MOTOROLA

CommandSTAR Lite™

System Database Manager Manual

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Version 6880309K01-C
11 July 2003

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Printed in Canada.

Revision history:

6880309K01-O released 15 September 2000
6880309K01-A released 23 April 2001
6880309K01-B released 19 April 2002
6880309K01-C released 11 July 2003

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Introduction

About the CSDM Lite

The CommandSTAR Lite System Database Manager (CSDM Lite) is a powerful configuration and maintenance tool for a CommandSTAR Lite system. Through the use of an intuitive menu-driven interface, it is possible to configure a CommandSTAR Lite system to meet numerous requirements. The CSDM Lite allows you to:

- produce the CommandSTAR Lite system configuration file and save it to disk or upload it to the system

- produce diagnostic logs (or lists) of system events

- remotely access the CommandSTAR Lite system via modem

Note: For information on the Labels program to produce labels for your system, refer to Appendix A.

Hardware Configuration of the CSDM Lite

The CSDM Lite consists of the following components (minimum):

- Intel-based PC 486 or better

- DOS Version 5.0 (or better) or Windows 95/98

- Keyboard

- Color monitor (VGA)

- Hard Disk (100 MB)

- 16 MB RAM

- CSDM Lite software

- Printer port

- Mouse

- One COM port reserved for communications with a CommandSTAR Lite console (with or without modem)

Note: The CSDM Lite can run under Windows 95/98/ME (DOS Window), but is not compatible with Windows NT, 2000 or XP.

About this Manual

This manual explains the use of the CSDM Lite. This manual is organized as follows:

Chapter 1: Introduction - gives information about the CSDM Lite, and the CSDM Lite manual.

Chapter 2: Navigating - explains how to install, start, and navigate through the CSDM Lite.

Chapters 3 to 7 - explain the purpose and use of each of the menu items on the CSDM Lite menu bar.

Appendix A: The "Labels" Program - explains how to use the Labels program that accompanies the CSDM Lite.

Appendix B: Paging Codes - explains and shows the tables for 6 commonly used paging code formats.

Appendix C: Call Event Logging Printout Examples - shows typical printout examples for the Call Event Logging feature.

Glossary - defines specialized words, abbreviations, and acronyms.

Index - The index is found at the end of the manual.

Chapter 2
Navigating

Installing the CSDM Lite Program

To install the CSDM Lite using diskette (DOS)

1. Place CSDM Lite Setup diskette in a floppy disk drive.

2. Change the DOS prompt to that of the drive containing the CSDM Lite Setup diskette. Do this by typing "a:" or "b:" at the DOS prompt.

3. Type "Setup".

    The CSDM Lite Setup screen appears.

4. Select **Continue**.

    You are prompted to accept or change the default directory "C:\CSDMLite".

5. Select **Continue**.

    The installation starts.

6. When the installation is complete, select **Exit**.

    You are returned to the DOS prompt.

To install the CSDM Lite using diskette (Windows)

1. Place CSDM Lite Setup diskette in a floppy disk drive.

2. Select the drive containing the CSDM Lite Setup diskette.

3. Click on Setup.exe to execute the setup program and follow the instructions provided.

To install the CSDM Lite using CD (Windows)

1. Place the CommandSTAR Lite Setup CD in the CD drive.

    The CommandSTAR Lite Setup screen appears.

    If the Setup screen does not appear: select **Start>Run** and type in the CD drive letter followed by "setup", for example "D:\setup".
    Or, select the **Browse** button to locate and highlight the SETUP.EXE file on the CD, select **Open**, and then select **OK** to display the Setup screen.

2.   Select **Continue** to install in the default directory "C:\CSDMLITE" or type in a new path before selecting **Continue**.

