following.</p> <p>All incoming CO calls will be answered immediately by the Auto Attendant main greeting. Extension call forwarding to voice mail is also enabled.</p>

These six database templates are provided on the DX-80 product CD, part number DXUTILCD. While you are not allowed to modify the templates on the CD, you can download them to your laptop and then customize them further as needed.

<div style="display: flex; justify-content: space-between; align-items: center;">  <div style="text-align: center;"> <h3 style="margin: 0;">CAUTION</h3> </div>  </div> <p style="text-align: center; margin-top: 10px;"> These templates are provided to reduce your programming time when setting up a new system. You can use them for existing systems, but you will lose whatever custom settings are currently in place on that system. Be aware of this when downloading a template from PC-DBA to an existing system with a lot of customized features, as you will have to reprogram those features. </p>
--

For further details on using the database templates, refer to the Read Me file on DXUTILCD.

3.1.2 COPYING BASELINE CO LINE SETUPS

This is a programming aid feature. Once you have programmed one CO line for the baseline configuration settings, you can copy those settings to other CO lines using this utility.

First program the CO line you want to use as a baseline. For details on how to program a CO line, see Section 5, *Programming CO Lines*. When you have finished setting up the CO line you want to use as a baseline, use the following procedures to copy that baseline CO line's setups into other CO lines.

3.1.2.1 Programming Using the DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to activate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.

You can copy CO line setups individually, or to all lines in a line group. To copy CO line programming line by line, perform the following steps.

1. Enter *08-11-01*.
2. Press *save*. The system displays the Individual CO Line Copy screen.
3. Press *show*. The system prompts "COPY FROM." Enter the CO line directory number you want to use as a baseline.
4. Press *save*. The system prompts "COPY TO." Enter the CO line directory number you want to copy the baseline's programming into (740-755).
5. Press *save*. The system prompts "COPY TO" again.
6. Continue entering CO line directory numbers CO lines to which you want to copy the baseline setups. Press *save* each time you enter a directory number.
7. When you are finished, press the *Hold* button to return to the previous menu level, Or, press the *Volume* button (up or down) to return to the DB Item Selection screen, Or, exit programming.

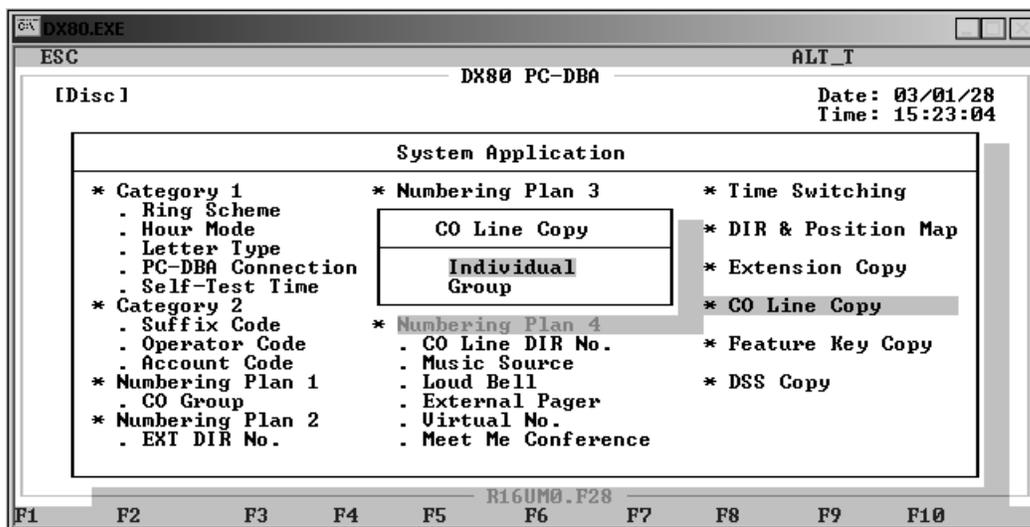
To copy a CO line setup to all the lines in a line group, perform the following steps.

1. Enter *08-11-02*.
2. Press *save*. The system displays the Group CO Line Copy screen.

3. Press *show*. The system prompts “COPY FROM.” Enter the CO line directory number you want to use as a baseline.
4. Press *save*. The system prompts “COPY TO.” Enter the CO line group directory number you want to copy the baseline’s programming into (9, 800-806).
5. Press *save*. The system saves the setups to all of the CO lines that are part of that CO line group.
6. Now you can save the setups to another line group if desired. The system prompts “COPY TO” again.
7. Continue entering CO line group directory numbers where you want to save the baseline setup. Press *save* each time you enter a CO line group directory number.
8. When you are finished, press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

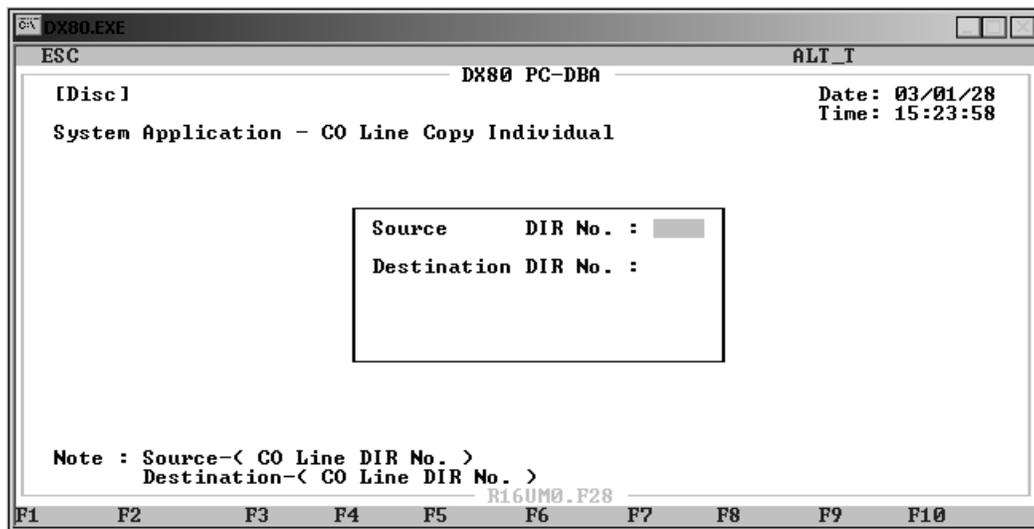
3.1.2.2 Programming Using PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *System Application* and press *Enter*. The system displays the System Application menu.
3. Highlight *CO Line Copy* and press *Enter*. The system displays the CO Copy menu.



You can copy CO lines individually, or to all lines in a line group. To copy CO lines one at a time, perform the following steps.

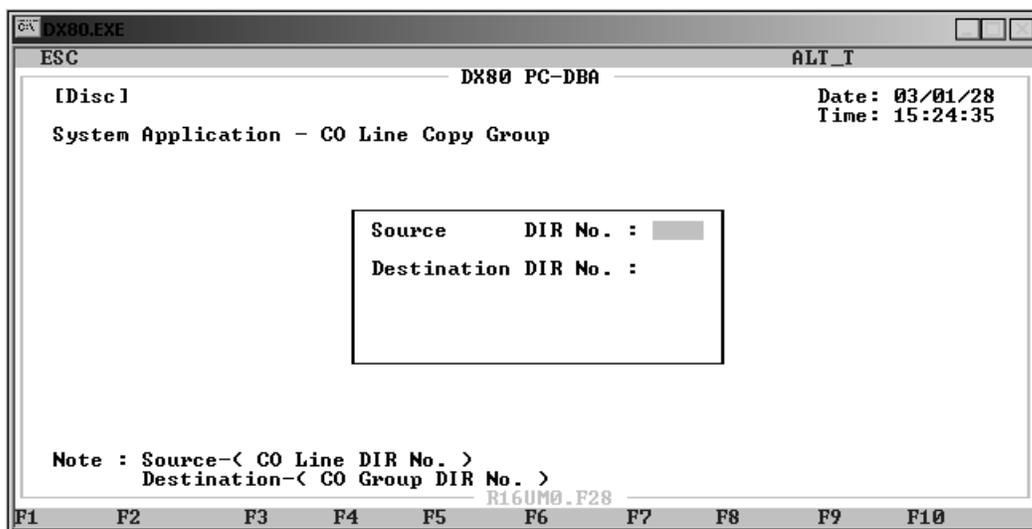
1. Highlight *Individual* and press *Enter*. The system displays the System Application — CO Line Copy Individual menu.



2. The system places the cursor in the *Source DIR No.* field. Key in the CO line directory number you want to use as a baseline, and press *Enter*. Valid directory numbers are 740 through 755. There is no default.
3. Once you enter a valid CO line number, the system moves you to the *Destination DIR No.* field.
4. Enter the CO line directory number you want to copy the baseline's programming into (740-755) and press *Enter*. Once you enter a valid CO line number, the system accepts that number and scrolls down a line to allow you to enter another CO line number into which you want to copy the baseline's programming. *Note: If you enter an invalid number, the system erases your input.*
5. In the same manner, enter any other CO line numbers as needed. When you are finished copying the setups, press *Esc*. The system then performs the CO line copy that you specified, and returns you to the System Application — CO Line Copy Individual menu.
6. If needed, you can enter another source CO line directory number to copy from, and continue the process for other CO lines.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
8. The system prompts "Save Current Setting?" Press *Y* to save your changes.
9. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

To copy a CO line setup to all the lines in a line group, perform the following steps.

1. Highlight *Group* and press *Enter*. The system displays the System Application — CO Line Copy Group menu.



2. The system places the cursor in the *Source DIR No.* field. Key in the CO line directory number you want to use as a baseline, and press *Enter*. Valid directory numbers are 740 through 755. There is no default. Once you enter a valid CO group number, the system moves you to the *Destination DIR No.* field.
3. Enter the CO group number you want to copy the baseline's programming into (9 and 800 through 806) and press *Enter*. Once you enter a valid CO group number, the system accepts that number and scrolls down a line to allow you to enter another CO group number into which you want to copy the baseline's programming. *Note: If you enter an invalid number, the system erases your input.*
4. In the same manner, enter any other CO group numbers as needed. When you are finished copying the setups, press *Esc*. The system then performs the CO group copy that you specified, and returns you to the System Application — CO Line Copy Group menu.
5. If needed, you can enter another source CO line directory number to copy from, and continue the process for other CO groups.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
7. The system prompts "Save Current Setting?" Press *Y* to save your changes.
8. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

3.1.3 COPYING BASELINE EXTENSION SETUPS

You can use this database feature to quickly copy the various programming and settings for one extension to other extensions. There are two methods to copy extension data:

- individual—copies from the baseline extension to another extension, one at a time;
- group—copies from the baseline extension to all extensions in a pick up group.

The following conditions apply to copying extension programming.

- You must complete all the programming for the baseline extension before making a copy. For details on how to program an extension, see Section 10, *Programming Extensions*.
- When using group copy, all extensions you want to receive the programming must be programmed for the same pickup group.

The DX-80 allows you to copy:

- extension setups,
- feature key setups,
- DSS setups, and
- CO lines. For further information on copying CO lines, see Section 3.1.1, *Using a Database Programming Template*.

When you have finished setting up the extension you want to use as a baseline, use the following procedures to copy that baseline extension's setups into other extensions.

3.1.3.1 Programming Using the DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to activate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.

To use the Individual Copy mode, perform the following steps.

1. Enter *08-12-01*, then press *save*. This advances you to the INDIVIDUAL COPY programming screen.
2. Press *show*. This advances you to the COPY FROM screen.
3. Enter the extension directory number you want to use as a baseline.
4. Press *save*. This advances you to the COPY TO screen.
5. Enter the extension number you want to copy the baseline setups into, then press *save*.
6. The system immediately displays the COPY TO screen again so you may copy another extension. Repeat the process for all extensions you want to receive the baseline programming.
7. When you have finished copying, press the *Hold* button to return to the previous menu level, Or, press the *Volume* button (up or down) to return to the DB Item Selection screen, Or, exit programming.

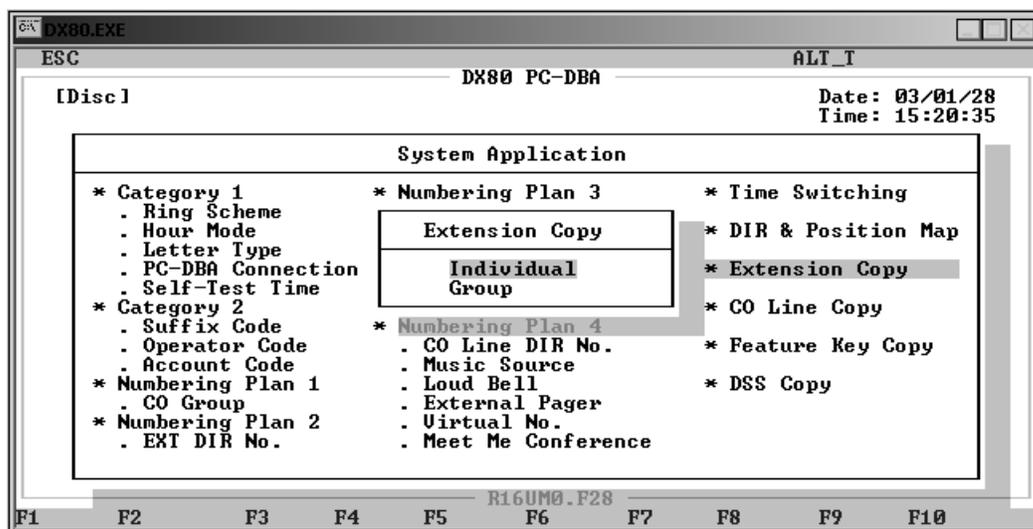
To use the Group Copy mode, perform the following steps.

1. Enter *08-12-02*, then press *save*. This advances you to the GROUP COPY programming screen.
2. Press *show*. This advances you to the COPY FROM screen.
3. Enter the extension directory number you want to use as a baseline.
4. Press *save*. This advances you to the COPY TO screen.

5. Enter the pickup group number you want to copy the baseline setups into, then press *save*. The system then copies the programming of the baseline extension into all extensions in the pickup group you specified.
6. Next, the system displays the COPY TO screen again so you may copy the data to another pickup group extension. Repeat the process for all pickup groups you want to receive the baseline programming.
7. When you have finished copying, press the *Hold* button to return to the previous menu level, Or, press the *Volume* button (up or down) to return to the DB Item Selection screen, Or, exit programming.

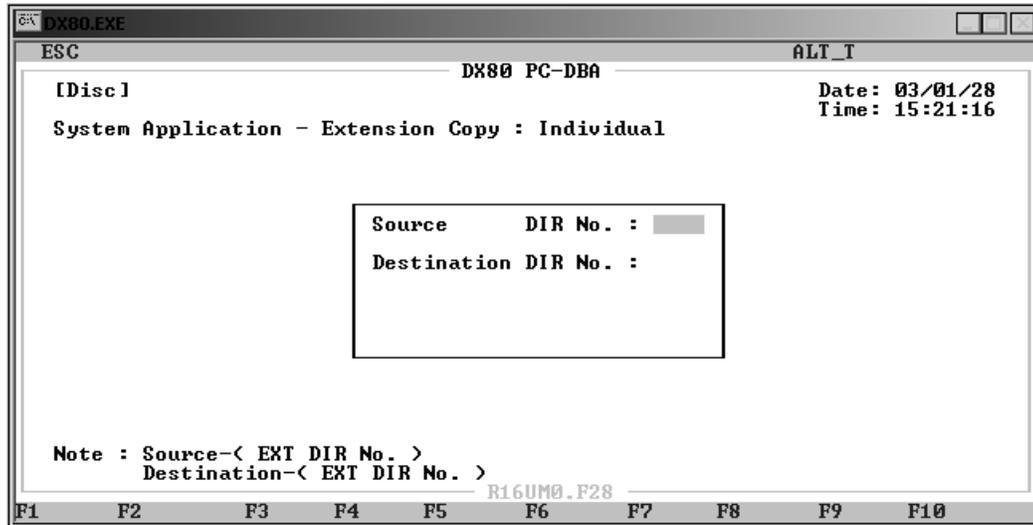
3.1.3.2 Programming Using PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *System Application* and press *Enter*. The system displays the System Application menu.
3. Highlight *Extension Copy* and press *Enter*. The system displays the Extension Copy menu.

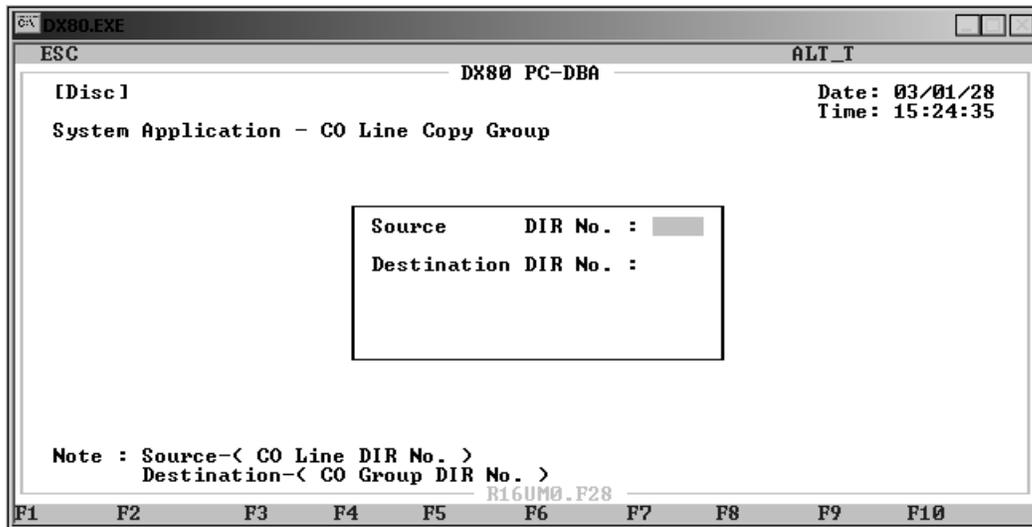


You can copy extensions individually, or to all extension in a pickup group. To copy extensions one at a time, perform the following steps.

1. Highlight *Individual* and press *Enter*. The system displays the System Application — Extension Copy Individual menu.



2. The system places the cursor in the *Source DIR No.* field. Key in the extension directory number you want to use as a baseline, and press *Enter*. You can enter any valid extension number in the system. There is no default.
 3. Once you enter a valid extension number, the system moves you to the *Destination DIR No.* field. Enter the extension directory number you want to copy the baseline's programming into (any valid extension number) and press *Enter*. Once you enter a valid extension number, the system accepts that number and scrolls down a line to allow you to enter another extension number into which you want to copy the baseline's programming. **Note:** *If you enter an invalid number, the system erases your input.*
 4. In the same manner, enter any other extension numbers as needed. When you are finished copying the setups, press *Esc*. The system then performs the extension copy that you specified, and returns you to the System Application — Extension Copy Individual menu.
 5. If needed, you can enter another source extension directory number to copy from, and continue the process for other extensions.
 6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
 7. The system prompts "Save Current Setting?" Press *Y* to save your changes.
 8. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
 9. Press *Esc* to return to the Database Programming menu.
 10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.
- To copy a extension setup to all the extensions in a pickup group, perform the following steps.
1. Highlight *Group* and press *Enter*. The system displays the System Application — Extension Copy Group menu.



2. The system places the cursor in the *Source DIR No.* field. Key in the extension directory number you want to use as a baseline, and press *Enter*. You can use any valid extension number in the system. There is no default.
3. Once you enter a valid extension number, the system moves you to the *Destination DIR No.* field. Enter the extension pickup directory number you want to copy the baseline's programming into (any valid pickup directory number) and press *Enter*. Once you enter a valid pickup number, the system accepts that number and scrolls down a line to allow you to enter another pickup number into which you want to copy the baseline's programming. *Note: If you enter an invalid number, the system erases your input.*
4. In the same manner, enter any other extension pickup numbers as needed. When you are finished copying the setups, press *Esc*. The system then performs the extension group copy that you specified, and returns you to the System Application — Extension Copy Group menu.
5. If needed, you can enter another source extension directory number to copy from, and continue the process for other pickup groups.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
7. The system prompts "Save Current Setting?" Press *Y* to save your changes.
8. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

3.1.4 FEATURE / DIRECTORY NUMBER LOOKUP

The DX-80 system has many features and codes, and at times it may be difficult to remember the code for the necessary feature. The DX-80 has a built-in feature code directory to allow you to look up the codes from a DET phone.

To look up a feature or directory number from a DET, perform the following steps.

1. While the telephone is idle (no call activity), press *Feature # 5*. The display shows

DIR#/CODE LOOKUP
dir ftr suffix

2. To find a system directory number, press *dir*. The first screen of directory number listings displays. If you don't see the system resource listed press *next* until the resource displays, then press that interactive LCD button. (For example, to show the directory number assigned to CO line groups, press *co gp*.)
3. To find a system feature access code, press *ftr*. Features are listed alphabetically and are abbreviated. *Note: All codes in this list require that you press the Feature button before entering the code.*
4. To find a suffix code, press *suffix*. The list of digits dialed after system resource directory numbers displays.
5. Use the *back* and *next* buttons to move through the display categories.
6. Use the *Hold* button to return to a previous menu level.
7. Go off-hook, then on-hook (or press the *ON/OFF* button twice) to exit Feature/Directory Number Lookup.

3.1.4.1 Directory Numbers

Feature		Directory Numbers
Co gp (CO line group)	1	9
	2~8	800~806
Page (Paging)	Tenant	400
	Group 1~8	401~408
	EXT PAGE (External)	777
Hunt	Hunt/UCD Group 1~24	410~433
Pickup	Pickup Group 1~8	440~447
Music	Music Channel 1, 2	771, 772
Bell	Loud Bell/E.P./M.S.	779
Mmcnf	Meet Me Conf. 1~8	390~397
Vir	Virtual Numbers 1-30	700~729
Spd	Speed Dial – Individual	470~499
	Speed Dial – System (common)	500~699
<i>Note: These are the defaults, which can be changed by modifying the Numbering Plan.</i>		

3.1.4.2 Feature Access Codes

Feature	Enable Code	Disable Code
Agent Log Off	<i>Feature 9 1</i>	<i>Feature * 9 1</i>
Alarm Clock	<i>Feature 9 2</i>	<i>Feature * 9 2</i>
Alarm Key	<i>Feature 6 2</i>	N/A
All Forward	<i>Feature 2</i>	<i>Feature 2</i>
Attendant Administration	<i>Feature # 0</i>	Password: 9999 (x101) 0000 (all other extensions)
Auto Hold	<i>Feature 9 4</i>	<i>Feature * 9 4</i>
Auto Line Select	<i>Feature 9 5</i>	<i>Feature * 9 5</i>
Auto Redial	<i>Feature 7 8</i>	N/A
Busy Forward	<i>Feature 2</i>	<i>Feature 2</i>
Busy Ring Allow	<i>Feature # 2</i>	<i>Feature # 2</i>
Call Forward	<i>Feature 2</i>	<i>Feature 2</i>
CBCK (Callback) Delete	<i>Feature # #</i>	<i>Feature # #</i>
CID Table	<i>Feature 6 #</i>	Password: 9999 (x101) 0000 (all other extensions)
Conference	<i>Feature 6 0</i>	<i>Feature 6 0</i>
DB (Database) Programming	<i>Feature # *</i>	N/A
Default Set	<i>Feature 6 9</i>	N/A
Distinctive Ringing	<i>Feature # 7</i>	N/A
Do Not Disturb	<i>Feature 4</i>	Feature 4
DSS Key Programming	<i>Feature # 4</i>	N/A
External Call Forward	<i>Feature 2</i>	<i>Feature 2</i>
Feature Status	<i>Feature # 8</i>	N/A
Flash	<i>Feature 3</i>	N/A
Follow Call Forward – From	<i>Feature 2</i>	<i>Feature 2</i>
Follow Call Forward – To	<i>Feature 2</i>	N/A
Forced Release (Conference)	<i>Feature 7 4</i>	N/A
Feature Code Lookup	<i>Feature # 5</i>	N/A
Feature Key Programming	<i>Feature # 3</i>	N/A
Feature Key Reset	<i>Feature 5 8</i>	Password: 9999 (x101) 0000 (all other extensions)
Get Held CO Line	<i>Feature 7 *</i>	N/A
Headset Mode	<i>Feature 9 #</i>	<i>Feature * 9 #</i>
Hidden Code	<i>Feature 6 1</i>	N/A
Hot Key	<i>Feature # 6</i>	<i>Feature # 6</i>
Hotline	<i>Feature 9 *</i>	<i>Feature * 9 *</i>
ICM (Intercom) Key	<i>Feature 6 5</i>	N/A

Feature	Enable Code	Disable Code
ICM Mode (HF/Private/Ring)	<i>Feature 9 8</i>	<i>Feature 9 8</i>
Last # Redial	<i>Feature 8</i>	N/A
Lock Phone	<i>Feature 9 7</i>	Password: 9999 (x101) 0000 (all other extensions)
Memo Pad	<i>Feature 5 *</i>	N/A
MSG (Message) Waiting	<i>Feature 9 6</i>	N/A
Mute Key	<i>Feature 7 6</i>	N/A
Night Service Mode <i>Note: Attendant station only</i>	<i>Feature 6 3</i>	Password: 9999 (x101) 0000 (all other extensions)
No Answer Call Forward	<i>Feature 2</i>	<i>Feature 2</i>
Paging Answer	<i>Feature 5 9</i>	N/A
Paging Receive	<i>Feature # 9</i>	<i>Feature # 9</i>
Park Call	<i>Feature 7 3</i>	N/A
Pause	<i>Feature 7 0</i>	N/A
Private Talk (Conference)	<i>Feature 5 7</i>	N/A
Release Key	<i>Feature 5 2</i>	N/A
Room Status	<i>Feature 7 #</i>	N/A
Saved # Redial	<i>Feature 5 1</i>	N/A
Speed Dialing	<i>Feature 1</i>	N/A
Status MSG (Message)	<i>Feature 9 0</i>	<i>Feature * 9 0</i>
Touch Tone	<i>Feature # 1</i>	<i>Feature # 1</i>
Unsupervised Conference	<i>Feature 7 7</i>	N/A
Voice MW Key	<i>Feature 6 4</i>	N/A
Voice Record	<i>Feature 6 7</i>	N/A

3.1.4.3 Suffix Codes

Feature	Suffix Code
ICM Voice / Ring	*
DND Override	3
Camp On	4
Callback	#
Call Pickup	6
Intrusion	8
MSG (Message) Waiting	9
ICM (Intercom) OHVA	0
Monitor	1
<i>Note: These can be changed.</i>	

3.1.5 RESETTING AN EXTENSION TO THE DEFAULT SET

When extension users have invoked several features on their extensions, it may be necessary to clear all settings and return the telephone set to the factory condition. The Default Set code is used to perform this operation.

The following extension parameters are reset to the value shown:

LNR = empty

SNR = No Saved Number

Memo = No Saved Number

Telephone Lock = No

Auto Hold = No

Page Receive = Yes

Busy Ring = Yes

Hotline to = NULL (none)

To return an extension's settings to the default settings, perform the following steps at the DET phone.

1. Press *Feature 6 9*.

The system shows the following display, and asks you to confirm the action.

DEFAULT SET

go

2. Press *go* to load the default set into the phone. You hear the confirmation tone when the operation is complete.

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4. PROGRAMMING SYSTEM FEATURES

The system features allow you to control system administration and to assign system resources. The DX-80 provides programmable features that allow you to establish these various settings.

To set up the system features, perform the following tasks.

1. Establish the database administrator password.
2. Assign the attendant extension for each tenant group.
3. Assign the system reminder for each tenant group.
4. Set the user passwords for extensions 101, 102, and 108.
5. Specify the user names for extensions 101 and 108.
6. Name each CO line (1-16).
7. Set up the pre-programmed incoming and outbound messages.
8. Program speed dial numbers.
9. Set the number of items in the Caller ID table.
10. Establish the music source for the each tenant group.
11. Assign the external pager ID to a tenant group. Enable/disable page group 1 and 8.
12. Program ancillary devices (loud bell, external page, music on hold source).
13. Allocate the DSS.
14. Set up the optional internal modem.
15. Select the PC-DBA transmit rate.
16. Select the SMDR transmit rate.
17. Set up the ring scheme.
18. Specify the letter type.
19. Set up the system time, date, and hour mode.
20. Set up the numbering plan you want to use. The DX-80 has a built-in numbering plan that you can use as is or modify if necessary.

While you are programming in PC-DBA, the system saves your changes in the working directory residing on the laptop. While it may appear that you have re-programmed the switch, the system does not update the switch database with your changes until you perform a SEND command from the laptop.

	CAUTION	
<p>If PC-DBA is set to U-Save, your database changes reside only on your laptop. When you have finished making all changes to the database, perform a SEND operation to download the new database to the DX-80 switch.</p>		

For further details on the SEND command, see Section 2.1.4.4, *F4 – Send*.

4.1 Establishing Database Administrator Password

The DX-80 system allows you to set up and maintain the system database using any DX-80 DET telephone, once you have entered the database administrator password. *Note: While it is possible to program the DX-80 system while the telephone is in use, certain button operations are used during programming and cannot be used for telephone call processing. Therefore, Comdial suggests not using these features simultaneously unless you have been directed to do so by Comdial Technical Support.*

The database administration password is by default set to ##### (eight #s) when programming by phone, and “ ” (eight spaces) when programming using PC-DBA. To change the default password, you must first connect to the switch enter and Database Administration using the default password.

Passwords must be eight alphanumeric characters long. You can use any combination of letters and/or numbers, plus the # symbol. Passwords are case-sensitive, so for example if you use a capital “R” you cannot enter a lower case “r” when entering the password later.

4.1.1 PROGRAMMING USING THE DET

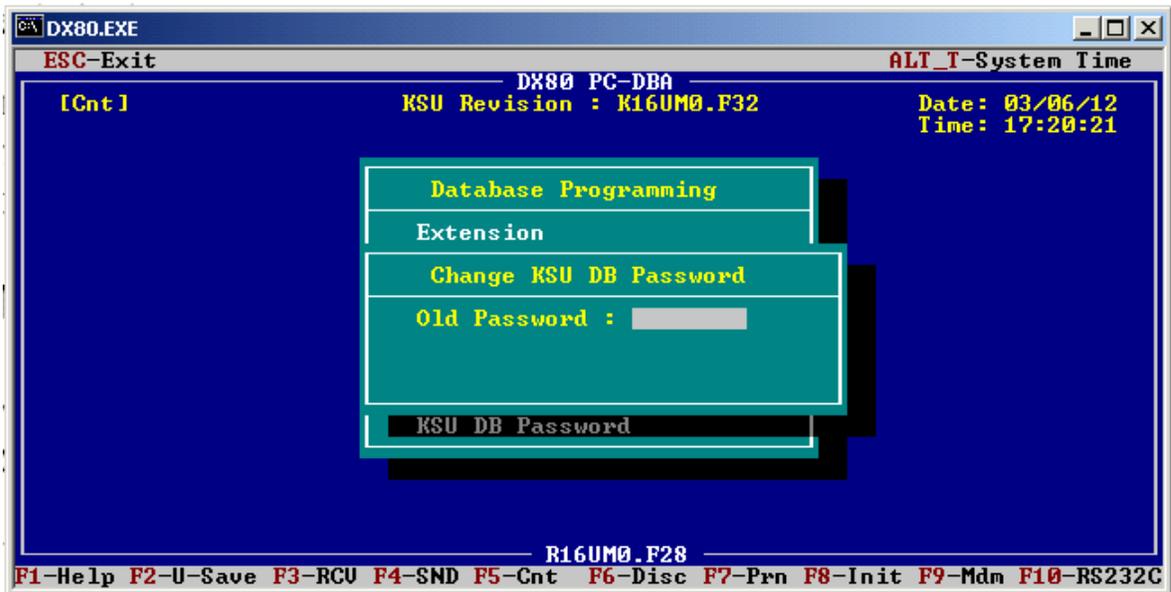
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password. For details on how to enter numbers, upper case letters and lower case letters, see the tables in Section 4.18, *Setting Up Letter Type (Enhanced Lettering Scheme)*.
2. Press *show*. The system displays the DB Item Select screen. *Note: All database programming items are indexed for fast access.*
3. Enter *04-01*, then press *save*. The system advances you to the System Resources – DB PSWD screen and displays the current password. The default is “#####” (eight #s).
4. Press *chg* to change the password.
5. Enter the new eight-character, alphanumeric password and press *save*. Use the volume up or down buttons to return to the DB Item Select screen.
6. To exit Database Administration press the *ON/OFF* button twice. Or, lift and replace the handset in the hook-switch cradle.

4.1.2 PROGRAMMING USING PC-DBA

Before changing the database administrator password, you must first connect your laptop to the system. For details on connecting, see Section 2.1.4.5, *F5 – Connect*.

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *KSU DB Password* and press *Enter*. The system prompts you to enter the old password.



3. Enter the existing password and press *Enter*. *Note:* The default PC-DBA password when the system is shipped is " " (eight spaces).
4. After you enter the eighth digit of the old password, the system prompts you to enter the new password.
New Password:
Key in the eight alphanumeric characters you want to use for your new password.
5. After you enter the eighth character of the new password, the system asks you to confirm the new password.
Confirm:
Key in the same eight alphanumeric characters you entered in the previous step.
6. After you confirm the eighth character of the new password, the system asks if you want to send the new password to the switch to be saved.
Save New DB PSWD to KSU? (Y/N)
7. Press Y to save your new password. The system responds as follows.
Password Change Succeed!!

4.2 Assigning Attendants

You assign a primary attendant to each of the DX-80 system's three tenant groups. The standard Digital Speakerphone serves as the attendant telephone. When assigned as attendant, this extension supports general system functions like line recall, forced incoming ICM call forward, and manual evening or alternate service mode operation. The attendant receives all intercom calls directed to the attendant directory number ("0" at default). The attendant extension has an internal call queue that allows multiple intercom calls to be directed to the attendant at the same time.

You can designate an alternate attendant position in each tenant group for common sharing of incoming CO line calls or load sharing during peak traffic periods.

The attendant's extension password provides control of:

- system service mode (day/evening/alternate/time),
- time of day settings,
- system speed dial number programming, and
- recording of the optional auto attendant greetings.

You can connect the attendant extension to any system station port, and you can assign it any intercom extension number in your numbering plan.

The following conditions apply to the attendant extension.

- Any extension in the tenant group can dial 0 to reach the attendant extension.
- The system routes all unanswered transferred calls and all calls from any extension that invokes forced intercom call forward to the attendant extension. When multiple internal calls are waiting in queue for the attendant extension, the display indicates on the second line the number of calls waiting in the queue.

```
LINE 3 01:45
-->> 2
```

- The extension password for the attendant extension is required for entry into attendant administration, caller ID table and ring mode. The default extension password is 9999.
- Only the designated attendant extension can manually change the system ring mode or the extension room status (hotel mode).

Features whose settings can affect the attendant extension include the following.

- Do Not Disturb (i.e., forced DND)
- Hotel Mode
- Room Status (F7#)
- Attendant Administration (F#0)
- Service Mode Change
- Auto Attendant Message Record/Review
- Temporary Service Mode
- System Speed Dial
- Call Forward Auxiliary Lamp
- Extension User Password (F97)
- Caller ID Table (review) (F6#)
- Ring Mode (F63)

Once you have programmed the attendant extension, program the user password for that extension. For details on programming extension user passwords, see Section 10.3, *Assigning a Password to the Extension*.

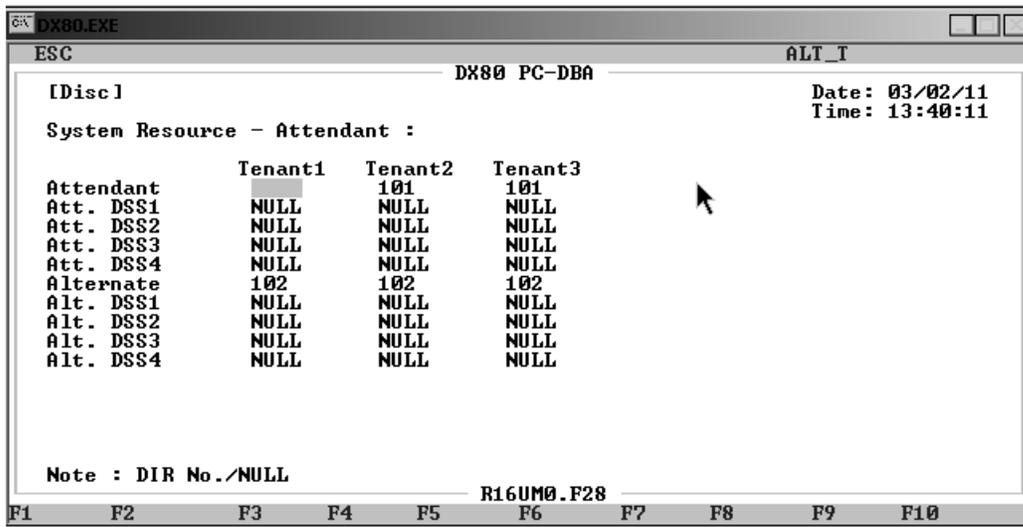
4.2.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. First, program the attendant extension. Enter *04-02-x-01*, where *x* is the tenant group number., then press *save*.
4. To change the designated attendant extension press *chg*. Enter the extension number you want to assign as the attendant extension. **Note:** *You can only assign valid extension directory numbers as tenant group attendants. You cannot use extensions that are programmed as attendants for other tenant groups or as alternate attendants.*
5. Press *save*.
6. Next, program the alternate attendant extension. Return to the Database Item Select screen by pressing the Volume button (up or down).
7. Enter *04-02-x-06*, where *x* is the tenant group number, then press *save*.
8. To change the designated attendant extension press *chg* (change). Enter the extension number you want to assign as the alternate attendant extension. **Note:** *You can only assign valid extension directory numbers as tenant group attendants. You cannot use extensions that are programmed as attendants for other tenant groups or as alternate attendants.*
9. Press *save*.
10. Program the user passwords for each attendant extension and alternate attendant extension you have programmed.

4.2.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Resource* and then press *Enter*. The system displays the System Resource — Attendant menu.



3. In the *Attendant* field, highlight the tenant group you want to program and press *Enter*. Key in the extension directory number you want to use for the attendant, then press *Enter*. Valid numbers are any extension within the tenant group that you have not already assigned as an alternate attendant. The default is 101. If you are not using a tenant group, set the *Attendant* field to NULL.
4. In the same manner, assign attendant extension numbers to other tenant groups as needed.
5. Next, program the alternate attendant extension. Highlight the *Alternate* field and press *Enter*.
6. Enter the extension directory number you want to assign as the alternate attendant extension, then press *Enter*. Valid numbers are any extension within the tenant group that you have not already assigned as the attendant. The default is 101. If you are not using a tenant group, set the *Alternate* field to NULL.
7. In the same manner, assign the alternate attendant for other tenant groups as needed.
8. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
9. The system prompts “Save Current Setting?” Press *Y* to save your changes.
10. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
11. Press *Esc* to return to the Database Programming menu.
12. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.3 Assigning System Reminders

You can set the DX-80 system to alert all phones at predetermined intervals during the day; you can choose up to eight reminders. You specify the play time, which tells the system how long (from 1 to 10 minutes) to play the music. The system uses the music source connected to the MC1 connector for the system reminder (unless the internal music source is selected by an option strap on the CPM--see the *DX-80 Technical Manual Volume 1, Installation & Maintenance*, part number IMI72-001).

When the system reaches the time a reminder is to start, it plays the output from the internal or MC1 music source over all digital extensions. The system plays this music for the length of time you specify: from one to ten minutes.

The following conditions apply to system reminders.

- The music alarm will not play at an extension that is busy on a call (handset or speakerphone), or in the Do Not Disturb (DND) mode.
- The system cancels any system reminder in progress when another function is invoked.
- The system uses the music source connected to the MC1 music input for the system reminder.
- Extensions monitoring background music channel MC1 will not recognize the system reminder.

A related feature that can affect system reminders is the Music Source field under Numbering Plan 4. See Section 4.10, *Establishing Music Sources* for more details.

Note: Before programming a system reminder, make sure the system time is accurate to the current local time by pressing ALT T. The system displays the System Time menu; from this menu you can correct the year, month, day, weekday, hour, and minute if necessary.

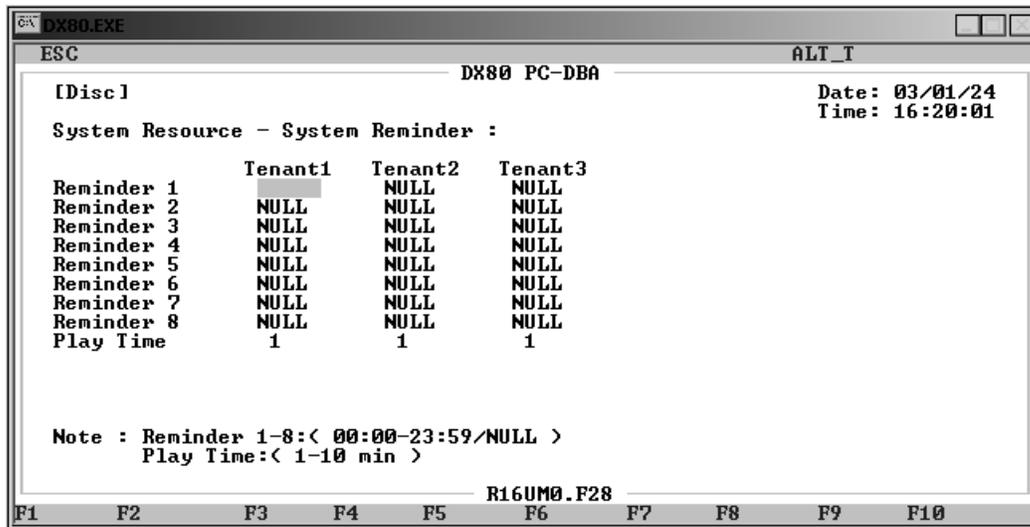
4.3.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Enter *03-19*.
4. Press *save*. The phone displays “ALARM PLAY”.
5. Press *chg* until the alarm play time (in seconds) you want to use displays.
6. Press *back* or *next* to continue programming. Or exit programming.

4.3.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Resource* and press *Enter*. The system displays the System Resource menu.
3. Highlight *System Reminder* and press *Enter*. The system displays the System Resource — System Reminder menu.



4. Assign the *Reminder1* in the *Tenant 1* field. Press *Enter*, then key in when you want the system to play the reminder, in 24 hour format. Valid times are from 00:00 to 23:59. The default is NULL (no reminder). After you have keyed in the time, press *Enter*.
5. In the same manner, assign reminders to tenant groups 2 and 3 as required. Then continue to assign reminders 2 through 8 as needed.
6. Next, highlight *Play Time* for *Tenant 1*. Press *Enter* to choose the duration of the reminder, from one to ten minutes. The default is one minute.
7. In the same manner, assign the reminder durations for tenant groups 2 and 3 as needed.
8. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
9. The system prompts “Save Current Setting?” Press *Y* to save your changes.
10. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
11. Press *Esc* to return to the Database Programming menu.
12. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.4 Setting User Password Lengths, Setting Passwords for System Directory Numbers 101, 102, and 108

All extensions of the DX-80 system have an associated user password. Passwords are used to protect the phone lock, call forward remote and attendant features. You can set the password lengths, four to eight characters. *Note: Extension passwords can be changed at the extension only by using the phone lock feature.*

Changes to the length of the user password affect existing passwords—the system adds or subtracts one default character to the end of the password. That is, if you extend the length of the password, the system increases all passwords by adding a 0 in the right-most position. If you reduce the length of the password, the system truncates all passwords by one character in the right-most position.

Once you have set the password length, set the passwords for extensions 101, 102, and 108, because these are system directory numbers.

If you need to program passwords for individual extensions, see Section 10.3, *Assigning a Password to the Extension*.

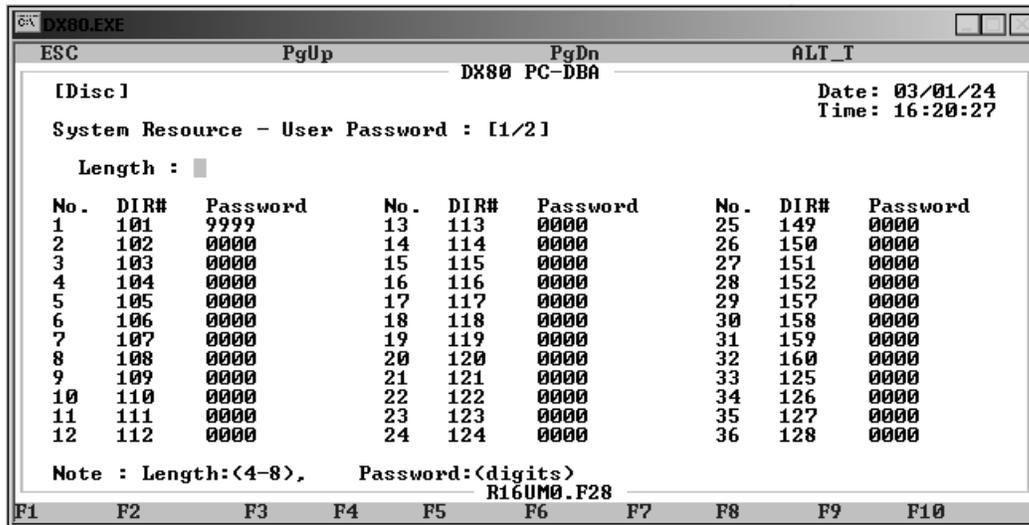
4.4.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. First, you will program user password length. Enter *04-04-01*, then press *save*. The current user password length displays.
4. Press *chg* until the appropriate extension password length displays (valid lengths 4-8). The default length is 4.
5. Next, program the passwords you want to use for extensions 101, 102, and 108. Press *next* to advance to the extension password view screen.
6. Enter *101* and press *save*. The system displays the password for extension 101. Enter the password you want to use. Valid passwords use any alphanumeric characters, up to the extension length you just programmed (if you set the length to 5, valid passwords have five alphanumeric characters, etc.). The default is for extension 101 is 9999; the default password for all other extensions is 0000.
7. Press *back* or *next* to return to the extension number input screen.
8. In the same manner, program the passwords for extensions 102 and 108. When you are finished, press the *Hold* button to return to the previous menu level,
Or press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or exit programming.

4.4.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Resource* and press *Enter*. The system displays the System Resource menu.
3. Highlight *User Password* and press *Enter*. The system displays the System Resource — User Password menu.



4. First, program the user password length. Use the arrow keys to highlight *Length*, then press *Enter*. Key in the password length (from 4 to 8) you want to use, then press *Enter*. The default length is 4.
5. Next, program the passwords you want to use for extensions 101, 102, and 108. Use the down arrow key to highlight the *Password* field for directory number 101 and press *Enter*.
6. Enter the password you want to use. Valid passwords use any alphanumeric characters, up to the extension length you just programmed (if you set the length to 5, valid passwords have five alphanumeric characters, etc.). The default is for extension 101 is 9999; the default password for all other extensions is 0000.
7. In the same manner, program the passwords for extensions 102 and 108.
8. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
9. The system prompts “Save Current Setting?” Press *Y* to save your changes.
10. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
11. Press *Esc* to return to the Database Programming menu.
12. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.5 Specifying User Names for x101 and x108

You can assign an alphanumeric, seven-character title to each extension in the system. The system displays this title on the digital speakerphone in place of the standard “EXT” message.

You assign extension user names while programming the extension. The names may consist of upper and lower case letters and numbers and various “special” characters as provided by the Enhanced Lettering Scheme feature selection.

The following conditions apply when entering user names for extensions.

- The system displays the user name whenever intercom calls are made for one extension to another.
- The system displays the characters “EXT” whenever there is no extension user name programmed. If a user name has been programmed, the system displays the name instead of EXT.
- Names may be seven or fewer characters.

Another field that can affect the extension user name is Letter Type under System application, Category 1. See Section 4.18, *Setting Up Letter Type (Enhanced Lettering Scheme)* for more details.

4.5.1 PROGRAMMING USING THE DET

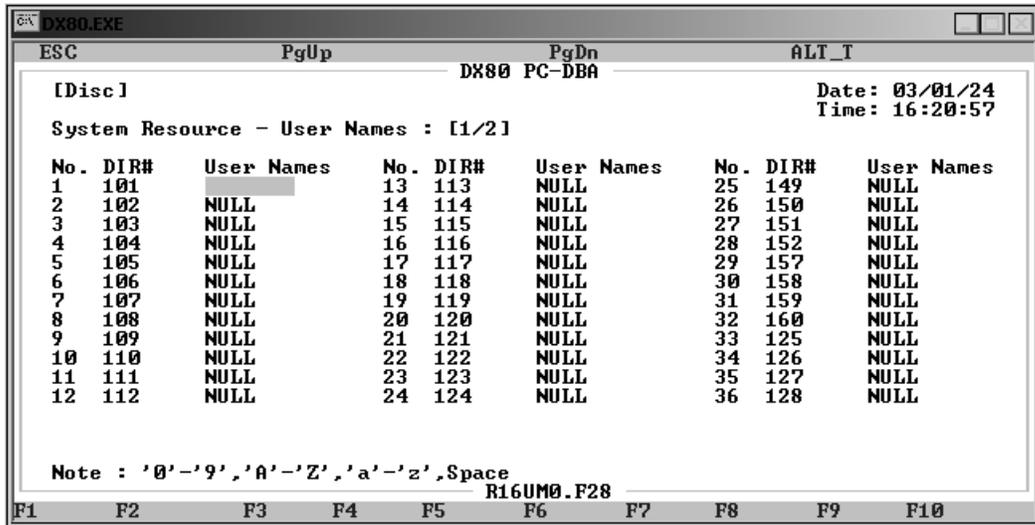
Note: *chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.*

1. Enter Database Administration using *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *04-05-101* then press *save*. This advances you to the Extension User Name programming screen for extension 101. Press *chg*.
4. Enter the name you want to use for extension 101 using the dial pad to spell out a name. Refer to the enhanced lettering scheme tables as needed. For more information on these tables, see Section 4.18, *Setting Up Letter Type (Enhanced Lettering Scheme)*.
5. Press the *Hold* button to return to the previous menu level.
6. Enter *04-05-108* then press *save*. This advances you to the Extension User Name programming screen for extension 108. Press *chg*.
7. In the same manner, enter a user name for extension 108.
8. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button to return to the DB Item Selection screen,
Or exit programming.

4.5.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Resource* and press *Enter*. The system displays the System Resource menu.

- Use the arrow keys to highlight *User Names* and press *Enter*. The system displays the System Resource — User Names menu.



- Highlight the *User Names* field for extension 101 and press *Enter*.
- Enter the appropriate name for this extension (any alphanumeric characters up to 7 characters). The default is NULL (no user name). Press *Enter*.
- In the same manner, program a user name for extension 108.
- When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
- The system prompts “Save Current Setting?” Press *Y* to save your changes.
- The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
- Press *Esc* to return to the Database Programming menu.
- When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.6 Naming CO Lines

DX-80 allows you to name (or label) CO lines so you can customize the appearance of the line identifier in the telephone display when the CO line is in use. This labeling can assist users when handling CO line calls by displaying the intended purpose of that CO line.

4.6.1 PROGRAMMING USING THE DET

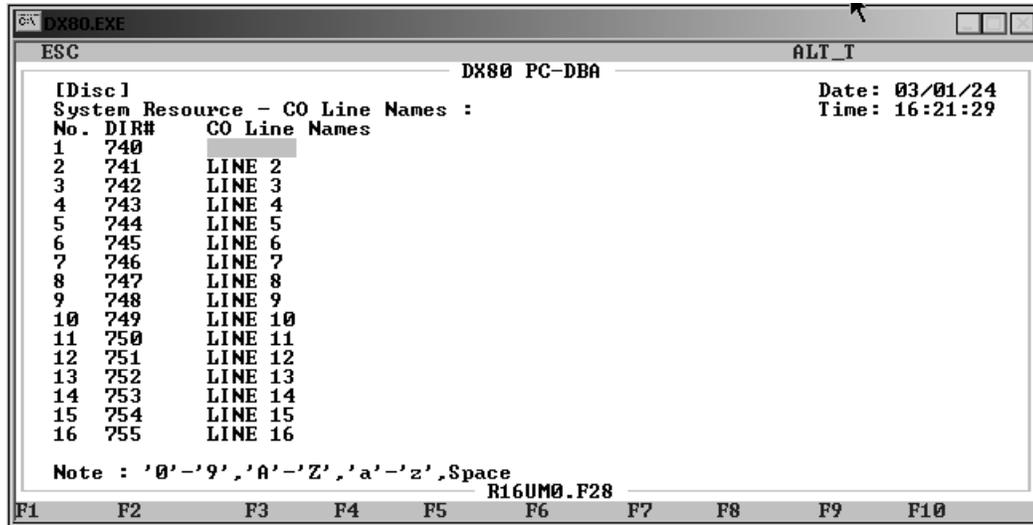
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

- Enter Database Administration using the feature code Feature # * and then enter the DB Admin password.
- Press *show*. The DB Item Select screen displays.

3. Enter *04-06-xxx*, where *xxx* is the number of the CO line directory you want to name. Valid CO line numbers range from 740 to 755.
4. Press *save*. This advances you to the selected CO Line Name/Label field and shows the current name for the line you specified.
5. Press *chg* to enter a new name/label. Use the dial pad keys and reference the lettering scheme tables to enter the name/label for the CO line. [See Section 4.18, *Setting Up Letter Type (Enhanced Lettering Scheme)*].
Valid names can have up to 7 alphanumeric characters. The default is LINE1 through LINE 16, corresponding to directory numbers 740 through 755.
6. Press *save* when you have finished the label to save the new name/label name.
7. Press *next* to enter another CO line directory name.
8. When finished programming CO line name/labels, press the *Volume* button (up or down) to return to the DB Item Select screen, or exit programming.

4.6.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Resource* and press *Enter*. The system displays the System Resource menu.
3. Use the arrow keys to highlight *CO Line Names* and press *Enter*. The system displays the System Resource — CO Line Names menu.



4. Highlight the *CO Line Names* field for the line to whom you want to assign a name, then press *Enter*. Key in the name, then press *Enter*. Valid names can have up to 7 alphanumeric characters. The default is LINE 1 through LINE 16, corresponding to directory numbers 740 through 755.
5. In the same manner, assign names to other CO lines as needed.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.

8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.7 Setting Up Pre-Programmed Messages

The DX-80 can notify a busy or unattended DET of a call attempt via one of the DX-80 system messaging features. At the DET display, the system shows messages waiting and provides prompts to assist the extension user in responding to the messages.

A message may be sent and received in several forms:

- A call me message
- A customized text message
- A pre-programmed text message (six total available)
- A voice mail message.

The following conditions apply to messaging.

- Custom text messages can contain 16 letters/symbols maximum.
- When you enter a custom message, the system saves it for future use.
- The system allows a total of forty-eight message wait indications in the system at any one time.
- At DETs, the system does not remove the message waiting indication until extension user presses *reply* or *delete*.
- When the system leaves a message wait indication at an extension, it flashes the auxiliary lamp a green, slow flash.
- Each extension may receive more than one message waiting from various extensions.
- Multiple messages are retrieved in the order that they were left.
- Each extension can leave only one message waiting at any one extension.

4.7.1 PROGRAMMING USING THE DET

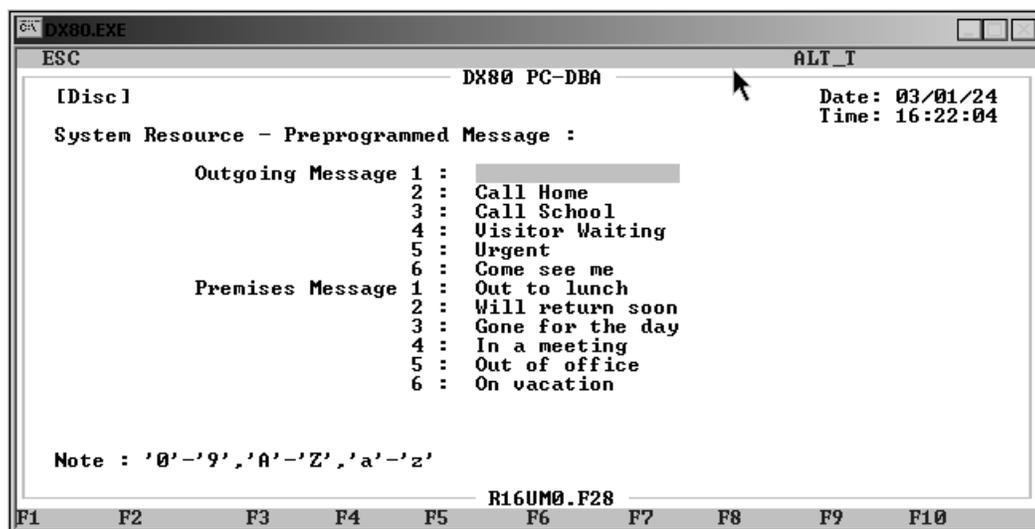
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to activate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *04-07-01-01*, then press *save*. This advances you to Preprogrammed Messages – Outgoing (Text) Message – 1.
4. Press *next* (if necessary) to advance to the next preprogrammed message.
5. Press *chg* to enter a new message for the selected preprogrammed message.
6. Use the chart and the dial pad keys to enter the new message. When finished press *save*.
7. Continue programming messages as required.

8. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

4.7.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Resource* and press *Enter*. The system displays the System Resource menu.
3. Highlight *Preprogrammed Message* and press *Enter*. The system displays the System Resource — Preprogrammed Message menu.



4. Highlight *Outgoing Message 1* and press *Enter*. Key in the first standard message you want to have available for extension users when sending a message to another extension, then press *Enter*.
5. In the same manner, specify the contents of outgoing messages 2 through 6 as needed.
6. Next, highlight *Premises Message 1* and press *Enter*. Key in the first standard message you want to have available for extension users to leave on their extensions when they must leave the company premises, then press *Enter*.
7. In the same manner, specify the contents of premises messages 2 through 6 as needed.
8. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
9. The system prompts “Save Current Setting?” Press *Y* to save your changes.
10. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
11. Press *Esc* to return to the Database Programming menu.
12. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.8 Programming Speed Dial Numbers

Speed dialing allows you to store frequently dialed numbers. The system accesses these numbers for dialing by the associated speed dial directory number (speed number location). You can store the directory number on any feature button for instant, one-button operation.

There are 200 speed dial bins allocated for system-wide use (locations 500-699). Extensions may also store up to 50 personal speed numbers in memory.

You can program the DX-80 system to allow system speed dial numbers to override toll restriction settings (both CO line and extension COS). For example, suppose your customer has a branch office out of state where they want to allow the corporate extension users to call, while still prohibiting all other toll calls. In this case, you can set up a system speed dial to allow calls to the branch office. *Note: It must be a system speed dial, as the system checks the toll restrictions for individual speed dial numbers and abides by them. System speed dial numbers override toll restrictions as long as you have System Speed Toll Check enabled. See Section 6.21, Enabling/Disabling System Speed Toll Check for more details.*

The default length of both individual and system speed dial numbers is three digits. The default range for system speed dials is directory numbers 500 to 699. The default range for individual speed dials is directory numbers 470 to 489. You can change any of these default settings by customizing the numbering plan. For more information, see Section 4.20.2.3, *Numbering Plan 3*.

The following conditions apply to assigning system speed dial numbers.

- The DX-80 system has 1000 speed dial number memory locations that are dynamically allocated to the system use (extensions individually via extension speed dial locations, or all extensions via system speed dial locations).
- You can program system speed dial bins, using Attendant Administration on a DET.
- You can chain speed bins.
- You can store pauses and flashes within the speed dial number. Chaining, pauses, and flashes each occupy one character position.
- If you access an empty bin the system displays the following.

SPEED NO. EMPTY

Note: You can program individual speed dial numbers at the individual extension, or across several extensions using PC-DBA. If you use the DET to set up your speed dials, you will have to program the speed dials at each extension; you cannot program individual speed dial numbers globally using the DET.

4.8.1 PROGRAMMING USING THE DET

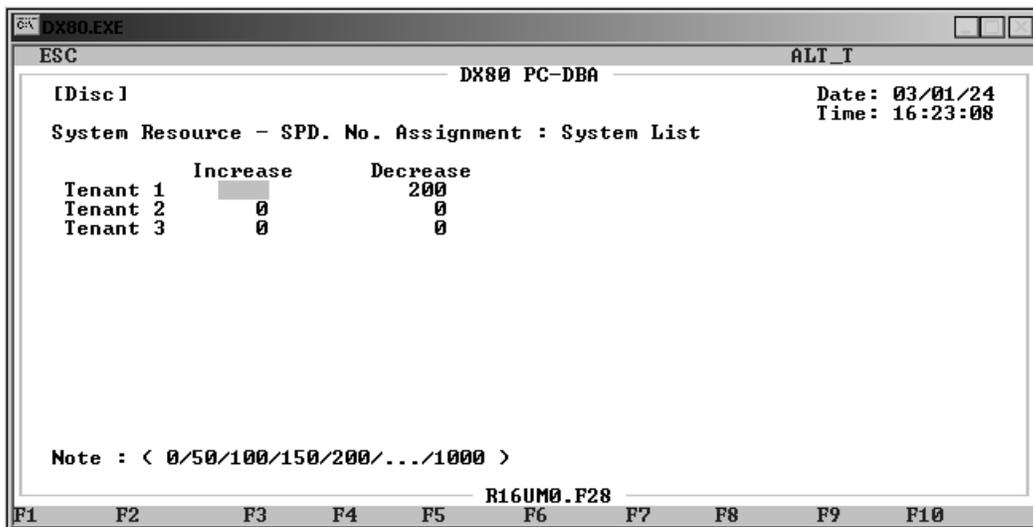
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. First, program SPD No. Assignment. Enter *04-08*, then press *save*.

4. Press *show*, which advances you to the Assignment for Individual Speed Dial numbers screen.
5. Press *show* to change an extension's speed numbers assignment. Then enter the extension number you want to set.
6. Press *show*, this advances you to the Increase screen for this extension.
7. Press *chg* to increase the assigned speed dial numbers for this extension. The range of allowable speed dials is 0 to 50. The default for extensions 101-140 is 20. The default for all others is 0.
Or...
Press *next* to advance to the Decrease screen for this extension. Then press *chg* to decrease the assigned speed dial numbers for this extension.
8. Press *next* if you want to change another extension number in the same manner.
9. When you are done programming the individual speed dial numbers, press *next*. The system sends you to the Assignment for System Speed Dial numbers screen.
10. Press *show*.
11. Enter the tenant group number you want to change (usually tenant group 1).
12. Press *show*, this advances you to the Increase screen for this Tenant Group System Speed List.
13. Press *chg* to increase the number of allocated speed dial numbers (in increments of 50). The range of allowable speed dials is 0 to 1000. The default is 200.
Or...
Press *next* to advance to the Decrease screen for this Tenant Group System Speed List.
14. Press *chg* to decrease the number of allocated speed dial numbers (in increments of 50).
15. Press *next* to enter a new tenant group and continue programming.
16. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.
17. Next, program the System Speed Numbers. Enter *04-09-1~3*, then press *save*. This advances you to the system speed dial entry point for the tenant group you specified.
18. Enter the speed dial number to program (500-699), then press *show*. The system displays the current stored number. Press *chg* to change this stored number.
19. Enter the new telephone number, using special characters as required.
 - Pause = *Feature 7 0*
 - Flash = *Feature 3*
 - Pulse-To-Tone Conversion = *
 - Speed Numbering Chaining = *Feature # + next speed number (500~699)*.
20. Press *save*. The system displays the speed dial number and the new contents.
21. Press *next*. In the same manner, program other system speed dials as needed. When you are finished, press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.
Note: You cannot program individual speed dial numbers globally using the DET. If you wish to do this, you must use PC-DBA.

4.8.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Data-base Programming menu.
2. Use the arrow keys to highlight *System Resource* and press *Enter*. The system displays the System Resource menu.
3. First, program the speed number assignment (allocation). Use the arrow keys to highlight *SPD No. Assignment* and press *Enter*. The system displays the SPD No. Assignment menu.
4. Highlight *System List* and press *Enter*. The system displays the System Resource—SPD No. Assignment : System List menu.