3.   Select **OK** when Setup is complete and close the **Finished - SETUP** window.

Starting the CSDM Lite Program

If your PC has not been set up to start the CSDM Lite automatically, you must start it manually. To start the CSDM Lite manually:

1.   At the DOS prompt (in the directory where the CSDM Lite program is installed), type CSDMLite

2.   Press [Enter].

The basic CSDM Lite screen appears.
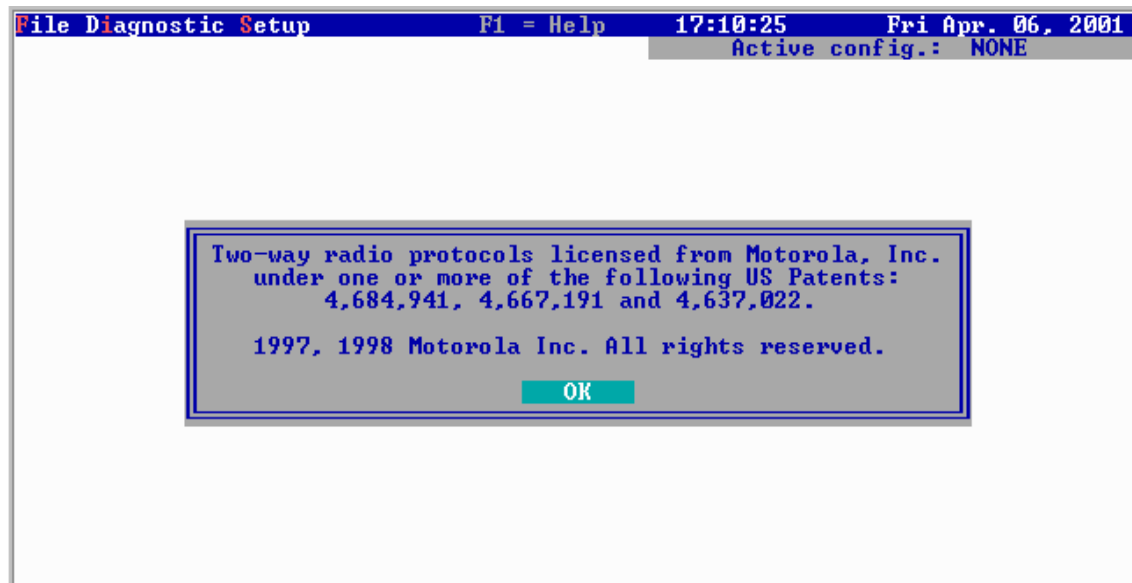
Figure 2-1:   The Basic CSDM Lite Screen

The CSDM Lite program can also be run as a DOS window under Microsoft Windows®. The working directory should be the same as the directory where the CSDM Lite program is installed.

Depending on the tasks to be performed, you can run the CSDM Lite when it is:

•   not connected to the system

•   connected to the system

For example, if you wish to modify an existing system configuration from a disk, there is no need to be connected to the system.

However, if you wish to modify the current system configuration or use the diagnostics or upgrade menus, you will need to be connected to the system.

Connected to the System

If you start the CSDM Lite when the PC is connected to the CommandSTAR Lite system, the active configuration (Active config.) field shown below the menu bar in the top right corner of the screen, blinks and informs you that the CSDM Lite is receiving the configuration from the system:

Active config.: RECEIVING DB

This means the CSDM Lite software is receiving the SYSTEM configuration automatically. This procedure may take as long as 20 seconds, depending on the size of the system configuration. The moment the configuration is received and loaded the message reads:

Active config.: SYSTEM.DB

Not Connected to the System

If you start the CSDM Lite when the PC is not connected to the system, the active configuration (Active config.) field informs you that no configuration is being received:

Active config: NONE

Another indication that the CSDM Lite is not connected to the system, is the following message which indicates that the CSDM Lite-Console data link failed.

```
┌─────────────────────────────────────────────────┐
│ WARNING:   CSDM Lite-Console data link failure   │
│                    ▐ OK ▌                         │
└─────────────────────────────────────────────────┘
```

Figure 2-2:   CSDM Lite-Console Data Link Failure

To remove this message, select OK.

Login Privileges

There are three user levels in the CSDM Lite:

• Basic

• Supervisor

• Superuser

All users have access to the basic level. Basic level users have access to the File, Diagnostics and Setup menus.

At the supervisor level, users have access to the File, Diagnostic, and Setup menus, and limited access to the Configuration menu

At the superuser level, users have full access to the File, Configuration, Diagnostics, Setup, and Upgrade menus.

Login Procedure
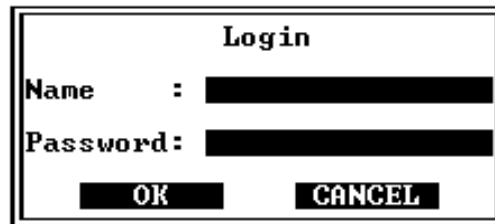
In order to operate the CSDM Lite at the superuser or the supervisor level, you must first login.