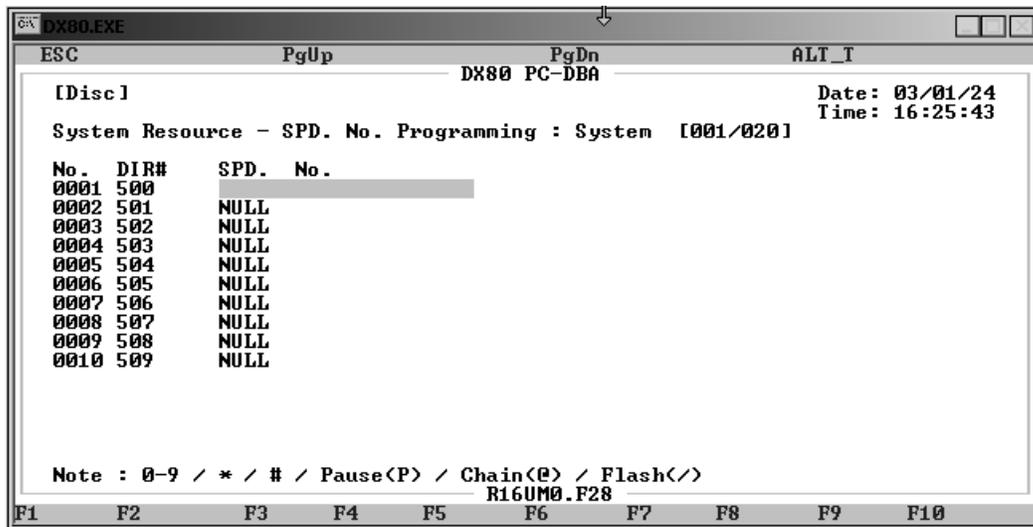


5. This menu shows you how many speed dial numbers are currently assigned to each tenant group. You can decrease or increase (if there is sufficient room) the number of speed dials available to the tenant group.
6. Highlight the tenant group you want to program under either the *Increase* or *Decrease* column, and press *Enter*. The system then automatically increases/decreases the amount of speed dials allowed, in increments of 50 (50, 100, 150, 200, etc.). The range of allowable speed dials is 0 to 1000. The default is 200.
7. In the same manner, assign system speed dial amounts for other tenant groups, as needed.
8. When you are done, press *Esc* to return to the SPD No. Assignment menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
9. The system prompts “Save Current Setting?” Press *Y* to save your changes.
10. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation. The system saves your changes and returns you to the SPD No. Assignment menu.
11. Next, allocate how many speed numbers you want to allow each extension to have. Highlight *Individual List* and then press *Enter*. The system displays the System Resource—SPD No. Assignment : Individual menu.

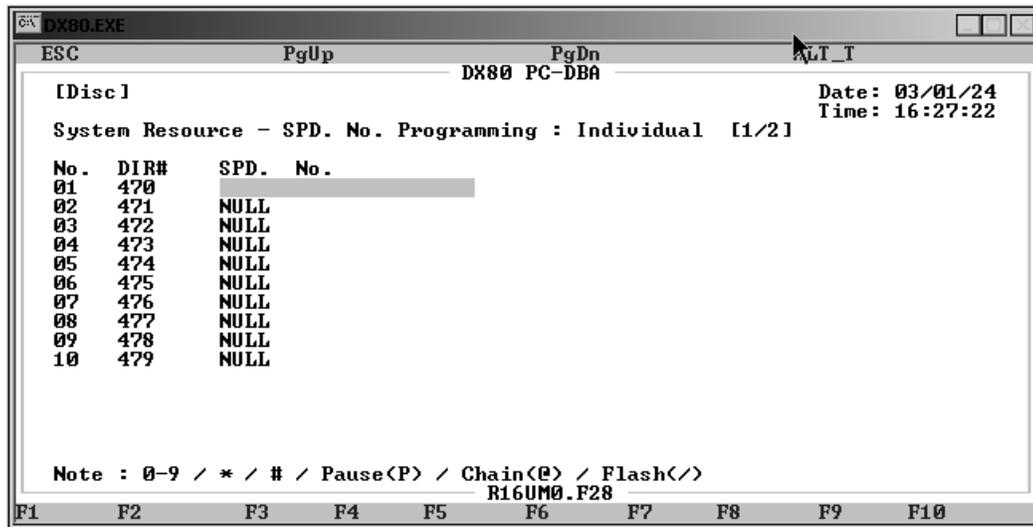
No.	DIR#	Increase	Decrease	No.	DIR#	Increase	Decrease
01	101	20	20	15	115	20	20
02	102	20	20	16	116	20	20
03	103	20	20	17	117	20	20
04	104	20	20	18	118	20	20
05	105	20	20	19	119	20	20
06	106	20	20	20	120	20	20
07	107	20	20	21	121	20	20
08	108	20	20	22	122	20	20
09	109	20	20	23	123	20	20
10	110	20	20	24	124	20	20
11	111	20	20	25	149	0	0
12	112	20	20	26	150	0	0
13	113	20	20	27	151	0	0
14	114	20	20	28	152	0	0

Note : Individual : < 0/10/20/30/40/50 >
R16UM0.F28

12. Highlight the *Increase* or *Decrease* fields for the extension you want to program. If you need to program extensions 29 through 56, press *Page Down* to view the next page.
13. Press *Enter* to increment the speed number allocation for the extension. Each time you press enter the system increases/decreases the allocation by 10. The range of allowable speed dials is 0 to 50. The default for extensions 101-140 is 20. The default for all others is 0.
14. In the same manner, assign individual speed dial amounts for other extensions, as needed.
15. When you are done, press *Esc* to return to the SPD No. Assignment menu. The system prompts: "Exit This Feature?"; press *Y* for yes.
16. The system prompts "Save Current Setting?" Press *Y* to save your changes.
17. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation. The system saves your changes and returns you to the SPD No. Assignment menu.
18. Next, program the system speed dial numbers. Highlight *SPD No. Programming* then press *Enter*. The system displays the SPD No. Programming menu.
19. Highlight *System SPD No.* and press *Enter*. The system displays the System SPD. No. menu. Highlight the tenant group you want to change, then press *Enter*. The system displays the System Resource — SPD. No Programming : System menu.



20. The system provides 15 pages of system speed dial numbers, from 1 to 150. Use the *Page Up* and *Page Down* buttons to find the page containing the system speed dial number you want to change. Highlight the *SPD. No.* field and press *Enter*.
21. Enter the new telephone number, using special characters as required.
 - Pause = *P*
 - Flash = / (forward slash)
 - Speed Numbering Chaining = @ + next speed number (500-699).
 Press *Enter*. The default is NULL.
22. In the same manner, program other system speed dial numbers as needed.
23. When you are done, press *Esc* to return to the SPD. No. Programming menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
24. The system prompts “Save Current Setting?” Press *Y* to save your changes.
25. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation. The system returns you to the SPD. No. Programming menu.
26. Finally, program the individual speed dial numbers. Highlight *Individual SPD No.* and press *Enter*. The system prompts you to enter the directory number you want to use for the individual speed dial number. When you enter a valid directory number and press *Enter*, the system displays the System SPD. No. Programming — Individual menu.



27. The system provides two pages of individual speed dial numbers, from 1 to 20. Use the *Page Up* and *Page Down* buttons to find the page containing the individual speed dial number you want to change. Highlight the *SPD. No.* field and press *Enter*.
28. Enter the new telephone number, using special characters as required.
 - Pause = *P*
 - Flash = / (forward slash)
 - Speed Numbering Chaining = @ + next speed number (500-699).
 Press *Enter*. The default is NULL.
29. In the same manner, program other individual speed dial numbers as needed.
30. When you are done, press *Esc* to return to the “Please Input DIR No.” prompt. Press *Esc* again. The system prompts: “Exit This Feature?”; press *Y* for yes.
31. The system prompts “Save Current Setting?” Press *Y* to save your changes.
32. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation. The system returns you to the SPD. No. Programming menu.
33. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.9 Controlling the Number of Caller ID Entries in the CID Table

The system stores caller identification information for up to 100 calls, per tenant group, in the CID (Caller ID) table. You can control how many entries (names/numbers) are in this table.

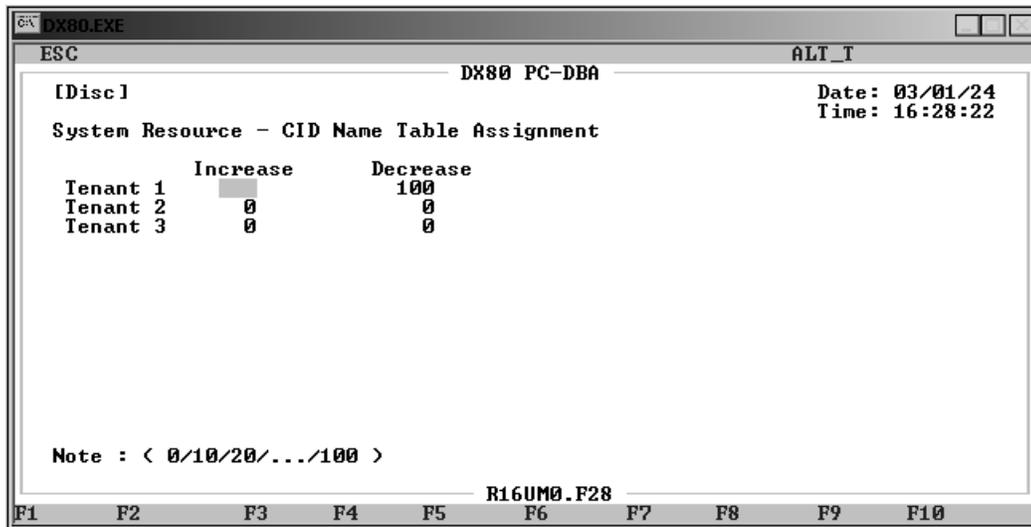
4.9.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *04-09*, then press *save*.
4. Press *show*, which advances you to the Assignment for CID Name Table screen. You can decrease or increase (if there is sufficient room) the number of caller ID names in the table.
5. Enter *04-10-1-01* and press *save* if you want to add to the number of Caller ID numbers allowed for tenant group 1. The system then automatically increases the amount of caller ID names allowed, counting by 10. The range of allowable speed dials is 0 to 100. The default is 100.
Or,
Enter *04-10-1-02* and press *save* if you want to reduce the number of Caller ID numbers allowed for tenant group 1. The system then automatically decreases the amount of caller ID names allowed, counting by 10.
6. Enter *04-11-1-01* and press *save* if you want to add to the number of Caller ID numbers allowed for tenant group 2.
Or,
Enter *04-11-1-02* and press *save* if you want to reduce the number of Caller ID numbers allowed for tenant group 2.
7. Enter *04-12-1-01* and press *save* if you want to add to the number of Caller ID numbers allowed for tenant group 3.
Or,
Enter *04-12-1-02* and press *save* if you want to reduce the number of Caller ID numbers allowed for tenant group 3.
8. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

4.9.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *System Resource* and press *Enter*. The system displays the System Resource — CID Name Table Assignment screen.



3. This menu shows you how many caller ID names/numbers are currently assigned in the CID table for each tenant group. You can decrease or increase (if there is sufficient room) the number of caller ID names in the table.
4. Highlight the tenant group you want to program under either the *Increase* or *Decrease* column, and press *Enter*. The system then automatically increases/decreases the amount of caller ID names allowed, counting by 10. The range of allowable speed dials is 0 to 100. The default is 100.
5. In the same manner, assign caller ID names amounts for other tenant groups as needed.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
7. The system prompts "Save Current Setting?" Press *Y* to save your changes.
8. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.10 Establishing Music Sources

The system provides two dedicated 3.5 millimeter phono-jack type inputs so you can connect two external music sources. The external music source may be a radio tuner, tape deck, CD player, message on hold, or other source. **Note:** *It is the your responsibility to adhere to all applicable copyright laws and any other music source restrictions.* You must connect an external music source to the KSU1-CPM MC1 or KSU1-CPM MC2 ports for the music on hold and background music features to operate.

Users can listen to these music sources at digital speakerphone extensions by using the background music codes (771/772). Also, any caller placed on hold will hear the music source you program for that CO line (sources are programmable on a per-CO line basis). You will assign music sources when you program the CO lines (Chapter 5). At that time, you will specify either MC1 or MC2 as the music source for each CO line. For more details, see Section 5.4, *Setting the Day and Evening Class of Services and Music On Hold (MOH) Source*.

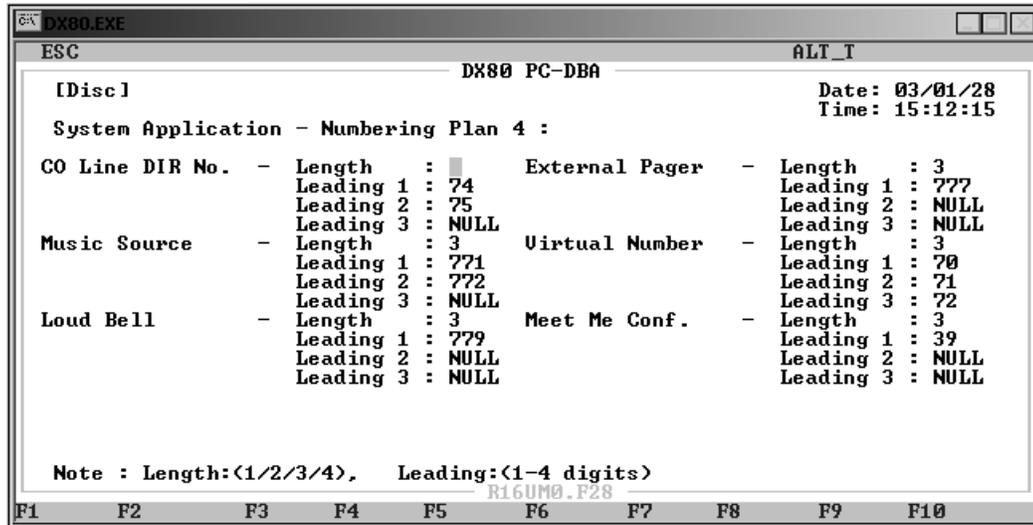
4.10.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. First, program the Music Directory Number Length (the number of digits in the extension you will use to access the music sources). Enter *08-09-09-01*, then press *save*. Press *chg* to select 1, 2, 3, or 4. The default is 3.
4. Press *next*.
5. Next, program Music Directory Number Leading 1, 2 or 3. Specify what extension you want to use for the first music source. Enter *08-09-09-02*, then press *save*. Press *chg* and key in the directory number. Valid directory numbers include any available, non-conflicting directory number. The default is 771.
6. Press *next*.
7. Now specify what directory number you want to use for the second music source. Press *chg* and key in the directory number. Valid directory numbers include any available, non-conflicting directory number. The default is 772. *Note: The Music Source – Leading 3 field is not used and is set to the default of NULL.*
8. Press the *Hold* button to return to the previous menu level,
Or press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or exit programming.

4.10.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Application* and press *Enter*. The system displays the System Application menu.
3. Highlight *Numbering Plan 4* and press *Enter*. The system displays the System Application—Numbering Plan 4 menu.



4. First, specify the number of digits in the extension you will use to access the music sources. Highlight *Music Source – Length* and press *Enter* to select 1 - 4. The default is 3.
5. Next, specify what extension you want to use for the first music source. Highlight *Music Source – Leading 1* and press *Enter*. Key in the directory number, and then press *Enter*. Valid directory numbers include any available, non-conflicting directory number. The default is 771.
6. Highlight *Music Source – Leading 2* and press *Enter*. Key in the directory number you want to use for the second music source, and then press *Enter*. Valid directory numbers include any available, non-conflicting directory number. The default is 772. *Note: The Music Source – Leading 3 field is not used and is set to the default of NULL.*
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.11 Assigning External Pager ID

The system provides external one-way, dedicated paging access to a paging amplifier or multi-zone one-way page controller. The external paging zone may be accessed individually, or with all eight internal paging zones as an all-call page.

You can program the external page access code on any available feature button. To set up individual extensions for pager use, see Section 10.6, *Assigning Extensions to Paging Groups*.

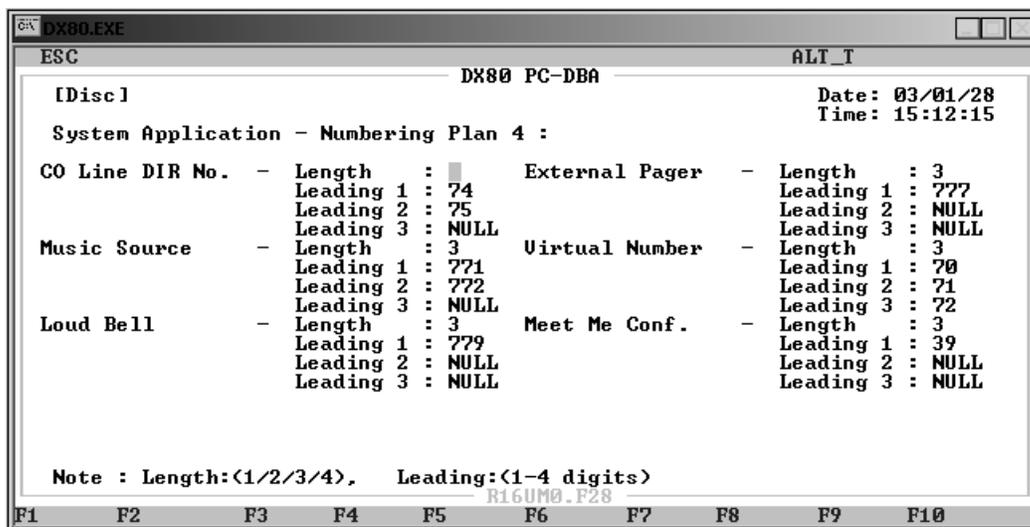
4.11.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. First, specify the number of digits in the extension you will use to access the external pager. Enter *08-09-11-01*, then press *save*.
4. Press *chg* to select 1 - 4 then press *save*. The default is 3.
5. Next, program the External Page Directory Number Leading 1, 2 or 3. Enter *08-09-11-02*, then press *save*.
6. Press *chg*. Enter the directory number you want to use to access the external pager, and then press *save*. Valid directory numbers include any available, non-conflicting directory number. The default is 777.
7. Press the *Hold* button to return to the previous menu level,
Or press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or exit programming.

4.11.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Application* and press *Enter*. The system displays the System Application menu.
3. Highlight *Numbering Plan 4* and press *Enter*. The system displays the System Application—Numbering Plan 4 menu.

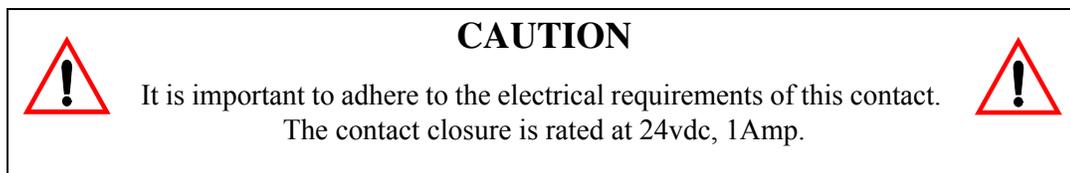


4. First, specify the number of digits in the extension you will use to access the external pager. Highlight *External Pager – Length* and press *Enter* to select 1 - 4. The default is 3.

5. Next, highlight the *External Pager – Leading 1* field, then press *Enter*. Key in the directory number you want to use to access the external pager, and then press *Enter*. Valid directory numbers include any available, non-conflicting directory number. The default is 777.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.12 Assigning Ancillary Devices (Loud Bell, External Page, or Music on Hold)

There is often a requirement to control ancillary devices via the telephone system. The DX-80 system provides one dry contact closure (standard) for interface of the various devices.



You can assign the contact closure to one of the following three uses.

- *Loud Bell Control*: If the system is installed in high noise environments, there is often a requirement to equip a loud (high-gain) ringing device. Using the contact in this way provides for control of an optional, ancillary loud ringing device. The device is connected to the contact as a trigger. When ringing occurs on CO lines in CO line groups designated for loud bell, the contact closure operates and controls the connected device.
- *External Page Control*: The contact may also be programmed to control external paging apparatus. When programmed in this manner, the contact closure operates whenever the external paging port is activated.
- *Music Source Control*: The contact may also be programmed to control Message On Hold devices. In this mode of operation the contact closure operates whenever CO lines are placed on hold. This function can reduce wear on electromechanical devices that provide the message on hold function.

4.12.1 PROGRAMMING USING THE DET

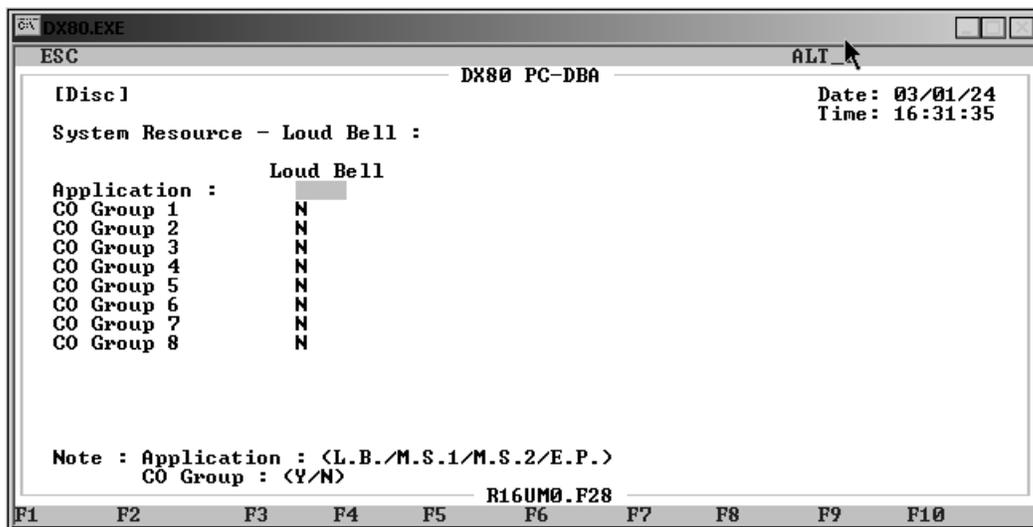
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.

3. Enter *04-13-1*, then press *save*. This advances you to the Loud Bell – Application programming field. Press *chg* to select *L.B.*, *M.S.1*, *M.S.2*, or *E.P.* The default is loud bell.
4. Press *next* to specify which CO line groups you want to use the ancillary device. Press *chg* to activate/deactivate the device for each CO line group.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

4.12.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Resource* and press *Enter*. The system displays the System Resource menu.
3. Highlight *Loud Bell* and press *Enter*. The system displays the System Application — Loud Bell menu.



4. Select the *Application* field and press *Enter* to select *L.B.*, *M.S.1*, *M.S.2*, or *E.P.* The default is loud bell.
5. Next, set the ancillary device either on or off for each CO line group. Highlight *CO Group 1* to tell the system you want to use the device for calls coming in on that CO line. Press *Enter* to select *Y* (yes). The default is *N* (no).
6. In the same manner, turn the loud bell on (Y) or off (N) for each CO line group.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
8. The system prompts "Save Current Setting?" Press *Y* to save your changes.
9. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.13 Assigning the DSS Port/Owner

The Attendant/Extension DSS console is a self-contained digital terminal that interacts with a predetermined DET. The console has 60 programmable buttons that can be used for easy access to the DX-80 system's many CO lines, extensions, and features. The first forty-eight buttons have dual colored LEDs that allow status monitoring of system resources such as CO lines and extensions. The remaining twelve buttons on the Attendant/Extension Console may be used for any system feature or resource but are not equipped with LEDs.

Although usually considered to be an attendant feature benefit, the DSS console can be assigned to any DX-80 DET. You can add a maximum of 12 sixty-button Attendant/Extension consoles to the system. Each requires its own dedicated digital port, and therefore reduces the number of DETs that you can connect to the system on a one-to-one basis.

The following conditions apply when assigning DSS port owners.

- Each DSS console has 48 dual-color LED buttons and 12 buttons without LEDs.
- Each DSS console requires its own dedicated cable pair from the KSU.
- You can assign up to 12 DSS consoles in the DX-80 system.
- You can assign to any DET a maximum of four Attendant/extension DSS consoles.

Each DSS is “mapped” with a default button arrangement. See Appendix B, *Button Labeling* to view the DSS button map.

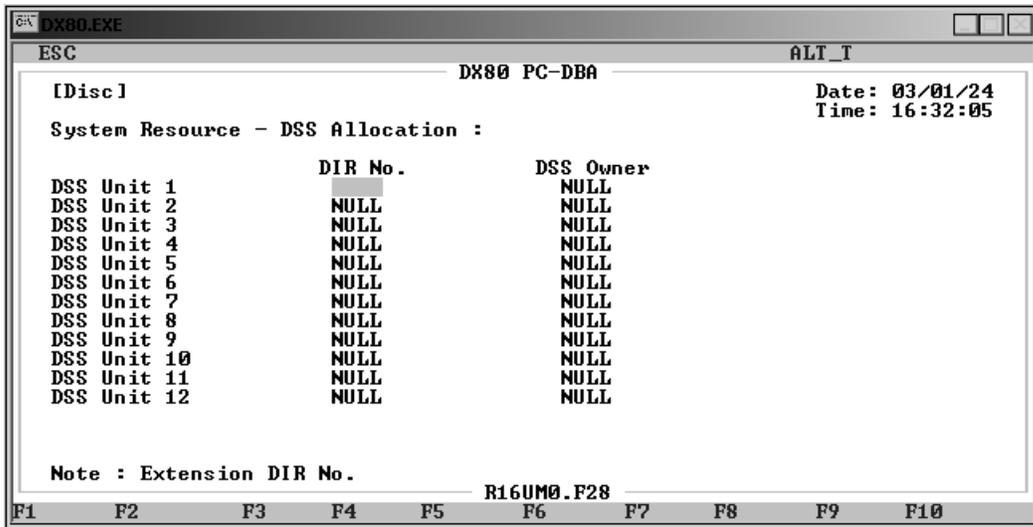
4.13.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Enter *04-14-01-01* to program the owner of DSS Console #1.
4. Press *save*. The current programming of the DSS Console #1 owner displays.
5. To change the designated DSS console owner press *chg*.
6. Enter the extension number to be assigned as the DSS Console owner. *Note: Only valid (equipment installed) extension directory numbers can be assigned as DSS Console Owners.*
7. Press *save*.
8. Press *next*. The current directory of the DSS Console displays (“NULL” if empty).
9. Press *chg* to enter the new DSS Console directory number (the extension number of the digital port to which the DSS Console is connected).
10. Press *save*.
11. Press *next*. The display prompts you for the next DSS Console # to program. Valid entries are 1-12.
12. Enter the number of the next DSS Console to program or press the Hold button to return to the previous programming menu for other programming requirements. Or, press the *On/Off* button twice to exit programming mode.

4.13.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Resource* and then press *Enter*. The system displays the System Resource menu.
3. Highlight the *DSS Allocation* field. The system displays the System Resource—DSS Allocation menu.



4. Highlight the *DIR No.* field for DSS Unit 1 and press *Enter*. Key in the directory number of the digital port to which the DSS Console is connected, and press *Enter*. Valid port directory numbers include any available, non-conflicting port directory number. The default is NULL.
5. Highlight the *DSS Owner* field for DSS Unit 1 and press *Enter*. Key in the number of the extension with which this DSS will operate, and press *Enter*. Valid extension numbers include any available, non-conflicting extension number. The default is NULL.
6. In the same manner, assign DSS port numbers and extension numbers for the remaining DSS units as needed.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.14 Setting Up Optional Internal Modem

The DX-80 system can be equipped with an optional internal modem so you can remotely program the DX-80 remote using PC-DBA. When equipped, the modem module provides a dedicated communications path between the system processor and PC-DBA. This communications path does not require use of analog port system resources.

The modem speeds are 1200 bps/ 2400 bps.

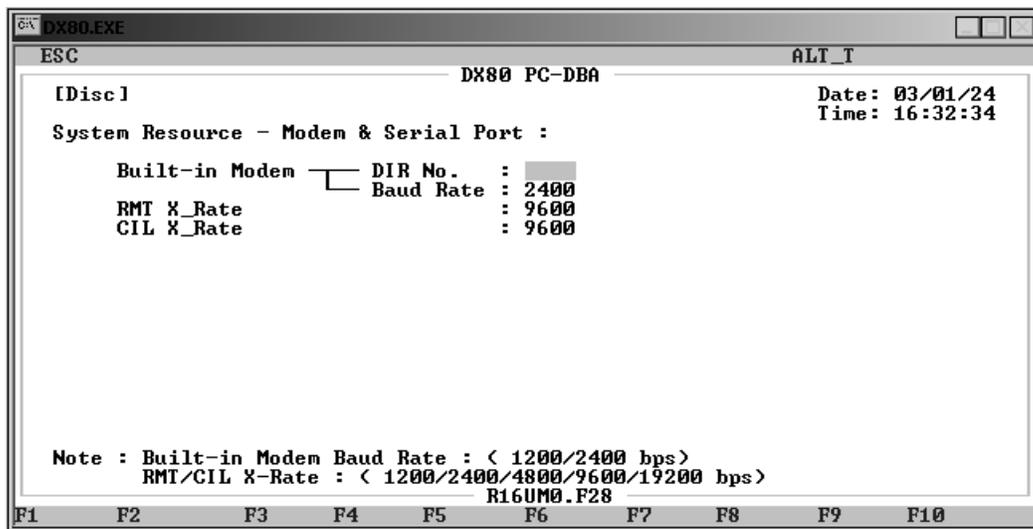
4.14.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *04-15* and press *save*. This advances you to the Built-in Modem programming screen.
4. Press *show*. This advances you to the Built-in Modem – Directory Number programming screen.
5. To change the modem directory number, press *chg*.
6. Enter the new directory number that you want to assign to the modem resource. Valid directory numbers are from those designated for extension directory numbers. The default is 199.
7. Press *save*.
8. Press *next*. This advances you to the Built-in Modem – Baud Rate programming screen.
9. Press *chg* to choose either 1200 or 2400 as the operating speed of the modem. The default is 2400.
10. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

4.14.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Resources* and press *Enter*. The system displays the System Resources menu.
3. Highlight *Modem & Serial Port* and press *Enter*. The system displays the System Resources—Modem & Serial Port menu.



4. Highlight the *Built-in Modem – DIR. No.* field and press *Enter*. Key in the directory number you want to use for the internal modem, and then press *Enter*. Valid directory numbers are from those designated for extension directory numbers. The default is 199.
5. Highlight *Built-in Modem – Baud Rate* and press *Enter* to choose either 1200 or 2400 as the operating speed of the modem. The default is 2400.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.15 Specifying PC-DBA Transmit Rate

The DX-80 system allows you to remotely program the DX-80 using PC-DBA on a laptop. You must set the transmission rate for this communication between the switch and your laptop.

4.15.1 PROGRAMMING USING THE DET

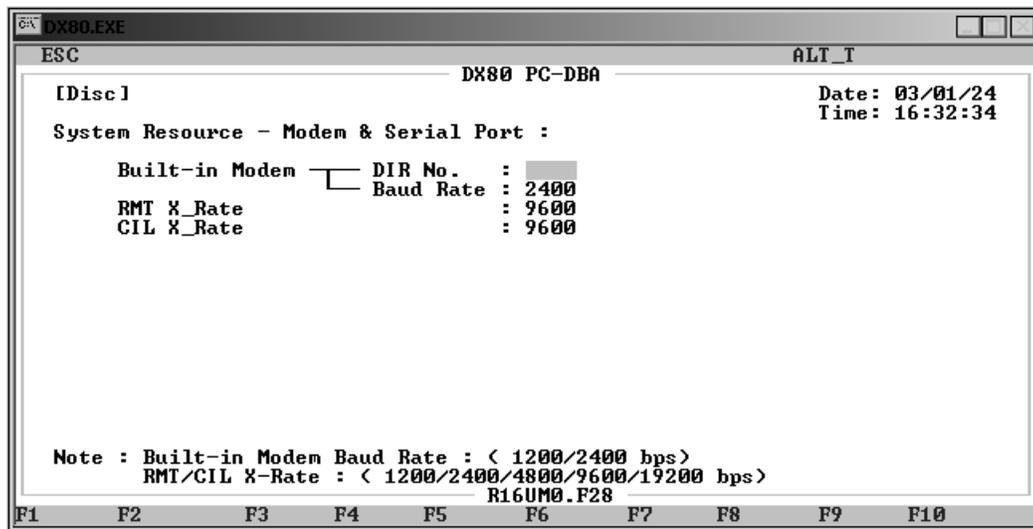
Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *04-16* and press *save*. This advances you to the RTM X RATE field.
4. Press *chg* to select the transmission rate between your laptop and the DX-80 switch. Valid choices include 1200, 2400, 4800, 9800, and 19200. The default is 9600.
5. Press *save*.

6. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

4.15.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Resources* and press *Enter*. The system displays the System Resources menu.
3. Highlight *Modem & Serial Port* and press *Enter*. The system displays the System Resources—Modem & Serial Port menu.



4. Highlight the *RMT X_Rate* field and press *Enter* to select 1200, 2400, 4800, 9800, and 19200. The default is 9600.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.16 Selecting SMDR Transmit Rate

The DX-80 system allows you to specify the transmission rate of SMDR data, consisting of eight bits, one stop bit, and no polarity.

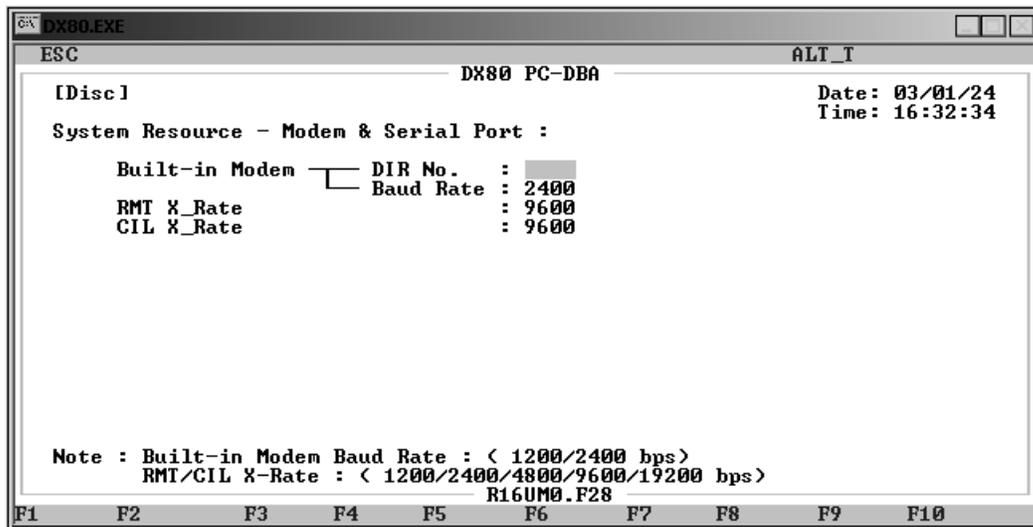
4.16.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *04-17* and press *save*. This advances you to the CIL X RATE field.
4. Press *chg* to select the SMDR data transmission rate. Valid choices include 1200, 2400, 4800, 9800, and 19200. The default is 9600.
5. Press *save*.
6. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

4.16.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Resources* and press *Enter*. The system displays the System Resources menu.
3. Highlight *Modem & Serial Port* and press *Enter*. The system displays the System Resources—Modem & Serial Port menu.



4. Highlight the *CIL X_Rate* field and press *Enter* to select the SMDR data transmission rate. Valid choices include 1200, 2400, 4800, 9800, and 19200. The default is 9600.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.17 Setting Up Ring Scheme

Discriminating Ringing is provided to denote ringing patterns specific to system resources. Ringing at an extension for intercom calls is different than ringing for CO line calls; this difference is referred to as discriminating ringing.

There are ten ring schemes from which you can choose.

Ring Scheme	External Ring	Internal Ring	Call Back Ring	Beep	Double Beep	Alert	Doorphone Ring
0	300 ms on, 400 ms off, 300 ms on, 4 sec. off, repeat	1 sec. on, 4 sec. off, repeat	300 ms on, 400 ms off, repeat	250 ms on, then off	250 ms on, 250 ms off, 250 ms on, then off	500 ms on, 500 ms off, 500 ms on, then off	2 sec. On, 1 sec. Off, then repeated
1	350 ms on, 300 ms off, 350 ms on, 5 sec. off, repeat	1 sec. on, 5 sec. off, repeat	300 ms on, 400 ms off, repeat	250 ms on, then off	250 ms on, 250 ms off, 250 ms on, then off	500 ms on, 500 ms off, 500 ms on, then off	2 sec. On, 1 sec. Off, then repeated
2	1 sec. on, 4 sec. off, repeat	300 ms on, 400 ms off, 300 ms on, 4 sec. off, repeat	300 ms on, 400 ms off, repeat	250 ms on, then off	250 ms on, 250 ms off, 250 ms on, then off	500 ms on, 500 ms off, 500 ms on, then off	2 sec. On, 1 sec. Off, then repeated
3	1 sec. on, 2 sec. off, repeat	300 ms on, 400 ms off, 300 ms on, 2 sec. off, repeat	300 ms on, 400 ms off, repeat	250 ms on, then off	250 ms on, 250 ms off, 250 ms on, then off	500 ms on, 500 ms off, 500 ms on, then off	2 sec. On, 1 sec. Off, then repeated

Ring Scheme	External Ring	Internal Ring	Call Back Ring	Beep	Double Beep	Alert	Doorphone Ring
4	2 sec. on, 4 sec off, repeat	1 sec. on, 2 sec.off, repeat	300 ms on, 400 ms off, repeat	250 ms on, then off	250 ms on, 250 ms off, 250 ms on, then off	500 ms on, 500 ms off, 500 ms on, then off	2 sec. On, 1 sec. Off, then repeated
5	1 sec. on, 3 sec. off, repeat	1 sec. on, 1 sec. off, repeat	300 ms on, 400 ms off, repeat	250 ms on, then off	250 ms on, 250 ms off, 250 ms on, then off	500 ms on, 500 ms off, 500 ms on, then off	2 sec. On, 1 sec. Off, then repeated
6	1 sec. on, 4 sec. off, repeat	600 ms on, 200 ms off, 200 ms on, 4 sec. off, repeat	200 ms on, 200 ms off, 200 ms on, 200 ms off, 200 ms on, 4 sec. off, repeat	250 ms on, then off	250 ms on, 250 ms off, 250 ms on, then off	500 ms on, 500 ms off, 500 ms on, then off	2 sec. On, 1 sec. Off, then repeated
7	300 ms on, 400 ms off, 300 ms on, 4 sec. off, repeat	1 sec. on, 3 sec. off, repeat	300 ms on, 400 ms off, repeat	250 ms on, then off	250 ms on, 250 ms off, 250 ms on, then off	500 ms on, 500 ms off, 500 ms on, then off	2 sec. On, 1 sec. Off, then repeated
8	1 sec. on, 3 sec. off, repeat	1 sec. on, 3 sec. off, repeat	300 ms on, 400 ms off, repeat	250 ms on, then off	250 ms on, 250 ms off, 250 ms on, then off	500 ms on, 500 ms off, 500 ms on, then off	2 sec. On, 1 sec. Off, then repeated
9	1 sec. on, 3 sec. off, repeat	300 ms on, 400 ms off, 300 ms on, 4 sec. off, repeat	300 ms on, 400 ms off, repeat	250 ms on, then off	250 ms on, 250 ms off, 250 ms on, then off	500 ms on, 500 ms off, 500 ms on, then off	2 sec. On, 1 sec. Off, then repeated

4.17.1 PROGRAMMING USING THE DET

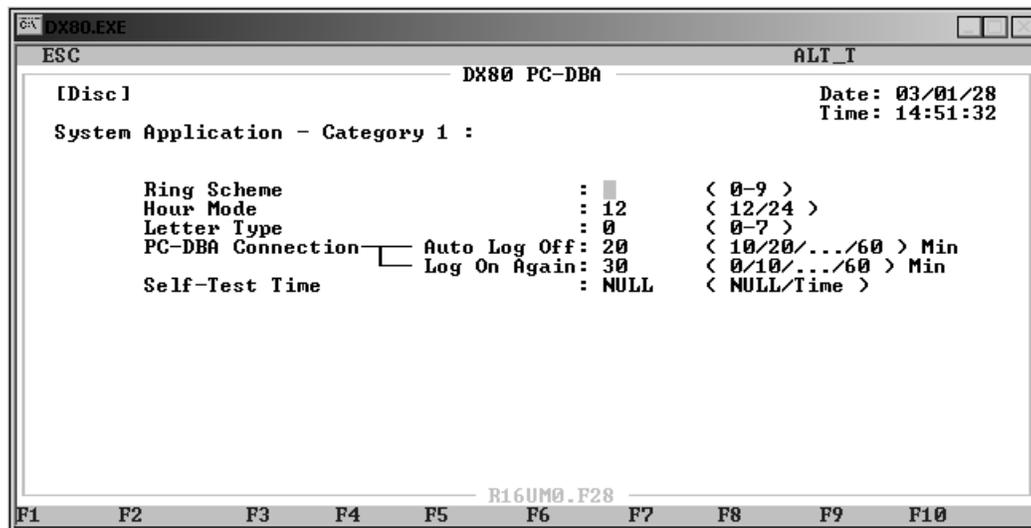
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.

2. Press *show*. The system displays the DB Item Select screen.
3. Enter *08-02*, then press *save*. This advances you to the Ring Scheme programming screen.
4. Press *chg* to change to select the ring scheme. Valid options are 0 - 9. The default is 3.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

4.17.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Application* and press *Enter*. The system displays the System Application menu.
3. Highlight *Category 1*, and then press *Enter*. The system displays the System Application menu.



4. Highlight *Ring Scheme* and press *Enter*. Valid ring schemes are 0 through 9. The default is 3.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.18 Setting Up Letter Type (Enhanced Lettering Scheme)

You can enhance extension user names, CO line names, pre-programmed messages, and UCD names for special requirements using the choices available in the lettering schemes. DX-80 provides your customer a choice from eight different lettering schemes. While the extension user is editing an outgoing message, and while you are programming names in the system, the chosen letter scheme characters are accessible by repeated pressing of the / dial pad key.

The enhanced lettering scheme applies when entering text for the following functions.

- Extension User Names
- UCD / Hunt Groups
- CO Line Names
- Alphanumeric Display
- Messaging – Call Me, Text, or Voice

Only one lettering scheme can be active at a time. Use the following tables to determine what letter scheme best suits your client’s installation.

Use the letters associated with the number keys to spell out a name or word using lower case letters; for example, press the 5 key twice for the letter “k.”

Number Key	1 * press	2 * presses	3 * presses	4 * presses	then
2	a	b	c		press #
3	d	e	f		
4	g	h	i		
5	j	k	l		
6	m	n	o		
7	p	q	r	s	
8	t	u	v		
9	w	x	y	z	

Note: The # button acts as an enter key. You must press it after each character you enter to save that character in the position. You can also use # to enter a space.

So for example to enter “mary” as an extension user’s name, enter the following keystrokes.

6*#2*#7***#9***#

You can also use capital letters if you wish. Use the following table when entering a capital letter.

Number Key	1 press	2 presses	3 presses	4 presses	then
2	A	B	C		press #
3	D	E	F		
4	G	H	I		
5	J	K	L		
6	M	N	O		
7	P	Q	R	S	
8	T	U	V		
9	W	X	Y	Z	

So for example to enter “Mary” as an extension user’s name, enter the following keystrokes.

6#2*#7***#9***#

If you wish to use numerals, refer to the following table.

First Press	Then Number Key	then	To Get
*	2	press #	2
*	3		3
*	4		4
*	5		5
*	6		6
*	7		7
*	8		8
*	9		9

So for example to enter “1846” as password, enter the following keystrokes.

*1#*8#*4#*6#

Finally, the DX-80 also allows you to use special characters from other languages. Which letter the system enters is dependant on the numbering scheme you have specified, from 0 to 7. Only one numbering scheme can be active at a time. Refer to the following table for details.

Numbering Scheme Type	Press 1 one time	Press 1 twice	Press 1 3 times	Press 1 4 times	Press 1 5 times	Press 1 6 times	Press 1 7 times	Press 1 8 times	then
0	Æ	Æ	Ø	Ø	À	Á	Ä	Ü	press #
1	Ç	Ä	Ö	Ñ	Á	Ä	Ç	İ	
2	Ö	É	Ê	Ê	Ë	Ü	Ç	Ñ	
3	Ë	Ö	Ê	Ñ	Ö	Ë	Ë	Ë	
4	Ä	É	Ö	Ü	Ü				
5	É	Ñ	Ê	Ê					
6	Ë	Ä	Ë	Ä	Ö	Ö			
7	Ü	Ü	Ë	Ä	Ö	Ö			

For example, if your customer site is in a bilingual Spanish/English area, you may want to choose lettering scheme 4, as it contains Spanish letters. The extension users can then send text messages in Spanish or English.

4.18.1 PROGRAMMING USING THE DET

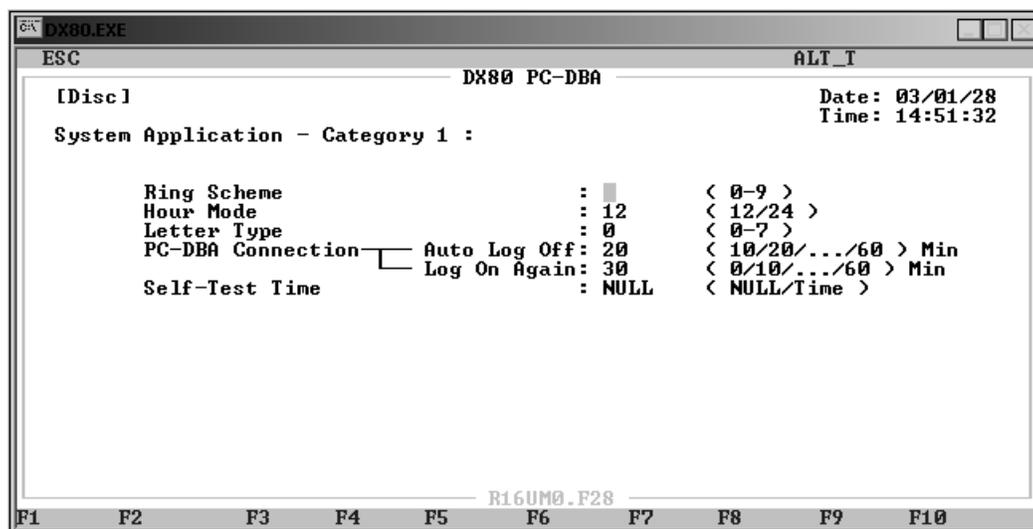
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *08-04*, then press *save*. This advances you to the Letter Type programming screen.

4. Press *chg* to change to select the letter type. Valid options are 0 - 7. The default is 0.
5. Press the *Hold* button to exit system time programming and return to the previous menu level.
6. Exit the programming mode.

4.18.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Application* and press *Enter*. The system displays the System Application menu.
3. Highlight *Category 1*, and then press *Enter*. The system displays the System Application menu.



4. Highlight *Letter Type* and press *Enter* to select the enhanced lettering scheme. Valid types are 0 through 7. The default is 0.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
6. The system prompts "Save Current Setting?" Press *Y* to save your changes.
7. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.19 Setting System Time, Date, and Hour Mode

The DX-80 system provides a built-in time clock to track system time for certain features such as system night service mode change, SMDR, alarm clock – system, automatic CO line ringing, extension, and time and date display at executive speakerphones. This clock is battery-protected from power failure. You can change the system time at any DET, using the attendant password.

You can also choose what time format (standard 12-hour time or 24-hour time) the system uses to display the time at DETs. The following conditions apply to the hour mode.

- The system does not display “AM” and “PM” indications.
- When programming time-related features, use 24-hour format.
- SMDR output is in 24-hour format regardless of the settings of hour mode.

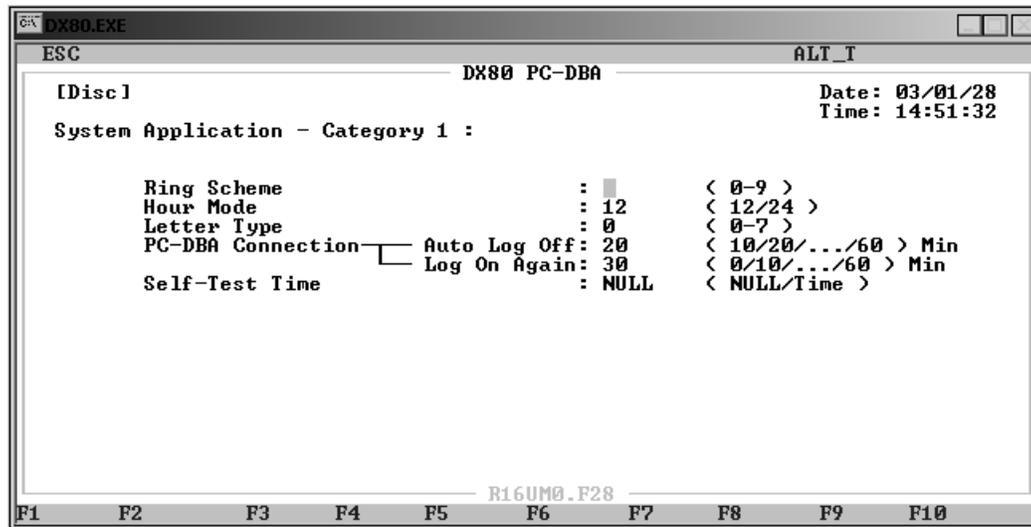
4.19.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

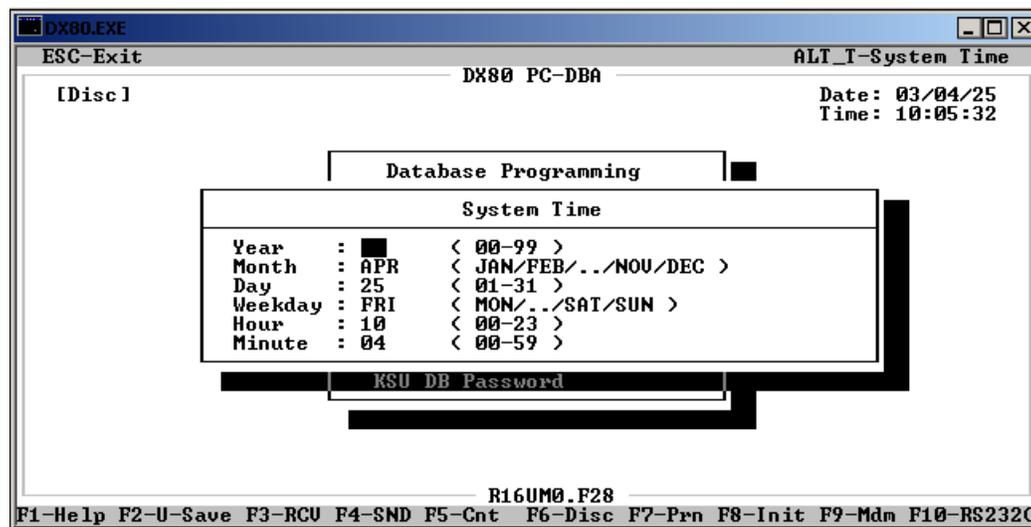
1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *08-03*, then press *save*. This advances you to the Hour Mode programming screen.
4. Press *chg* to change to select *12/24 Hour Mode*.
5. Enter *08-14*, then press *save*. This advances you to the System Time programming screen.
6. Press *show*. The system displays the Year field.
7. Press *chg* to change the year for the system clock.
Or...
Press *next* to advance to the next system clock field (month, day, weekday, hour, minutes).
8. Press *chg* and enter data as required. Program the other database items for the system clock in the same manner.
9. Press the *Hold* button to exit system time programming and return to the previous menu level.
10. Exit the programming mode.

4.19.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Application* and press *Enter*. The system displays the System Application menu.
3. Highlight *Category 1*, and then press *Enter*. The system displays the System Application menu.



4. Highlight *Hour Mode* and press *Enter* to select either 12 or 24 for the hour format. The default is 12.
5. When you are done, press *Esc* to return to the System Application menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the System Application menu Press *Esc* again to return to the Database Programming menu.
9. Next, press *Alt T* to set the system time and date. The system displays the System Time menu.



Note: You can set the system time and date while using any menu in PC-DBA by pressing Alt T.

10. Highlight *Year* and press *Enter*. Key in the last 2 digits of the year (for example 03 for 2003) and press *Enter*. The default is 99.
11. Highlight *Month* and press *Enter* to choose the current month. The default is JAN.

12. Next, highlight *Day* and press *Enter*. Key in the day, from 1 to 31, and press *Enter*. The default is 1. **Note:** *As you select the day, the system automatically changes the Weekday field to reflect the day of the week for the year, month, and day you entered.*
13. Highlight *Hour*, key in the current hour, and press *Enter*. Valid choices are 1 to 23. The default is 00.
14. Finally, highlight *Minute* and press *Enter* to set the current minute in system time. Key in the current minute and press *Enter*. The default is 00.
15. When you are finished setting the system time and date, press *Esc* to return to the Database Programming menu.
16. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

4.20 Customizing the Numbering Plan

The DX-80 system numbering plan refers to what numbers the extension user or system administrator has to dial to access to the various resources that are part of the system. A primary example is the extension numbers in the system. When one extension user calls another extension, the system uses the settings in the numbering plan to correctly direct the call. For this reason the numbering plan is often referred to as the system directory numbers.

The DX-80 system comes with a default directory numbering system already set up for you. If this default system meets your customer's needs, you do not need to modify the default numbering scheme; Comdial recommends you use the default numbering plan as often as possible to minimize your programming time. However, if your customer wants all extension numbers to begin with "7" for example, you have to modify the default numbering plan to accomplish this. **Note:** *If you do customize the numbering plan, you will have to re-program it every time you perform a cold start. You can make a copy of your custom database using PCDBA, but you will have to have the copy and your laptop with you on site each time you perform the cold start.*

	CAUTION	
<p>The numbering plan contains setups for directory numbers that are interdependent with setups for other directory numbers. Changing one setting often affects the settings of other directory numbers.</p> <p>Use care when altering the default numbering plan.</p>		

The DX-80 allows you to flexibly configure numbering for the various system resources. Resources are defined primarily as "port" oriented components of the system. The system allows you to structure the numbering plan specific to the customer you are servicing. Although the flexibility of the directory number structure is provided primarily for system port resources, you can also customize some feature access (e.g., account code, paging groups, and speed dial).

Flexibility in numbering includes:

- number of digits in the codes that access the associated resource, and
- leading digit/digits assigned to each resource (if applicable).

As you assign codes, the system checks for conflicts with other codes to keep you from improperly programming resource directory numbers. To successfully implement changes to the default (factory programmed) directory number plan, the system does not allow you to enter a new code if it is in use elsewhere. You can, however, reuse that code if you delete it from its other assignment.

When you are programming system resources, start by specifying the length (from 1-4 digits) of the directory number the system uses to access the resource. Then assign the specific digits you want to use for the resource. Use caution when assigning the digits to resources, as you can assign a resource all specified digits (i.e., hunt group directory numbers begin with any number), or only leading digits (i.e., hunt group directory numbers must begin with “2”, or “34”, etc.).

The default settings for all items are shown in the following tables. The valid range for all directory number lengths is from one to four digits. Valid options for leading fields include any available, non-conflicting directory number. This means that if you have assigned a directory number to begin with “41”, for example, no other types of directory numbers can begin with 41.

Flexible Numbering Plan – CO Line Group Defaults										
Length	Leading	Length	Leading	Length	Leading	Length	Leading	Length	Leading	Resulting Code
1	1	2	2	3	3	4	4	5	5	
1	9	3	80	Null	Null	Null	Null	Null	Null	9,800-806

Flexible Numbering Plan – Directory Number Defaults											
	Length	Leading Digits								Resulting Code	
		1	2	3	4	5	6	7	8		
Operator Code	1	0	n/a								0
Account Code	2	79	n/a								79
Extension	3	1	Null	100-199							
Ext. Page Group	3	40	Null	Null	n/a					400-408	
Hunt/UCD Groups	3	41	42	43	n/a					410-433	
Pickup Groups	3	44	Null	Null	n/a					440-447	
Individual Speed Dial	3	47	48	49	n/a					470-499	
CO Line DIR No.	3	74	75	Null	n/a					740-755	
Music Source	3	771	772	Null	n/a					771,772	
Loud Bell Control	3	779	Null	Null	n/a					779	
External Pager	3	777	Null	Null	n/a					777	
Virtual Number	3	70	71	72	n/a					700-729	
Meet Me Conference	3	39	Null	Null	n/a					390-397	

The following tables provide examples of assigning numbers for pickup groups and extensions.

Pickup Group Directory Number Examples						
	Length	Leading Digits			Resulting Code	Comments
		1	2	3		
A	2	4	Null	Null	40-47	<ul style="list-style-type: none"> • Users dial 40-47 for group pickup. • The digit “4” is unavailable as the first digit for any other directory number use.
B	2	44	45	Null	44, 45	<ul style="list-style-type: none"> • Users dial 44 or 45 for group pickup. • There are only two group pickup groups. • Digits 40-43, 46-49 are available as the first two digits for other numbering plan requirements.
C	3	44	Null	Null	440-447	<ul style="list-style-type: none"> • Users dial 440-447 for group pickup. • Digits 40-43, 45-49 are available as the first two digits for other numbering plan requirements.

Extension Directory Number Examples											
	Length	Leading Digits								Resulting Code	Comments
		1	2	3	4	5	6	7	8		
A	4	1	Null	1000-1999	<ul style="list-style-type: none"> • Users dial 1000-1999 when dialing other extensions. • The digit “1” is unavailable as the first digit for any other directory number use. 						
B	3	1	Null	100-199	<ul style="list-style-type: none"> • Users dial 100-199 when dialing other extensions. • The digit “1” is unavailable as the first digit for any other directory number use. 						
C	2	1	2	3	Null	Null	Null	Null	Null	10-39	<ul style="list-style-type: none"> • Users dial 10-39 when dialing other extensions. • Digits 1, 2 & 3 are unavailable as the first digit for any other directory number use.

Extension Directory Number Examples											
D	2	10	11	12	13	14	15	16	17	11-17	<ul style="list-style-type: none"> • Users dial 11-17 when dialing other extensions. • The digit “1” is unavailable as the first digit for any other numbering plan requirements. • Only eight extensions will have intercom numbers.

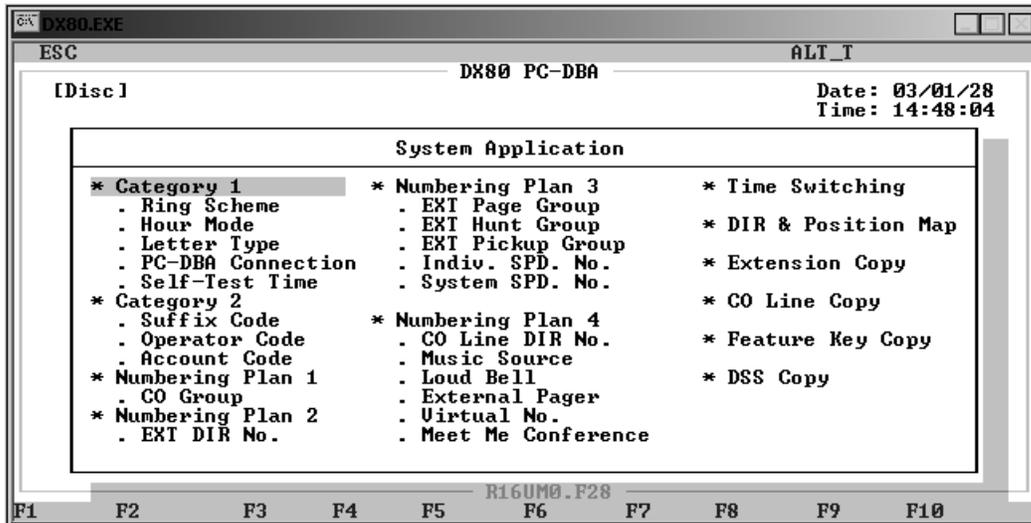
4.20.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *08-09-01*, then press *save*. This advances you to Numbering Plan – CO Group programming.
4. Press *show* to enter into CO Group numbering plan programming.
Or...
Press *next* to advance to the next numbering plan item.
5. When the numbering plan program you want to change displays, press *show*.
6. The first parameter is Length. If you want to change this, press *chg* until the length you want to use displays. Valid choices are 1-4.
7. Press *next* until the leading digit you want to program displays.
8. Press *chg* to allow an entry into this item.
9. Enter the leading digit(s) you want to assign to this system resource, then press *save*. Leading digits allow you to specify the starting digits of a directory number. You can use the leading digit fields to specify a range of numbers; for example, 74 in a three digit field allows a range from 740 to 749 and excludes all other numbers.
10. Press *next* to advance to the next leading digit to program, or until the next numbering plan item you want to change displays.
11. Repeat these steps above for all numbering plan items you want to change.
12. When you have finished making your changes, press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

4.20.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Application* and press *Enter*. The system displays the System Application menu.

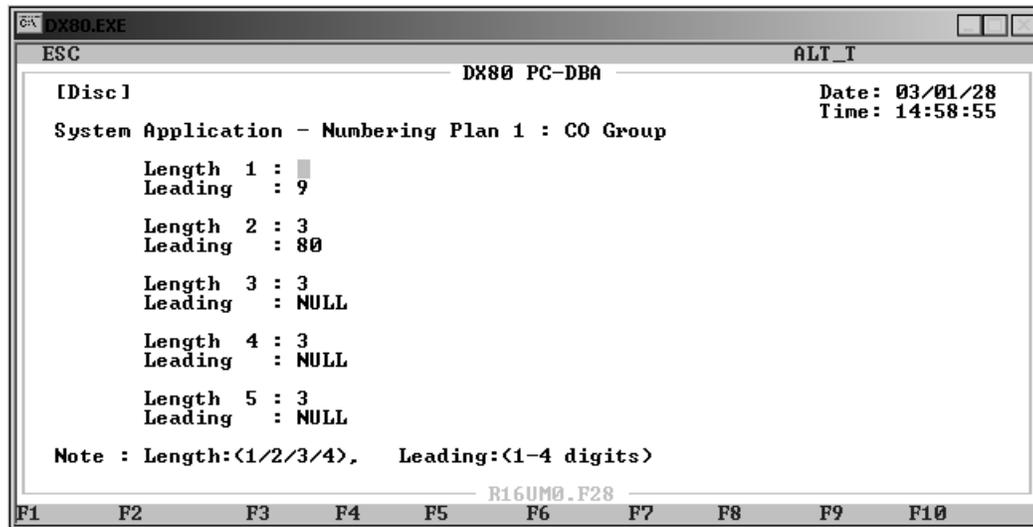


There are 4 menus associated with the DX-80 numbering plan. Comdial has assigned default values in all fields in the numbering plan. You can use the numbering plan as is with the default values, but you may need to customize the numbering plan for your clients's particular local calling area and needs.

4.20.2.1 Numbering Plan 1

The first page of the numbering plan allows you to create and modify CO groups; which allows you to group CO lines according to function.

1. Highlight *Numbering Plan 1* on the System Application menu and press *Enter*. The system displays the System Application—Numbering Plan 1 screen.

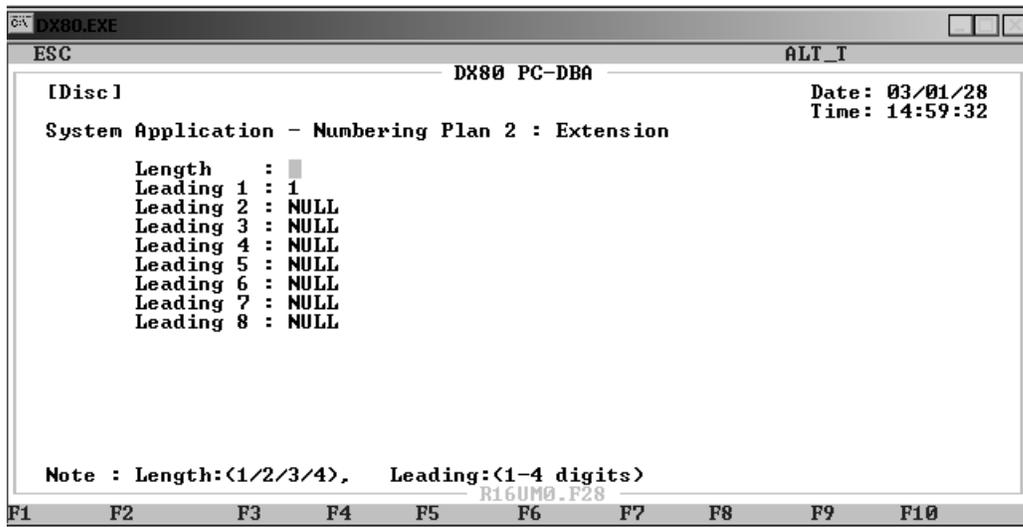


2. Highlight *Length 1* and press *Enter* to specify the number of digits in the directory number you want to assign to CO line group 1. The valid choices are 1-4. The default is 3.
3. Highlight *Leading* and press *Enter*. Key in the digits you want to use for accessing CO line 1. Valid entries are 0 to 9999. The default is 9.
4. In the same manner, assign the lengths and directory numbers and for CO line groups 2 through 5 as needed.
5. When you are done, press *Esc* to return to the System Application menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the System Application menu.