User names and passwords can be changed. All user names and passwords are case insensitive, can be alphanumeric, and can be up to 16 characters long. Supervisors can change their own passwords through the "Setup/Change Password" menu item. Through the "Setup/Account Management" menu item, superusers can change their own user names and passwords as well as the user names and passwords of supervisors.

To log into the CSDM Lite at the superuser or the supervisor level:

1. Select the "File" menu.

2. Select "Login"

   The CSDM Lite Login screen appears.

```
┌─────────────────────────────────┐
│           Login                 │
│ Name    :  ███████████████████  │
│ Password:  ███████████████████  │
│    ███ OK ███      ███ CANCEL ███│
└─────────────────────────────────┘
```

Figure 2-3:   The CSDM Lite Login Screen

3. Type your user name in the "Name" field. Press [Enter].

4. Type your password in the "Password" field. Press [Enter] twice.

Default user names and passwords are provided when you first acquire the CSDM Lite. These are:

Level	User name	Password
Supervisor	supervisor1 supervisor2	supervisor1 supervisor2
Superuser	superuser	superuser

Logout/Exit Procedure

To log out and exit the CSDM Lite:

1. Select the "File" menu.

2. Select "Logout".

    You are returned to the basic CSDM Lite.

3. Select the "File" menu.

4. Select "Exit".

Note: When you exit, the CSDM Lite can no longer record system events. (See "Diagnostics/View Logs".)

Menus

The menu bar (see Figure 2-4) is located at the top of the screen. Menus appear when you select items from the menu bar.

```
File Diagnostic Setup  F1 = Help  15:23:37  Thu May  18, 2000
```

Figure 2-4:   The Menu Bar

Menus are made up of menu items. When there is an arrow (a greater than sign (>)) on the right of the menu item, it means the menu item opens a sub-menu (see Figure 2-5).

```
File
 ┌───────────┐
 │Load       │
 │Save       │
 │Upload     │
 │New        │┌─────────────┐
 │Report    >││Label        │
 │Logout     ││Configuration│
 └───────────┘└─────────────┘
```

Figure 2-5:   A Typical Menu and Sub-menu

Manual Terminology and Conventions

In this manual, the word "you", as in "This field allows <u>you</u> to ...", refers to the CSDM Lite user.

The word "indicate", as in "this field <u>indicates</u>", means that the value is for display only and cannot be changed.

The word "system" refers to the CommandSTAR Lite system.

The word "dispatcher" refers to the operator of a CommandSTAR Lite console.

The following convention is used to indicate the path from a menu to a submenu item:

File/Report/Label

Menu Map

Figure 2-6 shows all the menus and submenus that are available to the superuser in the CSDM Lite.
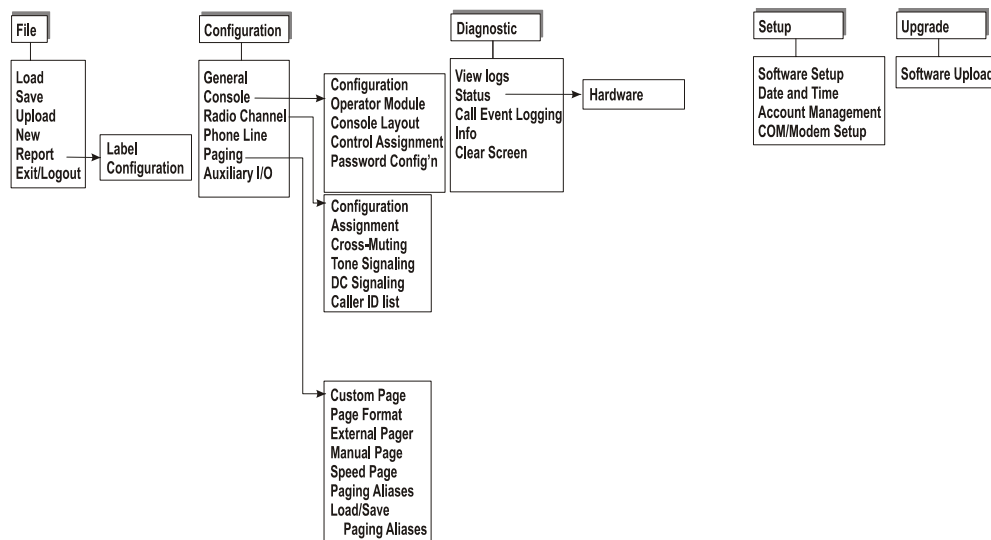
Figure 2-6:   Menu Map for the CSDM Lite