4.20.2.2 Numbering Plan 2

The second page of the numbering plan allows you to specify the amount of digits in the DX-80 extensions, and whether any leading digits are required.

1. Highlight *Numbering Plan 2* on the System Application menu and press *Enter*. The system displays the System Application—Numbering Plan 2 screen.



2. In the *Length* field, enter the number of digits you want to use in extension numbers, and press *Enter*. Valid extension lengths are between 1 and 4 digits; the default is 3.
3. In the *Leading 1* field, enter the digits you want to require as the beginning digits in your extension numbers (if any), and press *Enter*. For example, if you want all of your extension numbers to begin with 5, enter 5 here. Or, to allow only extension numbers 590 through 599, enter 59 (assuming a 3-digit length). The default is 1, so the default extension numbers include 100 through 199.
4. In the *Leading 2* field, enter the digits you want to require for an additional range of extension numbers (if any), and press *Enter*. For example, if you want to allow extension numbers 570-579 in addition to extension numbers you specified in the *Leading 1* field, enter 57 here.
5. In the same manner, assign the remaining leading digits as needed. The default for the second through the eight leading digit is NULL.
6. When you are done, press *Esc* to return to the System Application menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the System Application menu.

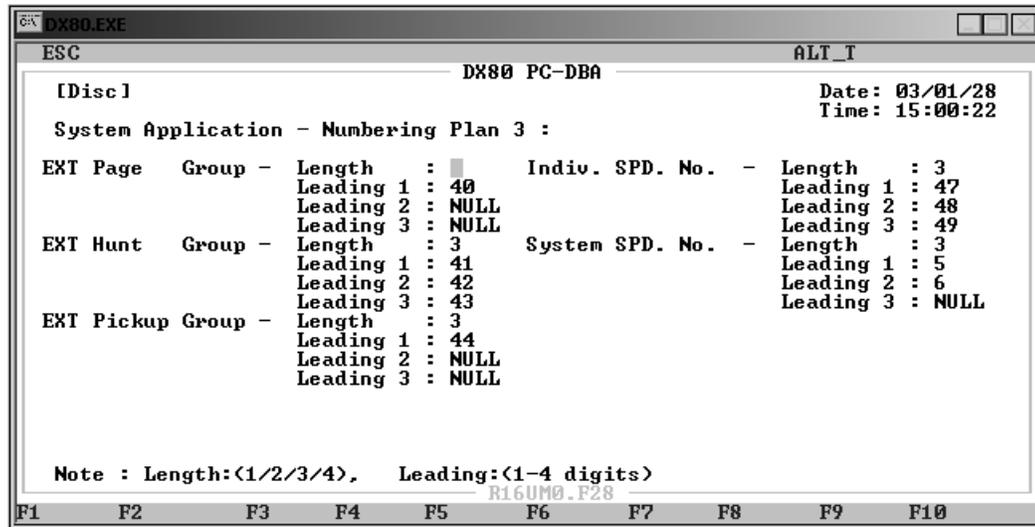
4.20.2.3 Numbering Plan 3

The third page of the numbering plan allows you to specify the amount of digits in the extension paging, hunt, and pickup group directory numbers, and what directory numbers you want extension users to dial to access their page, hunt, or pickup group.

This page also allows you to set up the length of individual and system speed dials, and what numbers you want extension users to enter to access either an individual speed dial or a system speed dial.

Note: *The system does not allow you to assign the same set of numbers to different types of directory numbers. For example, if you leave the system default for extension numbers set to 100-199, you cannot also assign any number within that range to page groups, hunt groups, speed dial numbers, etc.*

1. Highlight *Numbering Plan 3* on the System Application menu and press *Enter*. The system displays the System Application—Numbering Plan 3 screen.

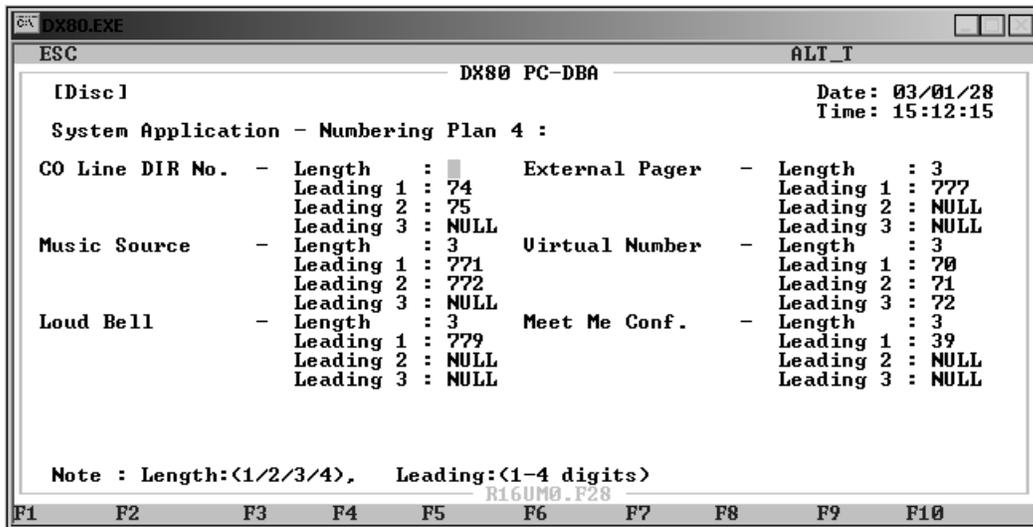


2. Highlight the *Length* field for EXT Page Groups to set the length of the directory numbers for extension page groups. Press *Enter* to select 1, 2, 3, or 4 digits. The default is 3 digits.
3. In the *Leading 1* field, enter the digits you want extension users to dial to pick up a call within their page group. This number can have 1 to 4 digits, depending on what length you set. The default is 40.
4. In the *Leading 2* field, enter another set of digits you want extension users to dial to pick up a call within their page group, in addition to the number you specified in *Leading 1*. This number can have 1 to 4 digits, depending on what length you set. The default is NULL.
5. If you want to provide a third number for extension users to dial to pick up a call within their page group, specify that number in the *Leading 3* field. The default is NULL.
6. In the same manner, specify the length and any appropriate leading digits for extension hunt groups, extension pickup groups, individual speed dial numbers, and system speed dial numbers. The defaults for these fields are shown in the preceding figure.
7. When you are done, press *Esc* to return to the System Application menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the System Application menu.

4.20.2.4 Numbering Plan 4

The fourth page of the numbering plan allows you to specify the amount of digits in the CO line, music source, loud bell, external pager, virtual number, and meet me conference directory numbers; and what directory numbers you want extension users to dial to access these resources. **Note:** *The system does not allow you to assign the same set of numbers to different types of directory numbers. For example, if you leave the system default for extension numbers set to 100-199, you cannot also assign any number within that range to page groups, hunt groups, speed dial numbers, etc.*

1. Highlight *Numbering Plan 4* on the System Application menu and press *Enter*. The system displays the System Application—Numbering Plan 4 screen.



2. Highlight *CO Line DIR No. Length* to specify how many digits you want to use in the CO line directory numbers. Press *Enter* to select 1, 2, 3, or 4. The default is 3.
3. In the *Leading 1* field, enter the range of digits you want to allow extension users to dial when accessing a CO line. This number can have 1 to 4 digits, depending on what you entered in the Length field. The default is 74 (with the default length of 3 digits, this setting enables directory numbers 740 through 749). If you want to allow a single number instead of a range, enter the number in this field; for example, assuming a 3 digit length, enter 740 to enable that number only.
4. In the *Leading 2* field, enter another number or range of numbers you want extension users to dial to access a CO line, in addition to the number you specified in Leading 1. This number can have 1 to 4 digits, depending on what length you set. The default is 75 (with the default length of 3 digits, this setting enables directory numbers 750 through 759).
5. If you want to provide a third number or set of numbers that extension users can dial to to access a CO line, specify that number/range in the *Leading 3* field. The default is NULL.
6. In the same manner, program the *Music Source*, *Loud Bell*, *External Pager*, *Virtual Number*, and *Meet Me Conference* directory number lengths and leading digits.
7. When you are done, press *Esc* to return to the System Application menu. The system prompts: "Exit This Feature?"; press *Y* for yes.
8. The system prompts "Save Current Setting?" Press *Y* to save your changes.
9. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
10. Press *Esc* to return to the System Application menu. Press *Esc* again to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5. PROGRAMMING CO LINES

If you are programming an existing database using PC-DBA, be sure to upload the current switch database to your laptop using a RECEIVE ALL command before making your changes. This way, you will be working on the customized database and will not have to reprogram all the custom settings. (If you are programming a brand new database from scratch and are not using any templates, you can ignore this step.) See Section 2.1.4.3, *F3 – Receive* for further details.

To program the CO lines, perform the following tasks for each line. **Note:** *The DX-80 provides you with a shortcut to use when programming CO lines. You can program one or more “baseline” CO lines whose setups you want to use for other CO lines, and then copy the baseline setups to those other lines. For further details on using this shortcut, see Section 3.1.1, Using a Database Programming Template.*

1. Assign the CO line to a tenant group.
2. Assign the CO line to a pickup group.
3. Assign the Day classification for the CO line.
4. Assign the Evening classification for the CO line.
5. Select the MOH source for the CO line.
6. Assign the dial type this CO line.
7. Assign the CO line type.
8. Enable/disable call abandon.
9. Set up privacy for this CO line.
10. Set up the CO ring type.
11. Assign the answer position for Day and Evening modes for this CO line.
12. Set up Time Switching.
13. Set up Pre-Defined Call Forward for this line.
14. Set up the PBX code for line group 1-8.
15. Set up the hunt method
16. Set up the alternate CO group.
17. Set up Fax detection.

While you are programming in PC-DBA, the system saves your changes in the working directory residing on the laptop. While it may appear that you have re-programmed the switch, the system does not update the switch database with your changes until you perform a SEND command from the laptop.

	CAUTION	
<p>If PC-DBA is set to U-Save, your database changes reside only on your laptop. When you have finished making all changes to the database, perform a SEND operation to download the new database to the DX-80 switch.</p>		

For further details on the SEND command, see Section 2.1.4.4, *F4 – Send*.

5.1 Phantom Lines / Virtual Numbers

Phantom lines are software resources that act as placement mechanisms for call processing. CO line and intercom calls can be routed to phantom lines (or virtual numbers) where they can be accessed by any extension that has an appearance (button) for that phantom line. If internal call routing requires a connection (CO line or intercom) to be placed in a general access location, phantom lines can be a good solution.

Phantom lines do not ring; the system indicates a call at a phantom line by fast flashing the associated LED only. Calls that are connected to phantom lines are usually announced using the page feature for proper pickup.

You must program phantom lines onto Flexible Feature Buttons.

If no appearance of the phantom line exists in the system, the user attempting to call the phantom line or transfer a call to the phantom line will receive error tone and see the following message on the display.

OUT OF SERVICE

To set up phantom lines/virtual numbers, see Section 4.20.2.4, *Numbering Plan 4*.

5.2 Assigning the Tenant Group

The Tenant Groups feature allows you to separate system resources so the DX-80 system can operate as two or three independent systems deployed at a single site.

Tenant Grouping allows you to independently allocate resource directory numbers. The directory numbers for system resources interact only with the resources within the tenant group. For example, you designate attendant extensions for each tenant group; these attendant extensions act independently for the assigned tenant group. When a caller dials 0 to reach the attendant, the system automatically calls the attendant extension you designated for that group (attendant extension 2 for tenant group 2, etc.).

You can completely isolate extension functions depending on how you assign the tenant groups; i.e., you can prohibit calling from one tenant group to another. You do not have to isolate extensions to be able to isolate system resources, however. (See Section 3.39, *CO Line Assignment*, Section 3.48, *CO Line Ring Assignment (Answer Position)*, and Section 3.49, *CO Line Ring Type Assignment* for details on how to isolate system resources without invoking full isolated tenant operations).

Other tenant group programming includes:

- Call Handling - Tenant Calling
- Extension - Tenant Group.

The following conditions apply when assigning the CO line to a tenant group.

- The DX-80 system provides up to three tenant groups.
- When tenant calling is restricted from one tenant group to another tenant group, intercom calls, call transfers and recalling operations will not operate across these designations.
- Extension directory numbers remain unique to system ports and are not duplicated for each tenant group. (Although extension dialing may be restricted across tenant group barriers.)

5.2.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *02-740~755-02* and press *save*. This advances you to the Tenant Group selection for the CO line you specified.
4. Press *chg* until the tenant group you want to use for this CO line displays.
5. Press the *Hold* button to enter a new CO line to program.
6. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

5.2.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *CO Line* and press *Enter*. The system displays the CO Line menu.
3. Highlight *Category 1* and press *Enter*. The system displays the CO Line - Category 1 menu.

The screenshot shows a terminal window titled 'DX80.EXE' with a menu titled 'DX80 PC-DBA'. The menu is titled '[Disc] CO Line - Category 1 : [1/2]'. The date and time are 'Date: 03/01/29' and 'Time: 12:20:34'. The menu is controlled by ESC, PgUp, PgDn, and ALT_T. The main menu is a table with columns: No., DIR#, M/SS/PP, Tenant Group, Dialing, CO LN Type, Call Abandon, CO Group, and Private To. The table lists 8 CO lines. At the bottom, there is a note explaining the fields: Note : Tenant Group : <1-3>, Dialing : <Tone/Pulse>, CO LN Type : <CO/PBX/EMPTY/PAGE/CO DEU>, Call Abandon : <Y/N>, CO Group : <1-8>, Private To : <EXT DIR No.>. The bottom of the screen shows function keys F1 through F10.

No.	DIR#	M/SS/PP	Tenant Group	Dialing	CO LN Type	Call Abandon	CO Group	Private To
1	740	1/01/01		Tone	CO	Y	1	NULL
2	741	1/01/02	1	Tone	CO	Y	1	NULL
3	742	1/01/03	1	Tone	CO	Y	1	NULL
4	743	1/01/04	1	Tone	CO	Y	1	NULL
5	744	1/05/01	1	Tone	CO	Y	1	NULL
6	745	1/05/02	1	Tone	CO	Y	1	NULL
7	746	1/05/03	1	Tone	CO	Y	1	NULL
8	747	1/05/04	1	Tone	CO	Y	1	NULL

Note : Tenant Group : <1-3>, Dialing : <Tone/Pulse>
CO LN Type : <CO/PBX/EMPTY/PAGE/CO DEU>, Call Abandon : <Y/N>
CO Group : <1-8>, Private To : <EXT DIR No.>

4. Use the arrow keys and *Page Up* and *Page Down* to highlight the *Tenant Group* field for the CO line you want to program. Then press *Enter* to toggle through the available tenant group numbers 1, 2, or 3.
5. Continue assigning tenant groups to CO lines in the same manner, until you have assigned all CO lines the tenant groups you want them to use.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system then prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5.3 Assigning the CO Group

The system provides eight CO line groups that you can assign to specific CO lines. The CO line group assignment is used for CO line pool access.

The CO line groups are, by default, designated by three-digit notation when programmed on DET programmable feature buttons. The exception to this is CO line group 1, which is by default designated as a one-digit 9. You can program CO line groups 2 through 8 by dialing 800 through 806.

5.3.1 PROGRAMMING USING THE DET

Note: *chg*, *bkspace*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code Feature # * and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Program your extensions for CO Line Access. Enter *02-ccc-03*, where *ccc* is the CO line directory number (740-755).
4. Press *save*. This advances you to CO line group for the CO line you specified.
5. Press *chg* until the CO line group you want to assign displays. Valid entries are 1 through 8. The default is 1.
6. Press the *Volume* button (up or down) to return to the DB Item Select screen and enter another CO line, or, press the *Hold* button to select another CO line you want to program.
7. Press *show*.
8. Press *next* twice to advance to the CO line group programming for the CO line you specified.
9. When finished programming CO line groups, press the *Volume* button (up or down) to return to the DB Item Select screen or exit programming.

5.3.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *CO Line* and press *Enter*. The system displays the CO Line menu.
3. Highlight *Category 1* and press *Enter*. The system displays the CO Line — Category 1 menu.

No.	DIR#	M/SS/PP	Tenant Group	Dialing	CO LN Type	Call Abandon	CO Group	Private To
1	740	1/01/01		Tone	CO	Y	1	NULL
2	741	1/01/02	1	Tone	CO	Y	1	NULL
3	742	1/01/03	1	Tone	CO	Y	1	NULL
4	743	1/01/04	1	Tone	CO	Y	1	NULL
5	744	1/05/01	1	Tone	CO	Y	1	NULL
6	745	1/05/02	1	Tone	CO	Y	1	NULL
7	746	1/05/03	1	Tone	CO	Y	1	NULL
8	747	1/05/04	1	Tone	CO	Y	1	NULL

Note : Tenant Group : <1-3>, Dialing : <Tone/Pulse>
 CO LN Type : <CO/PBX/EMPTY/PAGE/CO DEU>, Call Abandon : <Y/N>
 CO Group : <1-8>, Private To : <EXT DIR No.>

This is the first of two pages for this database programming. Page 1 shows the programmable database items for CO line ports 1-8 (CO lines 740-747); Page 2 shows the programmable database items for CO line ports 9-16 (CO lines 748-755). Use the *Page Up* and *Page Down* buttons to select the screen for the CO lines you want to program. (CO line numbers are listed in the No. field on the left side of the screen.)

4. Use the arrow keys to highlight the *CO Group* field for the CO line you want to program. Press *Enter*, then key in the CO group number you want to assign to this CO line. Valid entries are 1 through 8. The default is 1. After you have entered the group number, press *Enter* again.
5. In the same manner, make other CO line group assignments as needed.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
7. The system prompts "Save Current Setting?" Press *Y* to save your changes.
8. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation. The system saves your changes and returns you to the CO Line menu.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5.4 Setting the Day and Evening Class of Services and Music On Hold (MOH) Source

The DX-80 allows you to assign a different class of service for day mode and evening mode.

Whenever a CO line is placed on hold, the system plays programmed music. If you need background music or music on hold, you must connect the music channels to some music source.

CO lines that are placed on hold are connected to one of two external music sources. The DX-80 system provides two sources of MOH, since the system may be installed in a location that serves two separate businesses and MOH requirements.

As an alternative, the system can play a “tone” to callers while on hold. If neither of the two music channels is connected to a music source, or if the music sources are not intended for the MOH function, you can use the beep tone to signify to callers on hold that their call is still holding. The tone duration is one second, and repeats every 4 seconds. To use the internal music tone, the MUSIC option strap (JP30) must be connected to the INT position on the CPM board. For further details on connecting MOH sources, see the *DX-80 Technical Manual, Volume 1, Installation and Maintenance*, part number IMI72-001.

5.4.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. First, assign the day and evening classifications for the CO line. Enter *02-740~755-04*, then press *save*. This advances you to the Day Classification programming screen for the CO line you entered (CO line 1 = 740, CO line 16 = 755).
4. Press *chg* until the day class you want to use (0 through 7) displays. The default is 0.
5. Enter *02-740~755-05*, then press *save*. This advances you to the Evening Classification programming screen for the CO line you entered (CO line 1 = 740, CO line 16 = 755).
6. Press *chg* until the evening class you want to use (0 through 7) displays. The default is 0.
7. Enter *02-740~755-06*, then press *save*. This advances you to the MOH Source programming screen for the CO line you entered (CO line 1 = 740, CO line 16 = 755).
8. Press *chg* until the MOH source you want to use (MC1, MC2, Tone) displays.
9. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

5.4.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *CO Line* and then press *Enter*. The system displays the CO Line menu.
3. Highlight *Category 2* and then press *Enter*. The system displays the Category 2 menu.

ESC		DX80 PC-DBA						ALT_I	
[Disc]								Date: 03/01/31 Time: 08:14:54	
No.	DIR#	M/SS/PP	Day Class	Eve Class	MOH Source	CO Ring Type	Privacy Release		
1	740	1/01/01	0	0	MC1	0	N		
2	741	1/01/02	0	0	MC1	0	N		
3	742	1/01/03	0	0	MC1	0	N		
4	743	1/01/04	0	0	MC1	0	N		
5	744	1/05/01	0	0	MC1	0	N		
6	745	1/05/02	0	0	MC1	0	N		
7	746	1/05/03	0	0	MC1	0	N		
8	747	1/05/04	0	0	MC1	0	N		
9	748	2/01/01	0	0	MC1	0	N		
10	749	2/01/02	0	0	MC1	0	N		
11	750	2/01/03	0	0	MC1	0	N		
12	751	2/01/04	0	0	MC1	0	N		
13	752	2/05/01	0	0	MC1	0	N		
14	753	2/05/02	0	0	MC1	0	N		
15	754	2/05/03	0	0	MC1	0	N		
16	755	2/05/04	0	0	MC1	0	N		
Note :		Day/Eve Class:<0-7>			Music Source:<MC1/MC2/TONE>				
		CO Ring Type:<0-8>			R16UM0.F28				
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10

4. First, assign the day and evening classifications for the CO line. Highlight *Day Class* for the CO line you want to program, and press *Enter*. **Note:** *CO line numbers are shown on the left side of the menu in the first column—the No. field.* Select which class of service you want the system to use during daytime hours for this CO line. Valid options are 0 through 7. The default is class of service 0.
5. Highlight *Eve Class*, and press *Enter*. Select which class of service you want the system to use during evening hours for this CO line. Valid options are 0 through 7. The default is class of service 0.
6. Next, highlight the *MOH Source* field. Press *Enter* to select the music on hold source you want to use for this CO line: MC1, MC2, or TONE. The default is MC1 (music channel 1). If you do not want to provide MOH, select TONE.
7. In the same manner, program other CO lines as needed.
8. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
9. The system prompts “Save Current Setting?” Press *Y* to save your changes.
10. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
11. Press *Esc* to return to the Database Programming menu.
12. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5.5 Setting the Dial Type

You can designate CO lines as pulse dial or DTMF (Touch Tone®) dial types. This setting determines how the system delivers telephone number dialing to the telephone company.

You can temporarily force a CO line that is marked as dialing type “pulse” to tone mode for use with automated answering devices etc. using the Pulse to DTMF Conversion feature.

5.5.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Enter *02-ccc-07*, where “ccc” = the CO Line directory number to be programmed.
4. Press *chg* to select Tone or Pulse dialing mode.
5. Press the *Volume* button (up or down) to return to the DB Item Select screen to enter a new CO Line number.
6. Continue making other programming changes or exit the programming mode.

5.5.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *CO Line* and press *Enter*.
3. Highlight *Category 1* and press *Enter*. The system displays the CO Line — Category 1 screen.

No.	DIR#	M/SS/PP	Tenant Group	Dialing	CO LN Type	Call Abandon	CO Group	Private To
1	740	1/01/01		Tone	CO	Y	1	NULL
2	741	1/01/02	1	Tone	CO	Y	1	NULL
3	742	1/01/03	1	Tone	CO	Y	1	NULL
4	743	1/01/04	1	Tone	CO	Y	1	NULL
5	744	1/05/01	1	Tone	CO	Y	1	NULL
6	745	1/05/02	1	Tone	CO	Y	1	NULL
7	746	1/05/03	1	Tone	CO	Y	1	NULL
8	747	1/05/04	1	Tone	CO	Y	1	NULL

Note : Tenant Group : <1-3>, Dialing : <Tone/Pulse>
 CO LN Type : <CO/PBX/EMPTY/PAGE/CO DEU>, Call Abandon : <Y/N>
 CO Group : <1-8>, Private To : <EXT DIR No.>

4. Use *Page Up* or *Page Down* to select CO Lines 1-8 or 9-16.

5. Highlight the *Dialing* field for the CO line you want to program. Press *Enter* to assign either Tone or Pulse. The default is Tone.
6. In the same manner, assign the dial type for other CO lines as needed.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5.6 Setting the CO Line Type

You can assign each CO line one of the following CO line circuit connection types.

CO	CO type line circuits are standard interface lines that require no special handling for advanced system features.
PBX	The PBX line type invokes system automatic operations for handling of PBX ports. When the user dials a programmed PBX trunk access code, the system is alerted that the user is accessing a telephone company facility to make a network call. When this occurs, the system monitors digits dialed after the PBX access code and compares them against the allowed digit interval table in that station’s class of service. The programmed PBX trunk access code also tells the system to insert a pause when re-dialing telephone numbers dialed on that CO line, beginning with the PBX access code. This operation applies for Speed Dial, Last Number Redial, Saved Number Redial, Memo Pad, and Automatic Redial.
EMPTY	Use this assignment for CO lines equipped on the system, but not connected to telephone company network facilities. The EMPTY type eliminates the CO line from access by system features that automatically access CO line resources.
CO DEV	The CO DEV type identifies a CO line circuit as being connected to special apparatus. This type effectively removes the CO line circuit from automatic access by system features, while maintaining its direct accessibility for the specific purpose of its connection. (Typical use would include connection of ancillary analog intercom calling device.)
PAGE	The PAGE type identifies a CO line circuit as being connected to special apparatus. This type effectively removes the CO line circuit from automatic access by system features while maintaining its direct accessibility for the specific purpose of its connection. (Typical use would include connection of ancillary paging equipment.)

5.6.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Enter *02-740~755-08* then press *save*. The CO line type displays for the CO line selected.
4. Press *chg* until the appropriate CO Line Type displays.
5. Press the *Volume* button (up or down) to return to the DB Item Select screen and another CO line number for programming or exit the program mode.

5.6.2 PROGRAMMING USING PC-DBA

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *CO Line* and press *Enter*.
3. Highlight *Category 1* and press *Enter*. The system displays the CO Line — Category 1 screen.

No.	DIR#	M/SS/PP	Tenant Group	Dialing	CO LN Type	Call Abandon	CO Group	Private To
1	740	1/01/01		Tone	CO	Y	1	NULL
2	741	1/01/02	1	Tone	CO	Y	1	NULL
3	742	1/01/03	1	Tone	CO	Y	1	NULL
4	743	1/01/04	1	Tone	CO	Y	1	NULL
5	744	1/05/01	1	Tone	CO	Y	1	NULL
6	745	1/05/02	1	Tone	CO	Y	1	NULL
7	746	1/05/03	1	Tone	CO	Y	1	NULL
8	747	1/05/04	1	Tone	CO	Y	1	NULL

Note : Tenant Group : <1-3>, Dialing : <Tone/Pulse>
 CO LN Type : <CO/PBX/EMPTY/PAGE/CO DEV>, Call Abandon : <Y/N>
 CO Group : <1-8>, Private To : <EXT DIR No.>

4. Use *Page Up* or *Page Down* to select CO Lines 1-8 or 9-16.
5. Highlight the *CO LN Type* field for the CO line you want to program. Press *Enter* to assign CO, PBX, EMPTY, CO DEV, or PAGE. The default is CO.
6. In the same manner, assign the CO line type for other CO lines as needed.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.

10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5.7 Setting Call Abandon

CO line supervision is a Central Office (telephone company) feature. This feature provides advanced handling of call connections when the distant-end party disconnects. This function is especially useful when calls that have been placed on hold go unattended and the caller hangs up, or when the caller is connected to voice mail, leaves a message, and hangs up. The DX-80 receives the disconnect signal from the telephone company and forces the CO line on-hook to release the system resource for other uses.

5.7.1 PROGRAMMING USING THE DET

Note: *chg*, *bkspace*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code Feature # * and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Enter *02-ccc-09* to program “ccc” CO Line – Call Abandon, where “ccc” = the CO line directory number [740-755].
4. Press *save*. This advances you to the selected CO line call abandon setting for CO line “ccc.”
5. Press *chg* until the appropriate value (Y/N) displays for this CO line.
6. Press the *Volume* button (up or down) to return to the DB Item Select screen and enter another CO line.
Or...
Press the *Hold* button to select another CO line you want to program.
7. Enter the CO line number then press *show*.
8. Press *next* to advance through database items until the Call Abandon database item displays.
9. When finished programming CO line call abandon, press the *Volume* button (up or down) to return to the DB Item Select screen.
Or...
Use *back* or *next* to skip to the appropriate database item.
10. When finished programming call abandon database items, press the *Volume* button (up or down) to return to the DB Item Select screen or exit programming.

5.7.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *CO Line* and press *Enter*. The system displays the CO Line menu.
3. Highlight *Category 1* and press *Enter*. The system displays the CO Line — Category 1 screen.

The screenshot shows a terminal window titled 'DX80 EXE' with a menu bar containing 'ESC', 'PgUp', 'PgDn', and 'ALT_I'. The window title bar also displays 'DX80 PC-DBA'. The main display area shows a table of CO Line settings. At the top right, it indicates 'Date: 03/01/29' and 'Time: 12:20:34'. Below the table, there is a 'Note' section with programming instructions. At the bottom, there is a row of function keys from F1 to F10.

[Disc]									
Date: 03/01/29 Time: 12:20:34									
CO Line - Category 1 : [1/2]									
No.	DIR#	M/SS/PP	Tenant Group	Dialing	CO LN Type	Call Abandon	CO Group	Private To	
1	740	1/01/01		Tone	CO	Y	1	NULL	
2	741	1/01/02	1	Tone	CO	Y	1	NULL	
3	742	1/01/03	1	Tone	CO	Y	1	NULL	
4	743	1/01/04	1	Tone	CO	Y	1	NULL	
5	744	1/05/01	1	Tone	CO	Y	1	NULL	
6	745	1/05/02	1	Tone	CO	Y	1	NULL	
7	746	1/05/03	1	Tone	CO	Y	1	NULL	
8	747	1/05/04	1	Tone	CO	Y	1	NULL	

Note : Tenant Group : <1-3>, Dialing : <Tone/Pulse>
 CO LN Type : <CO/PBX/EMPTY/PAGE/CO DEU>, Call Abandon : <Y/N>
 CO Group : <1-8>, Private To : <EXT DIR No.>

R16UM0.F28

F1 F2 F3 F4 F5 F6 F7 F8 F9 F10

4. Use *Page Up* or *Page Down* to select CO Lines 1-8 or 9-16.
5. Highlight the *Call Abandon* field for the CO line you want to program. Press *Enter* to turn call abandon on (yes) or off (no). The default is on.
6. In the same manner, set the call abandon for other CO lines as needed.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
8. The system prompts "Save Current Setting?" Press *Y* to save your changes.
9. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5.8 Setting Privacy and Privacy Release

Comdial ships the DX-80 system with all intercom and CO line calls set for privacy, which means these calls may not be monitored or interrupted by other extensions. If users' programmed class of service allows them to have the Privacy Release and Voice Over Busy features, they may use those features to override the CO line privacy settings.

If Privacy is set on, conversations are private from interruption. If Privacy Release is set on, conversations on that CO line may be interrupted. The following conditions apply to the privacy mode:

- If Privacy Release is set to *Y* for any CO line, that CO line conversation can be entered into by another extension.
- The Monitor feature can be used to listen in on existing conversations. For details on setting the monitoring privileges for individual extensions, see Section 10.8, *Setting up Monitoring Privileges*.
- The Intrusion feature can be used to barge in on existing conversations. For details on setting the intrusion privileges for individual extensions, see Section 10.9, *Setting up Intrusion*.

Privacy Release simplifies call processing by removing one of the safeguards. Privacy is typically required in most business applications, but in some environments, privacy encumbers the necessary operation. This setting is often desirable when the system is installed in a home or home office.

The privacy release setting is applied on a CO line basis. That is, one CO line may be assigned privacy release status while another is still marked for privacy thereby ensuring uninterrupted, private conversations.

The following conditions apply to privacy release:

- Three extensions maximum may join a CO line conversation in progress.
- Privacy Release uses the system conference circuitry, therefore while up to three extensions can join a CO line connection (the maximum Privacy Release), multi-party conversations are limited to eight (that is, eight four-party conferences).

5.8.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *02-740~755-12*, then press *save*. This advances you to the Privacy Release programming for the CO line you specified.
4. Press *chg* to select Yes or No. The default setting is No.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

5.8.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *CO Line* and press *Enter*. The system displays the CO Line menu.
3. Highlight *Category 2* and then press *Enter*. The system displays the Category 2 menu.

ESC		DX80 PC-DB0					ALT_I	
[Disc]								Date: 03/01/31
								Time: 08:14:54
No.	DIR#	M/SS/PP	Day Class	Eve Class	MOH Source	CO Ring Type	Privacy Release	
1	740	1/01/01	0	0	MC1	0	N	
2	741	1/01/02	0	0	MC1	0	N	
3	742	1/01/03	0	0	MC1	0	N	
4	743	1/01/04	0	0	MC1	0	N	
5	744	1/05/01	0	0	MC1	0	N	
6	745	1/05/02	0	0	MC1	0	N	
7	746	1/05/03	0	0	MC1	0	N	
8	747	1/05/04	0	0	MC1	0	N	
9	748	2/01/01	0	0	MC1	0	N	
10	749	2/01/02	0	0	MC1	0	N	
11	750	2/01/03	0	0	MC1	0	N	
12	751	2/01/04	0	0	MC1	0	N	
13	752	2/05/01	0	0	MC1	0	N	
14	753	2/05/02	0	0	MC1	0	N	
15	754	2/05/03	0	0	MC1	0	N	
16	755	2/05/04	0	0	MC1	0	N	

Note : Day/Eve Class:<0-7>, Music Source:<MC1/MC2/TONE>
CO Ring Type:<0-8>

F1 F2 F3 F4 F5 F6 F7 F8 F9 F10

4. Highlight the *Privacy Release* field for the CO line you want to change. Press *Enter* to select Y (yes) or N (no). The default is No.
5. In the same manner, assign the Privacy Release privilege to other CO lines as needed.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5.9 Assigning Ring Type for the CO Line

The DX-80 system provides eight different ring types, so your customers can tell what CO line is ringing by the sound of the ringing. You can allocate one of the eight available ring types to any CO line. When you use this feature, the phone rings according to the specific ring type you assigned to the CO line handling the incoming call. This feature is helpful when you arrange CO lines into groups for specific call handling—the ring type helps to identify the CO line and the group to which it belongs.

5.9.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Enter *02-740~755-11*, where 740~755 = the CO line directory number.
4. Press *chg* until the appropriate ring type displays.
5. Continue making other programming changes or exit the programming mode.

5.9.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu. Then press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *CO Line* and press *Enter*. The system displays the CO Line menu.
3. Highlight *Category 2* and press *Enter*. The system displays the CO Line — Category 2 menu.

ESC		DX80 PC-DBA					ALT_I		
[Disc]							Date: 03/01/31 Time: 08:14:54		
No.	DIR#	M/SS/PP	Day Class	Eve Class	MOH Source	CO Ring Type	Privacy Release		
1	740	1/01/01	0	0	MC1	0	N		
2	741	1/01/02	0	0	MC1	0	N		
3	742	1/01/03	0	0	MC1	0	N		
4	743	1/01/04	0	0	MC1	0	N		
5	744	1/05/01	0	0	MC1	0	N		
6	745	1/05/02	0	0	MC1	0	N		
7	746	1/05/03	0	0	MC1	0	N		
8	747	1/05/04	0	0	MC1	0	N		
9	748	2/01/01	0	0	MC1	0	N		
10	749	2/01/02	0	0	MC1	0	N		
11	750	2/01/03	0	0	MC1	0	N		
12	751	2/01/04	0	0	MC1	0	N		
13	752	2/05/01	0	0	MC1	0	N		
14	753	2/05/02	0	0	MC1	0	N		
15	754	2/05/03	0	0	MC1	0	N		
16	755	2/05/04	0	0	MC1	0	N		
Note : Day/Eve Class:<0-7>, Music Source:<MC1/MC2/TONE> CO Ring Type:<0-8>									
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10

4. Use the arrow keys to highlight the *CO Ring Type* for the CO line you want to program. Press *Enter* until the ring type you want to use displays. Valid entries are 0 through 8. If you set this field to 0, there is no ring assigned to the CO line so the system uses the extension's ring type. If you set this field to 1 through 8, the CO ring type you assign overrides the extension's ring type. The default for the CO Ring Type field is 0 (off).
5. Repeat this process for all CO lines to which you want to assign a ring tone.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
7. The system prompts "Save Current Setting?" Press *Y* to save your changes.
8. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5.10 Setting the Answer Position for Day and Evening

The DX-80 system has several ringing modes to allow flexible ringing patterns depending on office conditions. The ringing modes available are: DAY, EVEning, ALTErnate, and TIME. You can program the day and evening modes for ringing assignments as required in these two operational conditions.

- DAY—this is the ringing pattern for CO line ringing assignments while the system is in day mode.
- EVE—this is the ringing pattern for CO Line ringing assignments while the system is in evening mode.
- TIME—this is a scheduled time clock that automatically adjusts the mode of system operation from day mode to evening mode, based upon pre-programmed settings in time switching.
- ALT—the alternate mode is specific to use with the optional AAM (Automated Attendant Module). This mode re-directs callers who have dialed 0 (zero) at the auto-attendant prompt to a temporary (alternate) destination. This is typically used for primary attendant break periods, etc.

The following conditions apply to manually changing CO ringing modes/answer positions:

- This function can only be operated at the attendant extension.
- You can assign the feature access code (*Feature 6 3 + 9999*) to an available Flexible Feature Button at the attendant extension to provide one button operation.
- The displays of all DETs indicate their current ringing mode. The prompts EVE and ALT above the center LCD interactive button indicate these active modes. The DAY mode is indicated by the absence of the other indicators.

You can also set up a schedule so that the DX-80 automatically switches the CO line answer position based on the time of day. To do so, see Section 5.11, *Set CO Line Time Switching*.

5.10.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays
3. First, program the day mode answering positions. Enter *02-xxx-13-01-01* (where *xxx* is the CO line directory number), then press *save*. The Day mode Member 1 Answering Position displays.
4. Press *chg* to set the ringing/answering position for the day mode. Enter the directory number for the ringing position (extension: 101-156; UCD: 410-433; or virtual number: 700-729). The default is 101.
5. Press *save* to save your changes.
6. Next, program the evening mode answering positions. Enter *02-ccc-13-02* (“ccc” is the CO line directory number), then press *save*. The Eve mode Answering Position displays.

7. Press *chg* to set the ringing/answering position for the evening mode. Enter the directory number for the ringing position (extension, 101-156; UCD, 410-433; or virtual number, 700-730). The default is 101.
8. Press *save* to save your changes.
9. Continue making other changes or exit programming.

5.10.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *CO Line* and press *Enter*. The system displays the CO Line menu.
3. Highlight *Answering Position* and press *Enter*. The system displays the CO Line —Answering Position screen.

CO Line No.	DIR#	M/SS/PP	Day	Eve	NoAns	Pre-CFW
1	740	1/01/01		101	NULL	NULL
2	741	1/01/02	101	101	NULL	NULL
3	742	1/01/03	101	101	NULL	NULL
4	743	1/01/04	101	101	NULL	NULL
5	744	1/05/01	101	101	NULL	NULL
6	745	1/05/02	101	101	NULL	NULL
7	746	1/05/03	101	101	NULL	NULL
8	747	1/05/04	101	101	NULL	NULL
9	748	2/01/01	101	101	NULL	NULL
10	749	2/01/02	101	101	NULL	NULL
11	750	2/01/03	101	101	NULL	NULL
12	751	2/01/04	101	101	NULL	NULL
13	752	2/05/01	101	101	NULL	NULL
14	753	2/05/02	101	101	NULL	NULL
15	754	2/05/03	101	101	NULL	NULL
16	755	2/05/04	101	101	NULL	NULL

Note : Extension/Hunt Group/Virtual DIR No.

4. Highlight the *Day* field for the CO line you want to program, and press *Enter*.
5. Key in the directory number you want to use for the daytime ringing position for this CO line, then press *Enter*. Valid directory numbers are as follows.
 - extensions 101-156,
 - UCD numbers 410-433, or
 - virtual number 700-729.
 The default is extension 101.
6. Highlight *Eve* for the CO line you want to program, and press *Enter*.
7. Key in the directory number you want to use for the evening ringing position for this CO line, then press *Enter*. Valid directory numbers are as follows.
 - extensions 101-156,
 - UCD numbers 410-433, or
 - virtual number 700-729.
 The default is extension 101.

8. In the same manner, assign day and evening answer positions to other CO lines as needed.
9. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
10. The system prompts “Save Current Setting?” Press *Y* to save your changes.
11. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
12. Press *Esc* to return to the Database Programming menu.
13. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5.11 Set CO Line Time Switching

You can program the system to follow a seven day, twenty-four hour, time schedule that automatically switches incoming CO lines to their programmed Day, Evening or Alternate ringing status and destinations. The programmed timed switching of ringing modes is flexible and can be broken down into individual tenant groups. *Note: You can also manually change the CO line ring mode. See Section 5.10, Setting the Answer Position for Day and Evening for more details.*

The following conditions apply to time switching.

- You must program the time settings for seven day a week
- The system ringing mode must be set to Time Mode for Automatic CO Line Ringing.
- The time you enter when programming time switching is the time of day that the system changes the service mode to the associated service mode.

The system by default operates in the Day mode operation. Therefore, if you do not use time switching, the system remains in day mode until manually switched to evening or alternate mode. It then remains in that mode until you manually switch it again.

The default Time Switching programming is set so the system operates in day mode from 8am to 5pm, Monday through Friday; alternate mode from 12noon to 1pm, Monday through Friday; and evening mode at all other times. You can, of course, change these settings; for example if you do not want the system to use a different extension during the lunchtime hours, you can do away with the alternate mode.

Once programmed, time switching needs no user intervention. The current mode of operation is displayed for easy identification and verification. The system displays the service modes from the Attendant station only, as follows:

Day Mode Display:

```
JUN 22 THU 5:13
EXT 105
```

Alternate Mode Display:

```
JUN 22 THU 5:13
EXT ALT 105
```

Evening Mode Display:

JUN 22 THU 5:13
EXT EVE 105

5.11.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to activate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *08-15-1-02* to program time switching for Tenant Group 1 (*08-15-2-02* for Tenant Group 2, or *08-15-3-02* for Tenant Group 3).
4. Press *save*. The first day of the week (Sunday) displays.
5. If changes are necessary for this day press *show*; otherwise, press *next* until the day of the week you want to change appears. Then press *show*.
6. The first time period for which the Service Mode may switch displays for the day selected; "ALT START" (Alternate Start Time).
7. Press *chg* to change this data.

Or...

Press *next* to select the Service Mode for which a time schedule must be entered. (The data items that can be changed are ALT START, ALT END, EVE START, EVE END.)

When the Service Mode you want to change displays press *chg* and enter the new value in 24-hour format (e.g., 1:00 PM is entered as 13:00).

Press *save* to store this data.

Or...

Enter *08-15-1-02-01* to program ALT START. The default is 12:00 PM (noon).

Enter *08-15-1-02-02* to program ALT END. The default is 1:00 PM (13:00).

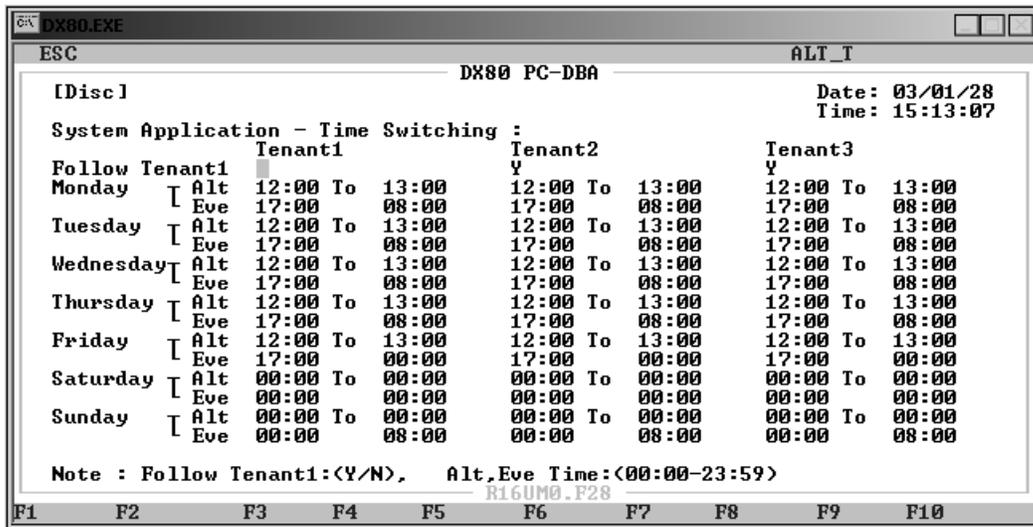
Enter *08-15-1-02-03* to program EVE START. The default is 5:00 PM (17:00).

Enter *08-15-1-02-04* to program EVE END. The default is 8:00 AM.

8. Continue programming as required.
9. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

5.11.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *System Application* and press *Enter*. The system displays the System Application menu.
3. Highlight *Time Switching* and press *Enter*. The system displays the Time Switching menu.



4. Use the arrow keys to highlight the first *Alt* field for Monday, and set the time you want the time switching to begin for tenant group 1. The default is 12:00 PM.
5. Highlight the *To* field for Monday, and set the time you want the time switching to end for tenant group 1. The default is 1:00 PM (13:00).
6. Next highlight the *Eve* field for Monday, and set the time you want the night, or evening, time switching to start for tenant group 1. The default is 5:00 PM (17:00).
7. Next highlight the *Eve To* field for Monday, and set the time you want the night, or evening, time switching to end for tenant group 1. The default is 8:00 AM.
8. In the same manner, specify the Alternate and Evening modes for the remainder of the week. If you do not want to use time switching for a particular day, set the beginning and ending times to 00:00.
9. Once you have set up the time switching you want to use for tenant group 1, continue setting up time switching for tenant groups 2 and 3, if you are using multiple tenant grouping.
10. The DX-80 provides a shortcut if you are using multiple tenant groups, and want to use the same time switching settings. If this is the case, program your settings for tenant group 1, then enter *Y* in the *Follow Tenant1* field for tenant group 2 and/or 3. If you set this field to yes, the system programs time switching to the identical settings you entered already for tenant group 1; thus there is no need to re-enter the settings for the remaining tenant groups.
11. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
12. The system prompts "Save Current Setting?" Press *Y* to save your changes.
13. Then system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
14. Press *Esc* to return to the Database Programming menu.
15. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5.12 Setting the Pre-Defined Call Forward No Answer

The Pre-Defined Call Forward No Answer feature allows you to control where the system forwards a call on a CO line when an extension does not answer. You may want the system to forward these calls to the attendant extension, a departmental secretary, another department, etc. This feature is CO line specific; that is, the system forwards all unanswered calls on a CO line. **Note:** *If you only want to forward unanswered calls for specific extensions, instead set that up in the individual extension's programming. For more details, see Section 6.30, Setting Predefined Call Forward Time.*

5.12.1 PROGRAMMING USING THE DET

Note: *chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.*

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays
3. Enter *02-xxx-13-03*, where *xxx* is the CO line directory number, then press *save*. The Pre-CFW NoAns menu displays.
4. Press *chg*, then enter the directory number for the ringing position (extension, 101-156; UCD, 410-433; or virtual number, 700-729). The default is 101.
5. Press *save* to store this data.
6. Continue making other changes or exit programming.

5.12.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *CO Line* and press *Enter*. The system displays the CO Line menu.
3. Highlight *Answering Position* and press *Enter*. The system displays the Answering Position menu.

The following conditions apply to assigning a PBX code to a CO line.

- When you have programmed the PBX code, the system applies extension toll restriction(s) when the code is dialed.
- Last Number Redial and Automatic Redial recognize the code; the system automatically inserts a pause following the code, if that is how you have programmed it.
- The PBX access code can be from 1 to 4 digits.

Other programming that can affect how the system processes PBX calls include the following.

- CO Line – CO Line Type, see Section 5.6, *Setting the CO Line Type*.
- CO Line – CO Group, see Section 5.3, *Assigning the CO Group*.
- Call Handling – CO Flash Time, PBX Flash Time, Pause Time, and PBX Auto Pause.
- CO Line Application - PBX Code, Search Order.
- System Resource - Speed Number Programming.

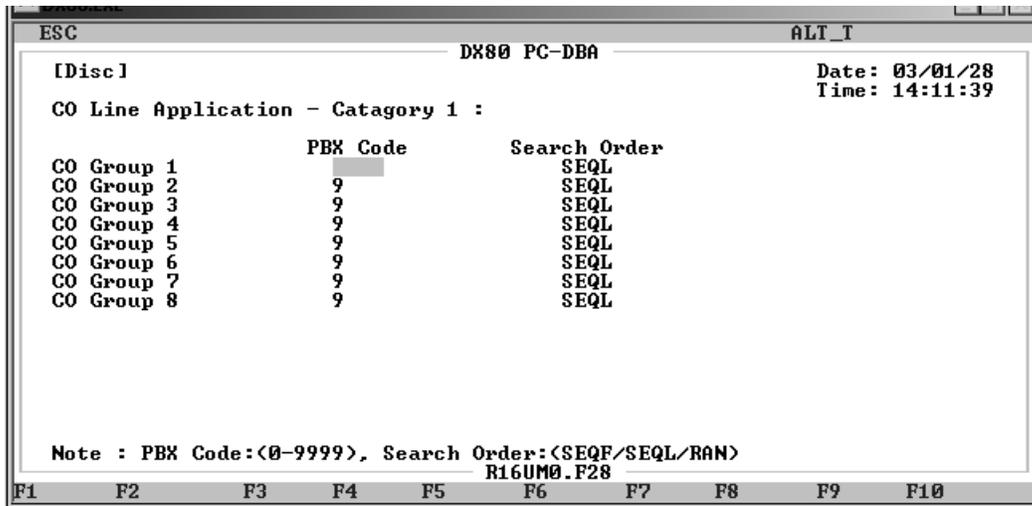
5.13.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. First, program PBX Code for PBX trunk access. Enter *07-01-01~08-01*, then press *save*. This advances you to the PBX Code programming screen for the CO line group you specified (1~8).
4. Press *chg*.
5. Enter the PBX code and then press *save*. Valid numbers range from 0 to 9999. The default is 9.
6. Press the *Volume* button to return to the DB Item Select screen.
7. Next, program the hunt method (search order) for the selected CO line group. Enter *07-01-01~08-02*, then press *save*. This advances to the hunting method programming screen for the CO line group you specified (1~8).
8. Press *chg* until the order you want to use displays (SEQL = Sequential Last, SEQF = Sequential First, RAN = Random access). The default is SEQL.
9. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

5.13.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. First, program the PBX code for PBX trunk access. Use the arrow keys to highlight *CO Line Application* and then press *Enter*. The system displays the CO Line Application menu.
3. Highlight *Category 1* and press *Enter*. The system displays the CO Line Application — Category 1 menu.



4. Highlight the *PBX Code* field for the CO group you want to program. Then press *Enter*.
5. Enter the required code to access a PBX trunk on CO line circuit in this group, then press *Enter*. Valid numbers range from 0 to 9999. The default is 9.
6. Next, program the hunt method (search order) for the selected CO line group. Highlight *Search Order* for the CO line group you want to program.
7. Press *Enter* to select the search order you want to use. Valid options include SEQL (SEQuential Last), SEQF (SEQuential First), and RAN (RANDOM access). The default is SEQL.
8. In the same manner, assign PBX codes and hunt methods to other CO groups as required.
9. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
10. The system prompts “Save Current Setting?” Press *Y* to save your changes.
11. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
12. Press *Esc* to return to the Database Programming menu.
13. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5.14 Setting Up the Alternate CO Line Group

CO Line Alternate Route works with the DX-80 system CO line groups. When this feature is invoked, the system may route users over CO line groups that they did not necessarily access. This feature is useful in high traffic environments when the use of second and third CO line selections may periodically be required.

When a user accesses a CO line group and all of the CO lines in this group are in use, the system automatically ports over the user to the alternate CO line groups you specify. The system handles special call handling using delete digits and insert digits, as required by the alternate lines. The following conditions apply when assigning alternate CO line groups/routes.

- When CO lines in all groups are busy, the system plays a busy tone and displays a busy message on the LCD.

- An extension user may invoke callback to the first selected CO line group by pressing the *cbck* button.

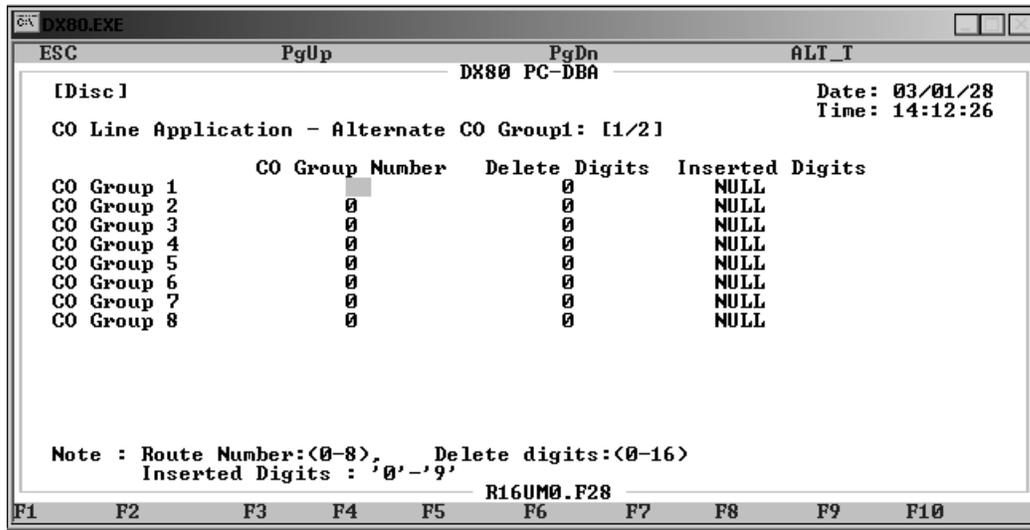
5.14.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *07-01-xx-03* to program Alternate Routing for CO Line Group “xx.”
4. Press *save*. This advances you to Alternate CO Group.
5. Press *show*. The display shows ALTER. CO GP :_.
6. Enter the alternate route to program (1 for first alternate, or 2 for second alternate) for this CO line group.
7. Press *show*. The display shows CO GP NUMBER : x, where “x” is the current programming. “0” means no alternate route.
8. To change this alternate route selection, press *chg*.
9. Enter the CO line group that you want to use as the (1st or 2nd) alternate route for this CO line group. Press *save*.
10. Press *next* to advance to the Delete Digits for this alternate route selection.
11. If it is necessary to delete digits from the dialed digits when calls are routed to this alternate, put in the number of digits to delete here.
12. Press *chg*. Enter the quantity of digits to delete from the beginning of the number dialed (0-9).
13. Press *save*.
14. Press *next* to advance to the Inserted Digits for this Alternate Route selection.
15. If it is necessary to insert digits before sending the dialed digits when calls are routed to this alternate, enter the actual digits required here.
16. Press *chg*. Enter the required digits (up to 16 digits). Press *save*.
17. Press *next*. The display shows “ALTER. CO GP :_.” You can now program the next alternate route for this CO line group (if required).
18. Enter the alternate route to program (1 for first alternate, or 2 for second alternate) for this CO line group.
19. Press *show* and continue programming in the same manner.
20. When you are finished programming alternate CO line routes, press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

5.14.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *CO Line Application* and press *Enter*. The system displays the CO Line Application menu.
3. Highlight *Alternate CO Group* and press *Enter*. The system displays the CO Line Application — Alternate Line Group1 menu. Note that there are 2 pages to this menu option.



4. Set up the first alternate CO group for each CO group. On the first page of the CO Line Application — Alternate Line Group menu highlight the *CO Group Number* field.
5. Press *Enter* and key in the first alternate group number you want to use for this CO line group, then press *Enter* again. Valid numbers are line groups 0 through 8. The default is 0 (no alternate group).
6. Highlight the *Delete Digits* field for the same CO line group and press *Enter*. Key in number of digits you want the system to delete at the beginning of the dial string when it uses this alternate route, then press *Enter* again. The default is 0 (delete no digits).
7. Highlight the *Inserted Digits* field for the same CO line group and press *Enter*. Key in the digits you want the system to insert at the beginning of the dial string when it uses this alternate route, then press *Enter* again. The default is NULL (insert no digits).
8. In the same manner, program other first alternate groups as needed for up to 8 CO groups.
9. When you have finished assigning first alternates for CO groups 1 through 8, press *Next Page*. The system displays the CO Line Application — Alternate Line Group2 menu.
10. Assign second alternate routes to each of the 8 CO line groups as needed, in the same manner as on page 1.
11. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
12. The system prompts “Save Current Setting?” Press *Y* to save your changes.
13. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
14. Press *Esc* to return to the Database Programming menu.

15. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

5.15 Setting Up FAX Detection

The DX-80 system has a standard FAX tone detection capability on the fourth port of each CO line board, that is, CO line ports 4, 8, 12 and 16 have the circuitry required to detect “CNG” FAX tone. When you program the system to receive a facsimile transmission on one of these CO line circuits, it automatically answers the ringing line and waits for FAX tone. If the system detects the FAX CNG tone it connects the call to the facsimile extension you specify.

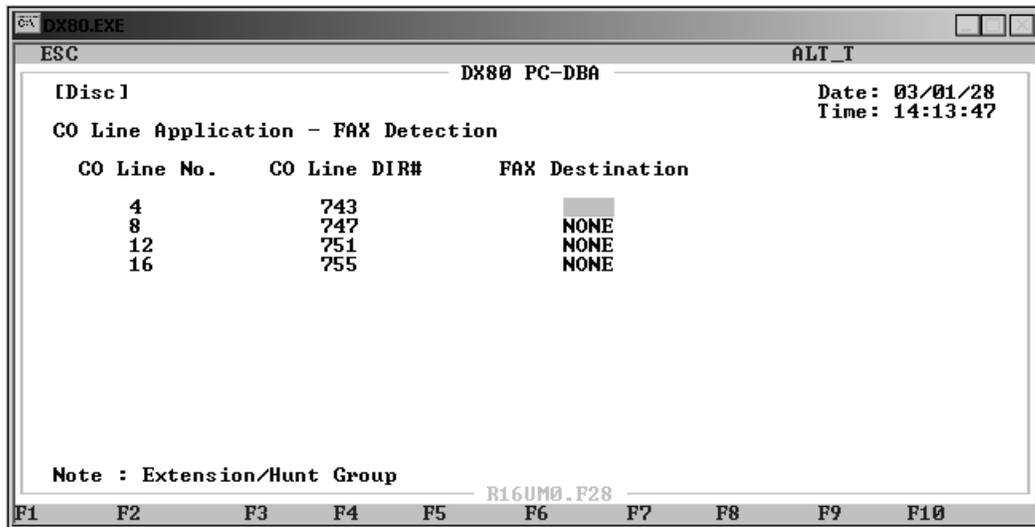
5.15.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *07-02-01*, then press *save*. This advances you to the first Fax Circuit Destination screen (circuit 743).
4. Press *chg*.
5. Enter the directory number of the analog port that is connected to the fax machine for this line.
6. Press *save*.
7. Press *next* to program the second fax circuit, third, or fourth fax circuit in the same manner.
Or, press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button to return to the DB Item Selection screen,
Or, exit programming.

5.15.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *CO Line Application* and press *Enter*. The system displays the CO Line Application menu.
3. Highlight *Fax Detection* and press *Enter*. The system displays the CO Line Application — FAX Detection menu.



4. Highlight the *FAX Destination* field for the CO line port (4, 8, 12, or 16) that you want to receive fax transmissions. Press *Enter*.
5. Key in the directory number of the analog port that is connected to the FAX machine, then press *Enter*. Valid numbers include any analog extension port directory number. The default is NONE.
6. In the same manner, assign fax destinations for other CO Line ports as needed.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6. PROGRAMMING CALL HANDLING

The call handling allow you to control how the DX-80 processes calls. The DX-80 provides programmable features that allow you to establish these various settings.

If you are programming an existing database using PC-DBA, be sure to upload the current switch database to your laptop using a RECEIVE ALL command before making your changes. This way, you will be working on the customized database and will not have to reprogram all the custom settings. (If you are programming a brand new database from scratch and are not using any templates, you can ignore this step.) See Section 2.1.4.3, *F3 – Receive* for further details.

Note: The DX-80 provides you with a shortcut to use when programming call handling on a new system. You can use a pre-programmed database template that is provided on the DX-80 product CD to reduce your programming time, and to decrease the likelihood of premature recall and voice mail transfer issues. This template also provides a call restriction class of service so your customer can limit toll calls on individual extensions. For further information on this template, see Section 3.1.4, Feature / Directory Number Lookup.

To set up call handling, perform the following tasks.

1. Program conference calls.
2. Specify the CO flash time.
3. Specify the PBX flash time.
4. Specify the pause time.
5. Specify the ring abandon.
6. Set up the hold remind.
7. Select the exclusive hold time.
8. Establish the warning time.
9. Set the transfer intercom recall and transfer busy recall.
10. Set up hold recall.
11. Set up the dial wait time and dial delay.
12. Establish the dialing ratio.
13. Establish the start and end of the SLT hook flash.
14. Program auto redial.
15. Set up external call forward.
16. Set up conference talk time intervals and conference tones.
17. Set up the camp on interval.
18. Set up the alarm play intervals.
19. Enable/disable the hotel feature.
20. Enable/disable the system speed check.
21. Enable/disable the TSI connection.
22. Enable/disable the conference tone.
23. Specify the call duration.
24. Specify caller ID codes and establish the local area code.

25. Enable/disable tenant calling per tenant group.
26. Enable/disable SMDR call output.
27. Program the voice mail
28. Set the Fax ring time.
29. Set the pre-defined call forward time.
30. Program the recognition time interval.
31. Set the conference talk time intervals.
32. Set the hold abandon time interval.
33. Set the unsupervised talk time.
34. Program the auto attendant.
35. Set the DISA access.

While you are programming in PC-DBA, the system saves your changes in the working directory residing on the laptop. While it may appear that you have re-programmed the switch, the system does not update the switch database with your changes until you perform a SEND command from the laptop.

	CAUTION	
<p>If PC-DBA is set to U-Save, your database changes reside only on your laptop. When you have finished making all changes to the database, perform a SEND operation to download the new database to the DX-80 switch.</p>		

For further details on the SEND command, see Section 2.1.4.4, *F4 – Send*.

6.1 Ringing Line Priority

Ringing Line Priority is a system-wide feature that automatically connects incoming calls based on a predetermined priority. The ringing extension is automatically connected to the priority ringing facility, upon lifting the handset or pressing the ringing button.

Ringing Line Priority can be overridden at the extension by first pressing a direct appearing line, CO line group, feature button, or by dialing an intercom number on hook.

The following list shows the ringing line priority, from highest to lowest.

- Callback – extension
- Callback – CO line
- Recalling CO line call
- Transferred CO line call
- Incoming CO line call
- Incoming ICM call

6.2 Programming Conference Calls

The system can simultaneously accommodate eight, four-member (party) conferences. Conference combinations may consist of three CO lines maximum, and any number of extensions, to a maximum of four parties (members).

A supervised conference is a conference in which at least one member is an extension of the DX-80 system. The DX-80 extension that establishes a conference is the conference controller, and may add and/or delete members of the conference at any time. The conference controller also has the privilege of establishing an unsupervised conference.

An unsupervised conference is a conference in which only CO lines are members. All members are therefore outside of the premises and connected together using the DX-80 conference resource. An unsupervised conference may be re-joined by the initiating DX-80 extension, however, that extension maintains control of the conference even though it is unsupervised.

One extension directory number is the controller of the conference and constitutes one conference member. Extension users must first establish a three-member conference before they can establish a four-member conference.

The following conditions apply to CO line conferences.

- The extension that establishes a conference is called the controlling party.
- Only the conference controller can add a new conference connection (party).
- Only the controlling party is allowed to invite or forcibly release any attending internal or external party, or to setup a “private talk” with any one attending party.
- When adding new parties to a conference and while speaking privately to a particular conference member other members of the conference will be connected to Music On Hold.
- Each of the calls involved in a holding conference will be placed on Exclusive Hold.
- When the controlling party exits a conference, the most recently invited internal party will be designated as the new controlling party.
- When a conference is established, each party will hear a burst of conference tone when the conference tone is enabled.
- You can program the unsupervised conference feature code *Feature 7 7* on any available programmable feature button.
- Only the controller of an unsupervised conference may rejoin an unsupervised conference.
- Conference can only be established at a digital speakerphone.

When programming conference calls, perform the following steps.

- Program the maximum CO lines you want to allow in a conference (none, 2 or 3).
- Program the time allowed for unsupervised conferences (CO Line-to-CO Line).
- Turn the conference tone on (Yes) or off (No).

Other features whose programming affects conference calling includes:

- CO Line Loop Supervision
- CO Line – Call Abandon

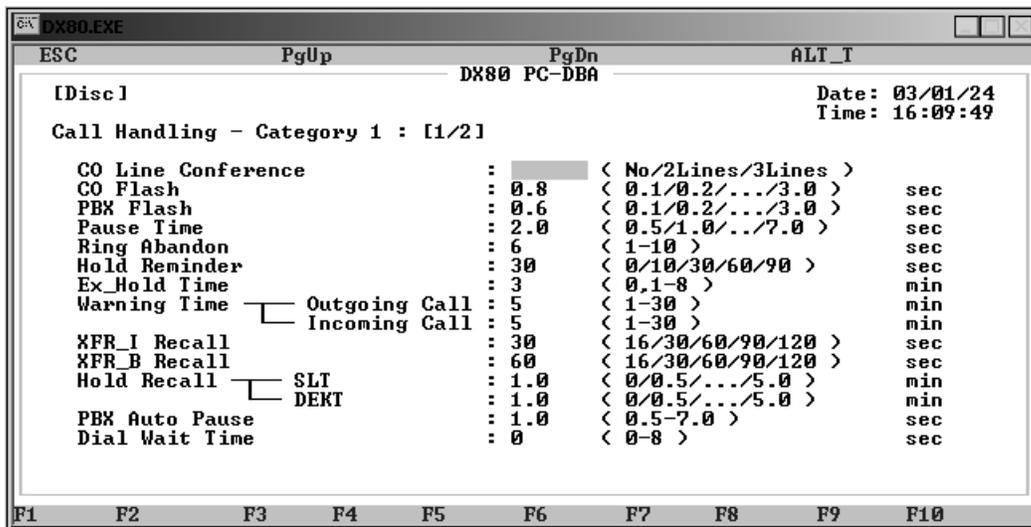
6.2.1 PROGRAMMING USING THE DET

Note: *chg*, *bkspace*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. First, program the maximum number of CO lines that may be in a conference. Enter *03-01*.
4. Press *chg* until the appropriate value displays (NO/2LNS/3LNS). The default is 3 lines.
5. Next, program the Unsupervised Conference Time. At the DB Item Select screen enter *03-38*.
6. Press *chg* until the Unsupervised Conference Time displays. Valid entries are 0 to 120, in ten minute intervals (0,10,20, 30, etc.). The default is 0, which means unlimited unsupervised conference calls.
7. Next, program the Conference Tone Operation. At DB Item Select screen enter *03-23*. Then press *save*.
8. Press *chg* until the appropriate Conference Tone operation displays (Y/N). The default is Y.
9. Exit the programming mode.

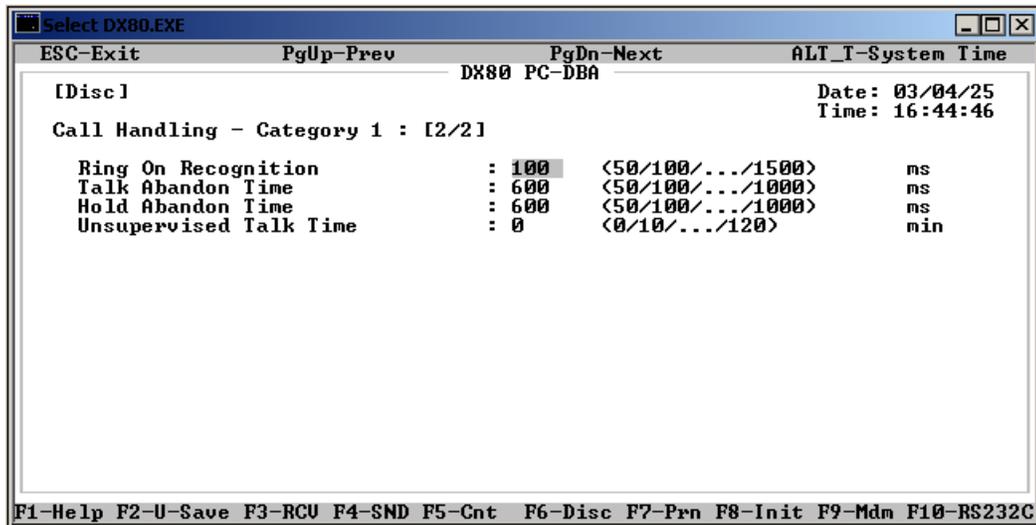
6.2.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. First, program the maximum number of CO lines that may be in a conference. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 [1/2] menu.

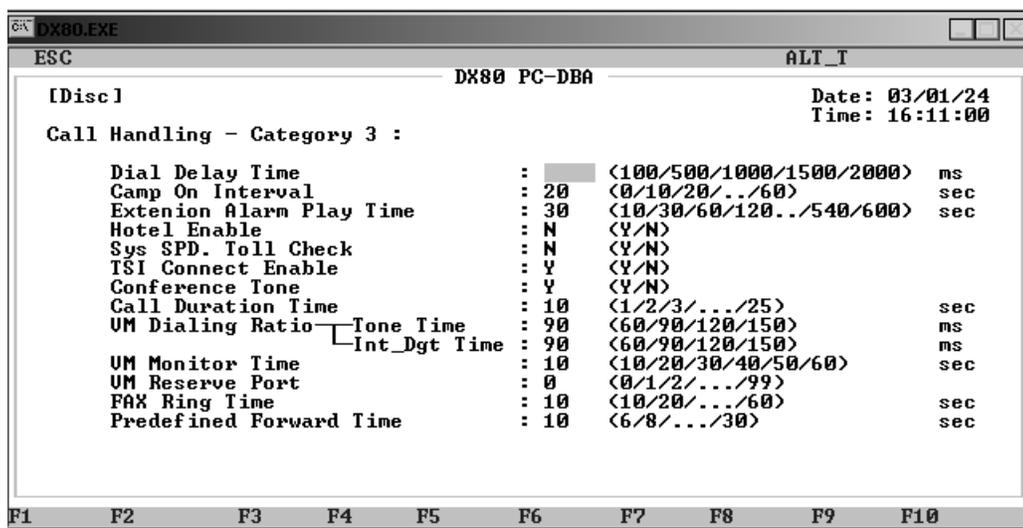


4. Highlight the *CO Line Conference* field and press *Enter* to select No, 2Lines, or 3Lines. The default is 3 lines.

5. Next, program the Unsupervised Conference time. Press *Page Down*. The system displays the Call Handling—Category 1 [2/2] menu.



6. Highlight *Unsupervised Talk Time* and press *Enter* to select the amount of time you want to allow in unsupervised conference calls. Valid options are 0 to 120 minutes, in increments of 10 (0, 10, 20, 30, etc.). The default is 0, which means unlimited unsupervised conference calls.
7. When you are done, press *Esc* to return to the Call Handling screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Call Handling menu. Then press *Esc* again to return to the Database Programming menu.
11. Finally, program the Conference Tone Operation. Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 menu.



12. Highlight *Conference Tone* and press *Enter* to select either Y or N. The default is Y.

13. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
14. The system prompts “Save Current Setting?” Press *Y* to save your changes.
15. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
16. Press *Esc* to return to the Database Programming menu.
17. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.3 Specifying CO Flash Time

The CO flash time determines what flash timing the DX-80 presents to the telephone company central office when the user issues a hook-flash command while connected to a CO line. This feature is a requirement when the DX-80 is installed “behind” a Centrex or PBX system. In these two cases, program the flash feature code as a Flexible Feature Button for easy access.

If call waiting service is provided, the extension user can use the flash feature to answer a second incoming call while connected to another outside party.

The following conditions apply to setting the CO flash time.

- The flash time is programmable from 100ms to 1500ms in increments of 100ms (1/10th of a second).
- When extension users enter the flash code at a DET, the phone displays CO Flash temporarily.
- Single line extension users must generate a hook-flash and then dial # 3 to generate a hook-flash on a CO line.
- You can store the flash code in any speed dial location.
- You can store the flash code in the last number redial buffer. When you activate redial, a digital speakerphone display shows a / to indicate the flash code.

Other features whose programming may be affected by the CO flash time include the following.

- Speed Dial (System and Station)
- Memo Pad
- Last Number Redial
- Automatic Redial

6.3.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-02*, then press *save*. This advances you to CO FLASH programming.
4. Press *chg* until the CO line hook-flash timing you want to use displays. Valid options are between .1 and 3.0 seconds. The default is .8 seconds.

5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.3.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.

```

ESC          PgUp          PgDn          ALT_I
-----
[Disc]                               Date: 03/01/24
                                       Time: 16:09:49
Call Handling - Category 1 : [1/2]

CO Line Conference : 0.8 < No/2Lines/3Lines >
CO Flash           : 0.8 < 0.1/0.2/.../3.0 >   sec
PBX Flash          : 0.6 < 0.1/0.2/.../3.0 >   sec
Pause Time        : 2.0 < 0.5/1.0/.../7.0 >   sec
Ring Abandon      : 6 < 1-10 >               sec
Hold Reminder     : 30 < 0/10/30/60/90 >       sec
Ex_Hold Time      : 3 < 0.1-8 >               min
Warning Time      : 5 < 1-30 >               min
  [ ] Outgoing Call : 5 < 1-30 >               min
  [ ] Incoming Call : 5 < 1-30 >               min
XFR_I Recall      : 30 < 16/30/60/90/120 >      sec
XFR_B Recall      : 60 < 16/30/60/90/120 >      sec
Hold Recall       : 1.0 < 0/0.5/.../5.0 >       min
  [ ] SLT          : 1.0 < 0/0.5/.../5.0 >       min
  [ ] DEKT         : 1.0 < 0.5-7.0 >           sec
PBX Auto Pause    : 1.0 < 0.5-7.0 >           sec
Dial Wait Time    : 0 < 0-8 >
  
```

4. Highlight *CO Flash*. Press *Enter* to choose the CO line hook-flash timing you want to use. Valid options are between .1 and 3.0 seconds. The default is .8 seconds.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.4 Specifying PBX Flash Time

The PBX flash time tells the DX-80 what flash timing to present to the host telephone system, when the DX-80 is installed as a subordinate system to the PBX. This feature is critical to perform accurate host-system functions like PBX call transfer. When used “behind” a PBX, program the flash feature code as a Flexible Feature Button for easy access.

The following conditions apply to the PBX flash time.

- The flash time is programmable from 100ms to 1500ms in increments of 100ms (1/10th of a second).
- At a Digital Speakerphone, the phone temporarily displays PBX Flash when the flash code is dialed.
- You can store the flash code in any speed dial location.
- You can store the flash code in the last number redial buffer. When you activate redial, a digital speakerphone display shows a / to indicate the flash code.
- Single line extension users must generate a hook-flash, then dial # 3 to generate a hook-flash on a PBX line.

Other features whose programming may be affected by the PBX flash time include the following.

- Speed Dial (system and individual)
- Memo Pad
- Last Number Redial
- Automatic Redial

6.4.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-03*, then press *save*. This advances you to PBX Flash programming. Press *chg* until the PBX line hook-flash timing you want to use displays. Valid options are between .1 and 3.0 seconds. The default is .6 seconds.
4. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.4.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.

```

ESC          PgUp          PgDn          ALT_I
[Disc]
Call Handling - Category 1 : [1/2]
Date: 03/01/24
Time: 16:09:49

CO Line Conference      : 0.8 < 0.1/0.2/.../3.0 >   sec
CO Flash                : 0.6 < 0.1/0.2/.../3.0 >   sec
PBX Flash               : 2.0 < 0.5/1.0/.../7.0 >   sec
Pause Time              : 6 < 1-10 >                sec
Ring Abandon            : 30 < 0/10/30/60/90 >       sec
Hold Reminder           : 3 < 0/1-8 >                min
Ex_Hold Time            : 5 < 1-30 >                min
Warning Time            Outgoing Call : 5 < 1-30 >                min
                        Incoming Call : 5 < 1-30 >                min
XFR_I Recall            : 30 < 16/30/60/90/120 >      sec
XFR_B Recall            : 60 < 16/30/60/90/120 >      sec
Hold Recall              SLT          : 1.0 < 0/0.5/.../5.0 >      min
                        DEKT         : 1.0 < 0/0.5/.../5.0 >      min
PBX Auto Pause         : 1.0 < 0.5-7.0 >           sec
Dial Wait Time         : 0 < 0-8 >                sec

F1          F2          F3          F4          F5          F6          F7          F8          F9          F10

```

4. Highlight *PBX Flash*. Press *Enter* until the PBX line hook-flash timing you want to use displays. Valid options are between .1 and 3.0 seconds. The default is .6 seconds.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.5 Specifying Pause Time

You can generate an intentional delay in dialing on outgoing CO line calls. A pause or a combination of pauses may be stored in the speed dial bins to allow timed access to special services, while allowing you to monitor the progress of the call. A pause occupies one digit position when stored in a speed dial. A pause appears as “P” on the DET display.

You can instruct the system to automatically generate a pause in dialing on outgoing CO line calls. The system monitors digits dialed on PBX type CO lines for PBX codes that extension users may enter. If the system recognizes a PBX code, it automatically inserts a pause between that digit and the remaining digits for last number redial system features.

Other features whose programming may be affected by the PBX flash time include the following.

- Automatic Busy Redial
- Saved Number Redial
- Last Number Redial
- Speed Dial - Extension, System
- Memo Pad
- PBX Compatibility

When storing numbers in a speed dial, use the feature code *Feature 7 0* to insert a pause.

Program the pause insertion time to adequately apply a pause time based on the host PBX requirements for trunk calls. The time interval is from the time the trunk access code is dialed to the time that trunk dial tone is heard. When last number redial is used (at a DX-80 extension) on a PBX type CO line circuit, the system automatically inserts a pause of this duration between the PBX code dialed and the remaining digits to be re-dialed.

Program the pause time for the anticipated requirement of pause time for speed dial numbers.

6.5.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. First, program the auto pause insertion time (used with PBX type CO line ports). Enter *03-15*, then press *save*. This advances you to the PBX Auto Pause programming screen.
4. Press *chg* until the PBX Auto Pause Time you want to use displays. Valid options are from 0.5 to 7.0 seconds, in .5 second intervals. The default is 1.0 second.
5. Next, program the pause time (used with speed dial). Enter *03-04*, then press *save*. This advances you to the Pause Time programming screen. Press *chg* to view the pause time choices. Valid options are from 0.5 to 7.0 seconds, in .5 second intervals. The default is 2.0 seconds.
6. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.5.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.

```

DX80.EXE
ESC          PgUp          PgDn          ALT_I
[Disc]                               Date: 03/01/24
                                         Time: 16:09:49
Call Handling - Category 1 : [1/2]

CO Line Conference      : 0.8 < 0.1/0.2/.../3.0 >   sec
CO Flash                : 0.6 < 0.1/0.2/.../3.0 >   sec
PBX Flash               : 2.0 < 0.5/1.0/.../7.0 >   sec
Pause Time              : 6 < 1-10 >             sec
Ring Abandon            : 30 < 0/10/30/60/90 >      sec
Hold Reminder           : 3 < 0.1-8 >             min
Ex_Hold Time            : 5 < 1-30 >             min
Warning Time            Outgoing Call : 5 < 1-30 >             min
                        Incoming Call : 5 < 1-30 >             min
XFR_I Recall            : 30 < 16/30/60/90/120 >    sec
XFR_B Recall            : 60 < 16/30/60/90/120 >    sec
Hold Recall              SLT           : 1.0 < 0/0.5/.../5.0 >   min
                        DEKT          : 1.0 < 0/0.5/.../5.0 >   min
PBX Auto Pause          : 1.0 < 0.5-7.0 >         sec
Dial Wait Time          : 0 < 0-8 >             sec

F1      F2      F3      F4      F5      F6      F7      F8      F9      F10

```

4. First, program the pause time (used with speed dial). Highlight *Pause Time* and press *Enter* to view your choices. Valid options are from 0.5 to 7.0 seconds. The default is 2.0 seconds.
5. Next, program the auto pause insertion time (used with PBX type CO line ports). Highlight *PBX Auto Pause* and press *Enter* to view your choices. Valid options are from 0.5 to 7.0 seconds. The default is 1.0 second.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
7. The system prompts "Save Current Setting?" Press *Y* to save your changes.
8. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.6 Specifying Ring Abandon

The system allows you to set the ring abandon time. Ring abandon is the interval the system waits for the next ring before classifying the call as dropped from the CO trunk.

Typically, CO ring cycles include one second of ring (voltage) followed by three seconds of no ring (removal of voltage). It is possible for COs to vary from this pattern, and if your customer's CO does you may have to adjust the default ring abandon setting. A longer ring abandon gives the system more time to realize the absence of CO trunk ringing, but while the system waits it continues to ring the extension. If in fact the call has been dropped by the trunk, the extension user can receive dial tone when picking up a ringing line.

The ring abandon time starts when the CO trunk ring (voltage) occurs, and includes the interval after the ring (removal of voltage). So, if the CO is using the 1/3 pattern, a ring abandon time of 10 seconds means the system will wait another 6 seconds for a ring (voltage) to occur before classifying the line as a ring abandon and stopping the system ring at the extension (1 second ring + 3 seconds no voltage + 6 additional seconds no voltage = 10 seconds).

A short ring abandon (<4 seconds) means the system may drop the call before the CO trunk can present voltage again. In this case the system rings the extension once and abandons the call.

6.6.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-05*, then press *save*. Press *chg* to specify how long you want the system to wait for voltage (ring) from the CO trunk before dropping the call. Valid choices are 1 - 10 seconds. The default is 6 seconds.
4. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.6.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.

```

ESC          PgUp          PgDn          ALT_I
-----
[Disc]                               Date: 03/01/24
                                         Time: 16:09:49
Call Handling - Category 1 : [1/2]

CO Line Conference      : 6      ( No/2Lines/3Lines )
CO Flash                : 0.8    ( 0.1/0.2/.../3.0 )   sec
PBX Flash               : 0.6    ( 0.1/0.2/.../3.0 )   sec
Pause Time              : 2.0    ( 0.5/1.0/.../7.0 )   sec
Ring Abandon            : 6      ( 1-10 )              sec
Hold Reminder           : 30     ( 0/10/30/60/90 )     sec
Ex_Hold Time            : 3      ( 0/1-8 )             min
Warning Time            Outgoing Call : 5      ( 1-30 )             min
                        Incoming Call : 5      ( 1-30 )             min
XFR_I Recall            : 30     ( 16/30/60/90/120 )   sec
XFR_B Recall            : 60     ( 16/30/60/90/120 )   sec
Hold Recall              SLT      : 1.0    ( 0/0.5/.../5.0 )     min
                        DEKT      : 1.0    ( 0/0.5/.../5.0 )     min
PBX Auto Pause          : 1.0    ( 0.5-7.0 )          sec
Dial Wait Time          : 0      ( 0-8 )              sec
  
```

4. Highlight *Ring Abandon* and press *Enter* to specify how long you want the system to wait for voltage (ring) from the CO trunk before dropping the call. Valid choices are 1 - 10 seconds. The default is 6 seconds.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.

6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*

6.7 Setting Up Hold Remind

The system provides a programmable timer to remind you that a call has been left on system or exclusive hold. When enabled, the system sounds one ring tone repeated each time the selected hold time expires. The following conditions apply:

- Hold Reminder applies to CO line calls that are on System Hold or Exclusive Hold.
- Hold Reminder applies to both intercom and CO line calls.

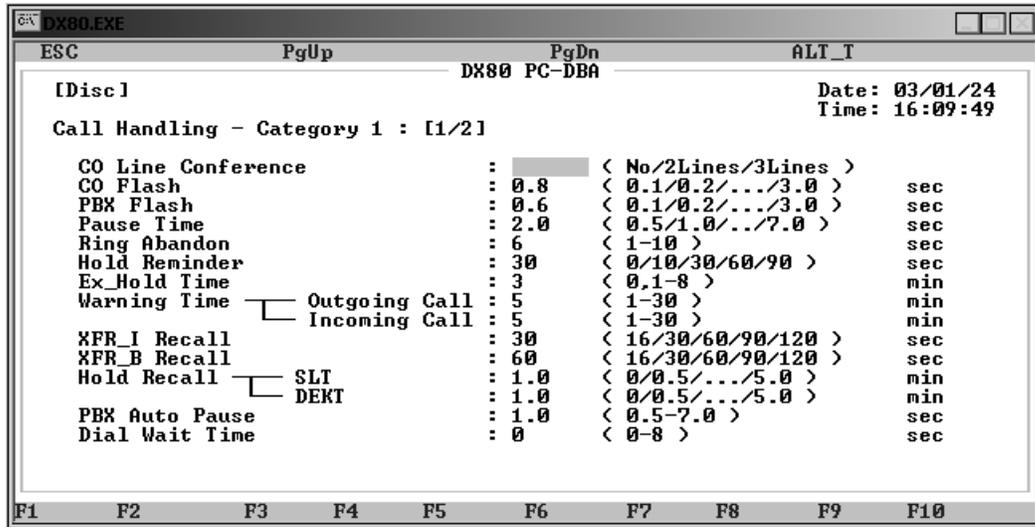
6.7.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-07*, then press *save*. Press *chg* to specify how often you want the system to sound the reminder tone for calls on system hold or exclusive hold. Valid choices are 0, 10, 30, 60, and 90 seconds. The default is 30 seconds. If you want to disable the hold reminder tone, select 0.
4. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.7.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.



4. Highlight *Hold Reminder* and press *Enter* to specify how often you want the system to sound the reminder tone for calls on system hold or exclusive hold. Valid choices are 0, 10, 30, 60, and 90 seconds. The default is 30 seconds. If you want to disable the hold reminder tone, select 0.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.8 Selecting Exclusive Hold Time

When using the feature button and the hold button together, extension users may place an outside call on private/exclusive hold. The system indicates that the line is in use to other extensions.

You can control how long the system allows that line to remain on exclusive hold. After the time period you specify elapses, the system converts the call to system hold.

Other features whose programming may be affected by setting exclusive hold include the following.

- Hold Remind
- Hold - System
- Hold - Common (System)

The following conditions apply to setting exclusive hold.

- Exclusive hold is used only for CO line calls.
- You specify how long you want the system to allow exclusive holds, from 1-8 minutes.

- When extension users place a CO line call on exclusive hold, the system fast flashes the green lamp for that line and lights the red lamp steadily for that CO line at other extensions.
- The system places the CO line call on system hold after the exclusive hold time expires. The system plays a tone alerting extension users that the timer has expired, and the system changes the hold condition for that CO line to system hold. The system slow flashes the green lamp for the line at the extension user's phone, and slow flashes the red lamp for that CO line at other extensions.

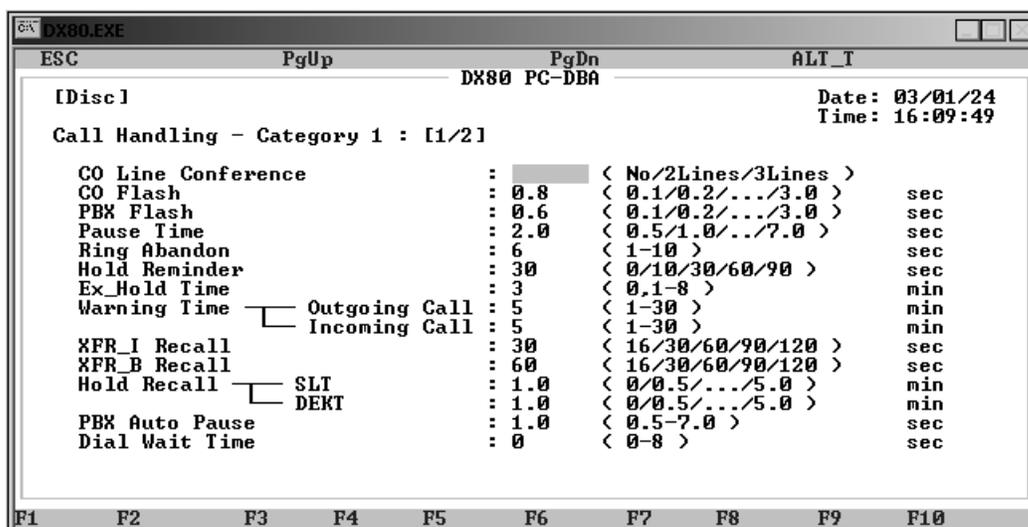
6.8.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-08*, then press *save*. This advances you to EX_HOLD TIME programming.
4. Press *chg* until the Exclusive Hold Time you want to use displays. Valid options are 0 - 8 minutes. The default is 3 minutes. If you do not want to allow exclusive holds on the system, set this field to 0.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.8.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.



4. Highlight *Ex_Hold Time*. Press *Enter* until the exclusive hold time you want to use displays. Valid options are 0 - 8 minutes. The default is 3 minutes. If you do not want to allow exclusive holds on the system, set this field to 0.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.9 Establishing Warning Time for Limited Call Lengths

You can limit an extension to calls that fall within a specific programmed time. You can set the DX-80 to warn an extension that the time has expired, thereby advising the user to disconnect. In this mode, the system plays a warning tone repeatedly once the timer has expired. You could use this feature, for example, in a lobby or retail environment where lengthy calls are discouraged.

You can also program the call limiter with greater call control. In this mode, the system automatically disconnects the call moments after playing the warning tone. You can set the CO line call limiter for extensions on a per-extension basis and according to call type (outgoing or incoming or both). **Note:** *You are only programming the warning time here. To control when the system disconnects calls that have exceeded the limit you set, you have to program the individual extensions.* For further details about setting call control for individual extensions, see Section 10.10, *Setting up Warning Tones, Incoming Call Drops, Outgoing Call Drops*.

Extension users can make additional calls after the system plays the warning tones or drops the call, therefore Comdial does not recommend this feature as a toll saver option. Use this feature only for specific applications. **Note:** *For details on programming toll restrictions, see Section 7, Programming Toll Restrictions.*

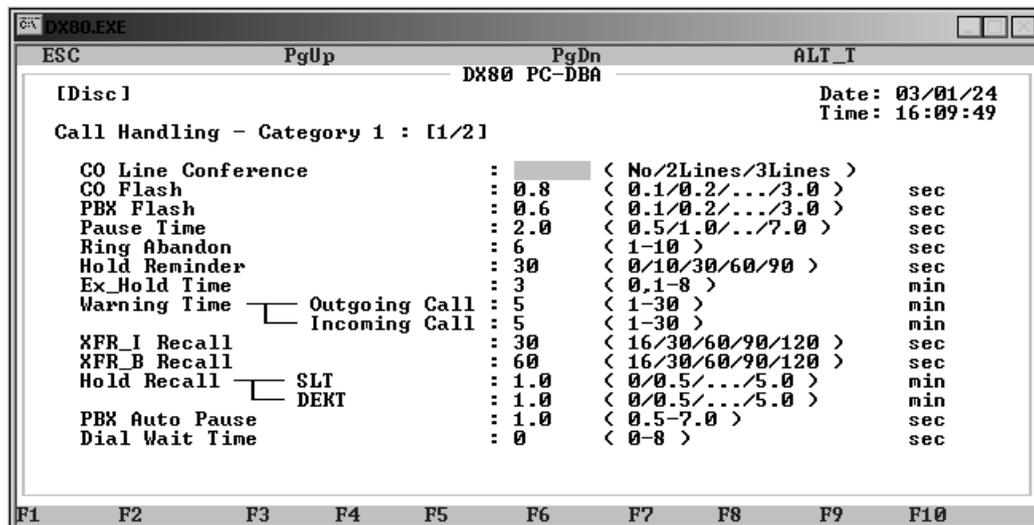
6.9.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-09-01* for Warning Time Outgoing. Press *chg* to select how long after the outgoing call begins that you want the system to sound the warning time to the extension user. Valid options include 1 - 30 minutes. The default is 5 minutes.
4. Enter *03-09-02* for Warning Time Incoming. Press *chg* to select how long after the incoming call begins that you want the system to sound the warning time to the extension user. Valid options include 1 - 30 minutes. The default is 5 minutes.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.9.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.



4. Highlight *Warning Time – Outgoing Call* and press *Enter*. Key in how long after the outgoing call begins that you want the system to sound the warning time to the extension user. Valid options include 1 through 30 minutes. The default is 5 minutes.

5. Highlight *Warning Time – Incoming Call* and press *Enter*. Key in how long after the incoming call begins that you want the system to sound the warning time to the extension user. Valid options include 1 through 30 minutes. The default is 5 minutes.
6. Enter the time for calls of the type you specified. Press *Enter*. Continue programming other warning times as required.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.10 Setting Up Transfer Recalls for Idle and Busy Extensions

The system allows extension users to transfer calls from their extensions to other extensions, while maintaining the privacy of the connection. This means that calls can be routed to DX-80 system destinations (extensions, UCD groups, virtual numbers, etc.) in such a way that the wrong party cannot easily intercept them.

There are two types of transfer you may use:

- Screened/Supervised transfer, and
- Unscreened/Unsupervised transfer.

Supervised transfer means that before the transfer is completed, the system announces the call to the destination extension. This transfer method allows the transferring party to transfer the call to another extension if the destination extension cannot take the call.

Unsupervised transfer means that the system simply delivers the call to the destination, regardless of the destination’s readiness to accept the call.

When extension users complete a transfer the system places the outside line on exclusive hold. The call can then be retrieved only at the extension user’s telephone or the telephone where they transferred the call.

Calls that are transferred are subject to a unique transfer recall time. When transferred calls go unanswered at the destination, the system recalls (rings) the call to the transferring party when this timer expires. There are two recall timers that affect transferred calls:

- Transfer-Busy Recall Time, and
- Transfer-Idle Recall Time.

Idle and Busy represent the status of the destination extension during unsupervised transfers. If the destination extension is busy, the system uses the Transfer-Busy Recall Timer. If the extension destination is idle, the system uses the Transfer-Idle Recall Timer.

The following conditions apply to setting the transfer recall time.

- Extension users can transfer CO line calls and intercom calls.
- The system places transferred CO lines that recall on system hold.
- When transferring CO line recalls, the system displays the line number and extension number from where the call was transferred.
- The transferred party will hear ring-back tone while the call is transfer ringing.
- In a screened transfer, if the destination extension answers the intercom call in voice announce hands-free mode and does not go off hook, the system rings the destination extension.
- In screened transfer, if the destination extension answers the intercom call by lifting the handset, the system immediately connects the caller to the destination extension.
- The system does not direct recalls to the programmed Alternate Attendant extension.

Other features whose programming may be affected by transfer recall time include the following.

- Transfer and Answer Call
- Recall
- Call Forward
- Forced Intercom Tone Ring
- Call Park / Call Park Answer

6.10.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-10*, then press *save*. This advances you to the Transfer-Idle Recall programming screen.
4. Press *chg* to select how long you want the system to ring the idle extension before pulling the call back. Valid options include 16, 30, 60, 90, and 120 seconds. The default is 30 seconds.
5. Press *next* to advance to the next data item.
6. Enter *03-11*, then press *save*. This advances you to the Transfer-Busy Recall programming screen.
7. Press *chg* to select how long you want the system to ring the busy extension before pulling the call back. Valid options include 16, 30, 60, 90, and 120 seconds. The default is 60 seconds.
8. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.10.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.

```

ESC          PgUp          PgDn          ALT_I
[Disc]                               Date: 03/01/24
                                         Time: 16:09:49
Call Handling - Category 1 : [1/2]

CO Line Conference      : 0.8  < No/2Lines/3Lines >
CO Flash               : 0.8  < 0.1/0.2/.../3.0 >   sec
PBX Flash              : 0.6  < 0.1/0.2/.../3.0 >   sec
Pause Time            : 2.0  < 0.5/1.0/.../7.0 >   sec
Ring Abandon          : 6    < 1-10 >
Hold Reminder         : 30   < 0/10/30/60/90 >   sec
Ex_Hold Time          : 3    < 0.1-8 >
Warning Time          : 5    < 1-30 >
  └─ Outgoing Call : 5    < 1-30 >   min
  └─ Incoming Call : 5    < 1-30 >   min
XFR_I Recall          : 30   < 16/30/60/90/120 >  sec
XFR_B Recall          : 60   < 16/30/60/90/120 >  sec
Hold Recall          : 1.0  < 0/0.5/.../5.0 >   min
  └─ SLT            : 1.0  < 0/0.5/.../5.0 >   min
  └─ DEKT           : 1.0  < 0.5-7.0 >   sec
PBX Auto Pause        : 1.0  < 0.5-7.0 >   sec
Dial Wait Time        : 0    < 0-8 >
  
```

4. Highlight *XFR_I Recall* and press *Enter* to select how long you want the system to ring the idle extension before pulling the call back. Valid options include 16, 30, 60, 90, and 120 seconds. The default is 30 seconds.
5. Highlight *XFR_B Recall* and press *Enter* to select how long you want the system to ring the busy extension before pulling the call back. Valid options include 16, 30, 60, 90, and 120 seconds. The default is 60 seconds.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.11 Setting Up Hold Recall

Extension users may place any CO line on system hold by pressing the *Hold* button. When they place a line on System Hold, the system flashes the green lamp for that line at the I-Hold rate. The system flashes this system-held line using the red lamp at all other extensions.

I-Hold Indication allows extension users to easily distinguish between a call they placed on hold at their telephones, and calls placed on hold at other telephones.

The DX-80 allows you to tell the system to automatically return a call put on hold to the originating extension after a period of time has elapsed. You can control the recall time separately for SLT and DETs.

Other features whose programming may be affected by hold recall include the following.

- Call Transfer
- Hold Reminder
- Hold Abandon

The following conditions apply to hold recall.

- Pressing *Hold* will place a conference on exclusive hold if the extension user is the controlling party and they temporarily exit to add another party.
- When a conference call is placed on hold, the steady lamp indication at other extensions remain steady (follows exclusive hold functions).
- Any party who is placed on hold will hear music only if it is available through the external music source connection.
- When a calls placed on exclusive (private) hold exceed the exclusive hold programmed time, the system automatically places recalls on system hold.

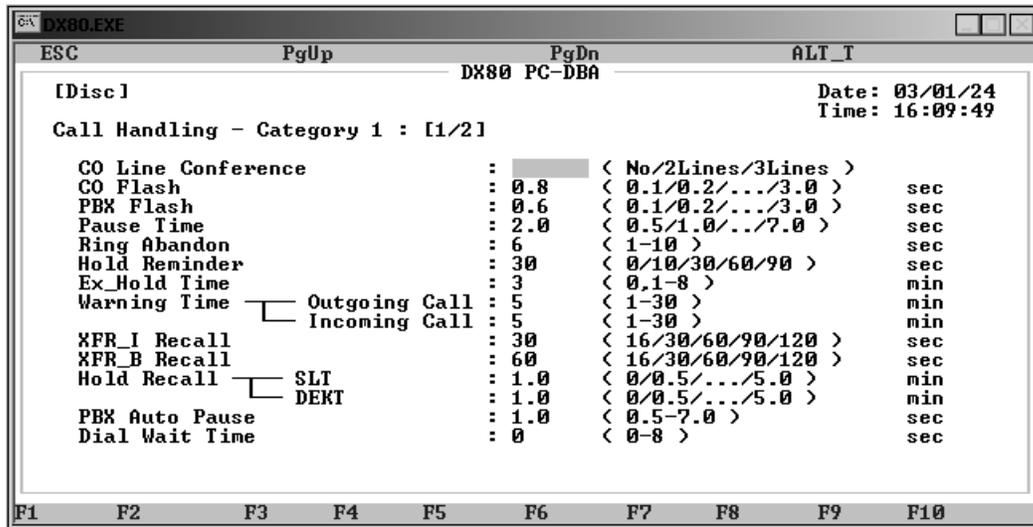
6.11.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. To program an SLT Hold Recall, enter *03-12*, then press *save*. This advances you to SLT Hold Recall programming.
4. Press *chg* to select how long you want the system to allow a call to remain on hold until it recalls it to the SLT extension user's phone. Valid choices range from 0 to 5.0 minutes. The default is *.5*.
5. Press the *Volume* button (up or down) to return to the DB Select screen.
6. Enter *03-13*, then press *save*. This advances you to EKT Hold Recall programming.
7. Press *chg* to select how long you want the system to allow a call to remain on hold until it recalls it to the DET extension user's phone. Valid choices range from 0 to 5.0 minutes. The default is *.5*.
8. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.11.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.



4. Highlight *Hold Recall – SLT* and press *Enter* to change the time that calls placed on hold at analog devices remain on hold before ringing-back to the extension that placed them on hold. Valid choices range from 0 to 5.0 minutes. The default is .5.
5. Highlight *Hold Recall – DEKT* and press *Enter* to change the time that calls can be placed on hold at Digital Speakerphones, before the system rings back the extension with the call. Valid choices range from 0 to 5.0 minutes. The default is .5.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.12 Setting Up Dial Wait Time and Dial Delay

The DX-80 allows you to specify the timing you want the system to use for dial wait and dial delay. Dial wait time is how long the system waits before outputting DTMF tones on outgoing calls. Dial delay is how long the system waits after the extension user has gone off hook before presenting dial tone to the speaker/ear piece.

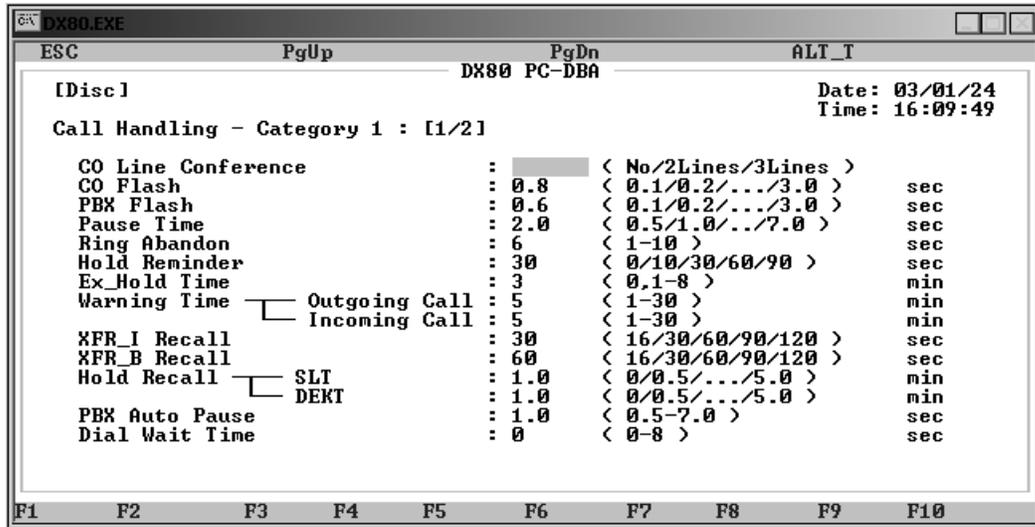
6.12.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

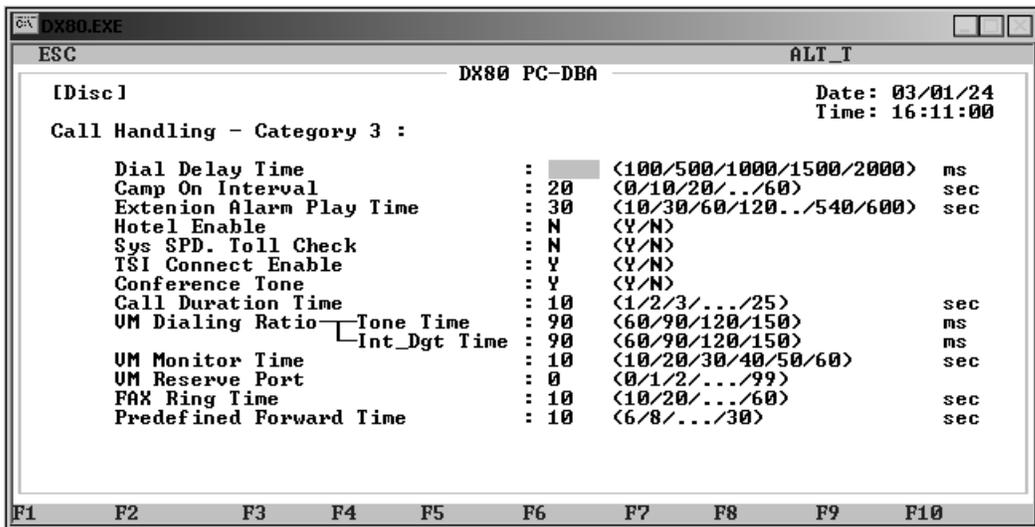
1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-16*, then press *save*. This advances you to Dial Wait Time programming.
4. Press *chg* to select to specify how long you want the system to wait before outputting DTMF tones. Valid choices are 0 - 8 seconds. The default is 0 seconds.
5. Enter *03-17*, then press *save*. This advances you to Dial Delay programming.
6. Press *chg* to specify the delay before the system presents dial tone to the extension user. Valid choices are 100, 300, 1000, 1500, and 2000 milliseconds. The default is 100 milliseconds.
7. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.12.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.



4. Highlight *Dial Wait Time* and press *Enter* to specify how long you want the system to wait before outputting DTMF tones. Valid choices are 0 - 8 seconds. The default is 0 seconds.
5. When you are done, press *Esc* to return to the Call Handling menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Call Handling menu.
9. Next, specify the dial delay. Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 screen.



10. Highlight *Dial Delay Time* and press *Enter* to specify the delay before the system presents dial tone to the extension user. Valid choices are 100, 300, 1000, 1500, and 2000 milliseconds. The default is 100 milliseconds.
11. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.

12. The system prompts “Save Current Setting?” Press *Y* to save your changes.
13. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
14. Press *Esc* to return to the Database Programming menu.
15. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.13 Establishing the Dialing Ratio

You can modify the settings for manually dialed or system automatically dialed digits, depending on the outside plant environment, type of Central Office, and customers’ specialized dialing requirements. The system provides two features that control this:

- DTMF “on” time (tone) and
- Pulse dialing – pulse time/Pulse dialing – inter-digit time.

Usually it is not necessary to modify the settings of these features. However, in some installation environments the outside plant equipment may be antiquated, or line conditions may be poor. In these instances you can increase tone duration and/or inter-digit duration timing to offset these poor conditions.

The following conditions apply to setting the dial wait time and delay.

- You can use a longer DTMF “on” time and/or inter-digit tone time to ensure more reliable interaction with remote voice mail and similar remote DTMF dial-pad-actuated devices.
- At default the DTMF duration is set to 70 milliseconds.
- Longer tone duration or inter-digit duration times cause a slower output of manual or automatic system-dialed numbers.

6.13.1 PROGRAMMING USING THE DET

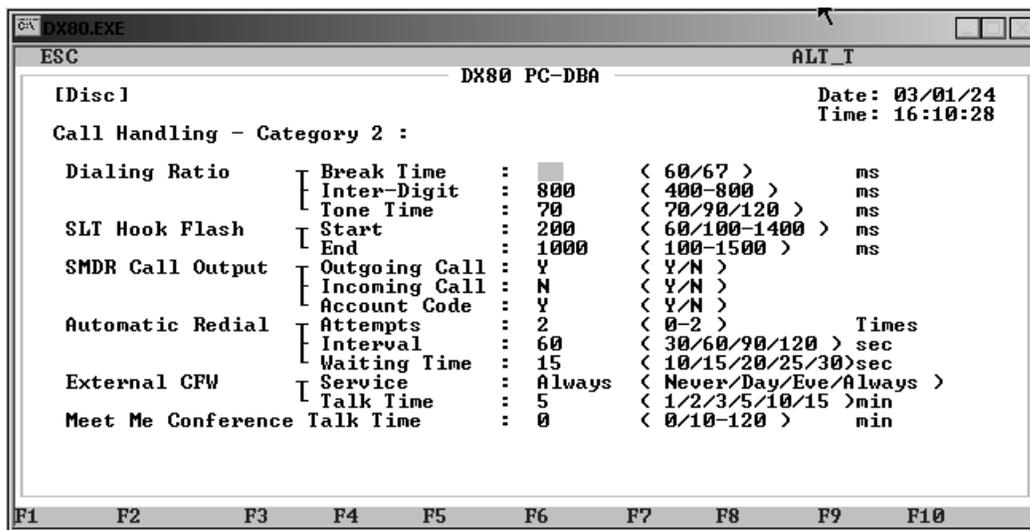
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. First, program the pulse dialing settings. Enter *03-05* and press *save*. This advances you to Dialing Ratio.
4. Press *show*. This advances you to Break Time.
5. Press *chg* to select how long you want the system to play each individual pulse during outdialing. Valid choices are 60 or 67 milliseconds. The default is 60 milliseconds.
6. Press *next* to advance to Pulse Dialing Inter-digit Time. Then press *chg* to select the time you want the system to insert between each pulse during outdialing. Valid choices are 400 - 800 milliseconds. The default is 800 milliseconds.
7. Press *next* to advance to Tone Time.

8. Press *chg* to select how long you want the system to play each individual DTMF tone during outdialing. This time is also used for time between DTMF digits. Valid options are 70, 90, or 120 milliseconds. The default is 70 milliseconds.
9. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.13.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 2* and press *Enter*. The system displays the Call Handling—Category 2 menu.



4. The first two dial ratio fields apply to pulse dialing. The third dial ratio field applies to tone dialing.
5. Highlight *Dialing Ratio - Break Time* and press *Enter* to select how long you want the system to play each individual pulse during outdialing. Valid choices are 60 or 67 milliseconds. The default is 60 milliseconds.
6. Highlight *Dialing Ratio - Inter Digit Time* and press *Enter* to select the time you want the system to insert between each pulse during outdialing. Valid choices are 400 - 800 milliseconds. The default is 800 milliseconds.
7. Highlight *Dialing Ratio - Tone Time* and press *Enter* to select how long you want the system to play each individual DTMF tone during outdialing. This time is also used for time between DTMF digits. Valid options are 70, 90, or 120 milliseconds. The default is 70 milliseconds.
8. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
9. The system prompts "Save Current Setting?" Press *Y* to save your changes.
10. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.

11. Press *Esc* to return to the Database Programming menu.
12. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.14 Establishing Start and End of SLT Hook Flash

Single Line Telephones and similar analog devices connected to analog ports of the DX-80 system must use unsophisticated signaling to administer call-processing operations (like transfer and hold). This fundamental call control is handled in the form of specific hook-switch operations. These are known as hook-switch flash (or just flash) commands.

Whenever extension users want to invoke a system feature at a single line telephone, they must operate the hook-switch in a fashion that is distinguishable from an on-hook (hang up) request. This becomes essential for proper handling of calls, considering the user may operate the hook-switch quickly to hang up and place a new call. Yet this fast operation of the hook-switch might be interpreted as a hook-switch flash operation.

Considering these factors, the DX-80 system allows you to customize the hook-switch command monitoring. You can direct the system to ignore hook-switch operations that are considered too short to be valid, and to limit the time allotted.

The following conditions apply to SLT hookswitch flash.

- If the analog device/SLT does not have a hook-flash operation button, extension users must operate the hook-switch within the time you specify in the “Start” and “End” settings. If they do not, the system does not process the user’s action as a valid hook-flash operation.
- The system ignores hook-switch operations that are shorter than the “Start” time.
- The system considers hook-switch operations that are longer than the “End” time as hang ups.

6.14.1 PROGRAMMING USING THE DET

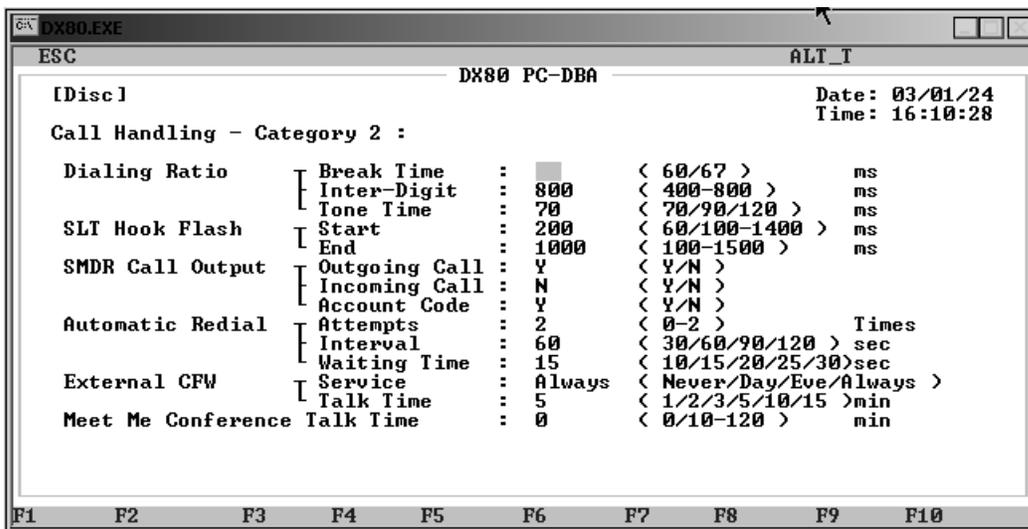
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-14*, then press *save*. This advances you to the SLT Hook Flash programming screen.
4. Press *show*. This advances you to the Start screen.
5. Press *chg* to set the Start range setting. This timer indicates the minimum time that an analog/SLT must flash the hook-switch to be considered a valid flash-hook request. A hook-flash that is shorter than this timer is considered a mistake; no action is taken. Valid options include from 60 - 1400 milliseconds. The default is 200 milliseconds.
6. Press *next*. This advances you to the End screen.
7. Press *chg* to set the End range setting. This timer indicates the maximum time that an analog/SLT must flash the hook-switch to be considered a valid flash-hook request. A hook-flash that is longer than this timer is considered a hang up. Valid options include from 100 - 1500 milliseconds. The default is 1000 milliseconds.

8. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.14.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 2* and press *Enter*. The system displays the Call Handling—Category 2 menu.



4. Highlight *SLT Hook Flash – Start* and press *Enter* to set the Start range setting. This timer indicates the minimum time that an analog/SLT must flash the hook-switch to be considered a valid flash-hook request. A hook-flash that is shorter than this timer is considered a mistake; no action is taken. Valid options include from 60 - 1400 milliseconds. The default is 200 milliseconds.
5. Highlight *SLT Hook Flash – End* and press *Enter* to set the End range setting. This timer indicates the maximum time that an analog/SLT must flash the hook-switch to be considered a valid flash-hook request. A hook-flash that is longer than this timer is considered a hang up. Valid options include from 100 - 1500 milliseconds. The default is 1000 milliseconds.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.15 Programming Auto Redial

Extension users can use Automatic Redial (AR) to redial the last number dialed. The system automatically dials the number and then waits for a predetermined time period. Following this predetermined time period if no action is taken, the system hangs up and the redial cycle continues until it reaches the number of attempts you specify.

The following conditions apply to automatic redial.

- The system continues redial attempts until:
 - The call rings through and caller picks up, or
 - The maximum number of attempts is reached, or
 - Any other feature is used on the telephone.
- If all CO lines or CO line groups are busy when the system attempts the auto redial, that attempt counts as a valid attempt and reduces the remaining number of attempts.
- You can program the feature code *Feature # ** as a flexible feature button on the DET. If you do, the extension user can use that button to invoke the feature. While the feature is active the system lights the button LED a steady red. When extension users are attempting a redial the system flashes the button red.

You set the number of redial attempts and the timed interval between attempts; these cannot be changed at the extension level.

Other features whose programming may be affected by auto redial include the following.

- Voice Mail - Digital Integration
- Extension Application - Voice Mail Table, Record Digit, and Automatic Record Member

6.15.1 PROGRAMMING USING THE DET

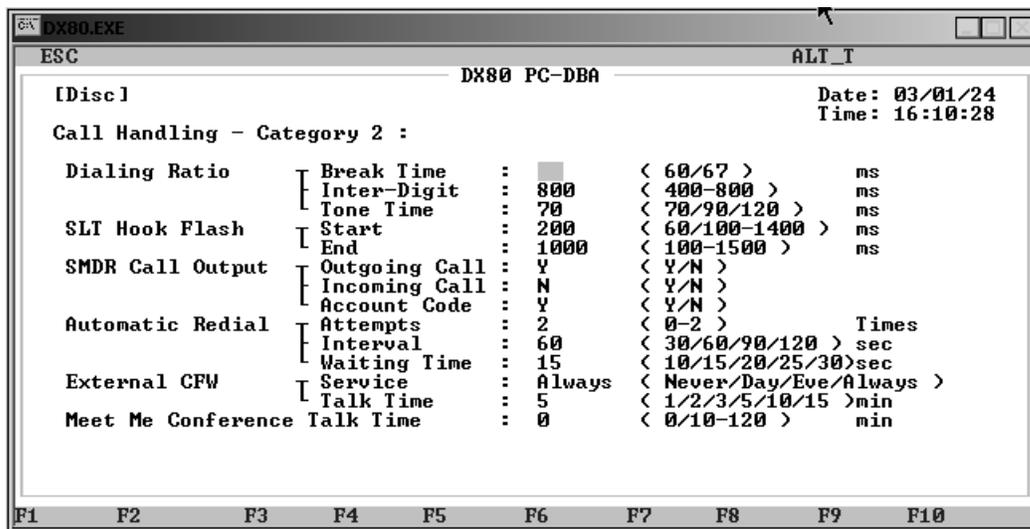
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Input *03-31* to program Auto Redial.
4. Press *save*. This advances to the Call Handling – Automatic Redial database item.
5. Press *show*. Press *chg* to set the number of times you want to allow the system to try re-dialing the number. Valid options include 0, 1, and 2. If you want to disable redial, select 0. The default is 2.
6. Press *next* to advance to the Interval field. Press *chg* to set how long the system waits in between redial attempts. Valid choices are 30, 60, 90, and 120 seconds. The default is 60 seconds.
7. Press *next* to advance to the Waiting Time field. Press *chg* to set how long you want the system to wait during ringing before classifying the attempt as no answer, and proceeding to the next interval/attempt. Valid choices are 10, 15, 20, 25, and 30 seconds. The default is 15 seconds.

8. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.15.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 2* and press *Enter*. The system displays the Call Handling—Category 2 menu.



4. Highlight *Automatic Redial - Attempts* and press *Enter*. Key in the number of times you want to allow the system to try re-dialing the number and press *Enter*. Valid options include 0 - 2 times. If you want to disable redial, select 0. The default is 2 times.
5. Highlight *Automatic Redial - Interval* and press *Enter* to set how long the system waits in between redial attempts. Valid choices are 30, 60, 90, and 120 seconds. The default is 60 seconds.
6. Highlight *Automatic Redial - Waiting Time* and press *Enter* to set how long you want the system to wait during ringing before classifying the attempt as no answer, and proceeding to the next interval/attempt. Valid choices are 10, 15, 20, 25, and 30 seconds. The default is 15 seconds.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.16 Programming External Call Forward

The DX-80 enables extension users to forward their calls to another location or different telephone number. You control whether or not the system allows these external call forwards. Also, you can exclude or include specific extensions individually.

The system externally forwards transferred CO line calls only.

The following conditions apply to setting external call forwards.

- Regardless of whether the extension where calls are being forwarded to is a DET or single line telephone, the system plays a special intercom reminder tone alerting the extension user that call forward is activated.
- The system does not light the auxiliary lamp green in call forward mode if that function has been disabled via the attendant in Attendant Administration.
- If a flexible feature button has been programmed for call forward mode, the LED associated to that button will light red indicating the telephone is in call forward mode.
- The extension invoking call forwarding overrides any applicable predefined call forward in the database. When the system releases the extension forward mode it reactivates predefined call forward.

In addition to programming what you want to use for call handling here, you must also program the individual extensions' receive assignments. For further details, see Section 10.18, *Setting Up Receive Assignments*.

Other features whose programming may be affected by external call forward include the following.

- Do Not Disturb
- Forced Intercom Call Forward
- Intercom Mode Selection
- Forced Intercom Tone Ring
- Messaging – Call Me, Text or Voice

6.16.1 PROGRAMMING USING THE DET

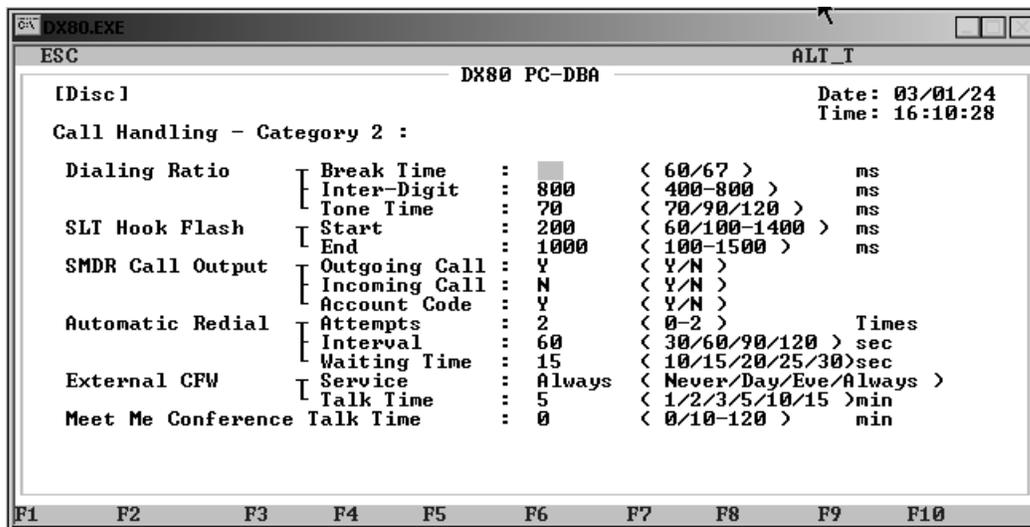
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Program the various system External Call Forward parameters. Enter *03-32-01* to program the appropriate service mode for use with External Call Forward.
4. Press *save*. This advances you to ECF Service Mode.
5. Press *chg* to specify when the external call forward mode (time) is active. Valid choices are Never, Day, Evening, and Always. The default is Always.
6. Press *next* to advance to External Call Forward Talk Time.

7. Press *chg* to specify how long you want the system to allow talk times for external call forward calls. Valid options are 1,2,3,5,10, and15 minutes. The default is 5 minutes.
8. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.16.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 2* and press *Enter*. The system displays the Call Handling—Category 2 menu.



4. Highlight *External CFW – Service* and press *Enter* to specify when the external call forward mode (time) is active. Valid choices are Never, Day, Evening, and Always. The default is Always.
5. Highlight *External CFW – Talk Time* and press *Enter* to specify how long you want the system to allow talk times for external call forward calls. Valid options are 1,2,3,5,10, and15 minutes. The default is 5 minutes.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.17 Setting Conference Talk Time Intervals and Conference Tones

Conference is used to join telephone connections together. Meet Me Conference simplifies the setup process by assigning designated system resources as conference destinations. The result is eight separate conference locations that are joined by dialing the location number. Callers can easily be transferred to these locations; extension users simply dial the location number. Outside parties can join the conference via the automated attendant simply by dialing the location number at the auto attendant greeting.

A programmable conference tone may be enabled or disabled so that entry into a conference is indicated with an alert tone, or without an alert tone.

When call abandon is set to *N* for any CO line, you must set the Meet Me Conference Talk Time to some value other than 0. This is the only setting that will allow the CO line to be disconnected if call abandon is set to no.

Other features whose programming may be affected by conference talk times and conference tones include the following.

- CO Line – Call Abandon
- Call Handling – CO Line Conference
- Call Handling – Talk Abandon Time
- System Application – Meet Me Conference Directory Number

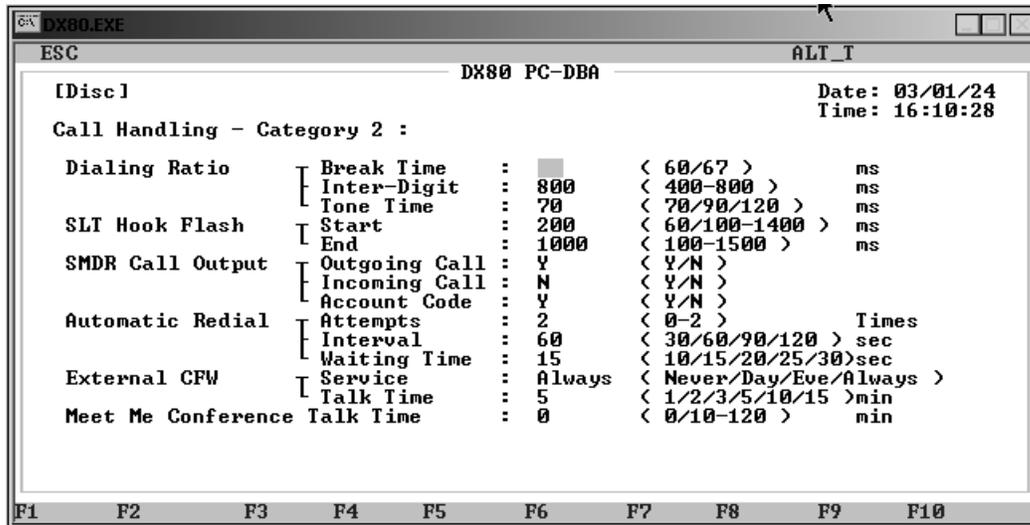
6.17.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

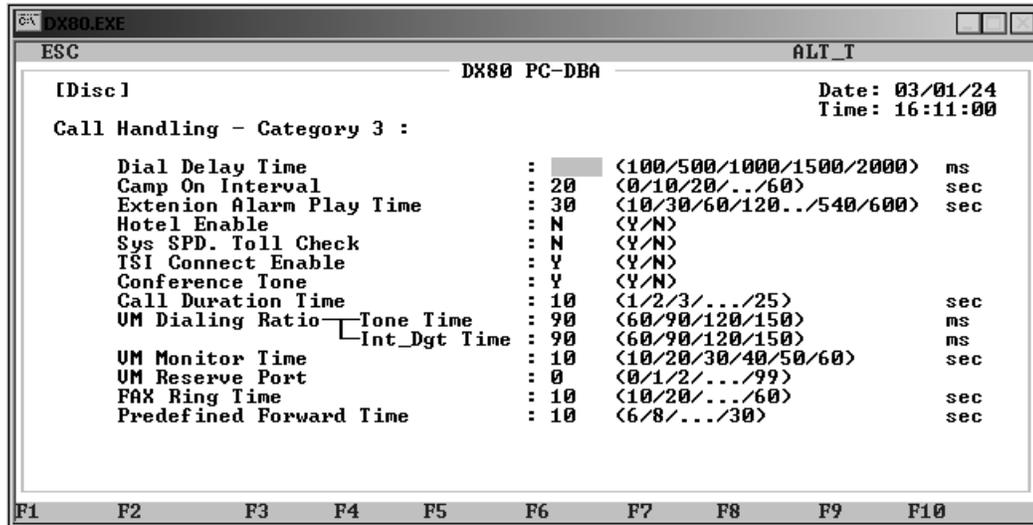
1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. First, program the Meet Me Conference Time. Enter *03-37*. Then press *save*.
4. Press *chg* to specify how long you want the system to allow meet me conferences to last. The valid range is from 0 to 120 minutes, in 10 minute increments. The default is 0 (unlimited).
5. Next, Program the Conference Tone Operation. Press the *Volume* button (up or down) to return to the DB Item Select screen.
6. Enter *03-23*, then press *save*.
7. Press *chg* to specify if you want the system to play conference tones. Valid choices are yes or no. The default is yes.
8. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.17.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Data-base Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 2* and press *Enter*. The system displays the Call Handling—Category 2 screen.



4. Highlight *Meet Me Conference Talk Time* and press *Enter* to specify how long you want the system to allow meet me conferences to last. The valid range is from 0 to 120 minutes, in 10 minute increments. The default is 0 (unlimited).
5. When you are done, press *Esc* to return to the Call Handling menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Call Handling menu.
9. Next, Program the Conference Tone Operation. Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 screen.



10. Highlight *Conference Tone* and press *Enter* to specify if you want the system to play conference tones. Valid choices are yes or no. The default is yes.
11. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
12. The system prompts "Save Current Setting?" Press *Y* to save your changes.
13. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
14. Press *Esc* to return to the Database Programming menu.
15. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.18 Setting Up Camp On Interval

The DX-80 allows you to specify how long before the system waits before sounding a beep to extension users, alerting them that another call is camped on to their extension.