Mouse Functions

When the mouse is active on the screen, a mouse cursor (or mouse pointer) in the shape of a small rectangle is visible. You can point the cursor at any field (active area) on the screen by moving the mouse. In this manual, when you are instructed to select a field, it

means place the cursor on the field and click the left mouse button. The field will become highlighted as you press the left mouse button. If "Field autodetect" (located through the Setup/Software Setup menu item) is enabled, fields will be highlighted when they are passed over by the cursor.

You can also select fields by using the Tab and Enter keys on the keyboard.

CSDM Lite Help Screen

If a field is highlighted and you press F1, a help message related to the highlighted field appears.

Key Functionality

Escape Key [Esc]

Depending on the screen being used, the escape [Esc] key highlights the OK, SAVE, DONE or CANCEL buttons. If no window is opened, the escape key highlights the "File" menu title in the menu bar.

Insert Key [Insert]

Toggles between "insert" and "typeover" modes for edit fields.

Tab Key [Tab]

The tab [Tab] key allows you to move from field to field from the top to the bottom of the screen.

Shift Plus Tab Keys [Shift+Tab]

The combination the of shift and tab keys [Shift+Tab] allows you to move from field to field from the bottom to the top of the screen.

Delete Key [Delete]

Deletes text to the right of the cursor in an edit field.

Backspace Key [Backspace]

Deletes text to the left of the cursor in an edit field.

Enter Key [Enter]

The enter [Enter] key allows you to:

• scroll a highlighted selection list field from one value to the next

• select a menu from the menu bar

- select a menu item from a menu

- accept the value in an edit field and move to the next field

- toggle a check box field

F1 Key

The F1 function key activates the HELP screen.

Up/Down Arrow Keys

The up/down arrow keys move the cursor up and down within menus, selection lists, and scroll lists.

Left/Right Arrow Keys

The left/right arrow keys move the cursor left and right within the menus and edit fields.

Page Up/Down Keys

In a menu, the page up/page down keys move the cursor to the top or the bottom of the menu. In a list, these keys move the cursor to the top or the bottom of the portion of the list that is displayed on the screen. If the key is pressed again, the next portion of the list is displayed.

Home/End Keys

In a menu, the home/end keys move the cursor to the top or the bottom of the menu. In a list, these keys move the cursor to the top or the bottom of the list.

Screen Saver

The screen saver reduces the possibility that a screen display will burn an image into the face of the picture tube. The screen saver starts when the CSDM Lite position is idle for a predefined period of time (see the section of this manual entitled "Chapter 6/Setup menu"). When the screen saver is on, the message *Press any key to restore the CSDM* moves at random around the screen at 5-second intervals.

The screen saver only affects the screen display. While the screen saver is on, the CSDM Lite event logging capabilities are still enabled.

Fields and Lists

The CSDM Lite uses the following types of fields and lists (see Figure 2-7).

Edit Fields

Edit fields are used for typing alphanumeric information.

To use an edit field:

• Click on the field with the mouse to highlight it, then start typing.

OR

• Press [Tab] or [Shift]-[Tab] to highlight the field, then start typing.

To modify information in an edit field, use the left and right arrow, backspace, delete, and insert keys.

To finish using an edit field, click on another field or press [Tab], [Shift]-[Tab] or [Enter].

If you type an invalid alphanumeric value into an edit field, the "OK" button is deactivated.

Check Box Fields

Check boxes toggle an item between "enabled" and "disabled". "Enabled" is shown by a check mark or an X, "disabled" is shown by a small rectangle.

To use a check box field:

• Click on the field with the mouse. The field toggles between enabled and disabled.

OR

• Press [Tab] or [Shift]-[Tab] to highlight the field, then press [Enter]. The field toggles between enabled and disabled.

Selection List Fields

Selection list fields (see Figure 2-7) provide a list of values from which the desired value can be selected.