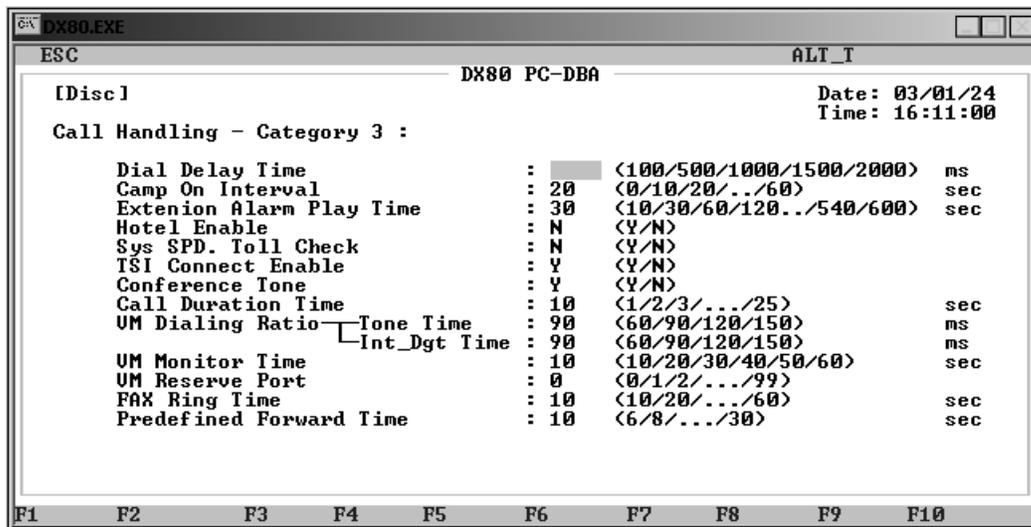
6.18.1 PROGRAMMING USING THE DET

Note: *chg*, *bkspace*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Enter *03-18*. Then press *save*.
4. Press *chg* to specify how long you want the system to wait before sounding the camp on beep to the extension user at a busy extension. The valid range is from 0 to 60 seconds, in 10 second increments. The default is 20 seconds.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.18.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 screen.



4. Highlight *Camp On Interval* and press *Enter* to specify how long you want the system to wait before sounding the camp on beep to the extension user at a busy extension. The valid range is from 0 to 60 seconds, in 10 second increments. The default is 20 seconds.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.19 Setting Up Alarm Play Intervals

Extension users can activate their own private alarm on their telephones to remind them of special appointments, events, etc. When the alarm activates, the system ring tones the extension for a time that you specify. After this period, the system automatically cancels the alarm.

You can program the alarm for a single use or recurring use. When programmed for recurring use, the system sounds the alarm at the same time every day.

Note: Be sure the system time and date is set to the correct local time and date before programming the alarm play interval. For further details, see Section 4.19, *Setting System Time, Date, and Hour Mode*.

Another feature whose programming may be affected by alarm play interval is Distinctive Ringing.

The following conditions apply to setting the alarm interval.

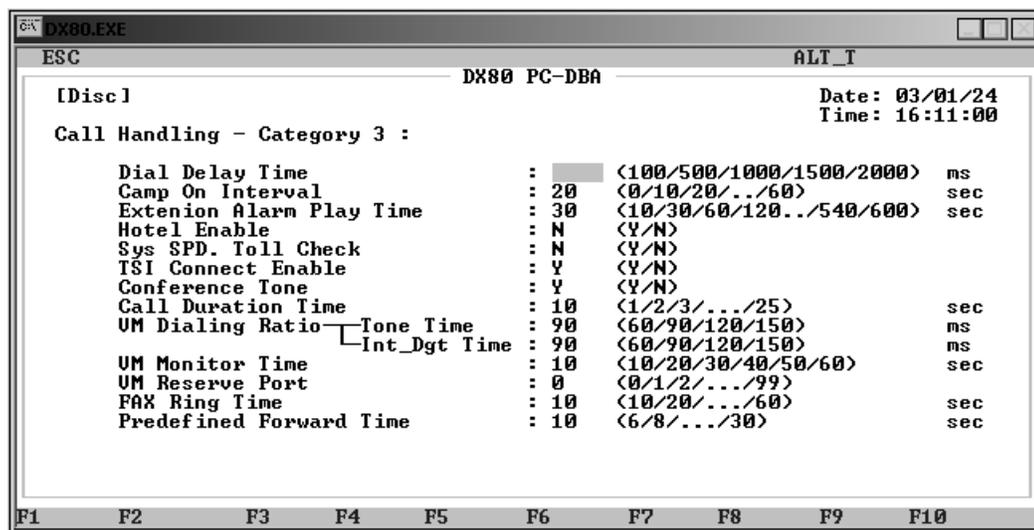
- The display remains unchanged until *ack* is pressed or until the telephone is used for another call.
- You can program the Alarm Clock feature code at any programmable flexible feature button.

6.19.1 PROGRAMMING USING THE DET

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Enter *03-19* and press *save*.
4. Press *chg* to select the time you want the system to repeat the alert tone when the set alarm time is reached. Valid options are 10 - 600 seconds, in 10 second intervals (10, 20, 30, etc.). The default is 30 seconds.
5. Press *back* or *next* to continue programming. Or exit programming.

6.19.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 menu.



4. Highlight *Extension Alarm Play Time*, then press *Enter* select the time you want the system to repeat the alert tone when the set alarm time is reached. Valid options are 10 - 600 seconds, in 10 second intervals (10, 20, 30, etc.). The default is 30 seconds.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.

6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.20 Enabling/Disabling Hotel Feature

This feature allows the system attendant to administer certain system extension features to emulate hotel operations. The system attendant can:

- Set extension wakeup calls via the Alarm Clock-Extension feature.
- Set extension status to Checked IN/Checked OUT/Clean such that the associated LED of DSS/BLF buttons for the extension indicate the current status. In “Checked Out” and “Clean” modes, dialing at the extension is restricted to intercom calls only.

You can enable the Hotel Mode while programming the system.

You must set Hotel Enable to *Y* (yes) for these features to operate.

If you have programmed a release key, you can use it to clear any active condition (extension alarm clock mode, etc.) with one touch.

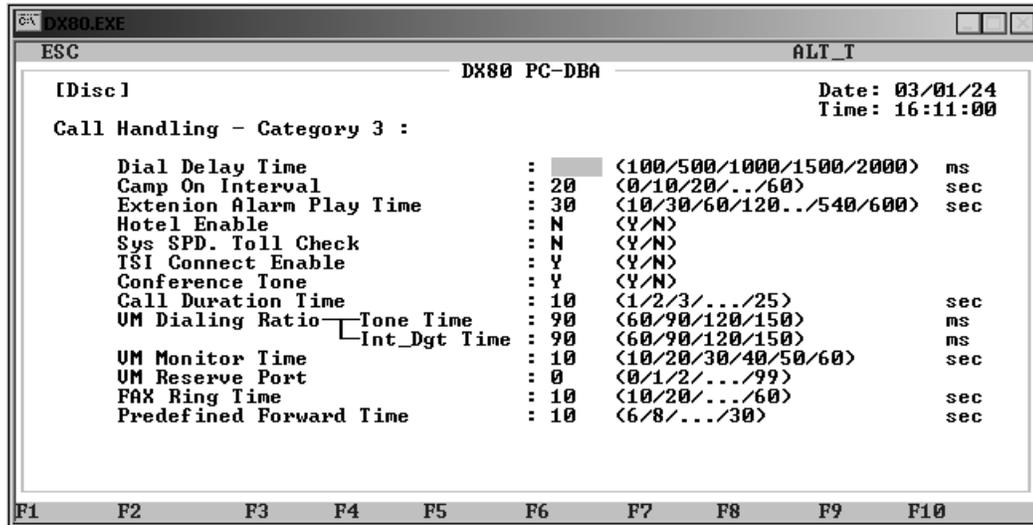
6.20.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-20*, then press *save*. This advances you to the Hotel Enable programming screen.
4. Press *chg* to select yes (on) or no (off). The default is no.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.20.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 menu.



4. Highlight *Hotel Enable* and press *Enter* to select *N* (off) or *Y* (on). The default is no.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.21 Enabling/Disabling System Speed Toll Check

The System Speed Toll Check feature allows you to instruct the system to perform a toll restrictions check on a system speed dial. Normally, system speed dials are exempt from the toll check while the DX-80 does perform toll restriction checks on individual speed dials and processes the call accordingly.

For example, suppose your customer has a corporate office in Tampa, Florida, and a satellite office in Houston, Texas. Your client may wish to allow the corporate employees to call the Houston office, even though long distance calls are prohibited in their class of service. To do this, you would set up a system speed dial for the corporate office employees with system speed toll check disabled—since the Houston number is set up on a system speed dial it is processed without a toll check.

Now suppose another customer has a corporate office in Tampa, Florida, and a satellite office in Honolulu, Hawaii. This customer wants to allow the CEO to call Honolulu but not allow the remaining employees to do so. In this instance, you could set up a speed dial for the CEO with system speed toll check enabled, and assign the CEO a separate class of service whose toll restrictions include the ability to call Honolulu. The remaining employees’ class of service would disallow this toll call.

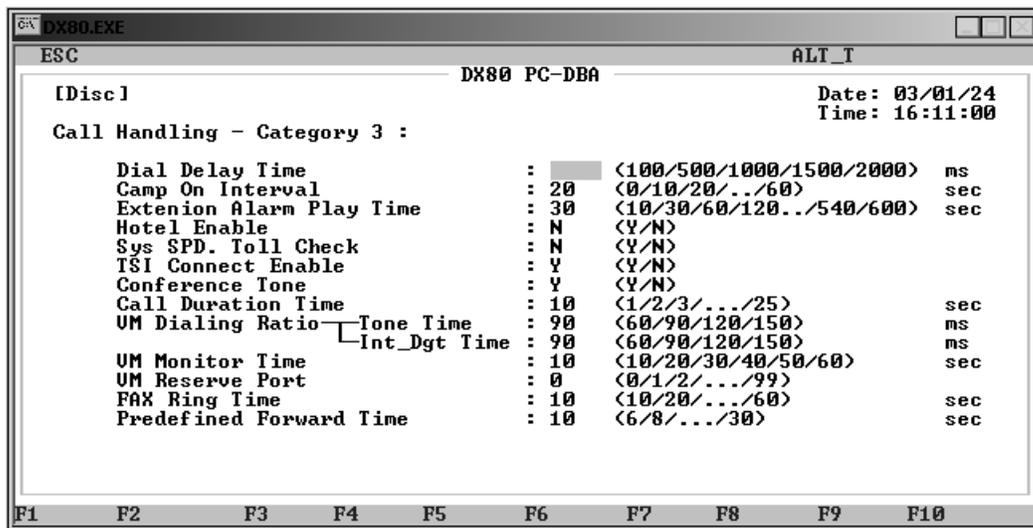
6.21.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-21*, then press *save*. This advances you to the System Speed Toll Check Enable programming screen.
4. Press *chg* to select *yes* (on) to instruct the system to perform toll checks on system speed dials, or *no* (off) so that the system does not perform toll checks on system speed dials. The default is *no*.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.21.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 menu.



4. Highlight *Sys SPD. Toll Check* and press *Enter* to choose *Y* to instruct the system to perform toll checks on system speed dials, or *N* so that the system does not perform toll checks on system speed dials. The default is *no*.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.

7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.22 Enabling/Disabling TSI Connection

Enabling the TSI Connection tells the system to establish the voice path between the extension and the CO line without checking the toll restrictions set up for that extension. If you disable TSI Connection, the system does not establish the voice path between the extension and the CO line until after it has checked the toll restrictions.

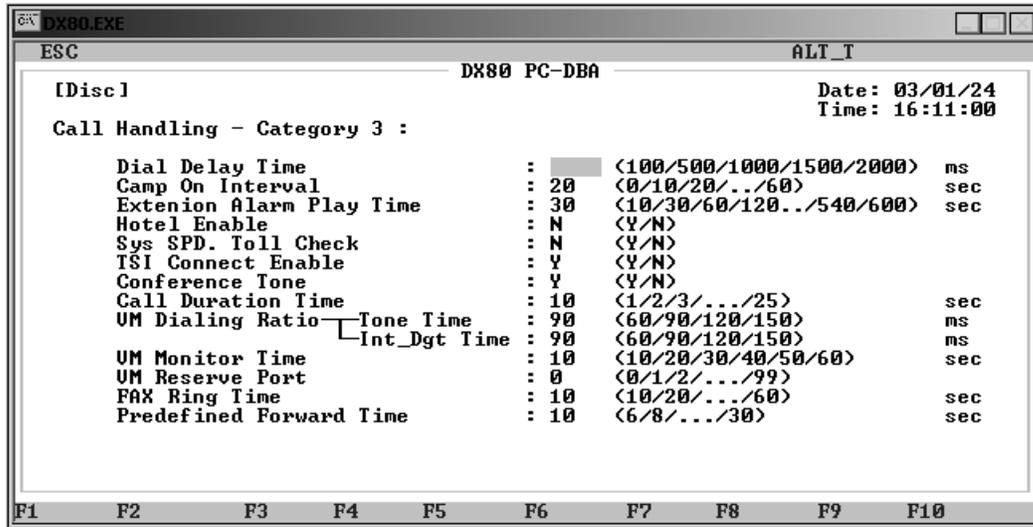
6.22.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-22*, then press *save*. This advances you to the TSI Connection programming screen.
4. Press *chg* to select *yes* (on) to instruct the system to ignore the toll restrictions, or *no* (off) to use the toll restrictions. The default is *yes*.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.22.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 menu.



4. Highlight *TSI Connect Enable* and press *Enter* to select *Y* to ignore the toll restrictions, or *N* to use the toll restrictions. The default is *yes*.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for *yes*.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a *Send* operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.23 Enabling/Disabling Conference Tone

The DX-80 can sound a tone to parties in a conference call whenever a new party is added to the call. The system also sounds this tone when the conference call is initially set up, to signify that the conference is active. You can choose to set the conference tone on or off. If you set the tone to off, existing parties in a conference call may be unaware when new parties are added to the call.

6.23.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-23*, then press *save*. This advances you to the Conference Tone programming screen.
4. Press *chg* to select *yes* (on) if you want the system to sound the conference tone, or *no* if you do not want the system to sound a tone. The default is *yes*.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,

Or, exit programming.

6.23.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 menu.

```

ESC                               DX80 PC-DBA                               ALT_T
[Disc]                               Date: 03/01/24
                                       Time: 16:11:00
Call Handling - Category 3 :
Dial Delay Time                       : █ <100/500/1000/1500/2000> ms
Camp On Interval                       : 20 <0/10/20/.../60> sec
Extension Alarm Play Time              : 30 <10/30/60/120/.../540/600> sec
Hotel Enable                           : N <Y/N>
Sys SPD. Toll Check                    : N <Y/N>
TSI Connect Enable                     : Y <Y/N>
Conference Tone                         : Y <Y/N>
Call Duration Time                     : 10 <1/2/3/.../25> sec
UM Dialing Ratio — Tone Time           : 90 <60/90/120/150> ms
                               — Int_Dgt Time : 90 <60/90/120/150> ms
UM Monitor Time                        : 10 <10/20/30/40/50/60> sec
UM Reserve Port                        : 0 <0/1/2/.../99>
FAX Ring Time                          : 10 <10/20/.../60> sec
Predefined Forward Time                : 10 <6/8/.../30> sec
F1   F2   F3   F4   F5   F6   F7   F8   F9   F10

```

4. Highlight *Conference Tone* and press *Enter* to select *Y* if you want the system to sound a tone when it adds new parties to a conference call, or *N* if you do not want the system to sound a tone. The default is yes.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.24 Specifying Call Duration

You can limit an extension to calls that fall within a specific programmed time. You could use this feature, for example, in a lobby or retail environment where lengthy calls are discouraged.

You can set the DX-80 to either:

- warn an extension that the time has expired, thereby advising the extension user to disconnect. In this mode, the system plays a warning tone repeatedly once the timer has expired.
- automatically disconnect the call moments after playing the warning tone.

You determine what call length you want to allow and when you want the system to play the warning tones while programming call handling. You then set the warning tones/call drops on or off while programming the individual extensions. For details on programming the extensions, see Section 10.10, *Setting up Warning Tones, Incoming Call Drops, Outgoing Call Drops*.

For details on how to set or adjust the warning time, see Section 6.9, *Establishing Warning Time for Limited Call Lengths*.

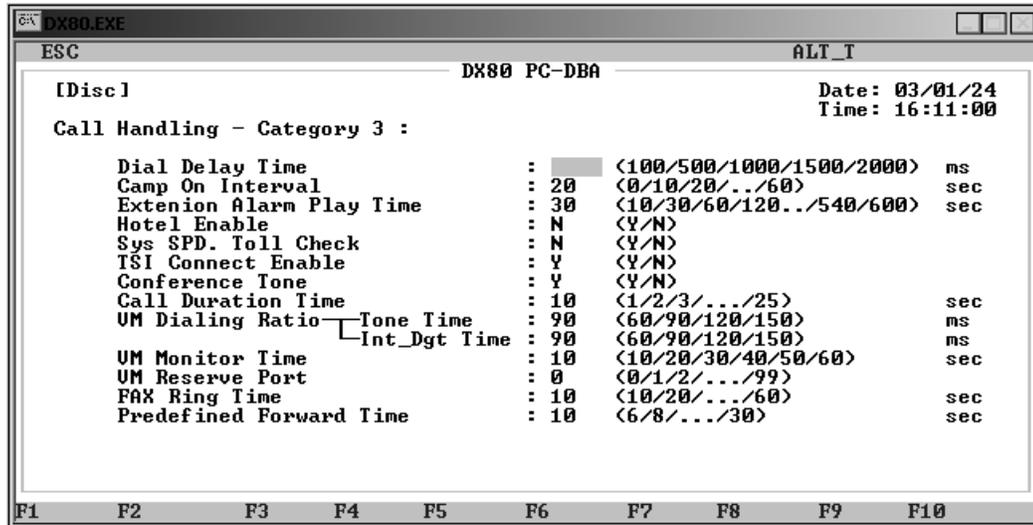
6.24.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-09-01* to set the outgoing call duration time, and press *chg* to select the maximum amount of time you want to allow for limited outgoing calls. Valid choices are 1 through 25 seconds. The default is 10 seconds.
4. Enter *03-09-02* to set the incoming call duration time, and press *chg* to select the maximum amount of time you want to allow for limited incoming calls. Valid choices are 1 through 25 seconds. The default is 10 seconds.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.24.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 menu.



4. Highlight *Call Duration Time* and press *Enter* to key in the maximum amount of time you want to allow for limited calls. Valid choices are 1 through 25 seconds. The default is 10 seconds.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
6. The system prompts "Save Current Setting?" Press *Y* to save your changes.
7. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.25 Programming Caller ID Codes and Local Calling Areas

The system stores caller identification information for 100 calls in a call table. While reviewing the calls, you will have the option to dial the number, obtain more information for the particular call, or delete the call.

The following conditions apply when programming the caller ID table.

- You must properly program the local area code and long distance prefix so the system can accurately redial the CID number from the caller ID table.
- If no name is delivered from the telephone company, the system displays the number only.
- Any digital speakerphone user can review the caller ID table if the attendant password is known, but the table can be reviewed by only one telephone at a time.
- You can exit the caller ID call table mode at any time.

When programming the caller ID table, enter the following.

- International prefix (typically not required in the USA or Canada).
- Country code (typically not required in the USA or Canada).

- Long distance prefix (usually 1).
- Local area codes (enter them as the prefix if the local phone company uses 10 digit dialing).

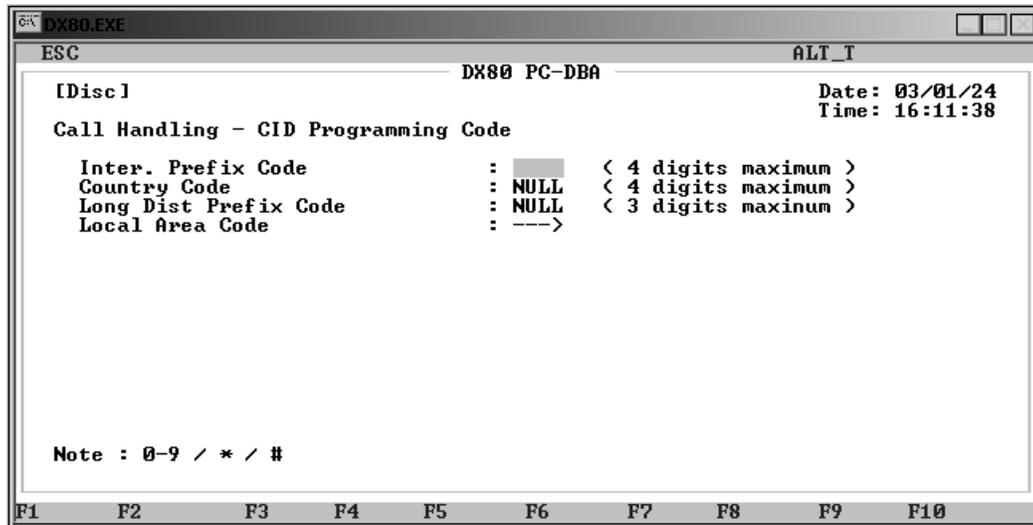
6.25.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

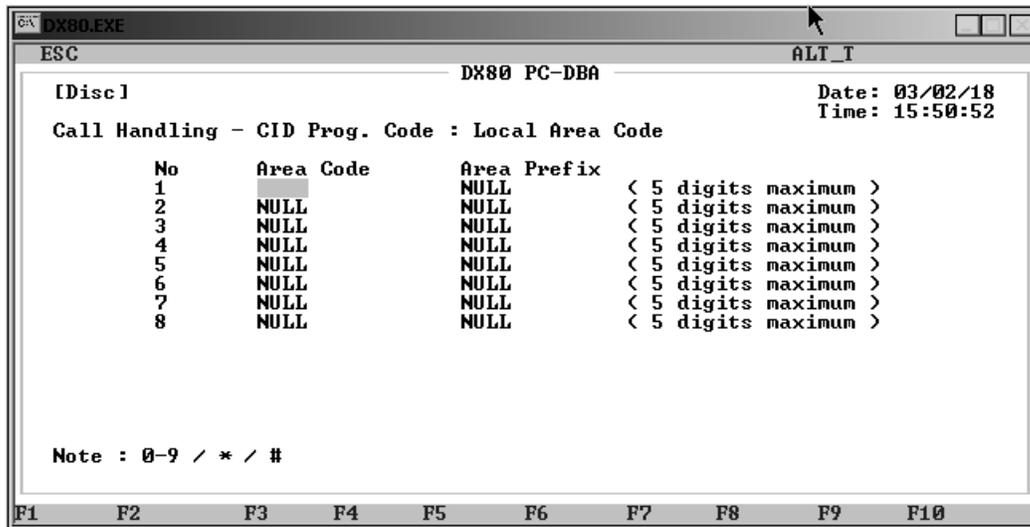
1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. First, program the CID codes. Enter *03-25* then press *save* to program the international prefix. Press *show* to view the contents of this field. Press *chg* to enter in the code you want the system to dial (if any) when dialing international calls. The range is from 0 to 9999. The default is NULL (none). Press *save*.
4. Enter *03-26* then press *save* to program the country code. Press *show* to view the contents of this field. Press *chg* to enter the code you want the system to dial (if any) when dialing international calls, and press *Enter*. The range is from 0 to 9999. The default is NULL (none). Press *save*.
5. Enter *03-27* then press *save* to program the long distance prefix. Press *show* to view the contents of this field. Press *chg* to enter the code you want the system to dial (if any) when dialing long distance calls, and press *Enter*. The range is from 0 to 9999, and the typical code is 1. The default is NULL (none). Press *save*.
6. Press the *Volume* button (up or down) to return to the DB Item Select screen.
7. Next, program the local area codes. Local area code programming requires two entries; first the local area code, then the code required as a prefix when this telephone number is dialed from CID memory (usually the same as local area code).
8. Enter *03-28*, then press *save*. When you press *show*, area code table 1 displays.
9. Press *chg* to enter the actual local area code that will be received with CID from the local calling area.
10. Key in the local area code for the customer's site, and press *Enter*. The range is from 0 to 999. The default is NULL (none). Press *save*.
11. Press *next*. This area code's prefix displays.
12. If the area code must be dialed to complete local calls within that area code, press *chg*. Enter the code you want the system to dial (usually the same digits as the area code) when dialing local calls, and press *Enter*. *Note:* Use this field when 10 digit dialing is required on local calls. The range is from 0 to 999. The default is NULL (none).
While many local calling areas only include one area code and prefix, some local calling areas contain several. If you need to specify more than one local calling area code and prefix, use the remaining area code/prefix fields to do so. If you do not need multiple local area codes/prefixes, leave the remaining area code/prefix fields set to NULL.
13. Press *save*.
14. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.25.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. First, program the CID codes. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *CID Prog. Code* and press *Enter*. The system displays the Call Handling — CID Programming Code menu.



4. Highlight *Inter. Prefix Code* and press *Enter*. Key in the code you want the system to dial (if any) when dialing international calls. The range is from 0 to 9999. The default is NULL (none).
5. Highlight *Country Code* and press *Enter*. Key in the code you want the system to dial (if any) when dialing international calls, and press *Enter*. The range is from 0 to 9999. The default is NULL (none).
6. Highlight *Long Dist Prefix Code* and press *Enter*. Key in the code you want the system to dial (if any) when dialing long distance calls, and press *Enter*. The range is from 0 to 9999, and the typical code is 1. The default is NULL (none).
7. Highlight *Local Area Code* and press *Enter*. The system displays the Call Handling — CID Prog Code : Local Area Code menu.



8. Highlight the *Area Code* field for the first item in the local calling area and press *Enter*. Key in the first local area code for the customer’s site, and press *Enter*. The range is from 0 to 999. The default is NULL (none).
9. Highlight the *Area Prefix* field for the first item in the local calling area and press *Enter*. Key in the code you want the system to dial (if any) when dialing local calls, and press *Enter*. Use this field when 10 digit dialing is required on local calls. The range is from 0 to 999. The default is NULL (none).
10. In the same manner, specify additional local area codes and prefixes as needed. While many local calling areas only include one area code and prefix, some local calling areas contain several. If you need to specify more than one local calling area code and prefix, use lines 2 through 8 to do so. If you do not need multiple local area codes/prefixes, leave lines 2 through 8 set to NULL.
11. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
12. The system prompts “Save Current Setting?” Press *Y* to save your changes.
13. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
14. Press *Esc* to return to the Database Programming menu.
15. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.26 Programming Tenant Groups

Tenant Groups allow you to separate system resources so the DX-80 system can operate as two or three independent systems deployed at a single site.

You can completely isolate extension functions depending on how you assign the tenant groups; i.e., you can prohibit calling from one tenant group to another. You do not have to isolate extensions to be able to isolate system resources, however. (See Section 3.39, *CO Line Assignment*, Section 3.48, *CO Line Ring Assignment (Answer Position)*, and Section 3.49, *CO Line Ring Type Assignment* for details on how to isolate system resources without invoking full isolated tenant operations).

Tenant Grouping allows you to independently allocate resource directory numbers. The directory numbers for system resources then interact only with the resources within the tenant group. For example, you designate attendant extensions for each tenant group; these attendant extensions act independently for the assigned tenant group. When a caller dials 0 to reach the attendant, the system automatically calls the attendant extension you designated for that group (attendant extension 2 for tenant group 2, etc.).

The following conditions apply to setting up tenant groups.

- You can set up a maximum of three tenant groups in the DX-80 system.
- Extension directory numbers remain unique to system ports and are not duplicated for each tenant group (although extension dialing may be restricted across tenant group barriers).
- When tenant calling is restricted from one tenant group to another tenant group, intercom calls, call transfers, and recall operations will not operate across these designations. *Note: If you want intercom calls, call transfers, and recall operations to work across tenant group barriers, do not set up separate tenant groups.*

Other features whose programming may be affected by how you assign tenant groups during call handling include the following.

- CO Line - Tenant Group
- Extension - Tenant Group

All tenant groups are allowed to dial intercom directory numbers of extensions in all other tenant groups. (Range is Y/N for each calling direction between tenant groups.)

6.26.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

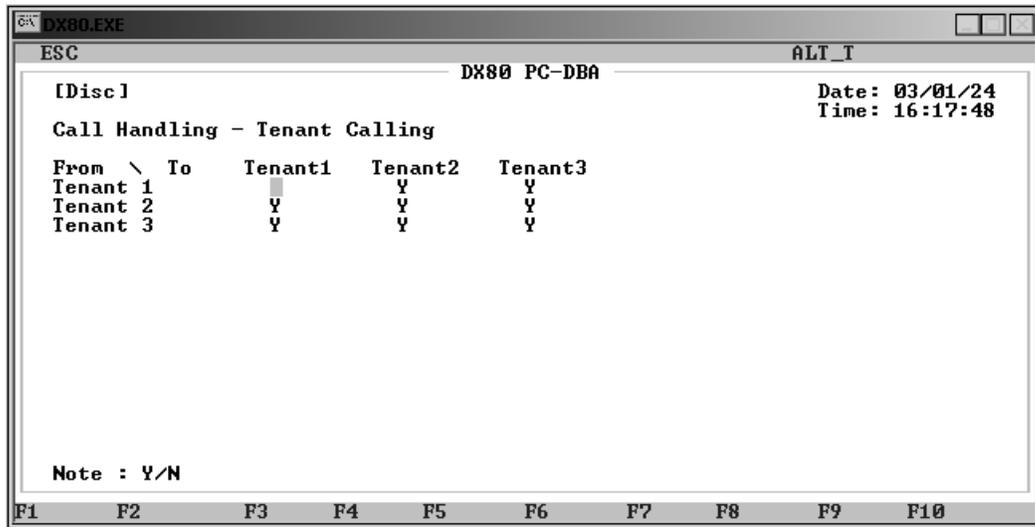
1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-29* and press *save*. This advances you to Tenant Calling.
4. Press *show*. Enter the tenant group that you want to program, then press *show*. The system shows the status of calling from this tenant group to the tenant group displayed.

TO TENANT 1:Y
back next chg

5. Press *chg* to select *N* if you want to deny calling to this tenant group.
Or...
Press *next* to skip to the tenant group to program.
6. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.26.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Tenant Calling* and press *Enter*. The system displays the Call Handling—Tenant Calling menu.



4. Highlight *From Tenant 1 \ To Tenant 1* and press *Enter* to select *Y* to allow intercom calls within tenant group 1, or *N* to disallow. The default is yes.
5. Highlight *From Tenant 1 \ To Tenant 2* and press *Enter* to select *Y* to allow intercom calls from tenant group 1 to tenant group 2, or *N* to disallow. The default is yes.
6. In the same manner, specify what intercom calling you want to allow between tenant groups.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.27 Setting Up SMDR Call Output

This feature allows the system administrator to track all incoming and outgoing CO line traffic, chronologically by extension number. The system outputs account code data for each call record.

The system outputs SMDR from the standard “SMDR” RS232 serial port located on the Central Processor Module (CPM). You can connect an external serial printer or call accounting device for permanent record keeping or call cost accounting. The system outputs each data record within the standard 80-character frame. Data communications occur in one direction only through the SMDR port; you can program the baud rate during system programming. For more details, see Section 4.16, *Selecting SMDR Transmit Rate*.

SMDR information includes the following:

- call direction, or a comment for special call handling record,
- extension number,
- CO line used,
- number dialed,
- ring time to answer,
- time and date the call was placed,
- duration of the call, and
- account code (if specified).

The system also provides ring-in duration and call processing information relative to the call as it was handled by the system.

The system outputs two records for incoming calls that are received with Caller ID (although this feature is a standard feature of the DX-80, a telephone company subscription is required).

- The first record lists the telephone number of the calling party as it is received from the telephone company. (Calls from CID blocked numbers will not have a CID number associated with that record.)
- The second record will show the caller’s name (“OUT OF AREA” or “PRIVATE” may appear in this field if the calling party number is unavailable.)

The following is an example of an SMDR report. *Note: In this example, the two “I” records are one incoming call record received with caller ID.*

0	1	2	3	4	5	6	7
1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890							
D	EXT	TRK	DGT_DIALED	RING	DATE	TIME	DURATION ACCOUNT
XXX	XXX	XXXX	XXXX	MM:SS	XX/XX	HH:MM:SS	HH:MM:SS XXXXXXXXX
O	101	741	3035551212	00:00	01/01	01:05:52	00:00:35
I	103	740	4802224545	00:13	01/01	01:07:51	00:00:39
I	103	740	JOHNSON LARRY	00:13	01/01	01:07:51	00:00:39
O	101	741	3035551212	00:00	01/01	01:13:52	00:00:15 12345678

The following are definitions of the column headings in the report.

D = Call Direction (I = incoming, O = outgoing, A=operator transferred call,
H=recalled trunk call, L=conference call)

EXT = Extension number/Incoming DISA CO line number/Incoming ECF CO line number

TRK = CO line directory number

DGT_DIALED = Telephone number (outgoing call only, maximum 16 digits, left aligned)

RING = CO line incoming ringing duration before answer (incoming call only)

MM = minute

SS = second

DATE = Day/Month (DD/MM)

TIME = Start time of call connection

MM = minute

HH = hour

SS = second

DURATION = Length of the call

MM = minute

HH = hour

SS = second

ACCOUNT = Account code entered for billing purposes (maximum 8 digits, left aligned)

The system generates a carriage return (CR) after each record output.

After you have set up SMDR, be sure to assign SMDR to individual extensions as needed. For further details, see Section 10.14, *Programming Extensions for SMDR Output*.

6.27.1 PROGRAMMING USING THE DET

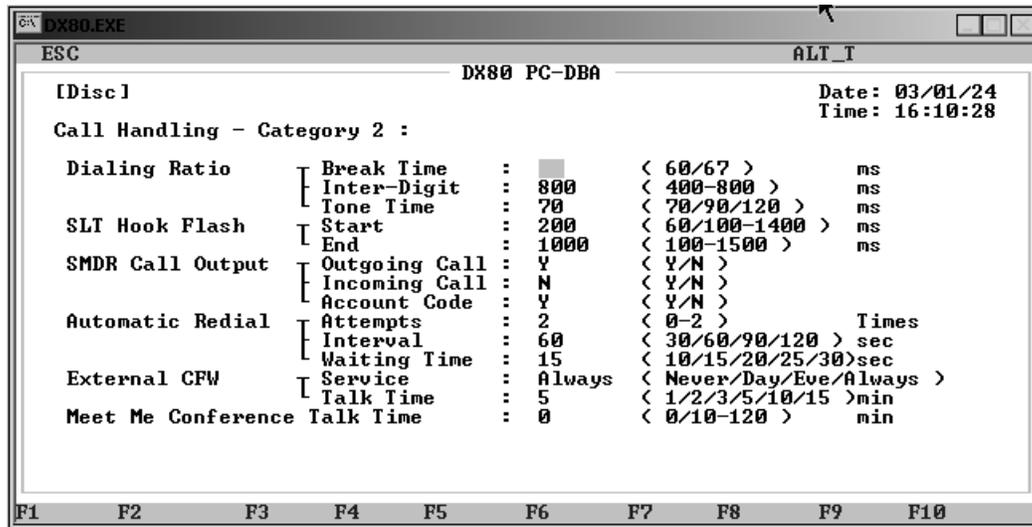
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.

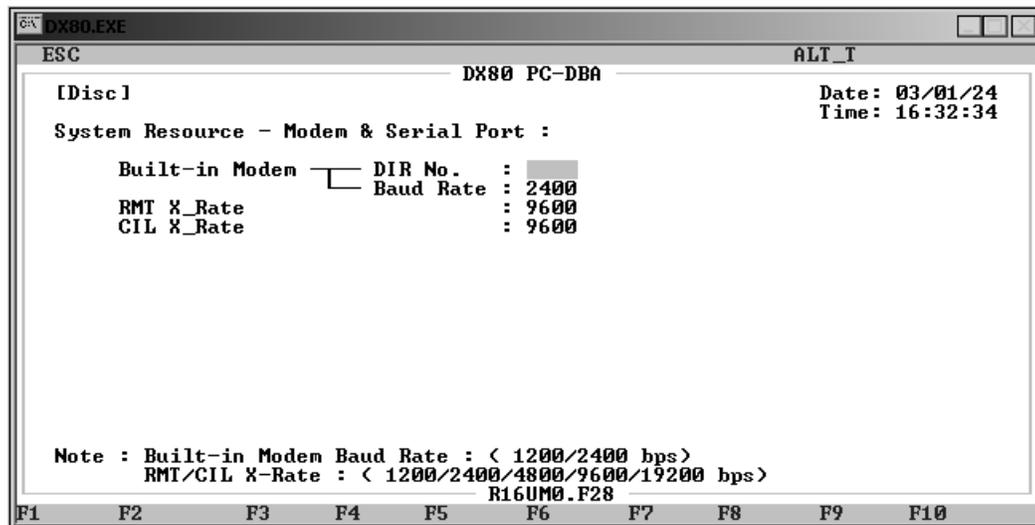
3. First, program the SMDR Call Output – Outgoing Call. Press *chg* to choose if you want to record SMDR for outgoing calls. Valid choices are *Y* or *N*. The default is *Y*.
4. Enter *03-30-01*, then press *save*. This advances you to the SMDR Output selection for Outgoing Calls.
5. Press the *Volume* button (up or down) to return to the DB Item Select screen.
6. Next, program the SMDR Call Output – Incoming Call. Enter *03-30-02*, then press *save*. This advances you to the SMDR Output selection for Incoming Calls.
7. Press *chg* to choose if you want to record SMDR for incoming calls. Valid choices are *Y* or *N*. The default is *N*.
8. Press the *Hold* button to exit this programming and return to the previous menu level or press the *Volume* button (up or down) to return to the Database Item Select screen.
9. Next, program the SMDR Call Output – Account Code. Enter *03-30-03*, then press *save*. This advances you to the SMDR Output for Account Codes.
10. Press *chg* to specify if you want the account code to appear in the SMDR field. Valid choices are *Y* or *N*. The default is *Y*.
11. Press the *Volume* button (up or down) to return to the Database Item Select screen.
12. Next, program the (CIL) Call Information Log serial port baud rate (CIL X_RATE). Enter *04-16*, then press *save*. This advances you to the SMDR CIL port transmission rate setting.
13. Press *chg* to set this baud rate. Valid options are 1200, 2400, 4800, 9600, and 19200. The default is 9600.
14. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.27.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. First, program call logging conditions (outgoing/incoming/account code). Highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 2* and press *Enter*. The system displays the Call Handling—Category 2 menu.



4. Highlight the *SMDR Call Output – Outgoing Call* field. Press *Enter* to choose if you want to record SMDR for outgoing calls. Valid choices are *Y* or *N*. The default is *Y*.
5. Highlight the *SMDR Call Output – Incoming Call* field. Press *Enter* to choose if you want to record SMDR for incoming calls. Valid choices are *Y* or *N*. The default is *N*.
6. Highlight the *SMDR Call Output – Account Code* field. Press *Enter* to specify if you want the account code to appear in the SMDR field. Valid choices are *Y* or *N*. The default is *Y*.
7. When you are done, press *Esc* to return to the Call Handling menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Call Handling menu. Then press *Esc* again to return to the Database Programming menu.
11. Next, program the Call Information Log (CIL) serial port baud rate. Highlight *System Resource* and then press *Enter*. The system displays the System Resource menu.
12. Highlight *Modem & Serial Port* and press *Enter*. The system displays the System Resource—Modem & Serial Port menu.



13. Highlight *CIL X_Rate*. Press *Enter*. to select the baud rate of the serial port. Valid options are 1200, 2400, 4800, 9600, and 19200. The default is 9600.
14. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
15. The system prompts “Save Current Setting?” Press *Y* to save your changes.
16. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
17. Press *Esc* to return to the Database Programming menu.
18. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.28 Programming Voice Mail

If you are using voice mail, you must program the voice mail dialing ratio. See Section 9, *Programming Voice Mail* for details on how to program voice mail.

6.29 Setting Fax Ring Time

The DX-80 allows you to specify how many seconds you want it to ring a fax line before dropping the call.

6.29.1 PROGRAMMING USING THE DET

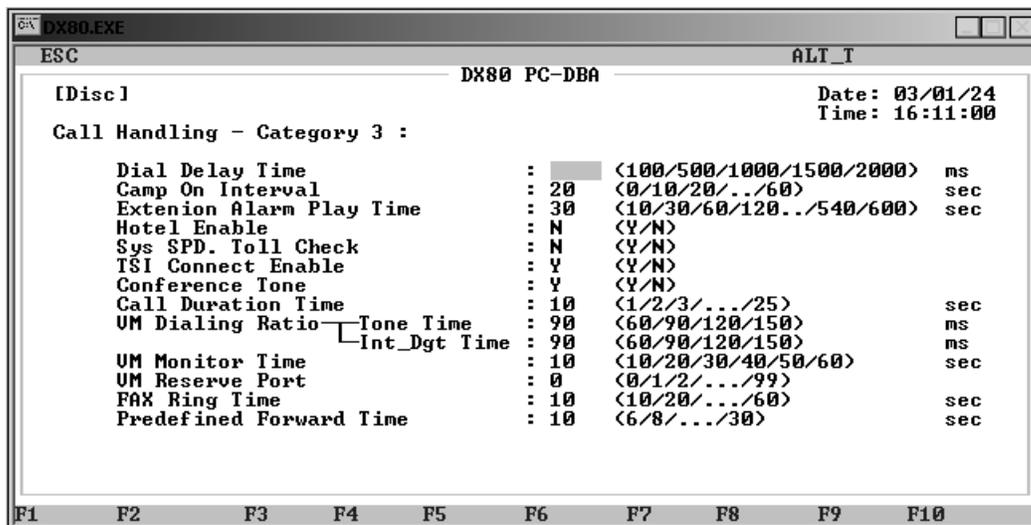
Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to activate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-36* and press *save*. This advances you to the Fax Ring Time field.

4. Press *chg* to set how many seconds you want the system to ring a fax line before dropping the call. Valid options are 10, 20, 30, 40, 50, and 60. The default is 10 seconds.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.29.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 menu.



4. Highlight *Fax Ring Time* and press *Enter* to select how many seconds you want the system to ring a fax line before dropping the call. Valid options are 10, 20, 30, 40, 50, and 60. The default is 10 seconds.
5. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.30 Setting Predefined Call Forward Time

The system uses the Predefined Call Forward setting to determine how long to ring a directory number before classifying the call as “unanswered.” Once the system classifies the call as unanswered, it can process the call according to the programming associated with an answered call. For example, you can set up an extension or CO line to transfer unanswered calls to the attendant extension, a departmental secretary, another department, etc.

Note: If you want to forward unanswered calls for all calls coming in on a CO line, set that up during CO line programming. For more details, see Section 5.12, Setting the Pre-Defined Call Forward No Answer. If you want to forward unanswered calls for all calls coming in to a particular extension, set that up during extension programming. For more details, see Section 10.14, Programming Extensions for SMDR Output. The Predefined Call Forward time affects how the CO line and extension are programmed.

6.30.1 PROGRAMMING USING THE DET

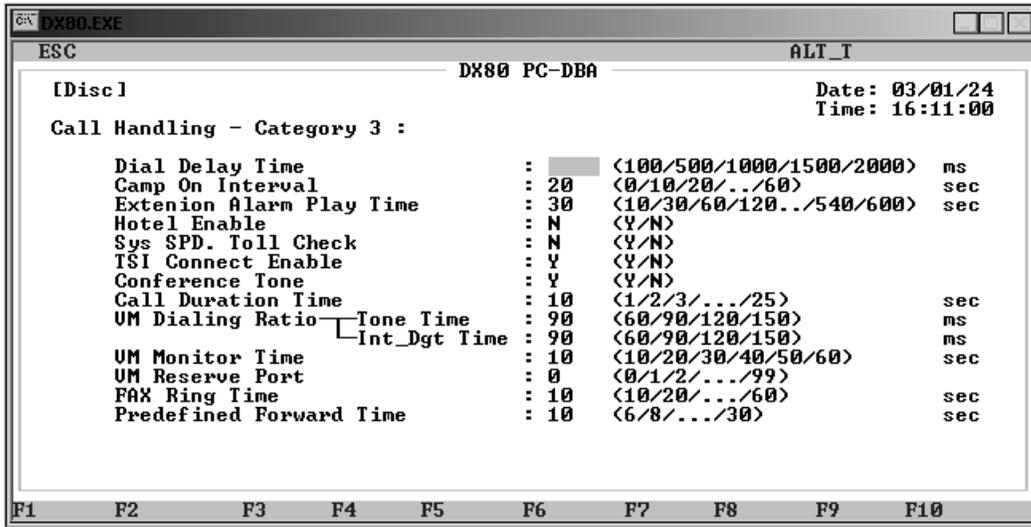
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-39* and press *save*. This advances you to the Predefined FWD Time field.
4. Press *chg* to set the amount of time you want to allow before the system classifies the call as “unanswered.” Valid options are from 6 to 30 seconds, in 2 second increments (2,4,6,8,10, etc.) The default is 10 seconds.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.30.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.

- Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 menu.



- Highlight *Predefined Forward Time* and press *Enter* to select the amount of time you want to allow before the system classifies the call as “unanswered.” Valid options are from 6 to 30 seconds, in 2 second increments (2,4,6,8,10, etc.) The default is 10 seconds.
- When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
- The system prompts “Save Current Setting?” Press *Y* to save your changes.
- The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
- Press *Esc* to return to the Database Programming menu.
- When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.31 Setting Ring On Recognition Time Interval

The DX-80 allows you to control the amount of time, in milli-seconds, that ring voltage needs to be present on a line for the system to classify it as valid ringing.

6.31.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

- Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
- Press *show*. The system displays the DB Item Select screen.
- Enter *03-41* and press *save*. This advances you to the Ring on Recognition field. Specify the minimum amount of ring time you want the system to recognize. Valid options are between 50 and 1500 milliseconds, in intervals of 50 (50, 100, 150, 200, etc.). The default is 100 milliseconds.

4. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.31.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.
4. Press *Page Up* or *Page Down* to display the second page [2/2] of the Call Handling—Category 1 menu.

The screenshot shows a terminal window titled "Select DX80.EXE" with a menu structure. At the top, navigation keys are listed: ESC-Exit, PgUp-Prev, PgDn-Next, and ALT_T-System Time. The main display area shows the following information:

```

[Disc]
Call Handling - Category 1 : [2/2]
Date: 03/04/25
Time: 16:44:46

Ring On Recognition      : 100  <50/100/.../1500>    ms
Talk Abandon Time       : 600  <50/100/.../1000>    ms
Hold Abandon Time       : 600  <50/100/.../1000>    ms
Unsupervised Talk Time  : 0    <0/10/.../120>      min
  
```

At the bottom of the window, a row of function keys is displayed: F1-Help, F2-U-Save, F3-RCU, F4-SND, F5-Cnt, F6-Disc, F7-Prn, F8-Init, F9-Mdm, F10-RS232C.

5. Highlight *Ring On Recognition* and press *Enter* to key in the minimum amount of ring time you want the system to recognize. Valid options are between 50 and 1500 milliseconds, in intervals of 50 (50, 100, 150, 200, etc.). The default is 100 milliseconds.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.32 Setting Talk Abandon Time Interval

Talk abandon occurs when the system experiences a drop of loop current for longer than a specified amount of time, while the call is active (talk time). If this time period expires, and the drop of CO loop current is still present, the system abandons the call and drops the CO line. The DX-80 allows you to control how long the system waits before abandoning the call.

6.32.1 PROGRAMMING USING THE DET

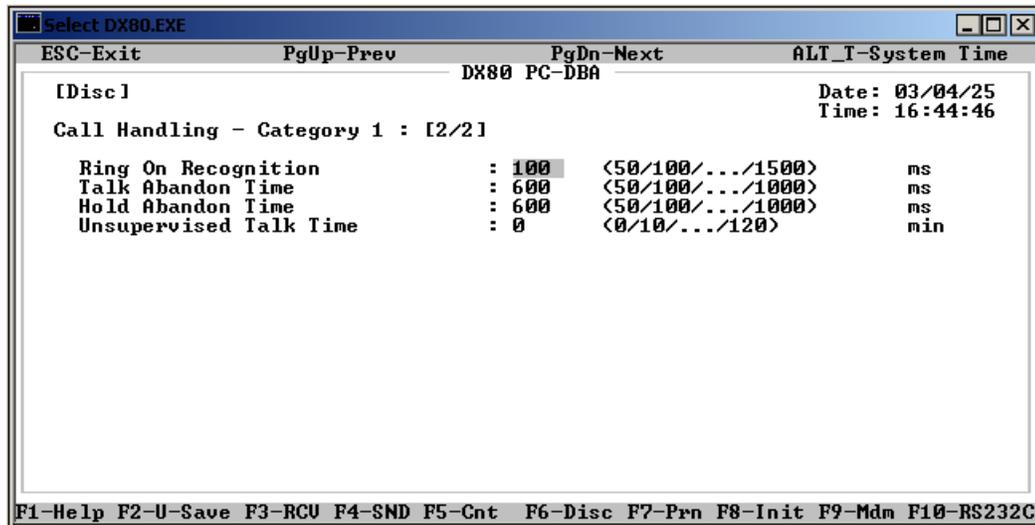
Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-42* and press *save*. This advances you to the Talk Abandon Time field. Specify the amount of time you want the system to wait when detecting a drop in loop current before abandoning an active call. Valid options are between 50 and 1500 milliseconds, in intervals of 50 (50, 100, 150, 200, etc.). The default is 600 milliseconds.
4. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.32.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.

- Press *Page Up* or *Page Down* to display the second page [2/2] of the Call Handling—Category 1 menu.



- Highlight *Talk Abandon Time* and press *Enter* to specify the amount of time you want the system to wait when detecting a drop in loop current before abandoning an active call. Valid options are between 50 and 1500 milliseconds, in intervals of 50 (50, 100, 150, 200, etc.). The default is 600 milliseconds.
- When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
- The system prompts "Save Current Setting?" Press *Y* to save your changes.
- The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
- Press *Esc* to return to the Database Programming menu.
- When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.33 Setting Hold Abandon Time Interval

Hold abandon occurs when the system experiences a drop of loop current for longer than a specified amount of time while the call is on hold; the system abandons the held call and drops the CO line. The DX-80 allows you to control how long the system waits before abandoning the call.

Each CO line has a programming option that directs the system to monitor distant party disconnect. This is a useful network feature in busy office environments where the inside party accidentally presses the Hold, ICM, or DSS button while expecting the outside line conversation to be concluded. Any time the system detects a disconnect signal from the Central Office, it releases an existing hold condition, freeing that line for future inbound/outbound traffic.

- All types of hold (e.g., system hold, exclusive hold, and conference hold) are subject to the Hold Abandon feature.
- Certain Central Offices do not provide loop supervision; these line should be programmed Call Abandon = "N."
- At default call abandon is enabled for all CO lines.

- If the outside (held party) disconnects, the system automatically releases the held CO line.
- The CO line must have the loop supervision interrupt signal from the local carrier for Hold Abandon to function.

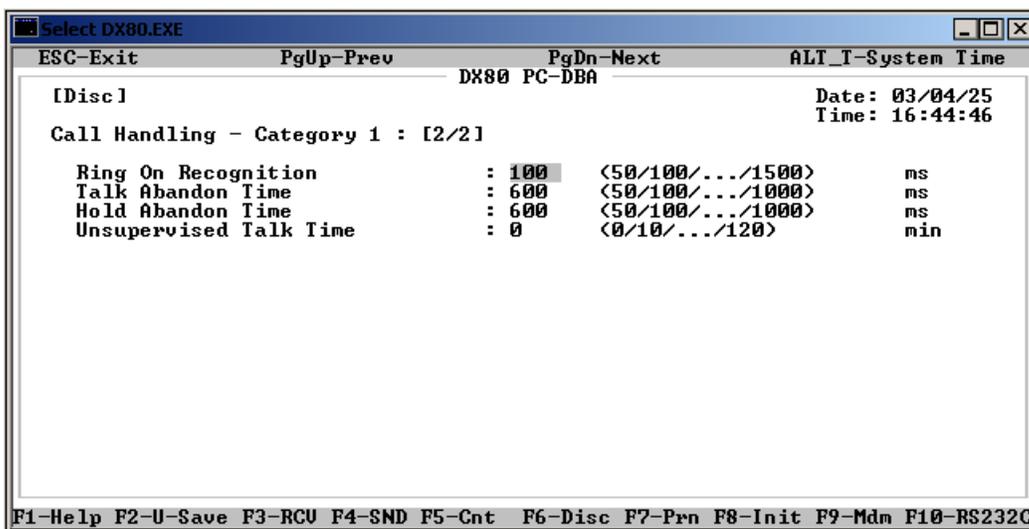
6.33.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Enter *03-42* and press *save*. This advances you to the Hold Abandon Time field. Specify the amount of time you want the system to wait when detecting a drop in loop current before abandoning a call on hold. Valid options are between 50 and 1500 milliseconds, in intervals of 50 (50, 100, 150, 200, etc.). The default is 600 milliseconds.
4. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.33.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.
4. Press *Page Up* or *Page Down* to display the second page [2/2] of the Call Handling—Category 1 menu.



5. Highlight *Hold Abandon Time* and press *Enter* to key in the amount of time you want the system to wait when detecting a drop in loop current before abandoning a call on hold. Valid options are between 50 and 1500 milliseconds, in intervals of 50 (50, 100, 150, 200, etc.). The default is 600 milliseconds.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.34 Setting Unsupervised Talk Time

The DX-80 allows you to specify how long you want to allow unsupervised talk time to continue before the system drops the call. This setting applies to conference calls.

6.34.1 PROGRAMMING USING THE DET

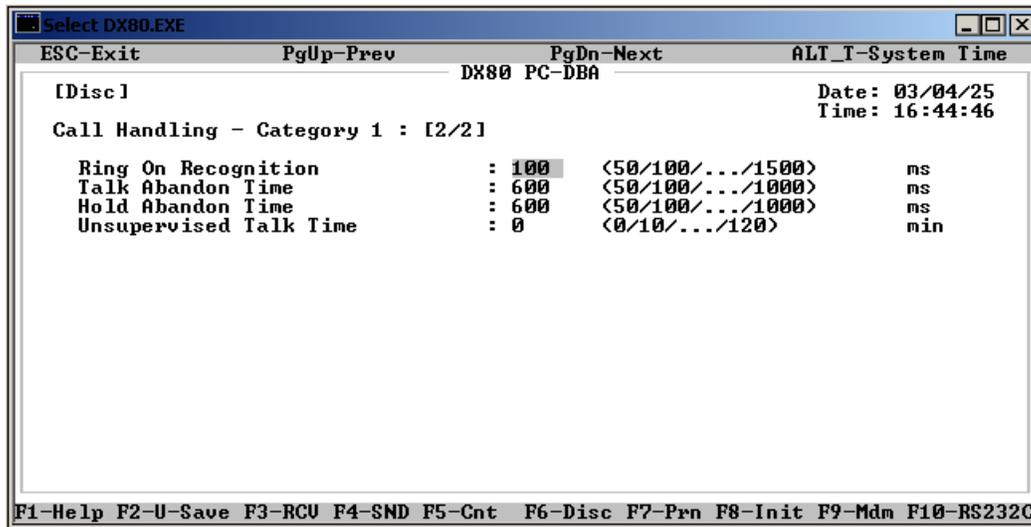
Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-38* and press *Save*.
4. Press *Chg* to select the amount of time you want to allow in conference calls before the system drops the callers. Valid options are 0 to 120 minutes. The default is 0 (no conference call allowed).
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.34.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Call Handling—Category 1 menu.

4. Press *Page Up* or *Page Down* to display the second page [2/2] of the Call Handling—Category 1 menu.



5. Highlight *Unsupervised Talk Time* and press *Enter* to key in the duration you want to allow for conference calls before callers are dropped. Valid options are between 0 and 120 minutes, in intervals of 10 (10, 20, 30, 40, etc.). The default is 0 minutes.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
7. The system prompts "Save Current Setting?" Press *Y* to save your changes.
8. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.35 Programming Auto Attendant Module (AAM)

The DX-80 Auto Attendant option can greatly enhance business office productivity by providing a full-duty automated attendant to handle all incoming system calls. It can also provide a part-duty automated attendant to handle:

- overflow traffic only when the primary attendant cannot handle calls, or
- after hours calls when the primary attendant position may not be staffed.

The optional Automated Attendant Module (AAM) is required to use Auto Attendant.

The AAM is installed inside of KSU1, and provides a maximum of 120 seconds of programmable voice announcements. The AAM provides four *ports* to handle four simultaneous callers. The AA voice announcements include:

- Day, Evening, Noon, and Temporary greeting messages
- Waiting, Invalid, Busy, No Answer, Good-Bye, and Inquiry prompts/instructions.

You set up the maximum recording time for each greeting/message and the actual recording for each voice announcement using the Attendant Administration feature.

Proper setup of the automated attendant requires some planning before you program. It is essential to successful automated attendant operation that you adequately plan announcements and their required results. Consider the 10 messages/greetings and any specific telephone system dialing operations that have been established for your DX-80 application.

Consider the following:

- What are the extension numbers that should be listed in the greeting, if any?
- Should any UCD group directory numbers be announced (for example, dial 410 for Sales)?
- Will you be using the “inquiry” message? (The Inquiry code may be dialed during the DAY, ALT, or EVE greetings to provide a recorded announcement to the caller – for example, directions to the office: *“To get recorded directions to our office, dial *. Otherwise, stay on the line and we’ll be with you soon.”*)
- Do you want to advise callers of the “waiting code”? (Callers can dial the waiting code when the called party’s extension is busy. When callers hear the busy message they may dial the waiting code to wait a specified number of seconds and then try the extension again.)
- What do you want each message/greeting to say, specifically? Write down the content of each message/greeting.

The following table illustrates the AAM messages.

Type	Definition	Example
DAY GREETING	This is the greeting the callers hear when they are answered while the system is in DAY mode of operation.	<i>“Hello, this is xyz company. If you know your party’s extension number, dial it now. Dial ‘0’ for the system attendant. For sales, dial ‘410.’ To get recorded directions to our office, dial ‘*’. Otherwise stay on the line, we will be with you shortly.”</i>
ALT GREETING	This is the greeting that callers hear when they are answered while the system is in ALTErnate mode of operation.	<i>“Hello, this is xyz company. We are closed today due to inclement weather conditions. Thank you for calling.”</i>
EVE GREETING	This is the greeting that callers hear when they are answered while the system is in EVEning mode of operation.	<i>“Hello, this is xyz company. You have reached us after our regular business hours. If you know your party’s extension number, dial it now. To get recorded directions to our office, dial ‘*’. Thank you for calling.”</i>
WAITING MSG.	This is the message that callers hear after their call has been processed.	<i>“Your call is being transferred.”</i>
INVALID MSG	This is the message that callers hear when they have dialed a number that is not defined in the DX-80 system directory.	<i>“We’re sorry that is not a valid extension on our system.”</i>
BUSY MSG	This is the message that callers hear when they have dialed an extension number that is busy.	<i>“We’re sorry, that extension is currently busy. To wait for this extension, dial “#” or dial another extension now.”</i>

Type	Definition	Example
NO_ANS MSG	This is the message that callers hear when the extension they entered does not answer the call. Another extension request may be made at this time.	<i>"Your party does not answer, please enter another extension number or dial '0' for the system attendant."</i>
BYE MSG	This is the message that callers hear when the DX-80 system is about to disconnect them. This occurs when the caller dials nothing after the system plays a busy message or no-answer message.	<i>"Goodbye."</i>
INQUIRY MSG	This is a special message that can provide callers with information without ever having to be handled by a live person.	directions to the office... <i>"From SR101, take the Via deVentura exit - West, 2 blocks to Hayden - North to 14645 N. Hayden Road"</i>
TEMP MSG	This is a message that can be used to announce planned events.	<i>"Our offices are closed in observance of the holiday."</i>

Automatic CO Line Ringing time settings must be programmed in Time Switching, and completely set for a seven day week, for Automatic CO Line Ringing Modes to properly follow an automatic switching schedule. For details on programming time switching, see Section 5.11, *Set CO Line Time Switching*.

Other features whose programming may affect the Auto Attendant include DISA (Direct Inward System Access) and Time Switching.

The following procedures allow you to go to the phone you will be using as the AMM, and set that phone as the AAM phone. You can also program the AAM phone remotely using any DET or PC-DBA.

1. Enter Attendant Administration from any DET. To do this, press *Feature # 0*.
2. Enter the Tenant Group (1,2, or 3) for which settings will be made. Press *save*.
3. Enter the Attendant Password for the selected Tenant Group. The default password is 9999.
4. Press *show*. The display shows "SVC MODE CHANGE."
5. Press *next*. The display shows "AUTO_A MESSAGE."
6. Press *show*. The display shows "1.DAY GREETING." This is the greeting that callers will hear when they are answered by the DX-80 Automated Attendant and the system is in the "DAY" mode of operation. (Notice that the button LED is lit during the Automated Attendant setup session. This indicates that the speakerphone microphone will be active during the record portions of setup. Alternatively, the handset may be used for recording.)
7. To record this greeting, press *show*. The display will show "RECORD TIME :xx" (where "xx" is the current time allotted to this message).

To change the total length allotted to this message, press *chg*. Or,

To enter the new time in seconds (00-99) then press *save*.

Press *play* to hear the current contents of this greeting/message. The display shows "AUTO_ATT NO. :1" indicating that you will hear the recorded greeting for the first port. (Keep in mind there are four ports, each recorded simultaneously during the "record" operation. You may use the *chg* function to playback each individual port to test each for proper operation.

Press *record* to begin recording this greeting. Once *record* has been pressed, the record operation is immediately begun. (Note: The length of the message/greeting to be recorded cannot exceed the allotted time length for this greeting/message.)

Press *stop* to end the recording of this message. (Note: If the Record Time is exceeded, the record operation will end automatically.)

8. Press the *Hold* button to return to the previous level of setup. (“1.DAY GREETING”)
9. To skip to the next greeting/message, press *next*. The display will show “2.ALT GREETING”
10. Use the conventions described for “1.DAY GREETING” to playback and record all greeting/messages.
11. When finished with setup of the automated attendant, press *Hold* or hang up the handset to end the setup session.

6.35.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

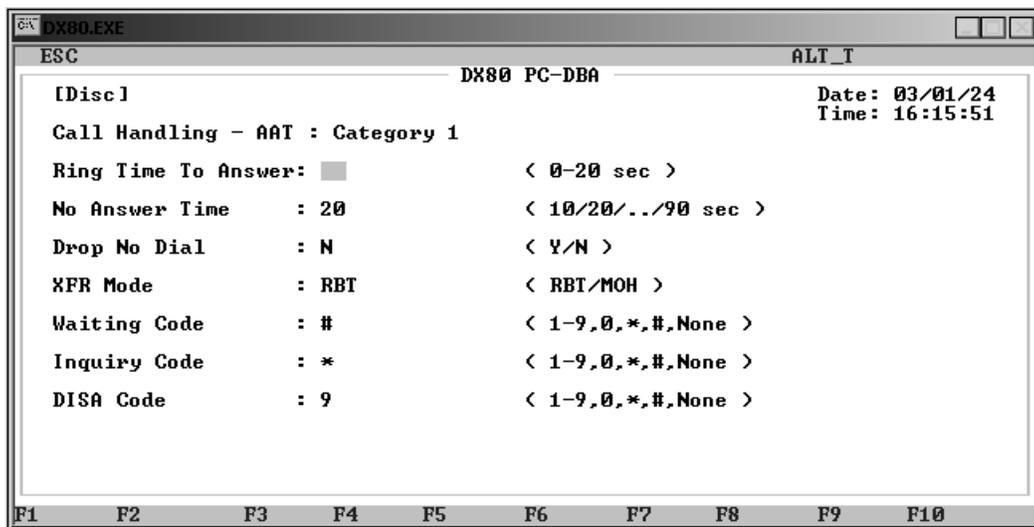
1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *03-43* to program the Automated Attendant and press *save*.
4. Press *show*. The first Auto Attendant field (Ring Time To Answer) displays. To change the Ring Time To Answer press *chg*. This timer sets the amount of time that a caller will hear ring-back before the line is answered by the auto attendant. Enter the new answer delay time from 0-20 seconds (the default is 0), then press *save*.
5. Press *next*. The next Auto Attendant field (Ring No Answer) displays. Press *chg*. This timer sets the amount of time that a call rings the auto attendant before the system routes it to the designated Answer Position, if all auto attendant ports are in use and unavailable to handle the call. Each time you press *chg* the system updates the value to the next valid time interval. Valid times are 10-90 seconds, in 10 second increments. The default is 20 seconds.
6. Press *next*. The system displays the Drop No Extension # Dialed field. To change the Drop No Extension # dialed operation press *chg* to select either Y (yes) or N (no). When set to yes, the system automatically drops callers if they do not make a selection or dial a valid extension directory number. When set to no, the system automatically routes callers to the designated answering position if they do not make a selection or dial a valid extension directory number. The default is no.
7. Press *next*. The system displays the XFR (Transfer) Mode field. To change this field press *chg* to choose either Ring-Back Tone (RBT) or Music On Hold (MOH). This is the call processing that is provided to callers after they have made a selection and are being routed in the system. The default is ring back tone.
8. Press *next*. The system displays the Waiting Code field. To change the waiting code press *chg*, enter the new waiting code digit, and press *save* to store. The waiting code gives callers the option to wait for a busy extension and try that extension again after 10 seconds. The code may be any dial pad single-digit from 0-9, *, or #. *Note: The system will not allow you to assign the same digit to more than one function. Therefore determine what digits you want to use for the inquiry code and DISA code when assigning the waiting code.* Enter the new waiting code digit and press *save*. The default is #.

9. Press *next*. The system displays the Inquiry Code field. To change the inquiry code press *chg*. Use the inquiry code to provide callers the option to hear a general announcement (company hours, directions to the office, etc.). The code may be any dial pad single-digit from 0-9, *, or #. **Note:** *The system will not allow you to assign the same digit to more than one function. Therefore determine what digits you want to use for the waiting code and DISA code when assigning the inquiry code.* Enter the new inquiry code digit and press *save*. The default is *.
10. Press *next*. The system displays the DISA Code field. To change the DISA Code press *chg*. Use the DISA code to provide a caller access to any DX-80 system resource (e.g., extensions, CO lines, etc.). The code may be any dial pad single-digit from 0-9, *, or #. **Note:** *The system will not allow you to assign the same digit to more than one function. Therefore determine what digits you want to use for the waiting code and inquiry code when assigning the DISA code.* Enter the new DISA code digit and press *save*. The default is 9.
11. Press *next*. The system displays the Answer Position field. To change the answer position press *show*. Since answering positions may be assigned as unique destinations per tenant group, the system requires you to enter the tenant group now. Enter the tenant group for which you want to make programming changes, then press *show*. Valid entries are 1, 2, or 3 (usually 1). The current Day Mode - Answer Position for the tenant group you specified displays.
12. Press *chg* to enter a new destination for the Day Mode for this tenant group. Enter the appropriate DX-80 system directory number (extension, UCD group, or virtual number) where you want the system to route callers when they cannot be routed automatically, and press *save*. The default is extension 101.
13. Press *next*. The system displays the current ALT (alternate) Mode - Answer Position for the tenant group you specified.
14. Press *chg* to enter a new destination for the ALT Mode for this tenant group. Enter the appropriate DX-80 system directory number (extension, UCD group, Virtual Number) where you want the system to route callers when they cannot be routed automatically, and press *save*. The default is extension 101.
15. Press *next*. The system displays the current EVE (evening) Mode - Answer Position for the tenant group you specified. Press *chg* to enter a new destination for the evening mode for this tenant group. Enter the appropriate DX-80 system directory number (extension, UCD group, Virtual Number) where you want the system to route callers when they cannot be routed automatically, and press *save*. The default is extension 101.
16. Press *next*. The DX-80 system prompts you for changes to another tenant group.
17. In the same manner, program other tenant groups as needed.
18. When you are done, press *next* to return to the previous programming level (Answer Position).
19. Press *next*. The system displays the Auto Attendant Line field. Notice that the display prompts you for the CO line directory number.
20. Enter the CO line directory number (740-755) you want to use with the automated attendant, and press *show*. The system displays the Auto_A Line field.
21. Press *chg* to change this value. If you the automated attendant to answer this CO line, set this field to Y (yes). If you do not want the AA to answer this CO line, set this field to no. Press *chg* to toggle from Y to N.
22. Press *next*. The system displays the Service field.
23. Press *chg* to select when you want the AA to answer this CO line. Valid options are ALWAYS, NEVER, DAY, and EVE.

24. Press *next*. The system prompts for the next CO line you want to program for automated attendant answering. You may continue programming other CO lines for automated attendant use or exit the programming mode.

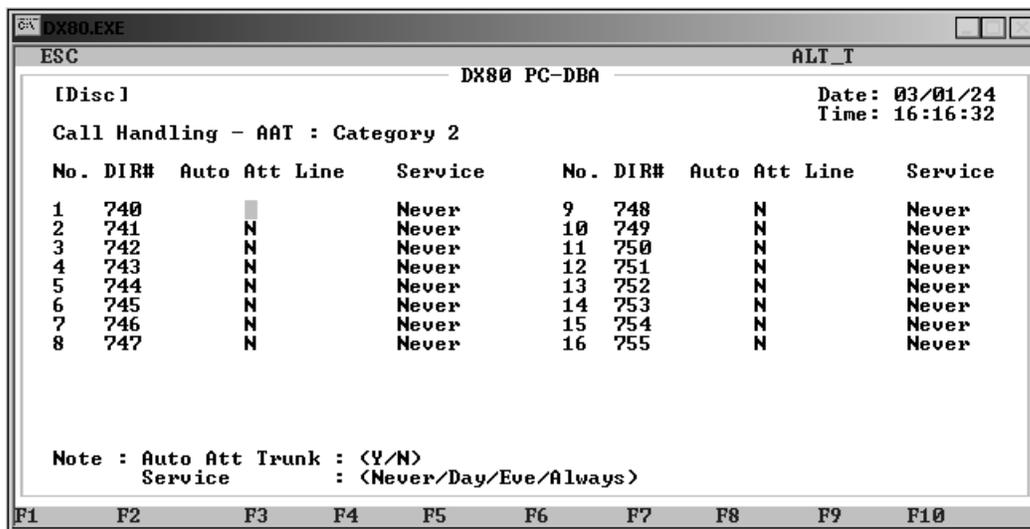
6.35.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
3. Highlight *Auto Attendant* and press *Enter*. The system displays the Auto Attendant menu.
4. Highlight *ATT — Category 1* and press *Enter*. The system displays the Call Handling — ATT: Category 1 menu.



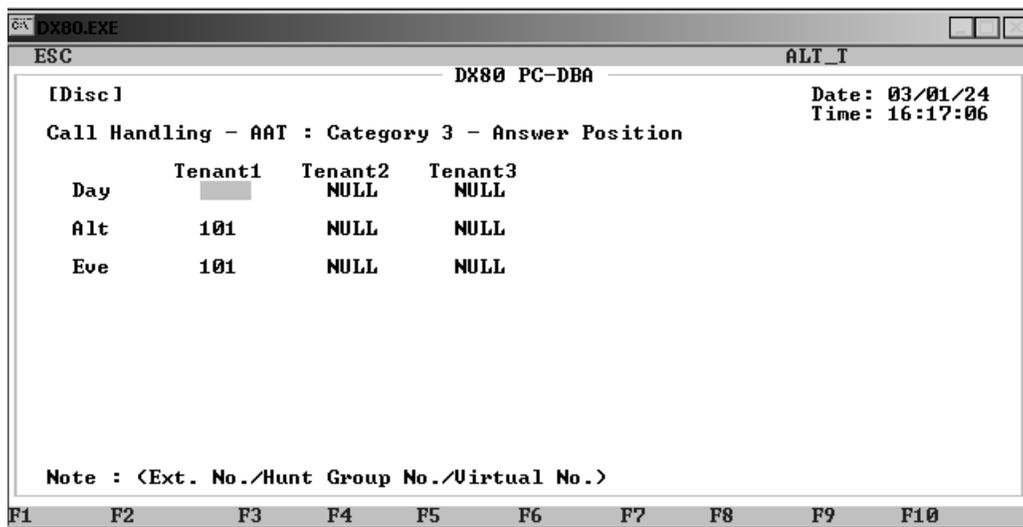
5. Highlight *Ring Time to Answer* and press *Enter*. Key in the amount of time that the system plays ring-back to callers before the AA answers the line. Valid options are from 0 to 20 seconds. The default is 0.
6. Highlight *No Answer Time* and press *Enter* to set the amount of time that a call rings the auto attendant (when all auto attendant ports are in use and unavailable to handle the call) before the system considers the call unanswered. The system then routes the call to the designated answer position. Valid times are 10-90 seconds, in 10 second increments. The default is 20 seconds.
7. Highlight the *Drop No Dial* field and press *Enter* to select Y (yes) or N (no). When set to yes, the system automatically drops callers if they do not make a selection or dial a valid extension directory number. When set to no, the system automatically routes callers to the designated answering position if they do not make a selection or dial a valid extension directory number. The default is no.
8. Highlight *XFR Mode* and press *Enter* to select either Ring-Back Tone (RBT) or Music On Hold (MOH). Transfer mode is the call processing the system provides to callers after they have made a selection and are being routed in the system. The default is ring back tone.

9. Highlight *Waiting Code* and press *Enter* to select a waiting code. The waiting code gives callers the option to wait for a busy extension and try that extension again after 10 seconds. Valid options are 0-9, *, #, or None. The default is #. **Note:** *The system will not allow you to assign the same digit to more than one function. Therefore determine what digits you want to use for the inquiry code and DISA code when assigning the waiting code.*
10. Highlight *Inquiry Code* and press *Enter* to select an inquiry code. Use the inquiry code to provide callers the option to hear a general announcement (company hours, directions to the office, etc.). Valid options are 0-9, *, #, or None. The default is *. **Note:** *The system will not allow you to assign the same digit to more than one function. Therefore determine what digits you want to use for the waiting code and DISA code when assigning the inquiry code.*
11. Highlight *DISA Code* and press *Enter* to select a DISA code. Use the DISA code to provide callers access to any DX-80 system resource (e.g., extensions, CO lines, etc.). Valid options are 0-9, *, #, or None. The default is 9. **Note:** *The system does not allow you to assign the same digit to more than one function. Therefore determine what digits you want to use for the waiting code and inquiry code when assigning the DISA code.*
12. When you are done, press *Esc* to return to the Auto Attendant menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
13. The system prompts “Save Current Setting?” Press *Y* to save your changes.
14. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
15. Press *Esc* to return to the Auto Attendant menu.
16. Next, program the second category for AA. Highlight *ATT — Category 2* and press *Enter*. The system displays the Call Handling — ATT: Category 2 menu.



17. You can select what CO line directory numbers (740-755) you want to use with the automated attendant. If you want to program AA for directory 747, use the down arrow key to move to that line on the menu.
18. If you the automated attendant to answer this CO line, highlight the *Auto Att Line* field and press *Enter* to set this field to Y (yes). If you do not want the AA to answer this CO line, set this field to no. The default is no.

19. Highlight *Service* and press *Enter* to select when you want the AA to answer this CO line. Valid options are Always, Never, Day, and Eve. The default is never. **Note:** *If you set the Auto Att Line field to N, the system does not use AA for this CO line regardless of what you enter in the Service field. Simialrly, if you turn on AA for a CO line but set the service to Never, the system does not use AA for that CO line.*
20. In the same manner, assign other CO line directory numbers to AA as needed.
21. When you are done, press *Esc* to return to the Auto Attendant menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
22. The system prompts “Save Current Setting?” Press *Y* to save your changes.
23. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
24. Press *Esc* to return to the Auto Attendant menu.
25. Next, program the answer position for AA. Highlight *ATT — Category 3* and press *Enter*. The system displays the Call Handling — ATT: Category 3 menu.



26. Highlight the *Day* field for the tenant group 1. Press *Enter* and key in the daytime answer position you want to use for this tenant group. This answer position is the DX-80 system directory number (extension, UCD group, or virtual number) where you want the system to route callers when they cannot be routed automatically. Acceptable entries include any valid directory number. The default is extension 101.
27. Highlight the *Alt* field for the tenant group 1. Press *Enter* and key in the alternate answer position you want to use for this tenant group. This answer position is the DX-80 system directory number (extension, UCD group, or virtual number) where you want the system to route callers when they cannot be routed automatically. Acceptable entries include any valid directory number. The default is extension 101.
28. Highlight the *Eve* field for the tenant group 1. Press *Enter* and key in the evening answer position you want to use for this tenant group. This answer position is the DX-80 system directory number (extension, UCD group, or virtual number) where you want the system to route callers when they cannot be routed automatically. Acceptable entries include any valid directory number. The default is extension 101.
29. In the same manner, program day, evening, and alternate answer positions for tenant groups 2 and 3 IF they are used on your system.

30. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
31. The system prompts “Save Current Setting?” Press *Y* to save your changes.
32. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
33. Press *Esc* to return to the Database Programming menu.
34. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

6.36 Setting Direct Inward System Access (DISA)

This feature allows you to remotely access system resources such as system speed dial, CO line access, and intercom dialing. **The optional AAM board is required for DISA.**

You can assign any number of DISA lines as incoming DISA access based on the system service mode (day, evening).

You can access DISA using the Automated Attendant or by using dedicated DISA lines.

The system secures access to DX-80 system resources for out-calling by means of verified passwords against the assigned extension number. Users can use system resources only after they enter a valid extension number, and enter a valid password for that extension.

Related features whose programming may affect DISA include the following.

- Auto Attendant
- System Speed Dial

The following conditions apply to the DISA feature.

- Four DISA CO lines can be used simultaneously. If more than four DISA CO lines are signaling for answer, the system plays an internal busy tone for subsequent calls.
- While DISA-to-CO calls are in use, DTMF receivers on the AAM are dedicated to the function. Therefore, the quantity of the four DTMF resources are reduced by one for each DISA-to-CO call in progress. This affects Automated Attendant operation since DTMF receivers are required to collect digits from outside callers.
- The default class of service of day and night for DISA CO lines is 0. Each DISA CO line has its own class of service for dialing privileges.
- DISA CO line class of service assignment coincides with toll restriction COS tables.
- The activation time for a DISA CO line is programmable for “never,” day,” “night” or “always.”
- If you dial an extension number which is non-existent, the system directly transfers your call to the attendant.
- The DISA talk time is programmable for 1, 2, 3, 5, 10, and 15 minutes (default is 1 minute). The DISA talk time is set to automatically drop the connected outside parties upon expiration of the preprogrammed time. A warning tone is heard 10 seconds prior to the disconnect operation.
- You can extend the DISA talk time while connected to a DISA call. To extend the talk time, dial 0 * (this restarts the DISA talk timer).
- To disconnect a call originated via DISA (before the talk time expires), dial 0 #.

6.36.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
 2. Press *show*. The system displays the DB Item Select screen.
 3. Enter 03-44, then press *save*. This advances you to the DISA programming screen.
 4. Press *show*. This advances you to the Ring Time to Answer screen.
 5. Press *chg* to change the Ring Time to Answer field. Enter the ring time (0-99) and then press *save*. The default is 0.
 6. Press *next* to advance to the Allowed Extension COS field.
 7. Press *show* to select the extension classes of services that you want to allow to use the DISA feature to make system CO line calls. Extension COS 0 displays (Y/N). Press *chg* to change the COS 0 value.
Or...
- Press *next* to advance to the next extension COS you want to program.
8. In the same manner, program each of the extension classes of services using *next* and *chg* as required. When you have finished, press the *Hold* button to exit Extension Class of Service and return to the previous menu.
 9. Press *next* to advance to CO line specific DISA programming. The CO line input screen displays the following.

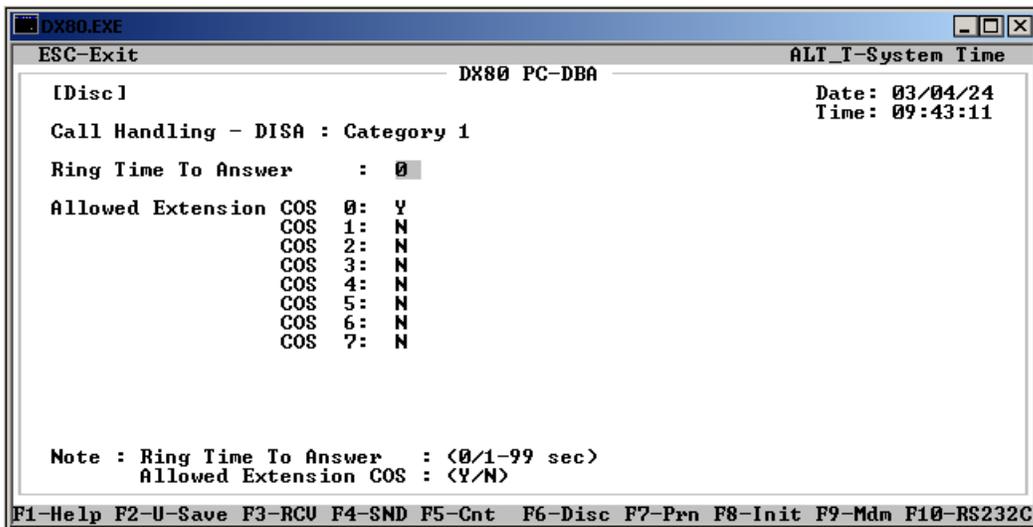
SHOW CO LN

10. Enter the CO line directory number (740~755).
11. Press *show*. The system advances you to the DISA CO LINE (Y/N) screen.
12. Press *chg* to select *Y* (yes) or *N* (no). The default is no.
13. Press *next* to advance to DISA DAY COS.
14. Press *chg* to assign the class of service you want to use for this CO line directory number during daytime hours. Valid entries are 0 through 7. The default is 0.
15. Press *next* to advance to DISA EVE COS.
16. Press *chg* to assign the class of service you want to use for this CO line directory number during evening hours. Valid entries are 0 through 7. The default is 0.
17. Press *next* to advance to SERVICE mode.
18. Press *chg* to assign when you want the DISA feature to be active for this CO line directory number. Valid options are Always, Never, Day, and Eve (evenings). The default is Always.
19. Press *next* to advance to TALK TIME.
20. Press *chg* to assign the duration of outgoing calls made via the DISA feature for this CO line directory. Extension users can extend this talk time, in amounts corresponding to what you have set here. For example, if you set this field to 3 minutes, users can extend the time for another 3 minute period. Valid options are 1,2,3,5,10, and 15 minutes. The default is five minutes.
21. Press *next*. This advances you to the input CO line directory number screen so that you can program another CO line for DISA if necessary.

22. In the same manner, set the DISA line on/off, day class of service, evening class of service, service time, and talk time for other directory numbers as needed.
23. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

6.36.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Call Handling* and press *Enter*. The system displays the *Call Handling* menu.
3. Highlight *DISA* and press *Enter*. The system displays the DISA menu.
4. Use the arrow keys to highlight *DISA – Category 1*. Then press *Enter*. The system displays the Call Handling – DISA Category 1 menu.



5. Highlight *Ring Time to Answer* and press *Enter*. Key in the number of seconds before the system waits on an incoming call that rings but is not answered before classifying it as a DISA line. Valid options are 0 through 99. The default is 0.
6. Next, select which class of service you want to allow to use the DISA feature to make system CO line calls. If you want to allow COS 0 access to DISA, highlight *COS 0:* and press *Enter* to select *Y* (yes). Valid options are *Y* or *N*. The default is no.
7. In the same manner, assign DISA access to the remaining class of services as needed.
8. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
9. The system prompts “Save Current Setting?” Press *Y* to save your changes.
10. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
11. Press *Esc* to return to the DISA menu.

12. Next, highlight *DISA – Category 2* and press *Enter*. The system displays the Call Handling – DISA Category 2 menu.

```

DX80.EXE
ESC-Exit      PgUp-Prev      PgDn-Next      ALT_I-System Time
[Disc]
DX80 PC-DBA
Date: 03/04/24
Time: 09:44:52

Call Handling - DISA : Category 2 [1/2]

No. DIR#      DISA Line      Day COS      Eve COS      Service      Talk Time
1  740          N              0            0            Always       5
2  741          N              0            0            Always       5
3  742          N              0            0            Always       5
4  743          N              0            0            Always       5
5  744          N              0            0            Always       5
6  745          N              0            0            Always       5
7  746          N              0            0            Always       5
8  747          N              0            0            Always       5

Note : DISA Line:(Y/N), Day COS:(0-7), Eve COS:(0-7)
Service:(Never/Day/Eve/Always), Talk Time:(1/2/3/5/10/15) Min

F1-Help F2-U-Save F3-RCU F4-SND F5-Cnt F6-Disc F7-Prn F8-Init F9-Mdm F10-RS232C

```

13. Highlight *DISA Line* for directory number 740 and press *Enter* to select *Y* (yes) or *N* (no). The default is no.
14. Highlight *Day COS* and press *Enter* to assign the class of service you want to use for CO line directory 740 during daytime hours. Valid entries are 0 through 7. The default is 0.
15. Highlight *Eve COS* and press *Enter* to assign the class of service you want to use for CO line directory 740 during evening hours. Valid entries are 0 through 7. The default is 0.
16. Highlight *Service* and press *Enter* to assign when you want the DISA feature to be active for CO line directory 740. Valid options are Always, Never, Day, and Eve (evenings). The default is Always.
17. Highlight *Talk Time* and press *Enter* to assign the duration of outgoing calls made via the DISA feature for CO line directory 740. Extension users can extend this talk time, in amounts corresponding to what you have set here. For example, if you set this field to 3 minutes, users can extend the time for another 3 minute period. Valid options are 1,2,3,5,10, and 15 minutes. The default is five minutes.
18. In the same manner, program CO line directory numbers 741 through 747. If you want to program CO line directory numbers 748 through 755, press *Page Up* or *Page Down* to access the second page of the Call Handling – DISA Category 2 screen.
19. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
20. The system prompts “Save Current Setting?” Press *Y* to save your changes.
21. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
22. Press *Esc* to return to the Database Programming menu.
23. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

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7. PROGRAMMING TOLL RESTRICTIONS

Toll restrictions allow you to place restrictions on outbound toll calls, per tenant group and account code. Perform the following steps.

1. Set up Class of Services (COSs).
2. Set up the digit interval from 1 to 100, per tenant group.
3. Program the account code length.
4. Program the account code passwords (up to 600).

While you are programming in PC-DBA, the system saves your changes in the working directory residing on the laptop. While it may appear that you have re-programmed the switch, the system does not update the switch database with your changes until you perform a SEND command from the laptop.

 <div style="text-align: center; font-weight: bold; margin: 0 10px;">CAUTION</div>  <p style="text-align: center; margin: 0;">If PC-DBA is set to U-Save, your database changes reside only on your laptop. When you have finished making all changes to the database, perform a SEND operation to download the new database to the DX-80 switch.</p>

For further details on the SEND command, see Section 2.1.4.4, *F4 – Send*.

7.1 Class of Service and Digit Intervals

The DX-80 provides sophisticated monitoring of outbound digits dialed by callers on CO lines. You can assign COSs for a broad range of call control. For example, if a digit or range of digits dialed on a CO line is inconsistent with the dialing extension's or CO line's class of service, the system denies the call. You can apply this calling COS criteria to local calls, long distance calls, and specific numbers that are considered allowed in areas where other numbers may be restricted.

The DX-80 provides a toll restriction table of 100 entries. Each entry can contain 10 digits in the "From" column and 10 digits in the "To" column. These fields allow you to specify a range of digits in a truth-table fashion known as digit intervals. You then set extension COS and CO line COS per table entry as Y/N (e.g., does this table entry apply to this COS? Yes or No.). You specify two conditions for extension and CO line COS assignments, per table entry: Day mode and Evening mode. This allows you to assign each table entry to each COS differently for these day or evening modes.

An example of a table entry may be as simple as "From 0," "To 0." The result of this truth table is that the system monitors calls associated to this COS for only the first digit dialed. If that digit is "0," the system allows the call and no further restriction monitoring takes place.

Another example is a table entry of "From 1813412," "To 1813450." In this case, the system monitors calls in this COS sequentially for the first seven digits dialed, or until the caller enters the first digit inconsistent with this setting. Thus the system denies a call dialed as 1813410 as soon as the caller enters the digit "0". The system allows the caller to dial 1813419 + any digits.

The following conditions apply to assigning class of service and digit intervals.

- Digit interval 001 is programmed as: From “0,” To “#” (this allows all digits to be dialed).
- You can program up to 100 digit intervals, 10 per tenant group.
- Callers can override an extension’s class of service if you set up an account code password that instructs the system to use a different class of service for the call. See Section 7.2, *Account Code Length and Password*.
- You can set a system speed dial to override toll restriction. For example, suppose your customer has a branch office out of state where they want to allow the corporate extension users to call, while still prohibiting all other toll calls. In this case, you can set up a system speed dial to allow calls to the branch office. **Note:** *It must be a system speed dial, as the system checks the toll restrictions for individual speed dial numbers and abides by them. System speed dial numbers override toll restrictions as long as you have System Speed Toll Check enabled. For more details on speed dial numbers, see Section 4.8, Programming Speed Dial Numbers.*

7.1.1 PROGRAMMING USING THE DET

Note: *chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.*

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. First, program the toll restrictions and assign the extension/CO line COS to the restrictions. Enter *05-01-1~3-001~100* (where 1~3 is the tenant group and 001~100 is the restriction number you want to program). Then press *save*. This advances you to the “FROM” column of the tenant group and restriction you specified.
Press *chg* to change the start of this interval range (*FROM*). Enter the first number in the range of digits you want to allow and press *save*. Valid options include digits 0-9 and # (all). For example, if you want to restrict long distance and operator calls, enter 2 in this field. This way, the system does not allow 0 and 1 as possible digits in the first position of the dial string.
The default is 0. If you want to allow all long distance and operator calls in this toll restriction, enter 0 in this field.
4. Press *next* to advance to the *TO* column of the tenant group and interval you specified. Press *chg* to change the end of this interval range. Enter the last number in the range of digits you want to allow and press *save*. Valid options include digits 0-9 and # (all). The default is #, which allows all digits following the FROM digit.
5. Press *next* to advance to extension or CO line COS you want to set.
6. Next, assign the toll restrictions by which the class of services to abide. You have two options for restricting calls: you can restrict calls on a per-extension basis (extension class of service) or on a per-CO line basis (CO line class of service).
7. Press *show*. The DAY Allowed parameter displays for the extension or CO line COS.
8. Press *next* to advance to the EVE Allowed COS for the extension or CO line COS.
Or...
Press *show* to program COS allowed settings for this toll restriction. COS 0 displays.
9. Press *next* and *back* until the COS you want to change displays. Then press *chg* to set the toll restriction on (Y) for this class of service, or off (N) for this class of service.

10. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen.
11. Next, program the extensions you want to assign to the COS. Enter *01-101~156-05~06* (where 101~156 is the Extension and 05 is DAY Class Of Service and 06 is EVE Class Of Service.)
12. Press *chg* until the COS you want to assign displays for the selected service mode.
13. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen.
14. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

7.1.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Restriction* and press *Enter*. The system displays the Restriction menu.
3. Highlight *Toll Restriction* and press *Enter*. The system displays the Restriction—Toll Restriction screen.

```

ESC          PgUp          PgDn          ALT T
DX80 PC-DBA
[Disc]
Date: 03/01/24
Time: 16:33:48
Restriction - Toll Restriction :
Tenant      -1[01/10]

   Allowed Digit Intervals
   From      To
No.  -----
001  #
002  NULL    NULL
003  NULL    NULL
004  NULL    NULL
005  NULL    NULL
006  NULL    NULL
007  NULL    NULL
008  NULL    NULL
009  NULL    NULL
010  NULL    NULL

Extension COS      C.O. Line COS
Day   Eve         Day   Eve
01234567 01234567 01234567 01234567
YYYYYYYY YYYYYYYY YYYYYYYY YYYYYYYY
NNNNNNNN NNNNNNNN NNNNNNNN NNNNNNNN

Note : Dgt From&To:<0-9,*,#>, Day&Eve Allowed:<Y/N>

R16UM0.F28
F1      F2      F3      F4      F5      F6      F7      F8      F9      F10

```

4. Highlight the *Allowed Digit Intervals From* field and press *Enter*. Key in the first number in the range of digits you want to allow and press *Enter*. Valid options include digits 0-9, * (all), and # (none). This field can be up to ten digits in length. The default is 0.
For example, if you want to restrict long distance and operator calls, enter 2 in this field. This way, the system does not allow 0 and 1 as possible digits in the first position of the dial string.
5. Highlight the *Allowed Digit Intervals To* field and press *Enter*. Key in the last number in the range of digits you want to allow and press *Enter*. Valid options include digits 0-9, * (all), and # (none). This field can be up to ten digits in length. The default is #.
For example, if you want to restrict long distance and operator calls, enter # in this field. This way, the system does not allow any digits to be dialed in the second position when the caller enters a 0 or 1 as the first digit in the dial string.

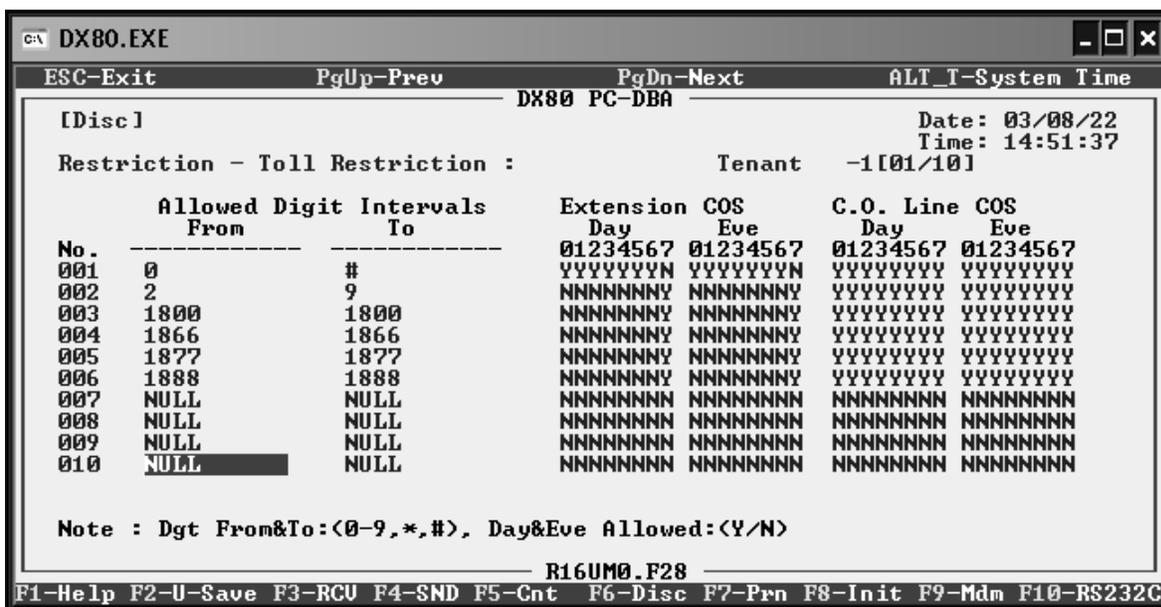
- Next, assign the toll restrictions by which you the class of services to abide. You have two options for restricting calls: you can restrict calls on a per-extension basis (extension class of service) or on a per-CO line basis (CO line class of service).

In the *Extension COS Day* field and the *C.O. Line COS* field you assign the current toll restriction to specific class of services. Each class of service number is listed under the *Day* or *Eve* times. To assign a toll restriction, select the first character under the *Extension COS Day* field. If you want to assign this toll restriction to extension COS 0 during the Day mode, enter *Y* in the first field. Next, assign the toll restriction to class of service 1 by selecting that field and entering *Y* if you want COS 1 to observe that restriction during the Day mode, or *N* if you do not want that restriction to apply to COS 1.

In the same manner, assign the current toll restriction to the remaining class of services 2-7 during the Day mode as needed. Then assign the toll restriction to COS 0 through 7 for the Evening Mode.

- Next, assign toll restrictions during the day and evening modes in the *C.O Line COS Eve* fields. The assignments you make here affect toll restrictions on a CO line basis. The setting in the CO line COS fields override the settings in the extension COS fields.

The default toll restriction allows all calls, in all extension and CO line class of services, at all times. Your customer may need more restrictions than the default. For example, suppose you may need a restricted COS that does not allow long distance calls, but does allow toll free 1-800, 1-877, and 1-888 calls. The following example shows how to set this up.



Once you have set up the toll restrictions in this manner, simply assign COS 7 in the Day and Eve modes for the affected extensions.

- When you are done assigning toll restrictions, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
- The system prompts "Save Current Setting?" Press *Y* to save your changes.
- The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
- Press *Esc* to return to the Restriction menu. Press *Esc* again to return to the Database Programming menu.

12. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

7.2 Account Code Length and Password

You can program an extension so that the user is forced to enter an account code (password) to make certain line calls, or before making *any* line calls. You determine the account code length (from 2 to 8 digits) during programming. This single setting determines the length of account codes for the entire system.

When the extension user dials a valid account code, the system monitors the call for toll restriction against the class of service associated with the entered account code.

Once you have set up the account codes, you then have to program the individual extensions to restrict their calls. For further details, see Section 10.3, *Assigning a Password to the Extension*.

7.2.1 PROGRAMMING USING THE DET

Note: *chg*, *bks*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The DB Item Select screen displays.
3. Enter *05-02* and press *save*.
4. Press *show*. The account code LENGTH field displays.
5. Press *chg* to enter the number of digits you want to use for account codes, then press *save*. Valid options are 2 - 8 digits. The default is 2.
6. Press *next*. The account code PASSWORD field displays.
7. Press *show*. Enter the account code number *001-600* you want to change/display.
8. Press *show*. The existing programming displays. (“NULL” = empty.)
9. Press *chg*.
10. Enter the new password and press *save*. Valid passwords are numbers from 0 to 9, containing as many digits as you specified in the Length field. The default is no password. The new password is now in effect.
11. Press *next*. The Class of Service for this account code displays.
12. Press *chg* until the class you want to assign to this password displays.
13. Press *next*. The item DISABLED displays. This setting is used temporarily disable the use of a particular account code without removing its programming. Press *chg* to select *Y* (disabled) or *N* (enabled).
14. Press *next* to continue programming other account codes. Or exit programming.

7.2.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Data-base Programming menu.
2. Use the arrow keys to highlight *Restriction* and press *Enter*. The system displays the Restriction menu.
3. Highlight *Account Code Table* and press *Enter*. The system displays the Account Code Table screen.

Length	No.	Password	COS	Disable	No.	Password	COS	Disable
	1	---	0	N	16	---	0	N
	2	---	0	N	17	---	0	N
	3	---	0	N	18	---	0	N
	4	---	0	N	19	---	0	N
	5	---	0	N	20	---	0	N
	6	---	0	N	21	---	0	N
	7	---	0	N	22	---	0	N
	8	---	0	N	23	---	0	N
	9	---	0	N	24	---	0	N
	10	---	0	N	25	---	0	N
	11	---	0	N	26	---	0	N
	12	---	0	N	27	---	0	N
	13	---	0	N	28	---	0	N
	14	---	0	N	29	---	0	N
	15	---	0	N	30	---	0	N

Note : Length : <2-8>, Password : <0-9>, COS : <0-7>, Disable : <Y/N>

4. Highlight *Length* and press *Enter*. Key in the number of digits you want to use for account codes, then press *Enter*. Valid options are 2 - 8 digits. The default is 2.

CAUTION

Changing the account code length will delete all previously programmed account codes.

When you specify the length of the password, the system changes the number of digits in the Password field accordingly.

5. Next, highlight the first *Password* field and press *Enter*. Key in the password and press *Enter*. Valid passwords are numbers from 0 to 9, containing as many digits as you specified in the Length field. The default is no password.
6. Highlight *COS* for password 1 and press *Enter* to assign this password a class of service, from 0 through 7. The default is 0. When an extension user enters this password, the system automatically assigns the class of service you specify here to that call. The system follows all of the restrictions associated with that class of service.
7. Next highlight *Disable*. Press *Enter* and assign either *Y* or *N* to disable/enable this password. The default is *N*. You must set *Disable* to *N* if you want to use the password.
8. In the same manner, assign additional passwords and their classes of service as needed. You can assign up to 600 passwords.

9. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
10. The system prompts “Save Current Setting?” Press *Y* to save your changes.
11. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
12. Press *Esc* to return to the Database Programming menu.
13. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

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8. PROGRAMMING UNIFORM CALL DISTRIBUTION (UCD) GROUPS

Uniform Call Distribution is an incredibly flexible function of the DX-80 system. UCD grouping allows you to link system resources (primarily extensions) for call handling. The DX-80 provides 24 UCD groups. Each group has a lead (or pilot) number; this is the access point of the UCD group. Extensions may call a group of extensions by dialing the associated UCD group number. Calls may also be transferred to UCD groups for handling by one of the UCD group members. UCD group members are also often referred to as “agents.”

The following conditions apply to programming UCD groups.

- Calls can be transferred to a UCD group.
- Intercom calls can be made to a UCD group.
- UCD group directory numbers are 410-433, by default. Callers can dial these numbers as though they are extension numbers.
- You can assign CO lines to ring directly into UCD groups. For more details see Section 5.10, *Setting the Answer Position for Day and Evening*.
- You can program overflow destinations and reroute destinations for use with the (optional) integrated voice mail system. When doing so, program UCD group 433 as the destination for each of these entries. This routes the queued caller to the DX-80 voice mail system, where you can record and store announcements you want the system to play to UCD callers waiting in the UCD queue. For more details, see Section 9.1, *Programming Third Party VM, Analog Ports*.
- When you install the DX-80 Voice Mail system, it uses UCD group 24. Therefore this UCD group is not available for any other purpose when using the ICD Voice Mail system.

There are three ways to configure a UCD group:

- *Linear*—the system routes incoming or transferred calls beginning always with the first member of the group. Thus, the first member of a linear UCD group is the primary answering point for all calls received by this group. Each subsequent member receives calls only when the previous member is unavailable to take a call (unavailable status includes: busy, DND active, Agent Log Off active, or when calls to the member go unanswered.)
- *Distributed*—the system routes incoming or transferred calls uniformly. That is, the system routes each new call to the next available UCD member (and retains previous call routing). For example, if the third UCD group member handled the last call into the UCD group, the system will route the next call to group member four, regardless of the status of other UCD group members. If group member four is unavailable, the system routes the call to group member five, etc.
- *All Ring*—the system routes incoming or transferred calls to all group members simultaneously. That is, for each call into the UCD group, the system rings all available members (unavailable status includes: busy, DND active, Agent Log Off active, or when calls to the member go unanswered.)

While a caller waits for a UCD group member to answer (in queue), several queued call operations are possible. These include the following.

- *No Answer – Member advancement.* Each UCD group has a No Answer Timer. You can set this timer to advance the call from one UCD group member to the next when the ringing member does not answer the call within the time allotted.
- *Overflow 1 Destination programming.* Each UCD group has an overflow 1 timer and destination. You can set this timer to determine how long calls will remain in queue, before being routed to the overflow 1 destination. The destination can be an extension responsible for handling calls that remain in queue too long, or a voice announcement device. You can use recorded announcement devices to play recorded messages to callers waiting in queue, for example, “*All agents are still busy - please continue to hold.*” The system plays the overflow 1 destination only once. For high traffic scenarios, you can use a recorded voice announcement UCD group to play the same message to multiple callers.
- *Overflow 2 Destination programming.* Each UCD group has an overflow 2 timer and destination. You can set this timer to determine how long calls will remain in queue, following the overflow 1 timer, before being routed to the overflow 2 destination (overflow 1 timer + overflow 1 destination recorded message time + overflow 2 timer.) The destination can be an extension responsible for handling calls that remain in queue too long or a voice announcement device. You can use recorded announcement devices to play recorded messages to callers waiting in queue, for example, “*Please continue to hold to reserve your place in queue.*” For high traffic scenarios, you can use a recorded voice announcement UCD group to play the same message to multiple callers.
- *Overflow Count programming.* Each UCD group has an overflow count that is associated with the overflow 2 timer. You can set this timer to allow a specific number of times that the system may repeat the overflow 2 timer. For each cycle of the overflow 2 timer, the system plays the overflow 2 destination recording. If a call remains in queue so long that the overflow count counter expires, the system routes this call to the programmed reroute destination.
- *Reroute Destination programming.* Each UCD Group has a reroute destination. You can program this with an extension number the system uses to remove the call from UCD group queue. The system then routes the call for immediate handling.

Other features whose programming may affect UCD programming includes the following.

- CO Line Ring Assignment
- UCD Reroute Destination
- UCD Voice Announce Group
- UCD Agent Log On/Log Off
- Voice Mail - Digital Integration
- Recorded Announcement Devices (RADs)

8.1 Controlling Overflow and Reroute Situations

The DX-80 system allows for flexible handling of callers waiting in UCD queue (waiting to be answered by an UCD Group Agent). UCD Overflow can be applied in one of the following two ways.

- Overflow can be a simple UCD-external destination, where the system routes callers to another DX-80 extension following some predetermined time. The system immediately removes the caller from the UCD agent queue and delivers it to the overflow destination for handling. Other callers in UCD queue move up in their respective UCD queue position to reduce the time-to-answer for their call. Or,
- Overflow can be a more sophisticated and comprehensive application, where the system routes callers to a third party Recorded Announcement Device (RAD). The most effective implementation of RAD is using the DX-80 optional built-in voice mail module. In this implementation, the system plays the recording without removing callers from their respective UCD queue position.

You can program overflow in a RAD environment to use two announcements. To do this, you specify two overflow destinations. Each destination has an associated timer that determines how long the call remains in the queue before the system plays the announcement.

The system can play the first overflow destination message only once. The system can play the recording in the second overflow destination up to 128 times, depending on your specifications. How often the system plays the message in the second overflow destination depends on the time you specify in its timer.

The final step in handling of callers in a UCD queue is the reroute destination, which is an exit from the UCD queue. Reroute is the least preferred action for callers waiting in a queue, because most callers prefer to speak with a UCD agent. The reroute destination is usually an extension (external to UCD) designated to handle callers who have waited for a longer than anticipated time in UCD queue.

When the system routes a caller to the reroute destination it removes the caller from the UCD queue. You can assign the reroute destination to an extension that can further process the call, or you can assign the reroute destination to a RAD. However, if you route the call to a RAD, the system disconnects the caller when the RAD announcement is finished

The following conditions apply to programming in a RAD application.

- Overflow Destination 1 is usually recorded as: *“All agents are busy assisting other callers. Please continue to hold.”*
- Overflow Destination 2 is usually recorded as: *“All agents are still busy, please continue to hold. Calls will be handled in the order that they were received.”*
- when using the Corporate Office DX voice processing (PN7243) the system can route the caller to a menu box for further routing. For more details, see *Corporate Office DX Supervisor’s User Guide*, GCA70-393.

- when using the optional DX-80 Voice Processing module, overflow and reroute destinations are shown in the following voice mail boxes.

UCD Group Overflow and Reroute Destination Announcement Boxes in DX-80 PC-8					
UCD Overflow	UCD Group 1	UCD Group 2	UCD Group 3	UCD Group 4	UCD Group 5
Overflow 1	3101	3102	3103	3104	3105
Overflow 2	3201	3202	3203	3204	3205
Overflow 3	3301	3302	3303	3304	3305

8.2 UCD Agent Log Off/Log On

UCD members, or agents, can temporarily log off to disconnect from the UCD group. Agents usually log off when they are on break or not able to attend the phone (employee “shift” cycles etc.) When an agent logs off, the system skips that agent’s extension when queueing incoming calls.

Agents can log off of the UCD group but still be able to use all other extension features. Non-UCD group ringing is unaffected when agents log off.

Agents can log off from any UCD group extension, however one agent must be logged on at all times. The DX-80 will not allow all UCD group members to log off simultaneously.

While the extension is idle, the UCD group agent presses *Feature * 9 1* to log on, or *Feature 9 1* to log off. The system momentarily displays the new agent status (Log On or Log Off).

You can program a Flexible Feature Button for agents to toggle for log off / log on. If you program this, the system lights the LED associated with the button a steady red when the agent is logged off.

8.3 Programming UCDs

Before programming a UCD, determine how you want the system to process calls in the queue and if you will use RADs for overflow conditions.

8.3.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *06-01-01~24* to go to the UCD group you specified. Press *save*.
4. Enter *06-01-01~24-01* to assign this UCD to a tenant group. Press *chg* to select the tenant number and press *next*. Valid options are 1, 2, and 3. The default is 1. If your system is not divided into tenant groups, use 1.

5. Next enter *06-01-01~24-02* to set the attribute for this hunt group. Press *chg* to select UCD or VA and press *next*. Use the VA option if you are using extensions on a RAD for overflow destinations. **Note:** *If you expect the traffic on a third-party RAD device to be high, program analog ports of type VA into an available UCD group, and then set that UCD group Attribute field to VA.*
6. Enter *06-01-01~24-03* to specify the UCD group members. Press *show*. Press *next*, then *back* to choose the member you want to program.
7. Press *chg*. Enter the extension directory number of the extension you want to assign as a member. Press *save*.
8. Enter additional members in the same manner. Press the *Hold* button when you have finished entering members, then press *next*.
9. Next, select the hunting method you want to use for this UCD group. Enter *06-01-01~24-04*.
10. Press *chg* to select the hunting method for this UCD group, then press *next*. Valid options are Linear, Distributed, and All Ring. The default is Linear.
11. Next, program the UCD no answer timer. Enter *06-01-01~24-05*. Press *chg*.
12. Key in how long you want the system to ring an extension in this UCD group before pulling the call back and ringing the next extension in the hunt group, then press *save*. Valid options are 5 to 60 seconds. The default is 10.
13. Press *next*.
14. Next, program the UCD Overflow 1 Timer. Enter *06-01-01~24-06*. Press *chg*.
15. Enter how long you want a call to remain in the queue before the system routes it to the overflow 1 destination, then press *save*. Valid options are 0 to 255 seconds. The default is 0.
16. Press *next*.
17. Next, program the UCD Overflow 1 Destination. Enter *06-01-01~24-07*. Press *chg*.
18. Enter the UCD directory number where you want the system to send the queued caller when the overflow 1 timer has expired, then press *save*. Valid options include any valid extension or UCD directory number. The default is NULL.

If the destination is a third-party RAD device that is connected to a DX-80 analog port, enter that port number here. If the destination is the DX-80 optional integrated voice mail, enter extension number 433.
19. Press *next*.
20. Next, program the UCD Overflow 2 Timer. Enter *06-01-01~24-08*, then press *chg*.
21. Enter how long you want a call to remain in the queue after the overflow 1 timer has expired. When this occurs, the system routes the queued call to the overflow 2 destination. Press *save*. Valid options are 0 to 255 seconds. The default is 0.
22. Press *next*.
23. Next, program the UCD Overflow 2 Destination. Enter *06-01-01~24-09*. Press *chg*.

Enter the UCD directory number where you want the system to send the queued caller when the overflow 2 timer has expired, then press *save*. Valid options include any valid extension or UCD directory number. The default is NULL.

If the destination is a third-party RAD device that is connected to a DX-80 analog port, enter that port number here. If the destination is the DX-80 optional integrated voice mail, enter extension number 433.
24. Press *next*.

25. Next, program the UCD Overflow Count. Enter *06-01-01~24-10*. Press *chg*.
26. Enter the number of times you want the system to play the contents of the Overflow 2 Destination (RAD) for this UCD group. Then press *save*. **Note:** *The system removes the call from this UCD queue once it plays the announcement the number of times you specify here.* The valid options are from 1 to 255 times. The default is 1.
27. Press *next*.
28. Finally, program the UCD Reroute Destination. Enter *06-01-01~24-11*, then press *chg*.
29. Enter the directory number where you want the system to send the queued caller when it removes callers from this UCD group, and press *save*. Valid options include any valid extension number. **Note:** *Since you are removing the caller from this UCD group, the caller loses their place in the queue. If you enter an extension within this UCD group in the re-route field, the system places them back in the queue at the bottom, and plays the first message again. An alternative would be to reroute the call to another UCD group or extension.* The default is NULL. If you are using the optional integrated voice mail, set this field to extension 433 so callers can leave messages if they wish.
30. Press *next*.
31. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

8.3.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Extension Application* and press *Enter*. The system displays the Extension Application menu.
3. Highlight *Uniform Call Distribution* and press *Enter*. The system displays the Uniform Call Distribution—Parameter Programming menu. Enter the UCD group you want to program and press *Enter*. Valid options are 1-24.
4. The system displays the Uniform Call Distribution—Parameter Programming: Hunt Group *x* screen.

```

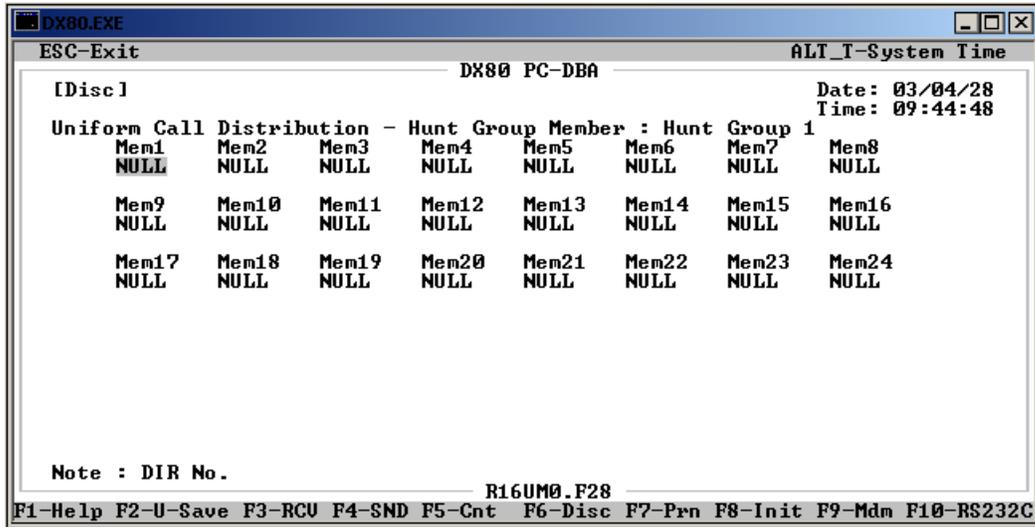
ESC                                     DX80 PC-DBA                             ALT_I
[Disc]                                     Date: 03/01/28
                                           Time: 12:00:18
Uniform Call Distribution - Parameter Programming: Hunt Group 1

Attribute      : ██████████ <UCD/U.A.>
Tenant Group   : 1          <1-3>
Name           : NULL      <'0'-'9','A'-'Z','a'-'z',Space>
Member         : --->      <EXT DIR No.>
Hunting Method : Linear    <All Ring/Linear/Distributed>
No Answer Timer: 10        <5-60 sec>
Overflow 1 Timer: 0        <0-255 sec>
Overflow 1 Dest.: NULL     <EXT/Hunt Gp. DIR No.>
Overflow 2 Timer: 0        <0-255 sec>
Overflow 2 Dest.: NULL     <EXT/Hunt Gp. DIR No.>
Overflow Count : 1         <1-128 times>
Re_Route Dest. : NULL      <EXT/Hunt Gp. DIR No.>

                                           R16UM0.F28
F1      F2      F3      F4      F5      F6      F7      F8      F9      F10
  
```

5. Highlight *Attribute* and press *Enter* to select UCD or VA. Use the VA option if you are using extensions on a RAD for overflow destinations. **Note:** *If you expect the traffic on a third-party RAD device to be high, program VA analog ports into an available UCD group, and then set that UCD group Attribute field to VA.*
6. Highlight *Tenant Group* and press *Enter* to assign this UCD to a tenant group. Valid options are 1, 2, and 3. The default is 1. If your system is not divided into tenant groups, use 1.
7. Highlight *Name* and press *Enter*. Key in the name you want to use for this UCD group and press *Enter*.
8. Highlight *Hunting Method* and press *Enter* to select the hunting method you want to use for this UCD group. Valid options are Linear, Distributed, and All Ring. The default is Linear.
9. Highlight *No Answer Timer*, and press *Enter*. Key in how long you want the system to ring an extension in this UCD group before pulling the call back and ringing the next extension in the hunt group, then press *Enter*. Valid options are 5 to 60 seconds. The default is 10.
10. Next, highlight *Overflow 1 Timer*, and press *Enter*. Key in how long you want a call to remain in the queue before the system routes it to the overflow 1 destination, then press *Enter*. Valid options are 0 to 255 seconds. The default is 0.
11. Highlight *Overflow 1 Dest* and press *Enter*. Key in the UCD directory number where you want the system to send the queued caller when the overflow 1 timer has expired, then press *Enter*. Valid options include any valid extension or UCD directory number. The default is NULL.
If the destination is a third-party RAD device that is connected to a DX-80 analog port, enter that port number here. If the destination is the DX-80 optional integrated voice mail, set this field to extension 433.
12. Next, highlight *Overflow 2 Timer*, and press *Enter*. Key in the how long you want a call to remain in the queue after the overflow 1 timer has expired. When this occurs, the system routes the queued call to the overflow 2 destination. Press *Enter*. Valid options are 0 to 255 seconds. The default is 0.
13. Highlight *Overflow 2 Dest* and press *Enter*. Key in the UCD directory number where you want the system to send the queued caller when the overflow 2 timer has expired, then press *Enter*. Valid options include any valid extension or UCD directory number. The default is NULL.
If the destination is a third-party RAD device that is connected to a DX-80 analog port, enter that port number here. If the destination is the DX-80 optional integrated voice mail, set this field to extension 433.
14. Next, highlight *Overflow Count* and press *Enter*. Enter the number of times you want the system to play the Overflow 2 announcement to a caller in UCD group queue. Then press *Enter*. **Note:** *The system removes the call from this UCD queue once it plays the announcement the number of times you specify here.* The valid options are from 1 to 255 times. The default is 1.
15. Highlight *Re_Route Dest* and press *Enter*. Key in the directory number where you want the system to send the queued caller when it removes callers from this UCD group (after the overflow count expires), and press *Enter*. Valid options include any valid extension number. **Note:** *Since you are removing the caller from this UCD group, the caller loses their place in the queue. If you enter an extension within this UCD group in the re-route field, the system places them back in the queue at the bottom, and plays the first message again. An alternative would be to reroute the call to another UCD group or extension.* The default is NULL. If you are using the optional integrated voice mail, set this field to extension 433 so callers can leave messages if they wish.

- Finally, you must assign what extensions you want to include in this UCD group. Highlight *Member* and press *Enter*. The system displays the Uniform Call Distribution—Hunt Group Member: Hunt Group *x* screen.



- Highlight *Mem1*, and press *Enter*. Key in the first extension number in this UCD group and press *Enter*.
- In the same manner, identify up to 23 other extensions you want to use in this hunt group.
- When you are done, press *Esc* to return to the Uniform Call Distribution—Parameter Programming: Hunt Group *x* screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
- The system prompts “Save Current Setting?” Press *Y* to save your changes.
- The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
- Press *Esc* to return to the Uniform Call Distribution—Parameter Programming: Hunt Group *x* screen.
- You are now finished programming the first UCD group. In the same manner, program as many UCD groups as you need.
- When you are done, press *Esc* to return to the Please Input Hunt Group Number screen. Press *Esc* again to return to the Extension Application screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
- The system prompts “Save Current Setting?” Press *Y* to save your changes.
- The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
- Press *Esc* to return to the Extension Application menu. Press *Esc* again to return to the Database Programming menu.
- When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

8.4 Setting Up UCD Voice Announce (VA) Groups

The DX-80 system provides UCD groups to allow you to handle high traffic using third-party ancillary RADs. Whenever the overflow destinations of a UCD group require you to use more than one RAD to handle the volume of call traffic, you can pool the RADs in a group (available UCD group) for access. If you do this, any of the available devices can handle waiting calls with the same announcement.

The following conditions apply.

- You must assign all voice announce UCD group members to port type V.A.
- You must record all ancillary RAD devices individually for the same announcement.

These conditions do not apply when using the DX-80 VP system for UCD Overflow announcements.

8.4.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. First, program the analog extension ports as type *V.A.*
4. Enter *01-nnn-21*, then press *save* (where “nnn” is the extension number of the analog port connected to an ancillary RAD Device). This advances you to the selected extension Port Type field.
5. Press *chg* to select VA.
6. In the same manner, set other analog extensions connected to RAD devices to port type *V.A.* as needed.
7. Press the *Volume* button (up or down) to return to the DB Item Selection screen.
8. Program your UCD group as described in Section 8.3.1, *Programming Using the DET*. Be sure to program the UCD group number you want to use as the V.A. group. Also be sure to assign V.A. in the Attribute field.
9. Finally, for the overflow destination fields, enter the V.A. UCD group number.
10. When you are finished, exit programming.

8.4.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. First, program the analog extensions as port type *V.A.* Highlight *Extension*, and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 2* and press *Enter*. The system displays the Extension—Category 2 menu.

```

ESC-Exit          PgUp-Prev          PgDn-Next          ALT_I-System Time
                                DX80 PC-DBA
[Disc]
                                Date: 03/04/28
                                Time: 09:47:42
Extension - Category 2 : [01/05]
No. DIR#  M/SS/PP  Warning Tone  Drop Call Out  Drop Call In  ECF Operation  SMDR Output  Port Type
001 101    1/01/01      N             N             N             N             Y           EXT.
002 102    1/01/02      N             N             N             N             Y           EXT.
003 103    1/01/03      N             N             N             N             Y           EXT.
004 104    1/01/04      N             N             N             N             Y           EXT.
005 105    1/01/05      N             N             N             N             Y           EXT.
006 106    1/01/06      N             N             N             N             Y           EXT.
007 107    1/01/07      N             N             N             N             Y           EXT.
008 108    1/01/08      N             N             N             N             Y           EXT.
009 109    1/02/01      N             N             N             N             Y           EXT.
010 110    1/02/02      N             N             N             N             Y           EXT.
011 111    1/02/03      N             N             N             N             Y           EXT.
012 112    1/02/04      N             N             N             N             Y           EXT.
013 113    1/02/05      N             N             N             N             Y           EXT.
014 114    1/02/06      N             N             N             N             Y           EXT.
Note : Port Type : Extension/Voice Announcer/Voice Mail
      Other Items : <Y/N>
                                R16UM0.F28
F1-Help F2-U-Save F3-RCU F4-SND F5-Cnt F6-Disc F7-Prn F8-Init F9-Mdm F10-RS232C
    
```

4. Highlight *Port Type* for the analog port connected to the RAD (you may have to use *Page Up* and *Page Down* to find it.) Press *Enter* to select V.A.
5. In the same manner, assign VA port types for any other analog port connect to a RAD you want to use in the VA group.
6. When you are done, press *Esc* to return to the Extensions menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Extensions menu. Press *Esc* again to return to the Database Programming screen.
10. Program your UCD group as described in Section 8.3.2, *Programming Using PC-DBA*. Be sure to program the UCD group number you want to use as the V.A. group. Also be sure to assign V.A. in the Attribute field.
11. Finally, for the overflow destination fields, enter the V.A. UCD group number.
12. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

9. PROGRAMMING VOICE MAIL

You can set up the DX-80 to interface with either:

- an external, analog third party voice mail system, or
- the internal digital DX-80 Voice option.

If you use analog voice mail, you must assign system ports to the voice mail system. If you use the digital DX-80 Voice, you do not use system ports and therefore do not have any port loss.

To set up third party analog voice mail, perform the following tasks for each tenant group.

1. Assign those analog ports (extensions) as port type “VM.”
2. Program analog ports (1...8) connected to the ancillary voice mail system into one of the available UCD group member positions (UCD group 24 is usually used for this purpose).
3. Set the voice mail table to reference the UCD group you want to use for the voice mail ports.
4. Program the various voice mail call handling control digits into the voice mail table, including prefix digits, suffix digit, record digit, delete digit, and disconnect digit. (The DX-80 allows for specific control handling for various call types. For example, calls that recall to VM can be handled in a unique manner.)

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>CAUTION</p> <p>You must program the ancillary voice mail device in order for the various functions to operate. See its technical manual for details on how to program the applicable ancillary voice mail device.</p> </div> <div style="text-align: center;">  </div> </div>

5. Set the voice mail dialing ratio for suitable DTMF operation (if required).
6. To activate Automated Attendant, set the answering position to the UCD group directory number that coincides with voice mail (usually 433, UCD Group 24). See Section 5.10, *Setting the Answer Position for Day and Evening*.

To set up internal digital voice mail, perform the following tasks for each tenant group. **Note:** *The DX-80 provides you with a shortcut to use when programming in-skin voice mail. You can use a pre-programmed database template that is provided on the DX-80 product CD to reduce your programming time. For further information on these templates, see Section 3.1.4, Feature / Directory Number Lookup.*

1. Specify the VM hunt group you want to use.
2. Program digital VM extensions into one of the available UCD group member positions (UCD Group 24 is usually used for this purpose).
3. Set the voice mail table to reference the UCD group you want to use for the voice mail ports.
4. To activate Automated Attendant, set the answering position to the UCD group directory number that coincides with voice mail (usually 433, UCD Group 24). See Section 5.10, *Setting the Answer Position for Day and Evening*.

9.1 Programming Third Party VM, Analog Ports

You can connect the DX-80 system to a third-party voice mail system using spare analog ports. Doing so occupies these ports and therefore reduces the number of system ports that you can use for the telephones, FAX machines, modems, etc.

Comdial recommends using the DX-80 DX-SO voice mail system, because it is a digital integration and therefore does not occupy valuable analog port space of the DX-80 system. For further details, see Section 9.2, *Programming Optional Internal VM, Digital*.

Using voice mail greatly enhances the use of the DX-80 system. Features accessible when voice mail is installed vary depending upon the third-party product connected. Features that the DX-80 system accommodates include the following.

- Automated Attendant
- Extension unique voice mailboxes
- Call Forward to extension voice mailboxes
- Answering Machine Emulation
- UCD Queue Announcements
- Menu Routing
- Voice Record
- Automatic Voice Record
- Specific CO Line Greetings on Automated Attendant

The following conditions apply to analog voice mail.

- Voice mail feature operation is limited only by the ancillary voice mail system.
- When voice mail ports are used heavily (high call traffic), the system updates message indications notably slower than usual.
- When VM messages are waiting, the system flashes the auxiliary lamp green.
- When transferring a call to voice mail, callers can choose to enter no mailbox number. If they do so, the system routes them to the voice mail main greeting (e.g., Auto Attendant greeting).
- If no voice mail ports are available at the time callers place their call into voice mail, the system plays a ring-back tone until a port becomes available.
- You can program the voice mail code *Feature 6 4* on any available Flexible Feature Button.
- When the voice mail code is programmed on a Feature Button, the system flashes the associated LED red when VM messages are waiting.
- You can program the voice mail UCD Group directory number (usually 433) on any available Flexible Feature Button.

9.1.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. First, enter *01-101~156-21* to program the extension port type, where 101~156 is the analog port number you want to use for the voice mail. Press *save*.
4. Press *chg* until the system displays port type VM for this extension.
5. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program the UCD group members.

1. Enter *06-01-01~24-03-01*, where 01~24 is the group number.
2. Press *save*. This advances you to Member #1 of the UCD group you specified.
3. Press *chg*. Enter the extension directory of the analog port to program into this Member.
4. Press *save*, then press *next*.
5. In the same manner, continue programming all voice mail ports as member of this UCD group.
6. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program the voice mail hunt group.

1. Enter *06-02-1~3-01*, where 1~3 is the Tenant Group (usually 1).
2. Press *save*. This advances you to Voice Mail Table for Tenant 1 – Hunt Group.
3. Press *chg* until the UCD group you want to use as the VM hunt group displays. The VM hunt group is the UCD group where you have programmed all of the VM type analog ports as members.
4. Press *next* to continue programming the various call handling digits (prefix/suffix).
5. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program the VM Table – Prefix Table – ICM/VM.

1. Enter *06-02-1~3-02-01*, where 1~3 = tenant group.
2. Press *save*, then press *chg*. Enter the prefix numbers you want the system to use when identifying a call as originating at the mailbox owner's phone.
3. Press *save*.

4. Press *next* to continue programming the various call handling digits (prefix/suffix).
5. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program the VM Table – Prefix Table – Transfer.

1. Enter *06-02-1~3-02-02*, where 1~3 = tenant group.
2. Press *save*, then press *chg*. Enter the prefix numbers you want the system to use to identify a call as transferred to mailbox. Then press *save*.
3. Press *next* to continue programming the various call handling digits (prefix/suffix).
4. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program the VM Table – Prefix Table – Busy FWD.

1. Next, enter *06-02-1~3-02-02*, where 1~3 = tenant group.
2. Press *save*, then press *chg*. Enter the prefix numbers you want the system to use to identify a call as forwarded from a busy mailbox. Then press *save*.
3. Press *next* to continue programming the various call handling digits (prefix/suffix).
4. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program VM Table – Prefix Table – No Answer.

1. Enter *06-02-1~3-02-02*, where 1~3 = Tenant Group.
2. Press *save*, then press *chg*. Enter the prefix numbers you want the system to use to identify a call when forwarded from a mailbox-no answer. Then press *save*.
3. Press *next* to continue programming the various call handling digits (prefix/suffix).
4. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program the VM Table – Prefix Table – Direct.

1. Enter *06-02-1~3-02-02*, where 1~3 = tenant group.
2. Press *save*, then press *chg*. Enter the prefix numbers you want the system to use to identify a call as immediately from this mailbox owner. Then press *save*.
3. Press *next* to continue programming the various call handling digits (prefix/suffix).
4. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program VM Table – Prefix Table – CO greeting.

1. Enter *06-02-1~3-02-02*, where 1~3 = Tenant Group.
2. Press *save*, then press *chg*. Enter the prefix numbers you want the system to use to identify a call as a specific CO line. Press *save*.
3. Press *next* to continue programming the various call handling digits (prefix/suffix).
4. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program the VM Table – Prefix Table – CO Recall.

1. Enter *06-02-1~3-02-02*, where 1~3 = tenant group.
2. Press *save*, then press *chg*. Enter the prefix numbers you want the system to use to identify a call as a specific CO line recalling. Press *save*.
3. Press *next* to continue programming the various call handling digits (prefix/suffix).
4. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program VM Table – Prefix Table – UCD Overflow.

1. Enter *06-02-1~3-02-02*, where 1~3 = tenant group.
2. Press *save*, then press *chg*. Enter the prefix numbers you want the system to use to identify a call as a UCD Overflow Announcement. Press *save*.
3. Press *next* to continue programming the various call handling digits (prefix/suffix).
4. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program VM Table – Suffix Digit.

1. Enter *06-02-1~3-03*, where 1~3 = tenant group.
2. Press *save*, then press *chg*. Enter the suffix numbers you want the system to use to identify a call as the mailbox owner. Press *save*.
3. Press *next* to continue programming the various call handling digits (prefix/suffix).
4. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program VM Table – Record Digit.

1. Enter *06-02-1~3-03*, where 1~3 = tenant group.
2. Press *save*, then press *chg*. Enter the numbers you want the system to use to activate recording for this mailbox owner. Press *save*.

3. Press *next* to continue programming the various call handling digits (prefix/suffix).
4. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program VM Table – Delete Digit.

1. Enter *06-02-1~3-03*, where 1~3 = tenant group.
2. Press *save*, then press *chg*. Enter the numbers you want the system to use to delete the current recording for this mailbox owner. Press *save*.
3. Press *next* to continue programming the various call handling digits (prefix/suffix).
4. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program the VM Table – Disconnect Digit.

1. Enter *06-02-1~3-03*, where 1~3 = tenant group.
2. Press *save*, then press *chg*. Enter the numbers you want the system to use to force disconnect of the active port. Press *save*.
3. Press *next* to continue programming the various call handling digits (prefix/suffix).
4. Press the *Hold* button to return to the previous menu level,
Or,
Press the *Volume* button (up or down) to return to the DB Item Selection screen.

Next, program VM Dialing Ratio – Tone Time.

1. Enter *03-33-01*.
2. Press *save*. This advances you to Call Handling – VM Dialing Ratio – Tone Time.
3. Press *chg* until the Tone Time you want to use displays. Press *next* to program Inter-Digit Time.

Finally, program VM Dialing Ratio – Inter-Digit Time.

1. Enter *03-33-02* and press *save*. This advances you to Call Handling – VM Dialing Ratio – Inter-Digit Time.
2. Press *chg* until the inter-digit time you want to use displays.
3. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

9.1.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. First, program the extension Port Type. Use the arrow keys to highlight *Extension* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 2* and press *Enter*. The system displays the Extension—Category 2 menu.

No.	DIR#	M/SS/PP	Warning Tone	Drop Call Out	Drop Call In	ECF Operation	SMDR Output	Port Type
001	101	1/01/01	N	N	N	N	Y	EXT.
002	102	1/01/02	N	N	N	N	Y	EXT.
003	103	1/01/03	N	N	N	N	Y	EXT.
004	104	1/01/04	N	N	N	N	Y	EXT.
005	105	1/01/05	N	N	N	N	Y	EXT.
006	106	1/01/06	N	N	N	N	Y	EXT.
007	107	1/01/07	N	N	N	N	Y	EXT.
008	108	1/01/08	N	N	N	N	Y	EXT.
009	109	1/02/01	N	N	N	N	Y	EXT.
010	110	1/02/02	N	N	N	N	Y	EXT.
011	111	1/02/03	N	N	N	N	Y	EXT.
012	112	1/02/04	N	N	N	N	Y	EXT.
013	113	1/02/05	N	N	N	N	Y	EXT.
014	114	1/02/06	N	N	N	N	Y	EXT.

Note : Port Type : EXTension/Voice Announcer/Voice Mail
Other Items : <Y/N>

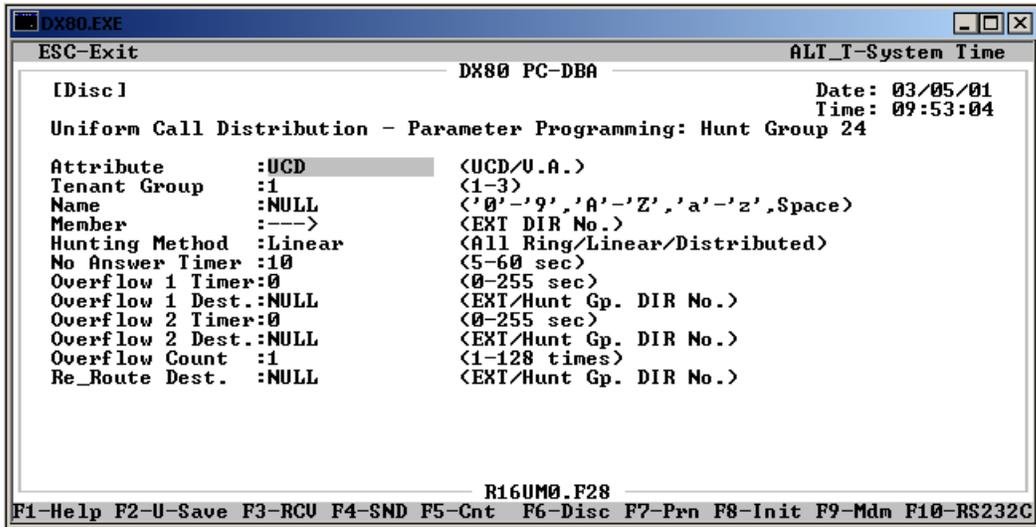
R16UM0.F28

F1-Help F2-U-Save F3-RCU F4-SND F5-Cnt F6-Disc F7-Prn F8-Init F9-Mdm F10-RS232C

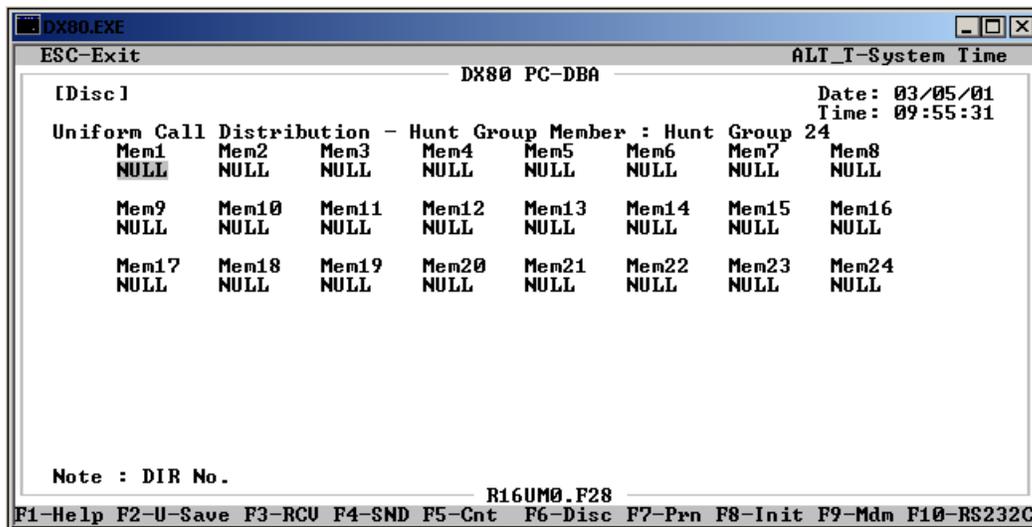
4. Highlight *Port Type* for the analog extension connected to the voice mail. *Note: Use Page Up and Page Down to move to another page if necessary.* Press *Enter* to select port type VM.
5. In the same manner, program all analog extensions connected to voice mail.
6. When you are done, press *Esc* to return to the Extension menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Extension menu. Then press *Esc* to return to the Database Programming menu.

Next, program the UCD group members.

1. Highlight *Extension Application* and press *Enter*. The system displays the Extension Application menu.
2. Highlight *Uniform Call Distribution* and press *Enter*. The system displays the Uniform Call Distribution: Parameter Processing menu. Enter the UCD Group you want to program as the voice mail hunt group (usually 24). Then press *Enter*. The system displays the Uniform Call Distribution: Parameter Processing: Hunt Group 24 menu.



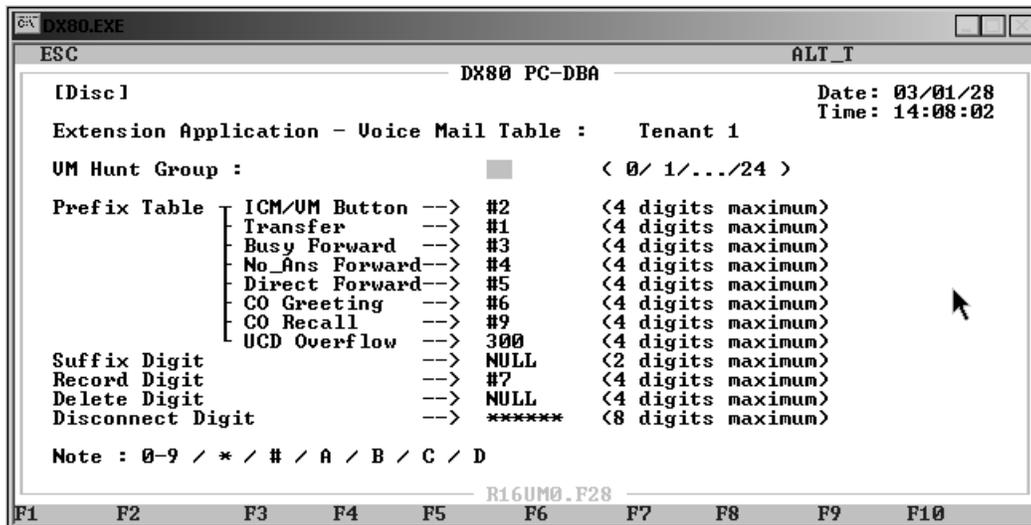
3. Highlight *Members*, then press *Enter*. The system displays the member list for hunt group 24.



4. Enter the extension number of the analog port you want to program as this member of the VM UCD group and press *Enter*.
5. In the same manner, continue programming all analog extensions connected to the voice mail.
6. When you are done, press *Esc* to return to the Uniform Call Distribution — Parameter Processing: Hunt Group 24 screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Uniform Call Distribution — Parameter Processing: Hunt Group 24 menu. Press *Esc* twice more to return to the Extension Application menu.

Next, program the voice mail hunt group and call handling digits.

1. Highlight *Voice Mail Table*, and press *Enter*. Choose the tenant group you want to program, and press *Enter*. The system displays the Extension Application—Voice Mail Table: Tenant *x* menu.

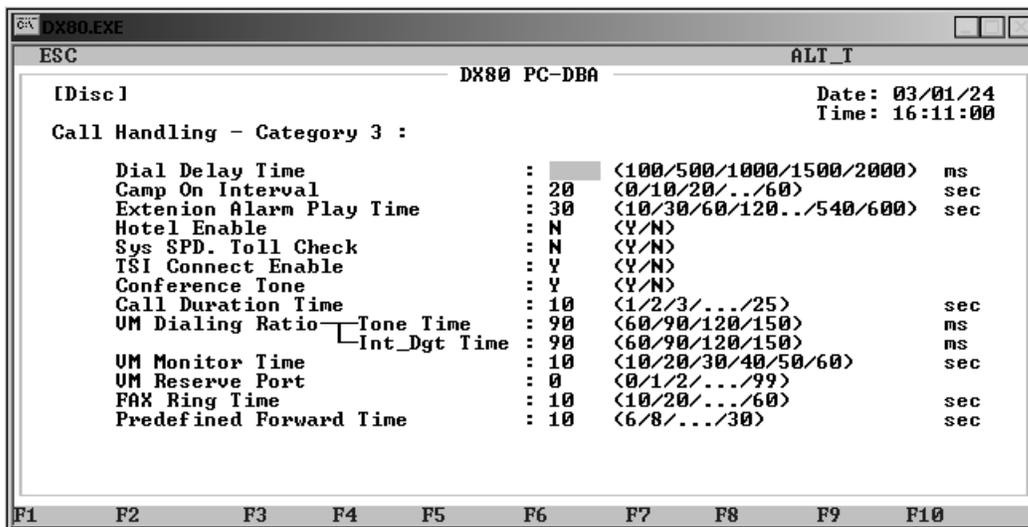


2. Set the voice mail table to reference the UCD group you want to use for the voice mail ports. Highlight *VM Hunt Group* and press *Enter* to select UCD group number 24.
3. Highlight *ICM/VM Button* and press *Enter*. Key in the prefix numbers you want the system to use when identifying a call as originating at the mailbox owner's phone. Valid codes can include digits 0-9, *, #, and letters A - D. The default is #2.
4. Highlight *Transfer* and press *Enter*. Key in the prefix numbers you want the system to use to identify a call as transferred to mailbox. Valid codes can include digits 0-9, *, #, and letters A - D. The default is #1.
5. Highlight *Busy Forward* and press *Enter*. Key in the prefix numbers you want the system to use to identify a call as forwarded from a busy mailbox, and press *Enter*. Valid codes can include digits 0-9, *, #, and letters A - D. The default is #3.
6. Highlight *No_Ans Forward* and press *Enter*. Key in the prefix numbers you want the system to use to identify a call when forwarded from a mailbox-no answer, and press *Enter*. Valid codes can include digits 0-9, *, #, and letters A - D. The default is #4.
7. Highlight *Direct Forward* and press *Enter*. Key in the prefix numbers you want the system to use to identify a call as immediately from this mailbox owner, and press *Enter*. Valid codes can include digits 0-9, *, #, and letters A - D. The default is #5.
8. Highlight *CO Greeting* and press *Enter*. Key in the prefix numbers you want the system to use to identify a call as a specific CO line, and press *Enter*. Valid codes can include digits 0-9, *, #, and letters A - D. The default is #6.
9. Highlight *CO Recall* and press *Enter*. Key in the prefix numbers you want the system to use to identify a call as a specific CO line recalling, and press *Enter*. Valid codes can include digits 0-9, *, #, and letters A - D. The default is #9.
10. Highlight *UCD Overflow* and press *Enter*. Key in the prefix numbers you want the system to use to identify a call as a UCD Overflow Announcement, and press *Enter*. Valid options include any valid extensions on the system. The default is 300.

11. Highlight *Suffix Digit* and key in the suffix numbers you want the system to use to identify a call as the mailbox owner, then press *Enter*. Valid codes are up to two digits in length and can include digits 0-9, *, #, and letters A - D. The default is NULL.
12. Highlight *Record Digit* and press *Enter*. Key in the numbers you want the system to use to activate recording for this mailbox owner, then press *Enter*. Valid codes are up to four digits in length and can include digits 0-9, *, #, and letters A - D. The default is #7.
13. Highlight *Delete Digit* and press *Enter*. Key in the numbers you want the system to use to delete the current recording for this mailbox owner, then press *Enter*. Valid codes are up to four digits in length and can include digits 0-9, *, #, and letters A - D. The default is NULL.
14. Highlight *Disconnect Digit* and press *Enter*. Key in the numbers you want the system to use to force disconnect of the active port, then press *Enter*. Valid codes are up to eight digits in length and can include digits 0-9, *, #, and letters A - D. The default is ***** (6 asterisks).
15. When you are done, press *Esc* to return to the Voice Mail Table menu. Press *Esc* again to return to the Extension Application menu. The system prompts: "Exit This Feature?"; press *Y* for yes.
16. The system prompts "Save Current Setting?" Press *Y* to save your changes.
17. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
18. Press *Esc* to return to the Extension Application menu. Press *Esc* again to return to the Database Programming menu.

Next, program the Voice Mail Dialing Ratio.

1. Highlight *Call Handling* and press *Enter*. The system displays the Call Handling menu.
2. Highlight *Category 3* and press *Enter*. The system displays the Call Handling—Category 3 menu.



3. Highlight *VM Dialing Ratio – Tone Time* and press *Enter* to select 60, 90, 120, or 150 milliseconds. The default is 90 milliseconds.
4. Highlight *VM Dialing Ratio – Tone Inter-Digit Time* and press *Enter* to select 60, 90, 120, or 150 milliseconds. The default is 90 milliseconds.

5. When you are done, press *Esc* to return to the Call Handling menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
6. The system prompts “Save Current Setting?” Press *Y* to save your changes.
7. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
8. Press *Esc* to return to the Call Handling menu. Press *Esc* again to return to the Database Programming menu.
9. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

9.2 Programming Optional Internal VM, Digital

The optional DX-80 Voice voice processing solution is fully integrated with the DX-80 system. Performance of the digitally integrated DX-80 Voice is notably superior to that of a regular analog integration. When you add the DX-80 Voice to the DX-80 system, the digital interface has the advantage of adding up to eight ports of voice mail. This interface also maintains a maximum system configuration of 16 CO line ports, 48 digital telephone ports, and 8 analog device ports. If you use the internal digital voice mail, there is no port loss.

The DX-80 digital integration also is easier to install because it automates setup of the three primary functions users want in a voice processing system:

- Voice Messaging,
- Automated Attendant, and
- Menu Routing.

When you install the DX-80 Voice and turn the power back on, the DX-80 system detects the DX-80 Voice system and configures it automatically.

Some of the capabilities that the DX-80 Voice adds include the following.

- Automated Attendant
- Extension-Unique Voice Mailboxes (100 mailboxes in the basic package)
- Call Forward to Extension Voice Mailboxes
- All Call Handling Conditions
- Answering Machine Emulation
- UCD Overflow Queue Announcements
- Menu Routing
- Voice Record
- Automatic Voice Record
- Specific CO Line Greetings on Automated Attendant
- FAX Tone Detect supported on all calls answered by Auto Attendant

The following conditions apply to the internal voice mail option.

- When transferring a call to voice mail, callers can choose to enter no mailbox number. If callers do so, the system routes the caller to the voice mail main greeting (e.g., Auto Attendant greeting).
- If no voice mail channels are available at the time callers place a call into voice mail, the system plays a ring-back tone until a channel becomes available.
- When voice mail ports are used heavily (high call traffic), the system updates message indications notably slower than usual.
- When VM messages are waiting, the system flashes the auxiliary lamp green.
- You can program the voice mail code *Feature 6 4* on any available Flexible Feature Button.
- When the voice mail code is programmed on a Feature Button, the system flashes the associated LED red when VM messages are waiting.
- You can program the voice mail UCD Group directory number (usually 433) on any available Flexible Feature Button.

When programming the internal VM, perform the following tasks.

- Change the UCD group used as the voice mail group if necessary.
- Set the voice mail table to reference the UCD group you want to use for voice mail.
- To activate Automated Attendant, set the answering position to the UCD group directory number that coincides with voice mail (usually 433, UCD group 24). See Section 5.10, *Setting the Answer Position for Day and Evening*.

9.2.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *06-01-01~24-03-01* to program UCD group members (where 01~24 is the group number).
4. Press *save*. This advances you to Member #1 of the new UCD group you specified.
5. Press *chg*.
6. Enter the extension directory of the digital channel you want to program into this member. At default the digital channels of DX-80 Voice are 157, 158, 159, 160, 161, 162, 163, 164.
7. Press *save*, then press *next*.
8. In the same manner, program all voice mail channels as members of this UCD group.
9. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen.
10. Enter *06-02-1~3-01* to program the voice mail hunt group (where 1~3 is the tenant group [usually 1]).

11. Press *save*. This advances you to Voice Mail Table for Tenant 1 – Hunt Group.
12. Press *chg* until the UCD Group you want to use as the VM hunt group displays. **Note:** *The VM hunt group is the new UCD group you selected and programmed with the digital channel members.*
13. Press *next* to continue programming the various call handling digits (prefix/suffix).
14. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

9.2.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. First, program the UCD group and members. Use the arrow keys to highlight *Extension Application* and press *Enter*. The system displays the Extension Application menu.
3. Highlight *Uniform Call Distribution* and press *Enter*. The system displays the Uniform Call Distribution—Parameter Programming menu.
4. Enter the UCD Group you want to program as the VM hunt group (usually 24), and press *Enter*. The system displays the Uniform Call Distribution—Parameter Programming: Hunt Group 24 menu.

```

ESC                                     ALT_I
----- DX80 PC-DBA -----
[Disc]                                     Date: 03/01/28
                                           Time: 12:00:18

Uniform Call Distribution - Parameter Programming: Hunt Group 1

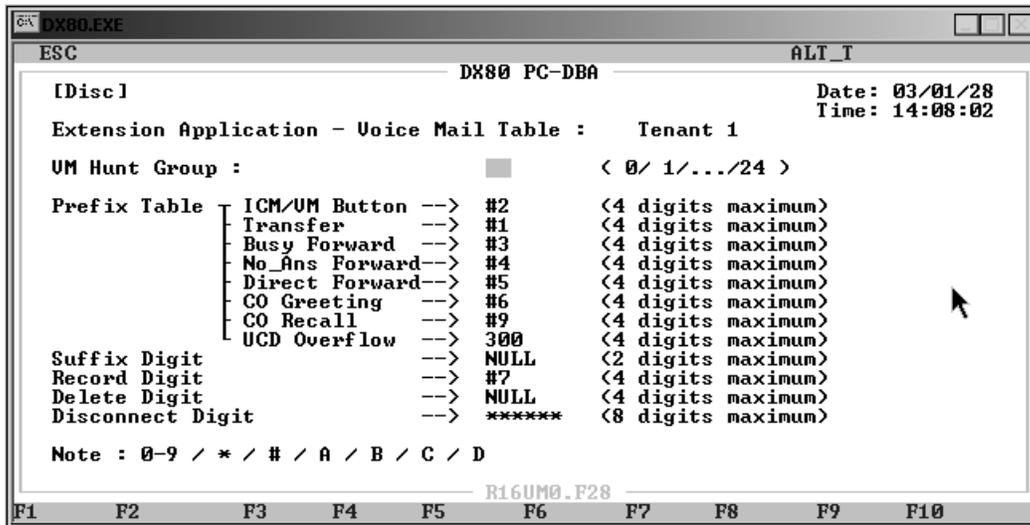
Attribute      : ██████████ <UCD/U.A.>
Tenant Group   : 1          <1-3>
Name           : NULL      <'0'-'9', 'A'-'Z', 'a'-'z', Space>
Member        : --->      <EXT DIR No.>
Hunting Method : Linear    <All Ring/Linear/Distributed>
No Answer Timer: 10       <5-60 sec>
Overflow 1 Timer: 0      <0-255 sec>
Overflow 1 Dest.: NULL   <EXT/Hunt Gp. DIR No.>
Overflow 2 Timer: 0      <0-255 sec>
Overflow 2 Dest.: NULL   <EXT/Hunt Gp. DIR No.>
Overflow Count : 1       <1-128 times>
Re_Route Dest. : NULL    <EXT/Hunt Gp. DIR No.>

                                           R16UM0.F28
F1      F2      F3      F4      F5      F6      F7      F8      F9      F10

```

5. Highlight *Members*, then press *Enter*. The system displays the member list for hunt group 24. Enter the digital channel directory number as a member of the VM UCD group and press *Enter*. **Note:** *The VM hunt group is the new UCD group you selected and programmed with the digital channel members.*
6. In the same manner, continue programming all digital channel extensions connected to the voice mail.
7. When you are done, press *Esc* to return to the Uniform Call Distribution: Parameter Processing: Hunt Group 24 screen. The system prompts: “Exit This Feature?”; press *Y* for yes.

8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Uniform Call Distribution: Parameter Processing: Hunt Group 24 menu. Press *Esc* three times more to return to the Database Programming menu.
11. Next, program the voice mail hunt group. Highlight *Voice Mail Table*, and press *Enter*. Choose the tenant group you want to program, and press *Enter*. The system displays the Extension Application—Voice Mail Table: Tenant x menu.



12. Set the voice mail table to reference the UCD group you want to use for the voice mail ports. Highlight *VM Hunt Group* and press *Enter* to select UCD group number 24. **Note:** *The system ignores all other fields on this screen because you are using DX-80 Voice.*
13. When you are done, press *Esc* to return to the Voice Mail Table menu. Press *Esc* again to return to the Extension Application menu. The system prompts: “Exit This Feature?”; press *Y* for yes.
14. The system prompts “Save Current Setting?” Press *Y* to save your changes.
15. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
16. Press *Esc* to return to the Extension Application menu. Press *Esc* again to return to the Database Programming menu.
17. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10. PROGRAMMING EXTENSIONS

The final step in setting up a DX-80 system is programming the individual extensions.

The DX-80 supports three types of phones:

- DET phones—digital speakerphone with LCD display and 32 programmable feature buttons
- DSS console—digital 60 button device used with associated speakerphone (typically used with the System Attendant/Administrator's speakerphone, but can be used with any DET phone in the system)
- SLT phones—-independent analog single line telephone devices.

While the DX-80 supports SLTs, the majority of features are designed for the DET phone. If you are using SLTs in a particular system, you must set up the analog ports associated with those SLTs. For details on setting up analog ports, see Section 10.22, *Configuring Single Line Telephones (Analog Device Support)*.

The DET telephones are all equipped with a high-quality, half-duplex speakerphone. This feature makes it possible to place hands-free calls from any DET telephone.

The DET is also equipped with a 2-row, 16-column Liquid Crystal Display (LCD) to enhance feature operation by indicating operation status and providing for input based on feature use. The display also facilitates the standard Caller ID feature – allowing all DETs to receive caller ID information as it is received from the servicing telephone company. (Caller ID requires a subscription from the servicing telephone company.)

The DET provides three screen-prompt, interactive buttons that simplify feature operation. The bottom row of the display is used to convey options during normal call processing that allow the user to select from the various choices. These three LCD interactive buttons take on many different functions, supporting everything from leaving a callback request to programming the system database.

The following conditions apply to using DET speakerphones.

- The speakerphone function is impacted by environmental conditions.
- Operation of the speakerphone in high-noise areas may yield less than adequate results. If this is the case in the area where the extension user's telephone is located, the handset may be used to improve connection conditions.
- To dial intercom numbers directly from an idle condition, the Hot Key setting should be enabled. Otherwise, the user must press a programmed intercom button or press the *On/Off* button prior to dialing the extension number.

The DET speakerphone also provides the ability to receive incoming intercom calls in Voice Announce Hands-free mode. When extension users telephones are in this mode, they can reply to an intercom call by using the speakerphone.

Extension users may also choose to place their DET phones in Voice Announce - Privacy mode. In this mode, they can hear the person calling them on the intercom, but their DET phones' microphones remain muted so the calling person cannot hear the extension users. Therefore calls may be announced to their extensions while they maintain a private environment.

In addition to Voice Announce – Hands-free, and Voice Announce – Privacy modes the DX-80 provides a third mode called Tone Ring mode. When Tone Ring mode is active, the telephone will tone ring whenever an intercom call is made to that telephone.

Each time you enter *Feature 9 8*, the system selects the next mode in sequence, plays the associated tone, and shows the associated display, as shown in the following table.

Mode	Button Lamp	Momentary Display Confirmation	Confirmation Tone	Status Bar (when intercom call received)
Voice Announce -- Hands Free	Green lamp	VA-HF MODE	single burst tone	Solid red lamp
Voice Announce -- Private	Red lamp	VA-PRIVACY MODE	single burst tone	Slow flashing red lamp
Tone Ring	No lamp lit	TONE RING MODE	single burst tone	Fast flashing green lamp

To program the extensions in the system, perform the following steps for each extension in the system.
Note: The DX-80 provides you with a shortcut to use when programming extensions. You can program one or more “baseline” extensions whose setups you want to use for other extensions, and then copy the baseline setups to those other extensions. For further details on using this shortcut, see Section 3.1.3, Copying Baseline Extension Setups.

1. Assign a user name and password to the extension.
2. Assign the extension to a tenant group.
3. Assign the extension to a pickup group.
4. Assign the extension to a paging group.
5. Assign a class of service to the extension.
6. Set up the Monitor classification.
7. Set up intrusion—active, accept, and tone.
8. Set up warning tones, incoming call drops, outgoing call drops.
9. Set up Off Hook Voice Announce (OHVA).
10. Enable/disable paging.
11. Set up external call forward.
12. Set up SMDR output.
13. Assign RAD devices.
14. Enable/disable recording.
15. Set up port type.
16. Set up CO line assignment
17. Set up receive assignment.
18. Set up extension ring level.
19. Assign feature buttons.
20. Perform directory/extension swapping.
21. Configure Single Line Telephones (SLTs).

While you are programming in PC-DBA, the system saves your changes in the working directory residing on the laptop. While it may appear that you have re-programmed the switch, the system does not update the switch database with your changes until you perform a SEND command from the laptop.

	CAUTION	
<p>If PC-DBA is set to U-Save, your database changes reside only on your laptop. When you have finished making all changes to the database, perform a SEND operation to download the new database to the DX-80 switch.</p>		

For further details on the SEND command, see Section 2.1.4.4, *F4 – Send*.

10.1 Reminder Tones

The system provides a specific interruption in intercom dial tone to remind a user that a call processing feature is active. Whenever Do Not Disturb or Call Forward is enabled, the system plays this reminder tone when extension users access intercom dial tone. The system uses a stutter dial tone (fast, repeated interruption of intercom dial tone) for the reminder tone.

When users lift the handset or press the *On/Off* button to active speakerphone or headset mode, stutter dial tone indicates that Call Forward or Do Not Disturb is active.

The system appends intercom dial tone with stutter dial tone whenever the extension is used to place intercom calls.

Once users dial a digit, the system removes the reminder tone until the next time they access the intercom.

10.2 Assigning a User Name to the Extension

You can assign an alphanumeric, seven-character title to each extension in the system. The system then displays this title on the DET Speakerphone in place of the standard “EXT” message.

User names may consist of upper and lower case letters and numbers, and various “special” characters as provided by the enhanced lettering scheme. For details on the enhanced lettering scheme, see Section 4.18, *Setting Up Letter Type (Enhanced Lettering Scheme)*.

The following conditions apply to extension user names.

- The system displays the programmed extension user name at called extensions whenever intercom calls are made for one extension to another.
- The system displays the characters “EXT” whenever there is no extension user name programmed.
- Names may be seven or fewer characters.

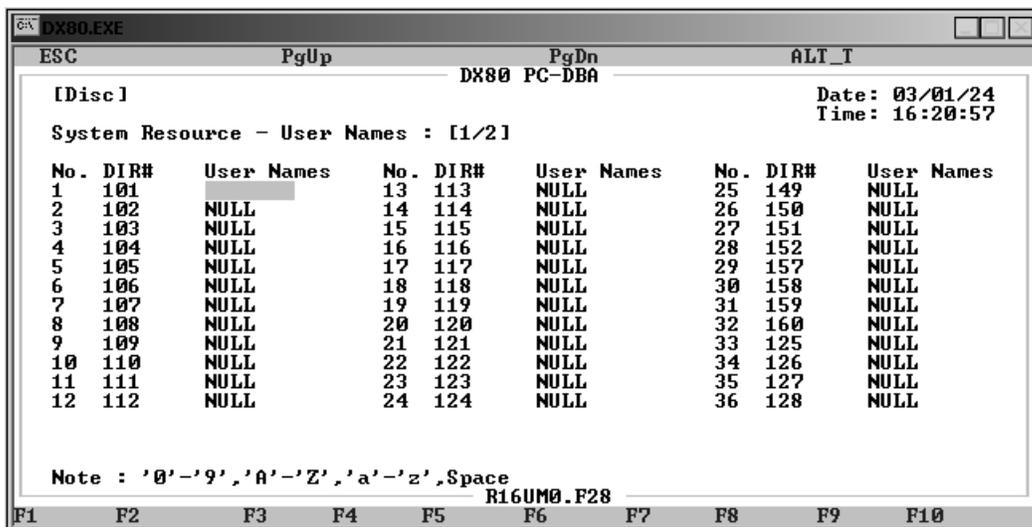
10.2.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *04-05-101~156* and press *save*. This advances you to the Extension User Name programming screen for the extension you specified (101~156).
4. Press *chg*.
5. Enter the user name for this extension using the dial pad and referring to the numbering scheme tables. For details on these tables, see Section 4.18, *Setting Up Letter Type (Enhanced Lettering Scheme)*. The default is null (no name).
6. In the same manner, assign user names to other extensions as needed.
7. Press the *Hold* button to return to the previous menu level,
Or, press the Volume button to return to the DB Item Selection screen,
Or exit programming.

10.2.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *System Resource* and press *Enter*. The system displays the System Resource menu.
3. Highlight *User Names* and press *Enter*. The system displays the System Resource — User Names screen.



4. Highlight the *User Names* field for the extension to which you want to assign a name. Press *Enter*. *Note:* You may have to use the Page Down key to move to the second page of the User Names screen.

5. Enter the user name for this extension and press *Enter*. The default is null (no name). For details on how to enter each character, see Section 4.18, *Setting Up Letter Type (Enhanced Lettering Scheme)*.
6. In the same manner, assign user names to other extensions as needed.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.3 Assigning a Password to the Extension

All extensions of the DX-80 system have an associated user password. Passwords are required to use Phone Lock, Call Forward Remote, and Attendant features. *Note: Extension passwords can be changed at the extension only by using the Phone Lock feature.*

Passwords can be from four to eight characters in length. You may want to program the overall system password length before programming individual extension passwords. See Section 4.4, *Setting User Password Lengths, Setting Passwords for System Directory Numbers 101, 102, and 108* for more details.

Changes to the length of the user password affect existing passwords—the system adds or subtracts one default character to the end of the password. That is, if you extend the length of the password, the system increases all passwords by adding a 0 in the right-most position. If you reduce the length of the password, the system truncates all passwords by one character in the right-most position.

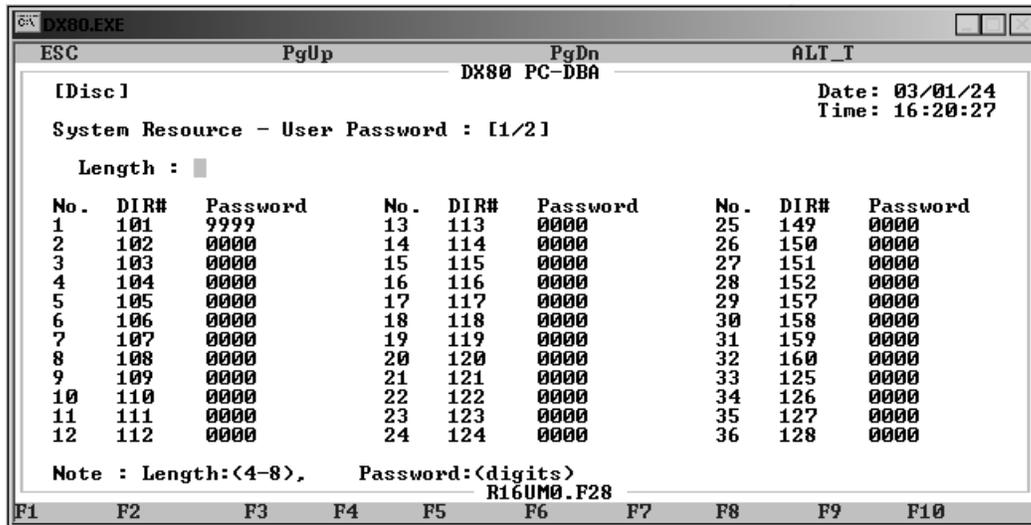
10.3.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *04-04-02-101~156*, where *101~156* is the extension number you want to program. Then press *save*.
4. Enter the password you want to use for this extension. Valid passwords use any digit, up to the extension length. The default is all zeros (0000 for 4 digit passwords, 00000 for 5 digit passwords, etc.).
5. Press *back* or *next* to return to the extension number input screen.
6. In the same manner, assign other extension passwords as needed.
7. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.3.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *System Resource* and press *Enter*. The system displays the System Resource menu.
3. Highlight *User Password* and press *Enter*. The system displays the System Resource — User Password menu.



4. Highlight the *Password* field for directory number you want to program and press *Enter*. *Note:* You may have to use the *Page Down* key find the directory number if it is on the second page of this menu.
5. Enter the password you want to use. Valid passwords use any digit, up to the extension length. The default is all zeros (0000 for 4 digit passwords, 00000 for 5 digit passwords, etc.).
6. In the same manner, program other extension passwords as needed.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a *Send* operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.4 Assigning Extensions to Tenant Groups

You can completely isolate extension functions depending on how you assign the tenant groups; i.e., you can prohibit calling from one tenant group to another. You do not have to isolate extensions to be able to isolate system resources, however. (See Section 3.39, *CO Line Assignment*, Section 3.48, *CO Line Ring Assignment (Answer Position)*, and Section 3.49, *CO Line Ring Type Assignment* for details on how to isolate system resources without invoking full isolated tenant operations).

Tenant grouping allows you to independently allocate resource directory numbers. The directory numbers for system resources then interact only with the resources within the tenant group. For example, you designate attendant extensions for each tenant group; these attendant extensions act independently for the assigned tenant group. When a caller dials 0 to reach the attendant, the system automatically calls the attendant extension you designated for that group (attendant extension 2 for tenant group 2, etc.).

The following conditions apply when setting up tenant groups.

- You can set up a maximum of three tenant groups in the DX-80 system.
- Extension directory numbers remain unique to system ports and are not duplicated for each tenant group (although extension dialing may be restricted across tenant group barriers).
- When tenant calling is restricted from one tenant group to another tenant group, intercom calls, call transfers, and recall operations will not operate across these designations. **Note:** *If you want intercom calls, call transfers, and recall operations to work across tenant group barriers, do not set up separate tenant groups.*

Other features whose programming may affect your assignment of tenant groups to extensions include the following.

- CO Line - Tenant Group
- Call Handling - Tenant Group

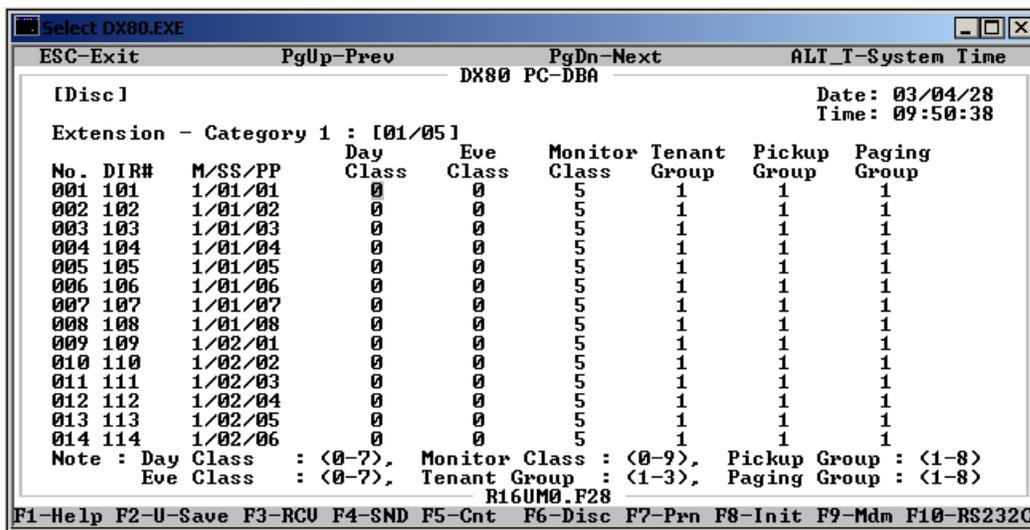
10.4.1 PROGRAMMING USING THE DET

Note: *chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.*

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *01-101~156-02* and press *save*. This advances you to the Tenant Group selection for the extension you specified.
4. Press *chg* until the tenant group you want to use for this extension displays. Valid options are tenant groups 1, 2, or 3. The default is 1. If your system is not divided into tenant groups, use group 1.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.4.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Extensions* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Extension—Category 1 menu.



4. Locate the extension number that you want to assign to a tenant group. Use *Page Up* and *Page Down* if necessary to highlight the *Tenant Group* field for that extension.
5. Press *Enter* to assign the tenant group number. Valid options are tenant groups 1, 2, or 3. The default is 1. If your system is not divided into tenant groups, use group 1.
6. In the same manner, assign other extensions to tenant groups as needed.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.5 Assigning Extensions to Pickup Groups

The system provides eight extension pick up groups per tenant group to allow you to partition the system into separate departments for organized call answering within the department.

An extension owner in a pick up group may retrieve calls ringing at another extension within the same pick up group.

The following conditions apply to pickup groups.

- You can assign an extension to one pick up group only.
- Pick up priority is CO line calls first, then intercom calls.
- CO line call priority is: camped-on calls first, recalling calls second, transferred calls third, then incoming calls.
- Intercom call priority is ringing calls, then voice calls.

Extension Pickup Groups are defined in the DX-80 Numbering Plan, page 3. For more details about modifying the numbering plan to suit your client's needs, see Section 4.20, *Customizing the Numbering Plan*.

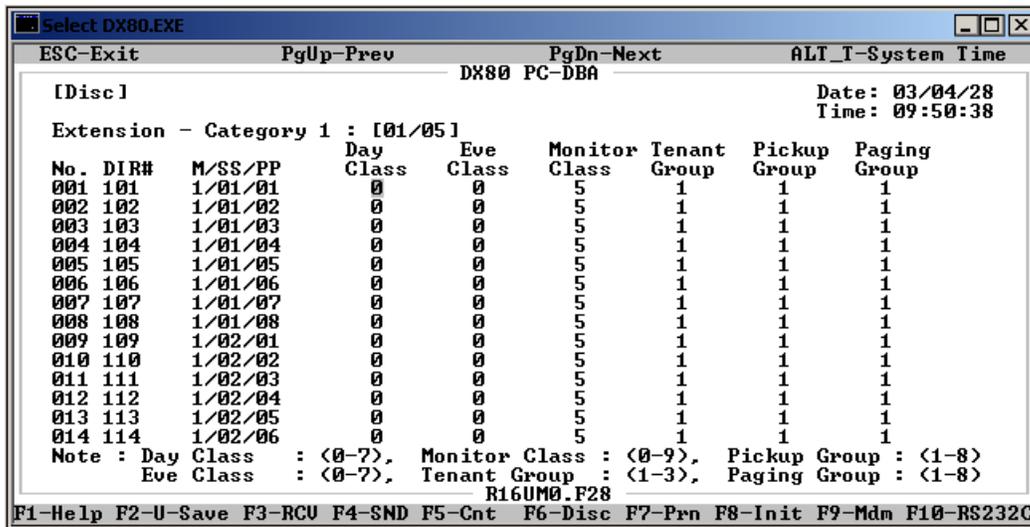
10.5.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. First, program the extensions into the tenant group. Enter *01-101~156-03* and press *save*. This advances you to the Pickup Group selection for the extension you specified.
4. Press *chg* until the pickup group you want to use for this extension displays. Valid options are 1 through 8. The default is 1.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.5.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Extensions* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Extension—Category 1 menu.



4. Locate the extension number that you want to assign to a pickup group. Use *Page Up* and *Page Down* if necessary to highlight the *Pickup Group* field for that extension.
5. Press *Enter* to assign the pickup group number. Valid options are 1 through 8. The default is 1.
6. In the same manner, assign other extensions to pickup groups as needed.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
8. The system prompts "Save Current Setting?" Press *Y* to save your changes.
9. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.

When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.6 Assigning Extensions to Paging Groups

The system provides eight extension paging groups per tenant group to allow you to partition the system into separate departments for page announcements.

Extension paging group members receive internal zone pages directed to their paging group. (Paging groups are defined in the DX-80 Numbering Plan, page 3. For more details about modifying the numbering plan, see Section 4.20, *Customizing the Numbering Plan*. The External Pager ID is assigned when programming the system features; for details, see Section 4.11, *Assigning External Pager ID*.)

The following conditions apply to paging groups to extensions.

- You can assign an extension to one paging group only.
- When page announcements are made, all idle extensions in the paging group receive the voice announcement.
- Busy extensions, extensions in DND, and extensions that have invoked Page Deny at their extension will not receive page announcements.
- Extensions that are receiving page announcements are busy for other intercom calls.

- Extensions that are receiving page announcements will show busy on DSS/BLF buttons at other extensions.

10.6.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *01-101~156-04* and press *save*. This advances you to the Paging Group selection for the extension you specified.
4. Press *chg* until the paging group you want to use for this extension displays. Valid options are 1 through 8. The default is 1.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.6.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Extensions* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Extension—Category 1 menu.

The screenshot shows a terminal window titled "Select DX80.EXE" with a menu bar containing "ESC-Exit", "PgUp-Prev", "PgDn-Next", and "ALT_I-System Time". The main display area shows "DX80 PC-DBA" and "Date: 03/04/28 Time: 09:50:38". Below this is a table titled "Extension - Category 1 : [01/05]".

No.	DIR#	M/SS/PP	Day Class	Eve Class	Monitor Class	Tenant Group	Pickup Group	Paging Group
001	101	1/01/01	0	0	5	1	1	1
002	102	1/01/02	0	0	5	1	1	1
003	103	1/01/03	0	0	5	1	1	1
004	104	1/01/04	0	0	5	1	1	1
005	105	1/01/05	0	0	5	1	1	1
006	106	1/01/06	0	0	5	1	1	1
007	107	1/01/07	0	0	5	1	1	1
008	108	1/01/08	0	0	5	1	1	1
009	109	1/02/01	0	0	5	1	1	1
010	110	1/02/02	0	0	5	1	1	1
011	111	1/02/03	0	0	5	1	1	1
012	112	1/02/04	0	0	5	1	1	1
013	113	1/02/05	0	0	5	1	1	1
014	114	1/02/06	0	0	5	1	1	1

Below the table, there are notes: "Note : Day Class : <0-7>, Monitor Class : <0-9>, Pickup Group : <1-8>" and "Eve Class : <0-7>, Tenant Group : <1-3>, Paging Group : <1-8>". At the bottom of the screen, there is a footer with function key labels: "F1-Help F2-U-Save F3-RCU F4-SND F5-Cnt F6-Disc F7-Prn F8-Init F9-Mdm F10-RS232C".

4. Locate the extension number that you want to assign to a paging group. Use *Page Up* and *Page Down* if necessary to highlight the *Paging Group* field for that extension.
5. Press *Enter* to assign the paging group number. Valid options are 1 through 8. The default is 1.
6. In the same manner, assign other extensions to paging groups as needed.

7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.

When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.7 Assigning Extensions to a Class of Service

The DX-80 provides sophisticated monitoring of outbound digits dialed by extension users. You can assign COSs for a broad range of call control. For example, if a digit or range of digits dialed on a CO line is inconsistent with the dialing extension’s or CO line’s class of service, the system denies the call. You can apply this calling COS criteria to local calls, long distance calls, and specific numbers that are considered allowed in areas where other numbers may be restricted.

The following conditions apply to assigning class of service to extensions.

- Callers can override an extension’s class of service if you set up an account code password that instructs the system to use a different class of service for the call. See Section 7.2, *Account Code Length and Password*.
- You can set a system speed dial to override toll restriction. For example, suppose your customer has a branch office out of state where they want to allow the corporate extension users to call, while still prohibiting all other toll calls. In this case, you can set up a system speed dial to allow calls to the branch office. **Note:** *It must be a system speed dial, as the system checks the toll restrictions for individual speed dial numbers and abides by them. System speed dial numbers override toll restrictions as long as you have System Speed Toll Check enabled. For more details on speed dial numbers, see Section 4.8, Programming Speed Dial Numbers.*

10.7.1 PROGRAMMING USING THE DET

Note: *chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.*

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *01-101~156-05* (where 101~156 is the extension) to program the daytime class of service for the extension you specified.
4. Press *chg* until the COS you want to assign displays. Valid choices are 0 through 7. The default is class of service 0.
5. Enter *01-101~156-06* (where 101~156 is the extension) to program the evening class of service for the extension you specified.
6. Press *chg* until the COS you want to assign displays. Valid choices are 0 through 7. The default is class of service 0.
7. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen.

8. Press the Volume button (up or down) to return to the DB Item Select screen.
9. Exit programming.

10.7.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *Extension* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Extension—Category 1 menu.

The screenshot shows a terminal window titled "Select DX80.EXE" with a menu bar containing "ESC-Exit", "PgUp-Prev", "PgDn-Next", and "ALT_I-System Time". The main display area shows the following information:

```

[Disc]
Extension - Category 1 : [01/05]
Date: 03/04/28
Time: 09:50:38
  
```

No.	DIR#	M/SS/PP	Day Class	Eve Class	Monitor Class	Tenant Group	Pickup Group	Paging Group
001	101	1/01/01	0	0	5	1	1	1
002	102	1/01/02	0	0	5	1	1	1
003	103	1/01/03	0	0	5	1	1	1
004	104	1/01/04	0	0	5	1	1	1
005	105	1/01/05	0	0	5	1	1	1
006	106	1/01/06	0	0	5	1	1	1
007	107	1/01/07	0	0	5	1	1	1
008	108	1/01/08	0	0	5	1	1	1
009	109	1/02/01	0	0	5	1	1	1
010	110	1/02/02	0	0	5	1	1	1
011	111	1/02/03	0	0	5	1	1	1
012	112	1/02/04	0	0	5	1	1	1
013	113	1/02/05	0	0	5	1	1	1
014	114	1/02/06	0	0	5	1	1	1

At the bottom of the screen, there are notes and function key definitions:

```

Note : Day Class : <0-7>, Monitor Class : <0-9>, Pickup Group : <1-8>
      Eve Class : <0-7>, Tenant Group : <1-3>, Paging Group : <1-8>
      R16UM0.F28
F1-Help F2-U-Save F3-RCU F4-SND F5-Cnt F6-Disc F7-Prn F8-Init F9-Mdm F10-RS232C
  
```

4. Use the arrow keys and *Page Up* and *Page Down* to highlight the *Day Class* field of the extension you want to change.
5. Press *Enter* to select the class of service you want to assign for the daytime hours for the selected extension. Valid choices are 0 through 7. The default is class of service 0.
6. Next highlight the *Eve Class* field. Press *Enter* to select the class of service you want to assign for the evening hours for the selected extension. Valid choices are 0 through 7. The default is class of service 0.
7. In the same manner, program daytime and evening class of services to other extensions as needed.
8. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
9. The system prompts "Save Current Setting?" Press *Y* to save your changes.
10. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
11. Press *Esc* to return to the Database Programming menu.
12. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.8 Setting up Monitoring Privileges

The DX-80 system allows extension users to monitor conversations at other extensions, for the purpose of observing service. Monitoring of busy extensions and CO lines is possible only at extensions with a monitor class of service that has a higher priority than the monitor COS of the extension to be monitored.

	LEGAL NOTICE	
<p>This feature may violate privacy laws if used in a manner that is inconsistent with requirements of those laws. Comdial assumes no responsibility with regard to the use of this feature; it is provided for the virtue of ethical use only. YOU are responsible for using this feature appropriately, considering all applicable laws.</p>		

When programming extensions, you define the monitor COS for each extension. For example, you may want to assign monitoring privileges to the manager in charge of your client's Customer Support department, so that manager has the ability to listen to how department members handle phone inquiries. In this case, assign the department manager a higher monitoring COS than the monitoring COS of the department members.

The following conditions apply to the monitoring capability.

- The highest level of priority in monitor class is "0."
- "9" is the lowest priority level.
- The system does not allow monitoring if the called extension's monitor COS matches the calling extension's monitor COS.

Since this feature is very similar to Intrusion, it is possible to "shift" between these two features when using monitor. See Section 10.9, *Setting up Intrusion* for further details.

Note: If you assign monitoring privileges to an extension, set up a feature button for the extension user to press to initiate the monitoring session. See Section 11, *Programming Feature Buttons*.

10.8.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *01-101~156-07*, then press *save*. This advances you to the Monitor Class programming screen for the extension you specified.
4. Press *chg* to select the monitor class of service you want to use for this extension. Valid choices are classes 0 through 9, where 0 is the highest monitoring COS and 9 is the lowest. The default is 5.
5. Press the *Hold* button to return to the previous menu level,

Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.8.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *Extension* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 1* and press *Enter*. The system displays the Extension – Category 1 screen.

The screenshot shows a terminal window titled "Select DX80.EXE" with a menu bar containing "ESC-Exit", "PgUp-Prev", "PgDn-Next", and "ALT_I-System Time". The main display area shows "DX80 PC-DBA" and "Date: 03/04/28", "Time: 09:50:38". Below this is the heading "Extension - Category 1 : [01/05]". A table follows with columns: No., DIR#, M/SS/PP, Day Class, Eve Class, Monitor Class, Tenant Group, Pickup Group, and Paging Group. The table lists 14 entries (001-014) with values for each column. At the bottom, there are notes for Day Class, Eve Class, Monitor Class, Tenant Group, Pickup Group, and Paging Group, and a footer with function key shortcuts: F1-Help, F2-U-Save, F3-RCU, F4-SND, F5-Cnt, F6-Disc, F7-Prn, F8-Init, F9-Mdm, F10-RS232C.

No.	DIR#	M/SS/PP	Day Class	Eve Class	Monitor Class	Tenant Group	Pickup Group	Paging Group
001	101	1/01/01	0	0	5	1	1	1
002	102	1/01/02	0	0	5	1	1	1
003	103	1/01/03	0	0	5	1	1	1
004	104	1/01/04	0	0	5	1	1	1
005	105	1/01/05	0	0	5	1	1	1
006	106	1/01/06	0	0	5	1	1	1
007	107	1/01/07	0	0	5	1	1	1
008	108	1/01/08	0	0	5	1	1	1
009	109	1/02/01	0	0	5	1	1	1
010	110	1/02/02	0	0	5	1	1	1
011	111	1/02/03	0	0	5	1	1	1
012	112	1/02/04	0	0	5	1	1	1
013	113	1/02/05	0	0	5	1	1	1
014	114	1/02/06	0	0	5	1	1	1

Note : Day Class : <0-7>, Monitor Class : <0-9>, Pickup Group : <1-8>
Eve Class : <0-7>, Tenant Group : <1-3>, Paging Group : <1-8>

4. Locate the directory number you want to program. You may need to press *Page Up* or *Page Down* to find the directory number; this menu contains five pages.
5. Highlight *Monitor Class* and press *Enter* to select the monitor class of service you want to use for this extension. Valid choices are classes 0 through 9, where 0 is the highest monitoring COS and 9 is the lowest. The default is 5.
6. In the same manner, program the monitor COS for other extensions as needed.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
8. The system prompts "Save Current Setting?" Press *Y* to save your changes.
9. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.9 Setting up Intrusion

Intrusion allows extension users to break into an existing call, provided you have given them the privilege to do so. This feature can be very effective for observing service, and any time that callers have to forcibly enter a conversation on a busy CO line or at a busy extension.

Intrusion can be used both on a busy CO line and on a busy extension.

The following conditions apply to Intrusion.

- The calling extension must have Intrusion Active set to *Y* (yes) for this feature to operate.
- The busy extension must have Intrusion Accept set to *Y* (yes) for this feature to operate.
- The system plays an intrusion tone to all parties when it invokes intrusion (extensions and CO lines).
- You can deactivate the intrusion tone.

	LEGAL NOTICE	
<p>This feature may violate privacy laws if used in a manner that is inconsistent with requirements of those laws. Comdial assumes no responsibility with regard to the use of this feature; it is provided for the virtue of ethical use only. YOU are responsible for using this feature appropriately, considering all applicable laws.</p>		

10.9.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *01-101~156-11* to set the intrusion privilege for an extension (where 101~156 is the extension number).
4. Press *save*. This advances you to the Extension – xxx – Intrusion Active field.
5. Press *chg* to select *Y* or *N*. The default is no.
6. Next, specify whether you want to allow intrusion on this extension. Press *next* to select the Intrusion Accept field.
7. Press *chg* to select *Y* or *N*. The default is yes.
8. Next, specify whether you want the system to play warning tones when it initiates an intrusion on this extension. Press *next* to select the Intrusion Tone field.
9. Press *chg* to select *Y* or *N*. The default is yes.
10. In the same manner, program the intrusion privileges for other extensions as needed.

11. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.9.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *Extension* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 3* and press *Enter*. The system displays the Extension – Category 3 screen.

[Disc]		DX80 PC-DBA							Date: 03/04/29
Extension - Category 3 : [01/05]									Time: 09:48:36
No.	DIR#	M/SS/PP	Intru. Active	Intru. Accept	Intru. Tone	FTR. Disable	BTN Paging Allow	Record Allow	
001	101	1/01/01	N	Y	Y	N	Y	N	
002	102	1/01/02	N	Y	Y	N	Y	N	
003	103	1/01/03	N	Y	Y	N	Y	N	
004	104	1/01/04	N	Y	Y	N	Y	N	
005	105	1/01/05	N	Y	Y	N	Y	N	
006	106	1/01/06	N	Y	Y	N	Y	N	
007	107	1/01/07	N	Y	Y	N	Y	N	
008	108	1/01/08	N	Y	Y	N	Y	N	
009	109	1/02/01	N	Y	Y	N	Y	N	
010	110	1/02/02	N	Y	Y	N	Y	N	
011	111	1/02/03	N	Y	Y	N	Y	N	
012	112	1/02/04	N	Y	Y	N	Y	N	
013	113	1/02/05	N	Y	Y	N	Y	N	
014	114	1/02/06	N	Y	Y	N	Y	N	

Note : All Items : <Y/N>

R16UM0.F28

F1-Help F2-U-Save F3-RCU F4-SND F5-Cnt F6-Disc F7-Prn F8-Init F9-Mdm F10-RS232C

4. Locate the directory/extension number you want to program. You may need to press *Page Up* or *Page Down* to find the directory number; this menu contains five pages.
5. First, specify if you want to allow this extension to intrude on other extensions. Highlight *Intru. Active* and press *Enter* to select *Y* or *N*. The default is no. For example, if you want to allow supervisors to intrude on calls in their department, set this field to yes for the supervisor's extension.
6. Next, specify whether you want to allow other extensions to intrude on busy calls at this extension. Highlight *Intru. Accept* and press *Enter* to select *Y* or *N*. The default is yes. For example, if you want to keep supervisors' calls private, set this field to no for the supervisor's extension. If you want to allow supervisors to intrude on calls in their department, set this field to yes for the department employees' extensions.
7. Next, specify whether you want the system to play warning tones when it initiates an intrusion on this extension. Highlight *Intru. Tone* and press *Enter* to select *Y* or *N*. The default is yes.

	LEGAL NOTICE	
<p>This feature may violate privacy laws if used in a manner that is inconsistent with requirements of those laws. Comdial assumes no responsibility with regard to the use of this feature; it is provided for the virtue of ethical use only. YOU are responsible for using this feature appropriately, considering all applicable laws.</p>		

8. In the same manner, program the intrusion privileges for other extensions as needed.
9. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
10. The system prompts “Save Current Setting?” Press *Y* to save your changes.
11. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
12. Press *Esc* to return to the Database Programming menu.
13. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.10 Setting up Warning Tones, Incoming Call Drops, Outgoing Call Drops

You can limit an extension to calls that fall within a specific programmed time. You could use this feature, for example, in a lobby or retail environment where lengthy calls are discouraged.

You can set the DX-80 to either:

- warn an extension that the time has expired, thereby advising the extension user to disconnect. In this mode, the system plays a warning tone repeatedly once the timer has expired.
- automatically disconnect the call moments after playing the warning tone. You can choose between dropping incoming calls, dropping outgoing calls, or both.

You program the time allowed for calls while programming call handling. For details on how to set or adjust the time period, see Section 6.24, *Specifying Call Duration*. For details on how to set or adjust the warning time, see Section 6.9, *Establishing Warning Time for Limited Call Lengths*.

Extension users can make additional calls after the system plays the warning tones or drops the call, therefore Comdial does not recommend this feature as a toll saver option. Use this feature only for specific applications. **Note:** *For details on setting up toll restrictions, see Section 7, Programming Toll Restrictions.*

10.10.1 PROGRAMMING USING THE DET

Note: *chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.*

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.

3. Enter *01-101~156-08* for Warning Tone (where 101~156 is the extension you want to program) and press *chg* to select whether or not you want the system to play warning tones on this extension when the warning time limit has expired. Valid options are *Y* or *N*. The default is *N*.
Note: For details on the warning time limit, see Section 6.9, *Establishing Warning Time for Limited Call Lengths*.
4. Press *next* for the Drop Call Out field, and press *chg* to specify if you want the system to drop outgoing calls after the warning time has expired. Valid options are *Y* or *N*. The default is *N*.
5. Press *next* for the Drop Call In field, and press *chg* to specify if you want the system to drop outgoing calls after the warning time has expired. Valid options are *Y* or *N*. The default is *N*.
6. Press *chg* until the value you want to use (*Y/N*) displays.
7. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.10.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *Extension* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 3* and press *Enter*. The system displays the Extension – Category 3 screen.

The screenshot shows a terminal window titled 'DX80.EXE' with a menu bar containing 'ESC-Exit', 'PgUp-Prev', 'PgDn-Next', and 'ALT_I-System Time'. The main display area shows the following information:

ESC-Exit PgUp-Prev PgDn-Next ALT_I-System Time
DX80 PC-DBA
[Disc] Date: 03/04/28
Time: 09:55:31
Extension - Category 2 : [01/05]
Warning Drop Drop ECF SMDR Port
No. DIR# M/SS/PP Tone Call Out Call In Operation Output Type
001 101 1/01/01 N N N N Y EXT.
002 102 1/01/02 N N N N Y EXT.
003 103 1/01/03 N N N N Y EXT.
004 104 1/01/04 N N N N Y EXT.
005 105 1/01/05 N N N N Y EXT.
006 106 1/01/06 N N N N Y EXT.
007 107 1/01/07 N N N N Y EXT.
008 108 1/01/08 N N N N Y EXT.
009 109 1/02/01 N N N N Y EXT.
010 110 1/02/02 N N N N Y EXT.
011 111 1/02/03 N N N N Y EXT.
012 112 1/02/04 N N N N Y EXT.
013 113 1/02/05 N N N N Y EXT.
014 114 1/02/06 N N N N Y EXT.
Note : Port Type : EXTension/Voice Announcer/Voice Mail
Other Items : <Y/N>
R16UM0.F28
F1-Help F2-U-Save F3-RCU F4-SND F5-Cnt F6-Disc F7-Prn F8-Init F9-Mdm F10-RS232C

4. Locate the directory/extension number you want to program. You may need to press *Page Up* or *Page Down* to find the directory number; this menu contains five pages.
5. Highlight *Warning Tone* and press *Enter* to select whether or not you want the system to play warning tones on this extension when the warning time limit has expired. Valid options are *Y* or *N*. The default is *N*. *Note:* For details on the warning time limit, see Section 6.9, *Establishing Warning Time for Limited Call Lengths*.
6. Next, highlight *Drop Call Out* and press *Enter* to specify if you want the system to drop outgoing calls after the warning time has expired. Valid options are *Y* or *N*. The default is *N*.
7. Next, highlight *Drop Call In* and press *Enter* to specify if you want the system to drop incoming calls after the warning time has expired. Valid options are *Y* or *N*. The default is *N*.

8. In the same manner, program the warning tone and drop calls for other extensions as needed.
9. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
10. The system prompts “Save Current Setting?” Press *Y* to save your changes.
11. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
12. Press *Esc* to return to the Database Programming menu.
13. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.11 Setting Up Off Hook Voice Announce

With Off Hook Voice Announce (OHVA), extension users can receive a voice announcement from a DX-80 system extension while their telephone is busy. OHVA uses the speakerphone circuit to accommodate a second conversation path to the telephone.

When programming individual extensions, you allow or disallow use of OHVA. This includes determining if the extension can use OHVA, and whether the extension can receive OHVA.

To receive an OHVA call, extension users must be using the handset for the call in progress (they can't be on speakerphone and receive an OHVA announcement.)

An OHVA call can easily be rejected if the call in progress should not be interrupted.

The following conditions apply to OHVA.

- When placing an OHVA call to an extension that is busy using the speakerphone, the display options will not include the *voic* option.
- If extension users are on a line and have mute activated, the line will remain muted until the Voice Over Busy is complete.

10.11.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to activate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *01-101~156-14* for OHVA Active and press *chg* to specify *Y* or *N*. The default is *N*.
4. Press *save*.
5. Next, specify if you want the system to accept OHVA calls for this extension. Press *next* for the OHVA Accept field, and press *chg* to specify *Y* or *N*. The default is *yes*.
6. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.11.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *Extension* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 4* and press *Enter*. The system displays the Extension – Category 4 screen.

No.	DIR#	M/SS/PP	OHVA Active	OHVA Accept
001	101	1/01/01	Y	Y
002	102	1/01/02	Y	Y
003	103	1/01/03	Y	Y
004	104	1/01/04	Y	Y
005	105	1/01/05	Y	Y
006	106	1/01/06	Y	Y
007	107	1/01/07	Y	Y
008	108	1/01/08	Y	Y
009	109	1/02/01	Y	Y
010	110	1/02/02	Y	Y
011	111	1/02/03	Y	Y
012	112	1/02/04	Y	Y
013	113	1/02/05	Y	Y
014	114	1/02/06	Y	Y

4. Locate the directory/extension number you want to program. You may need to press *Page Up* or *Page Down* to find the directory number; this menu contains five pages.
5. Highlight *OHVA Active* and press *Enter* to set OHVA on or off for this extension. Valid options are *Y* or *N*. The default is yes.
6. Next, specify if you want the system to accept OHVA calls for this extension. Highlight *OHVA Accept* and press *Enter* to select *Y* or *N*. The default is yes.
7. In the same manner, program OHVA for other extensions as needed.
8. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
9. The system prompts “Save Current Setting?” Press *Y* to save your changes.
10. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
11. Press *Esc* to return to the Database Programming menu.
12. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.12 Setting Up Paging Privileges

Extension users can perform several types of page announcements:

- Internal Paging - they can page a group or place a system-wide internal page.
- External Paging - they can access external ancillary paging equipment.
- All Call Paging - they can access all paging zones (internal and external).

Extension users can also respond to a page announcement using Meet Me Paging. In this case, they dial a meet me page code upon hearing their name paged. The system then establishes a private connection to the paging extension.

Paging is one-way only. The Page Allow/Deny setting does not interfere with an extension's ability to make a page or to establish a meet me page.

The following conditions apply to paging privileges.

- The display will show PAGE FAILURE if a page fails due to that page group/zone being busy.
- You can assign any of the paging codes to a programmable feature button.
- The external pager port can be programmed to operate with any page group via system resource – external pager programming.
- To make a page announcement, extension users have to enter the page code. At default the page codes are as follows:
 - 400 = tenant all call
 - 401~408 = page groups (zones) 1 through 8
 - 777 = external pager.
- Comdial recommends that all page announcements be made using the handset to reduce potential audio feedback and oscillation (squeal).

10.12.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to activate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *01-101~156-04*, then press *save*. This advances you to the Paging Group programming screen for the extension you specified.
4. Press *chg* to select the paging group for this extension. Valid choices are paging groups 1 through 8. The default is paging group 1. If you want to allow external paging for this extension, be sure that external paging has already been set up and assigned to the paging group you want to use. For details on setting up external paging, see Section 4.11, *Assigning External Pager ID*.

5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

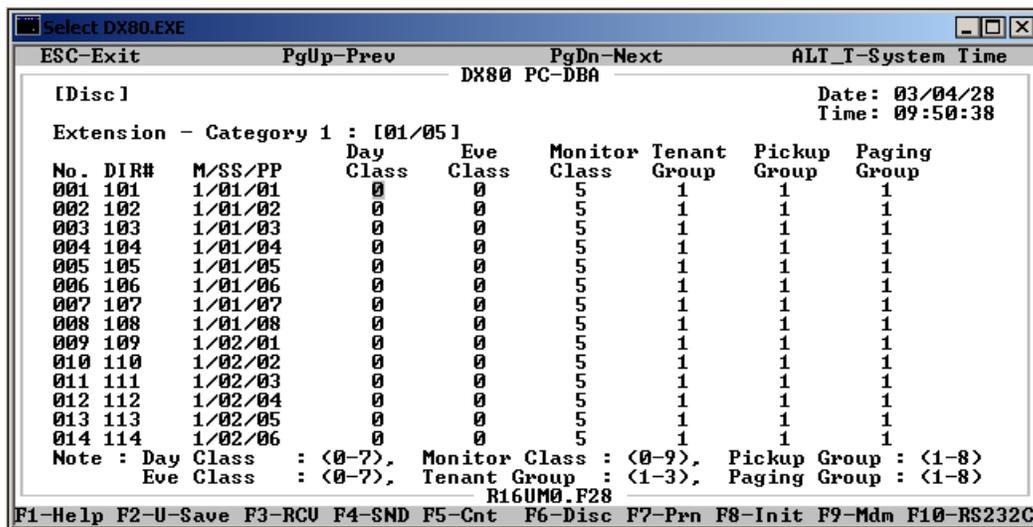
10.12.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. First, set the paging privilege on or off for the extension you want to program. Highlight *Extension* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 3* and then press *Enter*. The system displays the Extension — Category 3 menu.

DX80 PC-DBA									
[Disc]									
Extension - Category 3 : [01/05]									
No.	DIR#	M/SS/PP	Intru. Active	Intru. Accept	Intru. Tone	FIR. Disable	BTN Paging Allow	Record Allow	
001	101	1/01/01	N	Y	Y	N	Y	N	
002	102	1/01/02	N	Y	Y	N	Y	N	
003	103	1/01/03	N	Y	Y	N	Y	N	
004	104	1/01/04	N	Y	Y	N	Y	N	
005	105	1/01/05	N	Y	Y	N	Y	N	
006	106	1/01/06	N	Y	Y	N	Y	N	
007	107	1/01/07	N	Y	Y	N	Y	N	
008	108	1/01/08	N	Y	Y	N	Y	N	
009	109	1/02/01	N	Y	Y	N	Y	N	
010	110	1/02/02	N	Y	Y	N	Y	N	
011	111	1/02/03	N	Y	Y	N	Y	N	
012	112	1/02/04	N	Y	Y	N	Y	N	
013	113	1/02/05	N	Y	Y	N	Y	N	
014	114	1/02/06	N	Y	Y	N	Y	N	

Note : All Items : <Y/N>

4. Locate the directory/extension number you want to program. You may need to press *Page Up* or *Page Down* to find the directory number; this menu contains five pages.
5. Highlight *Paging Allow* and press *Enter* to select *Y* or *N*. The default is yes.
6. In the same manner, set paging privileges for other extensions as needed.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
8. The system prompts "Save Current Setting?" Press *Y* to save your changes.
9. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Extension menu.
11. Next, assign extensions to paging groups. Highlight *Extension* and press *Enter*. The system displays the Extension menu.
12. Highlight *Category 1* and then press *Enter*. The system displays the Extension — Category 1 menu.



13. Locate the directory/extension number you want to program. You may need to press *Page Up* or *Page Down* to find the directory number; this menu contains five pages.
14. Highlight *Paging Group* and press *Enter* to select the paging group for this extension. Valid choices are paging groups 1 through 8. The default is paging group 1. If you want to allow external paging for this extension, be sure that external paging has already been set up and assigned to the paging group you want to use. For details on setting up external paging, see Section 4.11, *Assigning External Pager ID*.
15. In the same manner, assign extensions to paging groups as needed.
16. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
17. The system prompts "Save Current Setting?" Press *Y* to save your changes.
18. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
19. Press *Esc* to return to the Database Programming menu.
20. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.13 Setting Up Call Forward – Extension Predefined

The Call Forward -- Extension Predefined, feature allows you to control where the system forwards a call when an extension does not answer. You may want the system to forward these calls to the attendant extension, a departmental secretary, another department, etc. This feature is extension specific; that is, the system forwards all unanswered calls to a specific extension. **Note:** *If you want to forward unanswered calls for all calls coming in on a CO line, instead set that up in the CO line programming. For more details, see Section 5.12, Setting the Pre-Defined Call Forward No Answer.*

Extension Predefined Call Forward affects ringing intercom calls and transferred calls. The programmed Extension Predefined Forward is a single step only forward destination (you cannot assign a second or third step). You can assign two destinations based on station status: Busy and No Answer. That is, you can use different destinations for busy calls than for calls that go unanswered.

The following conditions apply to setting pre-defined call forwards.

- Calls that are forwarded to the DX-80 voice mail system via any extension call forward include special handling. The extension directory number is sent to the VM system with the call to identify the mailbox where this call should be routed.
- The extension settings that extension owners have set for call forward supersede the settings you make here.

The CO Line Predefined feature's programming may affect the operation of the Call Forward--Extension feature. See Section 5.12, *Setting the Pre-Defined Call Forward No Answer* for more details. Also, the call forwarding of unanswered extensions is dependant upon the settings of the Pre-defined Forward Time, which you set during programming of call handling. For further details on this duration setting, see Section 6.30, *Setting Predefined Call Forward Time*.

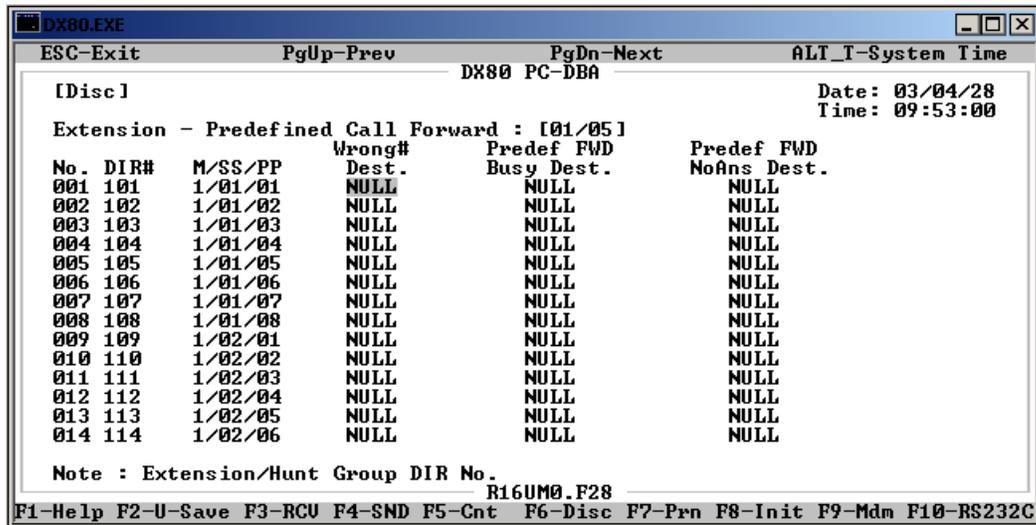
10.13.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to activate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. First, specify where you want to forward wrong numbers for this extension. Enter *01-101~156-29*, where 101~156 represents the extension number. Press *save*. This advances you to the Wrong Number field for the extension you specified.
4. Press *chg* to enter the extension number where you want to forward wrong number calls. *Note: This can be an extension number or a UCD group number.* The default is none. Press *save*.
5. Press the *Volume* button (up or down) to return to the DB Item Select screen.
6. Next, specify where you want to forward calls for this extension when it is busy. Enter *01-101~156-29*, where 101~156 represents the extension number. Press *save*. This advances you to the Busy Destination field for the extension you specified.
7. Press *chg* to enter the extension number where you want to forward busy calls. *Note: This can be an extension number or a UCD group number.* The default is none. Press *save*.
8. Press the *Volume* button (up or down) to return to the DB Item Select screen.
9. Next, specify where you want to forward calls for this extension when there is no answer. Enter *01-101~156-29*, where 101~156 represents the extension number. Press *save*. This advances you to the No Ans Destination field for the extension you specified.
10. Press *chg* to enter the extension number where you want to forward unanswered calls. *Note: This can be an extension number or a UCD group number.* The default is none. Press *save*.
11. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.13.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Extension* and press *Enter*. The system displays the Extension menu.
3. Highlight *Predefined FWD.* and press *Enter*. The system displays the Extension—Predefined Call Forward menu.



4. Locate the directory/extension number you want to program. You may need to press *Page Up* or *Page Down* to find the directory number; this menu contains five pages.
5. Highlight *Wrong # Dest.*, and press *Enter* to key in the extension number where you want to forward wrong number calls. *Note: This can be an extension number or a UCD group number.* The default is null (none). Press *Enter*.
6. Highlight *Predef FWD Busy Dest.*, and press *Enter* to key in the extension number where you want the system to forward busy calls. *Note: This can be an extension number or a UCD group number.* The default is null (none). Press *Enter*.
7. Highlight *Predef FWD NoAns Dest.* for the directory number that you want to program, and press *Enter* to key in the extension number where you want the system to forward unanswered calls. The system considers a call unanswered when it rings for the amount of time specified in call handling. See for further details. *Note: This can be an extension number or a UCD group number. Often the destination for no answers is the voice mail UCD group, which is directory number 433.* The default is null (none). Press *Enter*.
8. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
9. The system prompts “Save Current Setting?” Press *Y* to save your changes.
10. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
11. Press *Esc* to return to the Database Programming menu.
12. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.14 Programming Extensions for SMDR Output

SMDR allows the system administrator to track all incoming and outgoing CO line traffic, chronologically by extension number. The system outputs account code data for each call record.

You have already set up SMDR during call handling. (For details, see Section 6.27, *Setting Up SMDR Call Output*.) When programming individual extensions, you have the option to include that extension's data in SMDR or not.

10.14.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to actuate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *01-101~156-19*, where *101~156* is the extension you want to program, then press *save*. This advances you to the SMDR Output programming screen for the extension you specified.
4. Press *chg* to change this field. Valid options are Y to include this extension in SMDR, or N to exclude it.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.14.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. First, program an extension for SMDR Output. Use the arrow keys to highlight *Extension* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 2* and press *Enter*. The system displays the Extension -- Category 2 menu.

ESC-Exit PgUp-Prev PgDn-Next ALT_I-System Time
 DX80 PC-DBA Date: 03/04/28
 Time: 09:55:31

[Disc] Extension - Category 2 : [01/05]

No.	DIR#	M/SS/PP	Warning Tone	Drop Call Out	Drop Call In	ECF Operation	SMDR Output	Port Type
001	101	1/01/01	N	N	N	N	Y	EXT.
002	102	1/01/02	N	N	N	N	Y	EXT.
003	103	1/01/03	N	N	N	N	Y	EXT.
004	104	1/01/04	N	N	N	N	Y	EXT.
005	105	1/01/05	N	N	N	N	Y	EXT.
006	106	1/01/06	N	N	N	N	Y	EXT.
007	107	1/01/07	N	N	N	N	Y	EXT.
008	108	1/01/08	N	N	N	N	Y	EXT.
009	109	1/02/01	N	N	N	N	Y	EXT.
010	110	1/02/02	N	N	N	N	Y	EXT.
011	111	1/02/03	N	N	N	N	Y	EXT.
012	112	1/02/04	N	N	N	N	Y	EXT.
013	113	1/02/05	N	N	N	N	Y	EXT.
014	114	1/02/06	N	N	N	N	Y	EXT.

Note : Port Type : EXTension/Voice Announcer/Voice Mail
 Other Items : <Y/N>

R16UM0.F28
 F1-Help F2-U-Save F3-RCU F4-SND F5-Cnt F6-Disc F7-Prn F8-Init F9-Mdm F10-RS232C

Note: The list of extensions covers five pages so you may need to use the Page Up/ Page Down keys.

4. Use the arrow keys to highlight the *SMDR Output* fields for the extension for which you want to receive SMDR, and press *Enter* to select *Y*. The default is *No*.
5. In the same manner, program other extensions to be included in the SMDR output as needed.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.15 Assigning Recording Announcement Devices

Recorded Announcement Devices (RADs) are third-party ancillary analog message devices connected to specially programmed analog ports, for the purpose of playing announcements while callers wait for their call to be answered. This call scenario is part of the UCD group call distribution process.

A typical RAD message is, “*Please continue to hold. Your call will be handled in the order in which it was received.*” The significant advantage of these announcements is the software control of callers waiting in queue for a UCD agent to become available. A caller can be played messages to assure them that they are still in queue and not forgotten while the system maintains the queue priority.

The following conditions apply to setting up Recording Devices.

- When analog RAD devices are used, the system stacks multiple queued callers in queue for message playback. When the analog port is available to handle another call the next call in RAD queue hears the recorded message. (This does not affect DX-80 Voice Integrated RAD.)

- When multiple analog RAD devices are required to handle high call traffic, these RAD devices (with the same recording) can be placed into a UCD group set for attribute “V.A.” When this is done, the Overflow Destinations and Reroute Destinations are programmed for that UCD group number (not the individual analog port numbers connected to the RAD devices).
- UCD queued callers who are routed to Overflow Destination – RAD devices remain in UCD queue. When a UCD agent answers the queued ringing call, the system removes the call from the UCD queue and connects it to the UCD agent.
- If a UCD queued caller is listening to a RAD message when the agent answers the UCD call, the system immediately delivers that call to the UCD agent and releases the RAD device port.

The DX-80 enhances this function significantly through the use of integrated RAD messages as part of the voice mail implementation. When you install the optional DX-80 Hard Drive Voice Mail into the DX-80 system platform, RAD announcement space is allocated for each of the UCD Group Overflow and Re-route Destinations. This significantly reduces the cost and complexity of applying this function to UCD operation.

See Section 8, *Programming Uniform Call Distribution (UCD) Groups* for details on UCD groups, and how to assign RADs.

When using third party RADs connected to VA Type analog ports, perform the following steps.

1. Program the analog ports connected to the RAD devices as port type *VA*.
2. Program the VA type analog port directory (extension) number as the Overflow (1 and/or 2) for the UCD Group. See Section 8.3, *Programming UCDs*.

When high traffic is expected for the UCD Group RAD destination:

1. Program the VA type analog port directory numbers in a specific VA UCD group. See Section 8.4, *Setting Up UCD Voice Announce (VA) Groups*.
2. Program the selected VA UCD group as attribute VA. See Section 8.3, *Programming UCDs*

When using the built-in DX-80 Voice system:

1. Program each overflow destination for all necessary UCD Groups for directory number 433 (default for the DX-80 Voice UCD VM group). See Section 8.3, *Programming UCDs*.
2. Program each reroute destination for all necessary UCD Groups for directory number 433 (default for the DX-80 Voice UCD VM group).
3. Program messages into the UCD Overflow mailboxes as required. See the *DX-80 Hard Drive Voice Mail Installation and Supervisor Guide* for details.

10.16 Assigning Port Type

You can assign directory numbers to one of three port types:

- Extension (EXT) if the directory number is connected to an extension,
- Voice Announce (VA) if the directory number is connected to a recording device, or
- Voice Mail (VM) if the directory number is connected to voice mail.

When programming extensions, be sure to set the port type for any given extension to EXT.

For more details about programming recording devices, see Section 8.4, *Setting Up UCD Voice Announce (VA) Groups*. For more information about programming voice mail, see Section 9, *Programming Voice Mail*.

10.16.1 PROGRAMMING USING THE DET

Note: *chg*, *bksp*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to activate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *01-101~156-21*, where 101~156 represents the extension number. Press *save*. This advances you to the Extension – Port Type field for the extension you specified.
4. Press *chg* to select *EXT.*, *V.A.*, or *V.M.* Use Voice Announce (VA) if this directory number is connected to a recording device, Voice Mail (VM) if this directory number is connected to voice mail, or extension (EXT) if this directory number is connected to an extension. The default is EXT. For more details about programming recording devices, see Section 8.4, *Setting Up UCD Voice Announce (VA) Groups*. For more information about programming voice mail, see Section 9, *Programming Voice Mail*.
5. In the same manner, assign a port type to other directory numbers as needed.
6. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.16.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *Extension* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 2* and press *Enter*. The system displays the Extension -- Category 2 menu.

No.	DIR#	M/SS/PP	Warning Tone	Drop Call Out	Drop Call In	ECF Operation	SMDR Output	Port Type
001	101	1/01/01	N	N	N	N	Y	EXT.
002	102	1/01/02	N	N	N	N	Y	EXT.
003	103	1/01/03	N	N	N	N	Y	EXT.
004	104	1/01/04	N	N	N	N	Y	EXT.
005	105	1/01/05	N	N	N	N	Y	EXT.
006	106	1/01/06	N	N	N	N	Y	EXT.
007	107	1/01/07	N	N	N	N	Y	EXT.
008	108	1/01/08	N	N	N	N	Y	EXT.
009	109	1/02/01	N	N	N	N	Y	EXT.
010	110	1/02/02	N	N	N	N	Y	EXT.
011	111	1/02/03	N	N	N	N	Y	EXT.
012	112	1/02/04	N	N	N	N	Y	EXT.
013	113	1/02/05	N	N	N	N	Y	EXT.
014	114	1/02/06	N	N	N	N	Y	EXT.

Note : Port Type : EXTension/Voice Announcer/Voice Mail
 Other Items : <Y/N>

Note: The list of extensions covers five pages so you may need to use the Page Up/ Page Down keys.

4. Highlight the *Port Type* field, and press *Enter* to select *EXT.*, *V.A.*, or *VM.* Use Voice Announce (VA) if this directory number is connected to a recording device, Voice Mail (VM) if this directory number is connected to voice mail, or extension (EXT) if this directory number is connected to an extension. The default is EXT. For more details about programming recording devices, see Section 8.4, *Setting Up UCD Voice Announce (VA) Groups*. For more information about programming voice mail, see Section 9, *Programming Voice Mail*.
5. In the same manner, assign a port type to other directory numbers as needed.
6. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
7. The system prompts “Save Current Setting?” Press *Y* to save your changes.
8. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
9. Press *Esc* to return to the Database Programming menu.
10. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.17 Assigning Extensions to CO Lines

You must assign extensions to CO lines for out-dialing access. The following conditions apply to assigning CO lines.

- An extension that attempts access to a CO line to which it is not assigned will hear error tone and the display will show: CO LN UNAVAIL.
- Extensions that are not assigned access to a CO line may receive that CO line via a transfer. However, once the transferred call is disconnected, that extension cannot re-access the same CO line for use.
- Tenant Group programming of extensions and CO lines also dictates which CO lines an extension can access. See Section 10.4, *Assigning Extensions to Tenant Groups*.

To access a particular CO line, extension users press an available (idle) CO line button or dial a CO line group access code (9, 800-806).

10.17.1 PROGRAMMING USING THE DET

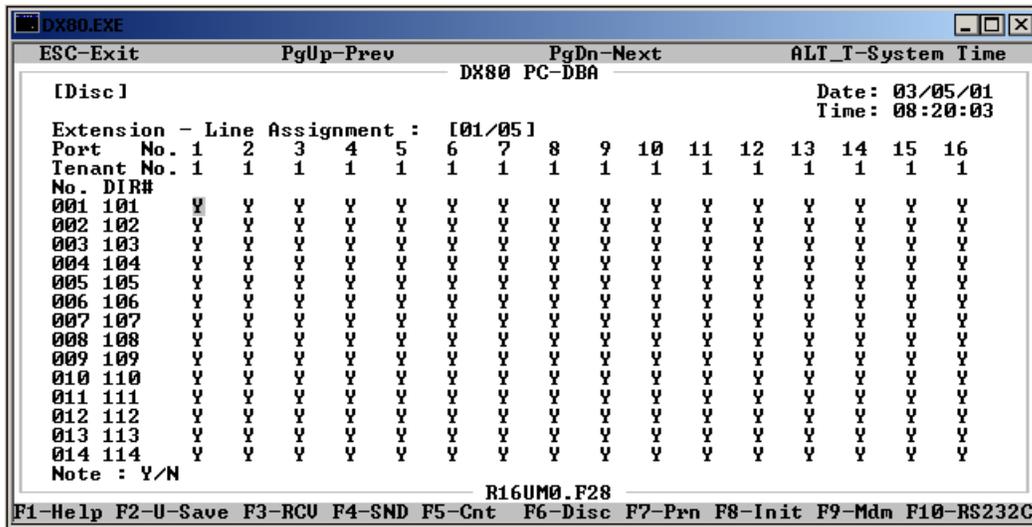
Note: *chg*, *bks*, *save*, *one*, *always*, *del*, and *ack* are interactive LCD button operations. Use the three buttons below the LCD display to activate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *01-101~156-23-01~16* to program extension number 101~156 for CO line 01~16 access.
4. Press *save*. This advances to you CO line access for extension and CO you specified.
5. Press *chg* to select *Y* or *N*. The default is yes.
6. Press the *Volume* button (up or down) to return to the DB Item Select screen.
7. In the same manner, assign other extensions to CO lines as needed.

8. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.17.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *Extension* and press *Enter*. The system displays the Extension menu.
3. Highlight *Line Assignment* and press *Enter*. The system displays the Extension -- Line Assignment menu.



4. Locate the directory number you want to program. You may need to press *Page Up* or *Page Down* to find the directory number; this menu contains five pages.
5. For each directory number, you can assign up to 16 CO line numbers. Highlight the line number you want to program, and press *Enter* to select either *Y* or *N*. (CO lines are listed along the top of the display. Extensions are listed along the left side of the display.) The default is yes for all directory numbers on all lines.
6. In the same manner, assign CO line access to individual extensions as required.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: "Exit This Feature?"; press *Y* for yes.
8. The system prompts "Save Current Setting?" Press *Y* to save your changes.
9. The system then prompts "File Exists, Override?" Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 - Send*.

10.18 Setting Up Receive Assignments

The DX-80 enables extension users to forward their calls to another location or different telephone number. In addition to controlling whether or not the system allows external call forwards, you can also individually program extensions the privilege of receiving external call forwards.

10.18.1 PROGRAMMING USING THE DET

Note: chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to activate the associated operation.

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *01-101~156-24* and press *save*. This advances you to the Receive Assignment selection for the extension you specified.
4. Press *chg* to select Y or N, per port and tenant number. The default for all receive assignments is yes.
5. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button (up or down) to return to the DB Item Selection screen,
Or, exit programming.

10.18.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *Extensions* and press *Enter*. The system displays the Extension menu.
3. Highlight *Receive Assignment* and press *Enter*. The system displays the Extension — Receive Assignment menu.

[Disc]		DX80 PC-DBA																Date: 03/05/02 Time: 13:09:10	
Extension - Receive Assignment : [01/05]																			
Port No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Tenant No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
No. DIR#																			
001 101	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
002 102	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
003 103	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
004 104	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
005 105	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
006 106	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
007 107	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
008 108	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
009 109	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
010 110	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
011 111	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
012 112	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
013 113	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
014 114	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Note : Y/N																			
R16UM0.F28																			
F1-Help F2-U-Save F3-RCU F4-SND F5-Cnt F6-Disc F7-Prn F8-Init F9-Mdm F10-RS232C																			

4. Locate the directory number to which you want to assign receive privileges. Use *Page Up* and *Page Down* if necessary to highlight the *Paging Group* field for that extension.
5. Press *Enter* to select Y or N, per port and tenant number. The default for all receive assignments is yes.
6. In the same manner, assign receiving privileges to other directory numbers as required.
7. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
8. The system prompts “Save Current Setting?” Press *Y* to save your changes.
9. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
10. Press *Esc* to return to the Database Programming menu.
11. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.19 Setting Up Extension Ring Level

You can adjust the ringing level and ringing volume at each digital speakerphone. There are four levels of ringing available (0-3).

When an extension is busy on a call, the system automatically rings incoming intercom and CO line calls at the lowest ring volume setting regardless of the level set at the extension. When the extension is idle, incoming calls ring at the loudness level set by the user.

The following conditions apply to assigning ring levels.

- You can adjust ringing levels from the lowest level (0) to the highest level (3).
- The CO line ringing settings overrides settings set at the extension. For details about CO line ringing settings, see Section 5.9, *Assigning Ring Type for the CO Line*.
- The system displays the current setting on the LCD as you adjust ringing levels.
- The system plays the highest setting and lowest ringing levels as an indication that you cannot further adjust this volume level.

While the extension is idle, extension users can press the *Volume* button (up or down) to adjust the ringing level.

The default ringer volume setting is level 2.

10.20 Assigning Feature Buttons

After you are finished setting up the programming for the extensions, go to the individual phone and program its feature buttons. For details, see Section 11, *Programming Feature Buttons*.

10.21 Performing Directory/Extension Swapping

As part of the Flexible Numbering Plan in the DX-80 system, you can exchange extension directory numbers from one port to another. Use this feature to simplify moves and changes of extensions at any specific location. When you swap extension directory numbers from one port to another, the system moves the associated programming along with the extension number.

You can only swap extension directory numbers with valid extension directory numbers (already defined in the numbering plan).

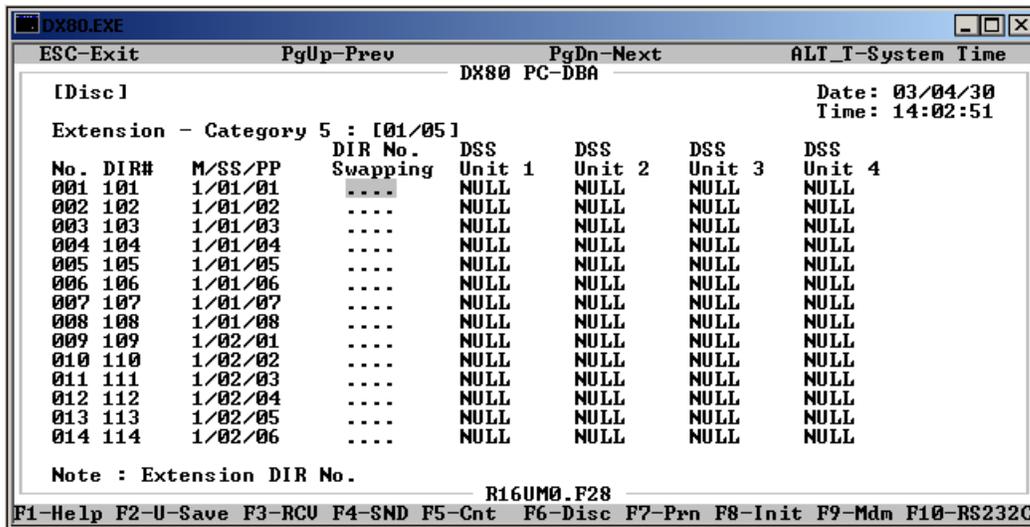
10.21.1 PROGRAMMING USING THE DET

Note: *chg, bksp, save, one, always, del, and ack are interactive LCD button operations. Use the three buttons below the LCD display to activate the associated operation.*

1. Enter Database Administration using the feature code *Feature # ** and then enter the DB Admin password.
2. Press *show*. The system displays the DB Item Select screen.
3. Enter *01-101~156-22*, then press *save*. This advances you to the Directory Number Swapping screen.
4. Press *show*.
5. Enter the extension directory number you want to assign to this port, then press *save*. The new directory number is now in operation on this port. The system moves the old directory number to the port where the new number came from.
6. Press the *Hold* button to return to the previous menu level,
Or, press the *Volume* button to return to the DB Item Selection screen,
Or exit programming.

10.21.2 PROGRAMMING USING PC-DBA

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Highlight *Extension* and press *Enter*. The system displays the Extension menu.
3. Highlight *Category 5* and press *Enter*. The system displays the Extension -- Category 5 screen.



4. Note the first column on the left of this menu; this is the port number for every directory number in the system. You can swap directory numbers on the port list. For example, suppose the employee at port 011, extension 111 has to work out of another office for the day—and the other office contains port 004, extension 104. Using the extension swapping features, you can switch the two extension numbers for the day without having to re-program both ports. Extension 111 would then ring at port 004 (in the second office) while extension 104 would ring at port 011 (in the first office). You could keep the port assignments this way indefinitely, or you could switch it back the following morning.
5. Locate the directory number you want to move to another port. You may need to press *Page Up* or *Page Down* to find the extension; this menu contains five pages.
6. Press *Enter*. The system prompts you to enter the directory number associated with the port where you want this extension to go.
7. Key in the directory number of the new position and press *Enter*. The system swaps the previous directory number with the new directory number and reassigns the directory number to the other port. **Note:** *The directory number must be a valid extension directory number as set in System Applications – Numbering Plan 2 menu.*
8. In the same manner, continue swapping extension directory numbers as required.
9. When you are done, press *Esc* to return to the Database Programming screen. The system prompts: “Exit This Feature?”; press *Y* for yes.
10. The system prompts “Save Current Setting?” Press *Y* to save your changes.
11. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
12. Press *Esc* to return to the Database Programming menu.
13. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

10.22 Configuring Single Line Telephones (Analog Device Support)

Analog extension ports are provided for connection of standard, two-wire, analog telephone equipment to the digital network of the DX-80. Common uses of the analog extension ports are facsimile machines, modems, and wireless and wired single line analog telephones.

The DX-80 system basic configuration has four standard analog extension ports available. As the system expands, you can install additional APM4's (Analog Port Module-4 port) in place of Digital Port Module-8's (DPM8).

Each APM4 provides four dedicated DTMF receivers for decoding the dialed digits from the connected device (each analog port has a dedicated DTMF receiver). To place calls, the analog device must provide DTMF tone signaling, which is decoded by the APM4 for call processing instructions. Each analog port provides 25 – cycle, (frequency) ringing for the attached analog device.

Since each APM4 provides dedicated DTMF receivers and ringing generators, and because the system has a non-blocking digital ICM bus, the Single Line Telephones/Analog Devices are not traffic sensitive and do not require special traffic balancing.

The following conditions apply to setting up single line telephones.

- You can connect any single line (2500 type) telephone equipment to the system using one of the standard analog ports available on the Analog Port Module (APM4).
- Analog ports are dedicated to the extension directory numbers system resource. You can assign these directory numbers while programming the system.
- The allocation of DTMF Receivers (required resource to receive dialed digits from analog devices) is one to one in the DX-80 system. That is, the system provides one DTMF receiver per analog port for decoding DTMF signals dialed by analog devices/SLT users.

Whenever extension users want to invoke a system feature at a single line telephone, they must operate the hook-switch in a fashion that is distinguishable from an on-hook (hang up) request. Considering this, the DX-80 system allows you to customize the hook-switch command monitoring. For details on controlling the hookflash for SLTs, see Section 6.14, *Establishing Start and End of SLT Hook Flash*.

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11. PROGRAMMING FEATURE BUTTONS

DET phones have 30 dual-colored programmable feature buttons. All system feature codes (30 max.) may be stored on available feature buttons for one-button operation. Certain programmed feature buttons will light when activated (DND, Call Forward, DSS/BLF, etc.), while others such as Call Pick-Up, Background Music, Last Number Redial, do not.

Features are separated into two distinct categories for programming onto flexible buttons: directory numbers or feature codes.

The following conditions apply when assigning feature buttons.

- If you dial an invalid code the system plays an error tone and displays “CODE UNAVAILABLE” on the DET display.
- In some cases a user may program a feature button for a specific CO line although you have restricted access to that line during programming. In this situation, the telephone is still governed by your programming and would thus be unable to access the CO line.
- Valid feature codes must be in the form of either “Fn” or “Fnn” where “F” is the feature button and “n” is either a single-digit or two-digit code, including asterisk (*) and pound (#) dialed from the dial pad.
- If you assign a feature button with a code that has already been assigned to another feature button, the system removes the original feature button’s assignment. You cannot assign the same code to multiple buttons.
- You can clear flexible feature buttons of any feature code/directory number by pressing *save* before entering a code/number.

11.1 Programming Using the DET

To assign a feature button at a DET, perform the following steps.

1. While the extension is idle, press *Feature # 3*. The display indicates that you are in feature key programming mode by prompting you to press a key:

PRESS FTR KEY

2. Press the flexible feature button that you wish to program. The current programming displays:

F98____
show chg

3. Press *chg*.

SELECT FUNCTION
dir feat

4. To program the button, you must know the code type: it is either a directory number or a feature code. (In general, directory numbers are DX-80 system resources that are designated dialing codes in the system such as extensions and page zones. Feature codes are those features that extension might invoke.) If you are unsure what type of code is to be programmed exit flexible feature button programming and use Feature/Directory Number Lookup to locate the feature and code you wish to program.

- To program a directory number press *dir*.

DIR NUMBER : _
bksp save chg

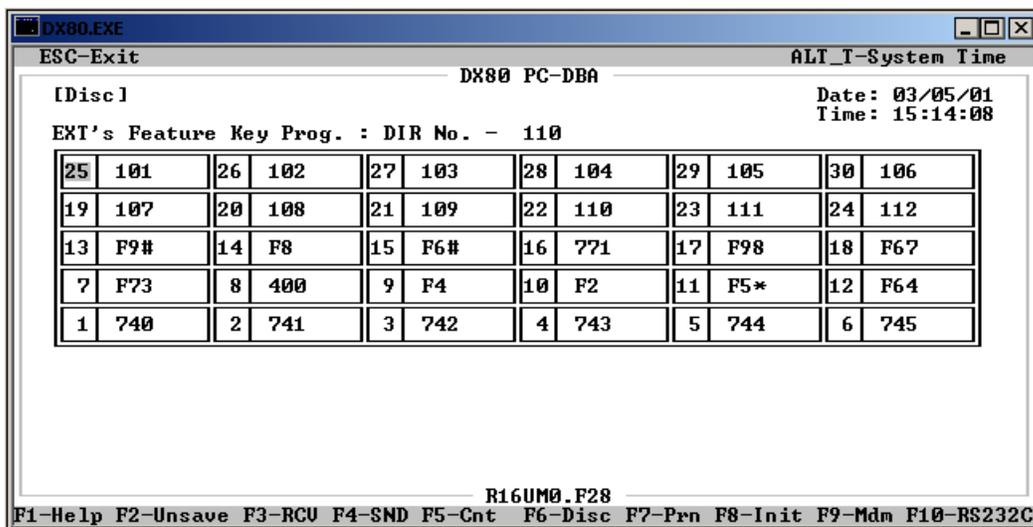
- Enter the directory number and then press *save*. If you make a mistake, use *bksp* and *chg* to re-enter the number.
- To program a feature code press *fr*.

FTR CODE: _
bksp save chg

- Enter the feature code (for example, *Feature 6 #* for CID Table review), then press *save*.
- Continue programming other flexible feature buttons or lift/replace handset to exit this programming.

11.2 Programming Using PC-DBA

- Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
- Use the arrow keys to highlight *Feature Key Programming* and press *Enter*. The system displays the Feature Key Prog. menu.
- Highlight *EXT's Feature Keys* and press *Enter*. The system asks you to enter the directory number of the phone you want to program.
- Enter the extension directory number and press *Enter*. The system displays the EXT's Feature Key Programming menu for the extension you specified.



- Highlight the flexible feature button that you wish to program, then press *Enter* to specify if you want to use that feature button for a directory number or for accessing a feature code. Valid options are DIR No., FTR Access Key, and NULL (disables feature key). Enter the feature access code or directory number. Then press *Enter*.
- Next, the system prompts you to enter the feature access code (if you chose FTR Access Key) or the directory number (if you chose DIR No.).
- Assign other feature keys as needed for this extension.

8. When you have completed all changes, press the *Esc* key to exit button programming for this extension. This returns you to the previous menu level where you may enter another extension number to assign function keys.

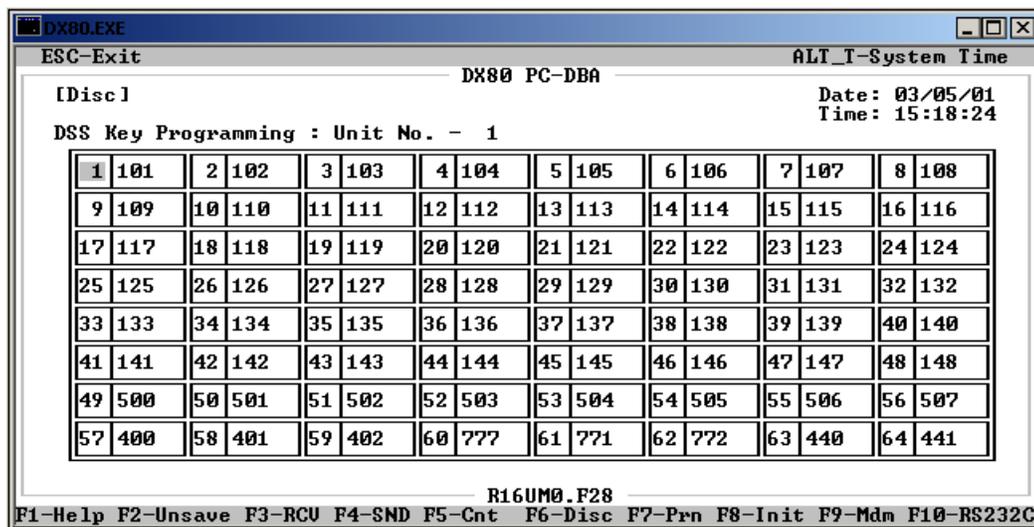
Or...

Press the *Esc* key again. You will see the prompt: “Exit This Feature”; press *Y* for yes.

9. The system prompts “Save Current Setting?” Press *Y* to save your changes.
10. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
11. Press *Esc* to return to the Database Programming menu.
12. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

11.3 Programming DSS Console Feature Buttons

1. Select *Programming* from the PC-DBA menu and press *Enter*. The system displays the Database Programming menu.
2. Use the arrow keys to highlight *DSS Set* and press *Enter*. The system displays the DSS Key Programming menu.
3. Enter the DSS Console number (1~12) and press *Enter*. The DSS Key Programming — Unit Number *x* screen.



4. Highlight the flexible feature button that you wish to program then press *Enter*.
5. Choose the DIR No. or NULL (to disable the key operation). It is not possible to program feature access codes on the DSS console. Then press *Enter*. The system prompts you to enter the directory number you want to assign to this button.
6. Enter the directory number and press *Enter*. The system assigns the directory number you just specified to the button you had highlighted.
7. In the same manner, assign other directory number keys as needed for this extension.
8. Continue making other programming changes as required for this extension.
9. When you are done, press *Esc* to return to the DSS Key Programming screen.
10. Press *Esc* again. The system prompts: “Exit This Feature?”; press *Y* for yes.

11. The system prompts “Save Current Setting?” Press *Y* to save your changes.
12. The system then prompts “File Exists, Override?” Press *Y* to continue with the save operation.
13. Press *Esc* to return to the Database Programming menu.
14. When you have finished all programming changes, perform a Send operation to copy your new database to the DX-80 switch system memory. For more details, see Section 2.1.4.4, *F4 – Send*.

11.4 Programming a Release Key

DET speakerphone users may want a release key they can use to cancel or complete any current action. The release key function can speed call processing by allowing the user to eliminate the use of the hook-switch, when call processing is encumbered by this operation.

Extension users can use the release key to complete a call transfer (rather than going back on-hook). They can also use it to force the telephone into an idle mode regardless of the condition of the hook-switch.

- You must program the release key onto an available feature button.
- When users press the release key the system disconnects the call in progress.

To set up a feature button for release key operation, perform the following steps.

1. While the telephone is idle press *Feature # 3*.
2. Press the flexible feature button that you want to use as the release key.
3. Press *chg*.
4. Press *ftr*.
5. Enter the feature code *Feature 5 2*. Then press *save*.
6. Exit the Flexible Feature Button programming mode.

11.5 Flexible Feature Button Inquiry

You may review the programming for flexible feature buttons at an idle DET. In order to review the programming, you must dial the flexible button programming mode.

Buttons without feature programming will display AVAILABLE KEY.

11.5.1 LOOKING UP CODES USING THE DET

1. Press *Feature # 3*. The display shows the following.

PRESS FTR KEY

2. Press the flexible feature button to view its programming. For example, press button 1 (lower left).

740
show chg

3. Press *show*. The name/designation of the feature/directory number displays.

CO LN :740

4. Continue checking other buttons for their programmed content, or lift/replace handset to exit the flexible feature button inquiry mode.

11.6 Feature Key Reset

You can clear all the feature key custom settings and reset all buttons to the default settings. See Appendix B, *Button Labeling* for the default feature key configuration.

To clear the feature keys on an extension, perform the following steps.

1. While the extension is idle (no call activity), press *Feature 5 8*. The display prompts for the password.

```
PSWD :_  
bksp show chg
```

2. Enter the extension password then press *show*. The display prompts for confirmation:

```
FTR KEY RESET  
go
```

3. Press *go*. The system resets all the feature keys to the default settings, and then plays a confirmation tone.

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A. WORKSHEETS

Extension Data Programming

Programming Parameters		New Values à		101	102	103	104	105	106	107	108
		Default	Range								
Tenant Group		1	1 / 2 / 3								
Pickup Group		1	1 - 8								
Paging Group		1	1 - 8								
Day Class		0	0 - 7								
Eve Class		0	0 - 7								
Monitor Class		5	0 - 9								
Warning Tone		N	Y / N								
Drop Call Out		N	Y / N								
Drop Call In		N	Y / N								
Intrusion Active		N	Y / N								
Intrusion Accept		Y	Y / N								
Intrusion Tone		Y	Y / N								
OffHook Voice Announce Active		Y	Y / N								
OffHook Voice Announce Accept		Y	Y / N								
Feature Button Disable		N	Y / N								
Paging Allow		Y	Y / N								
External Call Forward Operation		N	Y / N								
SMDR Output		Y	Y / N								
Record Allow		N	Y / N								
Port Type		EXT	EXT / VA / VM								
Directory Number Swapping		NONE	NONE / EXT#								
Line Assignment	Tenant 1	Line 1	Y	Y / N							
		Line 2	Y	Y / N							
		Line 3	Y	Y / N							
		Line 4	Y	Y / N							
		Line 5	Y	Y / N							
		Line 6	Y	Y / N							
		Line 7	Y	Y / N							
		Line 8	Y	Y / N							
Receive Assignment	Tenant 1	Line 1	Y	Y / N							
		Line 2	Y	Y / N							
		Line 3	Y	Y / N							
		Line 4	Y	Y / N							
		Line 5	Y	Y / N							

Extension Data Programming

Receive Assignment (continued)	Tenant 1	Line 6	Y	Y / N										
		Line 7	Y	Y / N										
		Line 8	Y	Y / N										
Wrong Destination		NONE	NONE / EXT#											
P F Forward Busy		NONE	NONE / EXT#											
P F Forward No Answer		NONE	NONE / EXT#											

CO Line Data Programming

Programming Parameters	New Values		CO1	CO2	CO3	CO4	CO5	CO6	CO7	CO8
	Default	Range	740	741	742	743	744	745	746	747
Smart Go Up	1	1 / 2 / 3								
CO Group	1	1 - 8								
Day Class	0	0 - 7								
Even Class	0	0 - 7								
MCHSource	MC1	MC1 / MC2								
Dealing	tone	tone / PULSE								
CO Line Type	CO	CO / PBX / EMPTY / PAGE / CODEV								
Call Abandon	Y	YN								
Private To	NULL	NULL / EXT#								
CO Ring Type	1	1 - 8								
Privacy Release	N	Y / N								
Answer Position	Day	Member 1	101	NULL / EXT#						
		Member 2	NULL	NULL / EXT#						
		Member 3	NULL	NULL / EXT#						
		Member 4	NULL	NULL / EXT#						
		Member 5	NULL	NULL / EXT#						
		Member 6	NULL	NULL / EXT#						
	Even	Member 1	101	NULL / EXT#						
		Member 2	NULL	NULL / EXT#						
		Member 3	NULL	NULL / EXT#						
		Member 4	NULL	NULL / EXT#						
		Member 5	NULL	NULL / EXT#						
		Member 6	NULL	NULL / EXT#						
P Forward No Answer	NONE	NONE / EXT#								

CO Line Data Programming

Programming Parameters	New Values →		CO1 740	CO2 741	CO3 742	CO4 743	CO5 744	CO6 745	CO7 746	CO8 747
	Default	Range								
Tenant Group	1	1/2/3								
CO Group	1	1-8								
Day Class	0	0-7								
Eve Class	0	0-7								
MOH Source	MC1	MC1/MC2								
Dialing	Tone	Tone/Pulse								
CO Line Type	CO	CO/PBX/Empty /Page/CodeV								
Call Abandon	Y	YN								
Private To	Null	Null/Ext #								
CO Ring Type	1	1-8								
Privacy Release	N	YN								
Answer Position Day										
Member 1	101	Null/Ext #								
Member 2	Null	Null/Ext #								
Member 3	Null	Null/Ext #								
Member 4	Null	Null/Ext #								
Member 5	Null	Null/Ext #								
Member 6	Null	Null/Ext #								
Answer Position Eve										
Member 1	101	Null/Ext #								
Member 2	Null	Null/Ext #								
Member 3	Null	Null/Ext #								
Member 4	Null	Null/Ext #								
Member 5	Null	Null/Ext #								
Member 6	Null	Null/Ext #								
P Forward No Answer	None	None/Ext #								

Call Handling

COLine Conference		3LNS	NO / 3LNS / 2LNS	
CO Flash Time		0.8	0.1 - 3.0 (0.1 int)	
PBX Flash Time		0.2	0.1 - 3.0 (0.1 int)	
Pause Time		2.0	0.5 - 7.0 (0.5 int)	
Dialing Rate	Break Time	60	60 / 67	
	Inter Digit	800	400 - 800 (50 int)	
	Tone Time	120	70 / 90 / 120	
	PR Time	100	20 - 300 (20 int)	
Ring Abandon		8	1 - 10	
Hold Remind		60	0 / 10 / 30 / 60 / 90	
External Hold Time		3	0 - 8	
Waiting Time	Outgoing Call	5	1 - 30	
	Incoming Call	1	1 - 30	
Transfer Inetcom Recall		30	16 / 30 / 60 / 90 / 120	
Transfer Busy/Recall		60	16 / 30 / 60 / 90 / 120	
SLT Hold Recall		0.5	0.0 - 5.0 (0.5 int)	
BKT Hold Recall		0.5	0.0 - 5.0 (0.5 int)	
SLT Hook Flash	Start	200	60 / 100 - 1400 (100 int)	
	End	800	100 - 1500 (100 int)	
PBX A Pause		1.0	0.5 - 7.0 (0.5 int)	
Dial Wait Time		0	0 - 8	
Dial Delay		100	100 / 500 / 1000 (1 500 / 2000)	
Camp On Time		10	0 - 60 (10 int)	
Alarm Play		30	10 / 30 / 60 - 600 (60 int)	
Hotel Enable		N	Y / N	
System Speed Check		N	Y / N	
T81 Connect		Y	Y / N	
Conference Tone		Y	Y / N	
Call Duration		10	1 - 25	
Inetcom Prefix		NULL	NULL / 4 DIGITS	
Country Code		NULL	NULL / 4 DIGITS	
Long Distance Prefix		NULL	NULL / 3 DIGITS	
Local Area Code	Area Code 1	NULL	NULL / 5 DIGITS	
	Prefix 1	NULL	NULL / 5 DIGITS	
		NULL	NULL / 5 DIGITS	
	Area Code 8	NULL	NULL / 5 DIGITS	
	Prefix 8	NULL	NULL / 5 DIGITS	

Call Handling

Tenant Calling	Tenant 1	To Tenant 1	Y	Y / N
		To Tenant 2	Y	Y / N
		To Tenant 3	Y	Y / N
	Tenant 2	To Tenant 1	Y	Y / N
		To Tenant 2	Y	Y / N
		To Tenant 3	Y	Y / N
	Tenant 3	To Tenant 1	Y	Y / N
		To Tenant 2	Y	Y / N
		To Tenant 3	Y	Y / N
SMDR Call Output	Outgoing Call	Y	Y / N	
	Incoming Call	N	Y / N	
Auto Recall	Attempts	8	0 - 99	
	Interval	60	30 / 60 / 90 / 120	
	Waiting Time	15	10 / 15 / 20 / 25 / 30	
External Forward	Service	ALWAYS	ALWAYS / NEVER / DAY / EVE	
	Talk Time	5	1 / 2 / 3 / 5 / 10 / 15	
VM Dialing Ratio	Trans. Time	120	60 / 90 / 120 / 150	
	Int. Digt. Time	120	60 / 90 / 120 / 150	
VM Monitor Time		10	10 / 20 / 30 / 40 / 50 / 60	
VM Reserve Port		0	0 - 99	
Fax Ring Time		10	10 / 20 / 30 / 40 / 50 / 60	
Conference Talk Time		0	0 - 120 (10 int)	
Unsupervised Conference Time		0	0 - 120 (10 int)	
Pre-defined Forward Time		10	5 / 10 / 15 / 20 / 25 / 30	
Ring Recognition Time		100	50 - 1500 (50 int)	
Talk Abandon Time		600	50 - 1000 (50 int)	
Hld Abandon Time		600	50 - 1000 (50 int)	
Auto Attendant	Ring Time to Answer	0	0 - 20	
	Ring No Answer	20	10 - 90 (10 int)	
	Drop No Ext #	N	Y / N	
	Transfer Mode	RBT	RBT / MCH	
	Waiting Code	#	0 - 9 / # / * / NONE	
	Inquiry Code	*	0 - 9 / # / * / NONE	
	DISA Code	9	0 - 9 / # / * / NONE	

Call Handling

Auto Attendant (continued)	Answer Position	Ternit 1	Day Mode	101	NULL/EXT#	
			All Mode	101	NULL/EXT#	
			Eve Mode	NULL	NULL/EXT#	
		Ternit 2	Day Mode	NULL	NULL/EXT#	
			All Mode	NULL	NULL/EXT#	
			Eve Mode	NULL	NULL/EXT#	
		Ternit 3	Day Mode	NULL	NULL/EXT#	
			All Mode	NULL	NULL/EXT#	
			Eve Mode	NULL	NULL/EXT#	
	CO 740 (Line 1)	Auto Attendant Line		N	Y/N	
		Service		NEVER	ALWAYS/NEVER/DAY/ EVE	
	CO 755 (Line 16)	Auto Attendant Line		N	Y/N	
		Service		NEVER	ALWAYS/NEVER/DAY/ EVE	
DBA	Ring Time to Answer			0	0 - 99	
	Allowed Extension COS	Extension COS 0		Y	Y/N	
		Extension COS 1 - 7		N	Y/N	
	CO 740 (Line 1)	DBA CO Line		N	Y/N	
		DBA Day COS		0	0 - 7	
		DBA Eve COS		0	0 - 7	
		Service		ALWAYS	ALWAYS/NEVER/DAY/ EVE	
		Talk Time		5	1/2 /3/5 /10/15	
	CO 755 (Line 16)	DBA CO Line		N	Y/N	
		DBA Day COS		0	0 - 7	
		DBA Eve COS		0	0 - 7	
		Service		ALWAYS	ALWAYS/NEVER/DAY/ EVE	
		Talk Time		5	1/2 /3/5 /10/15	

System Resource

DB Password			8 DIGITS	
Attendant	Tenant 1, 2, or 3	Attendant	101	NULL / EXT#
		Alternate	NULL	NULL / EXT#
System Reminder	Tenant 1, 2, or 3	Playtime	1	
		Reminder 1	NULL	NULL / TIME
		Reminder 8	NULL	NULL / TIME
User Passwords	Length		4	
	Password	Extension 101	9999	4 DIGITS
		Extension 102	0000	4 DIGITS
		Extension 108	0000	4 DIGITS
User Names	Extension 101	NULL	NULL / 8 LETTERS	
	Extension 108	NULL	NULL / 8 LETTERS	
COLine Names	T40 (Line 1)	Line 1	NULL / 8 LETTERS	
	T47 (Line 8)	Line 8	NULL / 8 LETTERS	
Preprogrammed Messages	Out	Message 1		NULL / 16 LETTERS
		Message 8		NULL / 16 LETTERS
	In	Message 1		NULL / 16 LETTERS
		Message 8		NULL / 16 LETTERS
Speed Number Assignments	Individual	Extension 101	20	0 - 50 (10 inc)
		Extension 108	20	0 - 50 (10 inc)
	Common	Tenant 1	200	0 - 200 (20 inc)
		Tenant 2	0	0 - 200 (20 inc)
		Tenant 3	0	0 - 200 (20 inc)
System Speed Dial Numbers	Tenant 1 - 3	500	NULL	NULL / 16 DIGITS
		600	NULL	NULL / 16 DIGITS
Caller ID Name Assignment	Tenant 1	100	0 - 100 (10 inc)	
	Tenant 2	0	0 - 100 (10 inc)	
	Tenant 3	0	0 - 100 (10 inc)	

System Resource

Caller ID Name Programming	Tenant 1	CID Entry 1 - 100	Name	NULL	NULL / 14 LETTERS	
			Phone Number	NULL	NULL / 16 DIGITS	
	Tenant 2	CID Entry 1 - 100	Name	NULL	NULL / 14 LETTERS	
			Phone Number	NULL	NULL / 16 DIGITS	
	Tenant 3	CID Entry 1 - 100	Name	NULL	NULL / 14 LETTERS	
			Phone Number	NULL	NULL / 16 DIGITS	
Multi Source	Source ID 1	Application		BOTH	BOTH / BGM / MCH	
		Tenant Group 1		Y	Y / N	
		Tenant Group 2		Y	Y / N	
		Tenant Group 3		Y	Y / N	
	Source ID 2	Application		BOTH	BOTH / BGM / MCH	
		Tenant Group 1		Y	Y / N	
		Tenant Group 2		Y	Y / N	
		Tenant Group 3		Y	Y / N	
External Pager ID 1	Tenant Group			1	1 / 2 / 3	
	Page Group 1			Y	Y / N	
	Page Group 8			Y	Y / N	
LocalBell ID 1	Type			LB.	LB. / M.S1 / M.S2 / EP1 / EP2	
	CO Group 1			N	Y / N	
	CO Group 8			N	Y / N	
DSS Allocation	Unit 1	Owner		NULL	NULL / EXT#	
		Directory Number		NULL	NULL / EXT#	
	Unit 12	Owner		NULL	NULL / EXT#	
		Directory #		NULL	NULL / EXT#	
Built-in Modem	Directory Number			199	NULL / EXT#	
	BAUD Rate			2400	1200 / 2400	
Remote Programming Transmit Rate				9600	1200 / 2400 / 4800 / 9600 / 19200	
Caller ID Logging Transmit Rate				9600	1200 / 2400 / 4800 / 9600 / 19200	

Toll Restriction

Toll Restriction	Tenant 1 - 3	Digit Interval 1	From		0			
			To		#			
			Extension COS	Day Allowed	Class 0	Y		
					Class 7	Y		
			Eve Allowed	Class 0	Y			
				Class 7	Y			
		Digit Interval 100	From		NULL			
			To		NULL			
			Extension COS	Day Allowed	Class 0	Y		
					Class 7	Y		
			Eve Allowed	Class 0	Y			
Class 7	Y							
Account Code	Length				3	2 - 8		
	Password 1	Password				NULL	NULL / DIGITS	
		Class Of Service				0	0 - 7	
		Disabled				N	Y/N	
	Password 600	Password				NULL	NULL / DIGITS	
		Class of Service				0	0 - 7	
Disabled				N	Y/N			

Extension Applications

Uniform Call Distribution Programming	UCD Group 1 - 24	Tenant	1	1 - 3		
		UCD Attribute	UCD	UCD / V.A.		
		UCD Group Member 1	NULL	NULL / EXT#		
		UCD Group Member 24	NULL	NULL / EXT#		
		Hunt Method	LINE	LINE / DIST / ALL		
		No Answer Time	10	5 - 60		
		Overflow 1	Timer	0	0 - 255	
			Destination	NULL	NULL / EXT#	
		Overflow 2	Timer	0	0 - 255	
			Destination	NULL	NULL / EXT#	
		Overflow Count	2	1 - 128		
		Rescue Destination	NULL	NULL / EXT#		
		Voice Mail	Tenant 1 - 3	VM Hunt Group	0	0 - 24
Prefix Digits	Intercom / VM			#2	4 DIGITS	
	Transfer			#1	4 DIGITS	
	Busy Forward			#3	4 DIGITS	
	No Answer Forward			#4	4 DIGITS	
	Direct Forward			#5	4 DIGITS	
	CO Queuing			#6	4 DIGITS	
	CO Recall			#9	4 DIGITS	
	UCD Overflow			300	4 DIGITS	
Suffix Digit	NULL			2 DIGITS		
Record Digit	#7			4 DIGITS		
Delete Digit	NULL			4 DIGITS		
Disconnect Digit	####			8 DIGITS		
Auto Recording Member	Member 1	NULL	NULL / EXT#			
	Member 8	NULL	NULL / EXT#			

CO Applications

CO Group 1 - 8	PBX Code	0	0 - 9999		
	Hunt Method	SEQL	SEQL / SEQF / RAN		
	Alternate CO Group 1 - 8	Group Number	0	0 - 24	
		Delete Digits	0	0 - 16	
		Insert Digits	EMPTY	EMPTY / 16 DIGITS	
	Setup with	9	9 / 800 - 800		
Fax Detection	T43 (CO Line 4) Destination on detection	NONE	NONE / EXT #		
	T47 (CO Line 8) Destination on detection	NONE	NONE / EXT #		
	T51 (CO Line 12) Destination on detection	NONE	NONE / EXT #		
	T55 (CO Line 16) Destination on detection	NONE	NONE / EXT #		

System Applications

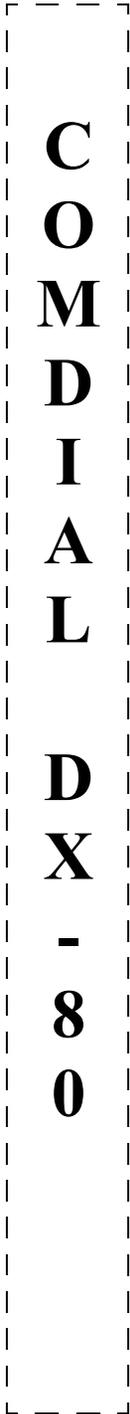
Ring Scheme							
Letter type							
Hour Mode							
Position to Dir	Cabinet (1 - 2)	Board (1 - 4)				EXT#	
Numbering Plan	CO Group	Length 1					
		Length 5					
		Leading 1					
		Leading 5					
		Extension Dir Number	Length				
			Leading 1				
			Leading 5				
		Extension Page Group	Length				
			Leading 1				
			Leading 2				
			Leading 3				
		Extension Hunt Group	Length				
			Leading 1				
			Leading 2				
			Leading 3				
		Extension Pickup Group	Length				
			Leading 1				
			Leading 2				
			Leading 3				
		Individual Speed Dial Number	Length				
			Leading 1				
			Leading 2				
			Leading 3				
		Common Speed Dial Number	Length				
			Leading 1				
			Leading 2				
			Leading 3				

System Applications

		COLine Dir Number	Length				
			Leading 1				
			Leading 2				
			Leading 3				
		Music Source	Length				
			Leading 1				
			Leading 2				
			Leading 3				
		Loudbell	Length				
			Leading 1				
			Leading 2				
			Leading 3				
		External Pager	Length				
			Leading 1				
			Leading 2				
			Leading 3				
		Virtual Number	Length				
			Leading 1				
			Leading 2				
			Leading 3				
		Conference Rooms	Length				
			Leading 1				
			Leading 2				
			Leading 3				
		Operator Code	Length				
			Leading				
		Account Code	Length				
			Leading				
		Suffix Code	ICM Ring / Voice	ICM Ring / Voice			
			DND Override	DND Override			
			Camp On	Camp On			
			Callback	Callback			
			Call Pickup	Call Pickup			
			Intrusion	Intrusion			
			Message Waiting				

B. BUTTON LABELING

Cut along
all dotted
lines.



Extension ____					
Extension 101	Extension 102	Extension 103	Extension 104	Extension 105	Extension 106
Extension 107	Extension 108	Extension 109	Extension 110	Extension 111	Extension 112
HEADSET MODE	REDIAL	Caller ID	MUSIC	ICM Mode HF-PR-TN	Voice Record
CALL PARK	All Page	Do Not Disturb	CALL FWD	MEMO PAD	Voice Mail
Line 1	Line 2	Line 3	Line 4	Line 5	Line 6

Extension ____					
Extension 101	Extension 102	Extension 103	Extension 104	Extension 105	Extension 106
Extension 107	Extension 108	Extension 109	Extension 110	Extension 111	Extension 112
HEADSET MODE	REDIAL	Caller ID	MUSIC	ICM Mode HF-PR-TN	Voice Record
CALL PARK	All Page	Do Not Disturb	CALL FWD	MEMO PAD	Voice Mail
Line 1	Line 2	Line 3	Line 4	Line 5	Line 6

Extension ____					
Extension 101	Extension 102	Extension 103	Extension 104	Extension 105	Extension 106
Extension 107	Extension 108	Extension 109	Extension 110	Extension 111	Extension 112
HEADSET MODE	REDIAL	Caller ID	MUSIC	ICM Mode HF-PR-TN	Voice Record
CALL PARK	All Page	Do Not Disturb	CALL FWD	MEMO PAD	Voice Mail
Line 1	Line 2	Line 3	Line 4	Line 5	Line 6

Extension ____					
Extension 101	Extension 102	Extension 103	Extension 104	Extension 105	Extension 106
Extension 107	Extension 108	Extension 109	Extension 110	Extension 111	Extension 112
HEADSET MODE	REDIAL	Caller ID	MUSIC	ICM Mode HF-PR-TN	Voice Record
CALL PARK	All Page	Do Not Disturb	CALL FWD	MEMO PAD	Voice Mail
Line 1	Line 2	Line 3	Line 4	Line 5	Line 6

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