To use a selection list field using a mouse:

1. Click on the left part of the field to scroll though the values
   OR
   Click on the arrow at the end of the field to open and view the whole list at once.

2. Click on the desired item in the selection list.

To use a selection list field using the keyboard:

1. Press [Tab] or [Shift]-[Tab] to highlight the field.

2. Press [Enter] to display the list.

3. Use the up and down arrow keys to highlight the desired item in the selection list. Or, type a letter corresponding to the first letter of the desired item.

4. Press [Enter] to select the item.

5. Press [Tab] to move to the next field.
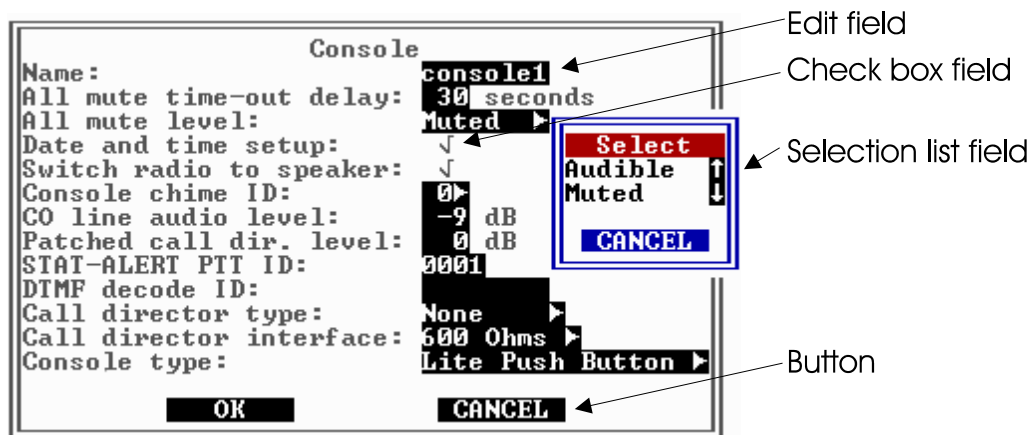
Figure 2-7: Typical Fields in the CSDM Lite

Buttons

Buttons contain text that identifies the action that will take place if the button is selected.

Scroll Lists

Scroll lists (see Figure2-8) are lists of items from which you can make a selection.

To select an item on a scroll list using a mouse:

1. Highlight the desired item by clicking on the arrows at the top or bottom of the scroll bar.

2. Click on the desired item to select it.

To select an item on a scroll list using the keyboard:

1. To highlight the desired item, use the up and down arrow keys, the Page Up/Page Down keys, the Home/End keys, or the first letter of the desired item.
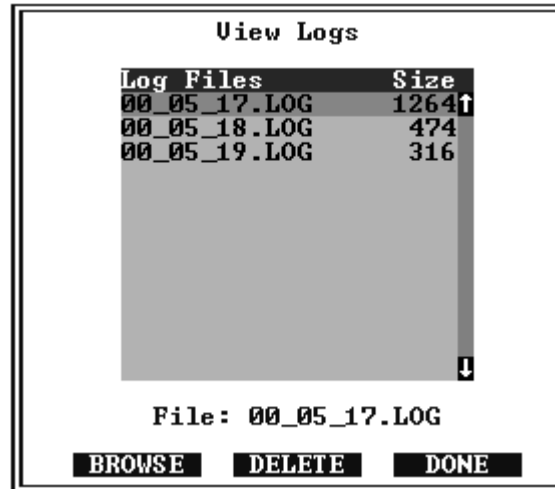
Figure 2-8:   Screen with a Typical Scroll List and Buttons

2. Press [Enter] to select the item.

Matrices

A Matrix (see Figure 2-9) is a group of matrix elements arranged in a tabular format.

To enable or disable a feature on a matrix using a mouse:

1. Locate the desired matrix element by finding the intersection of the two items.

2. Click on the matrix element. An "X" indicates that the element is enabled. A rectangle indicates that the element is disabled.

To enable or disable a feature on a matrix using the keyboard:

1. Locate the desired matrix element by finding the intersection of the two items.

2. Use the up and down, and left and right arrow keys to highlight the desired matrix element.

3. Press [Enter]. An "X" indicates that the element is enabled. A rectangle indicates that the element is disabled.

4. Press [Tab] or [Esc] to move to the "OK" button.
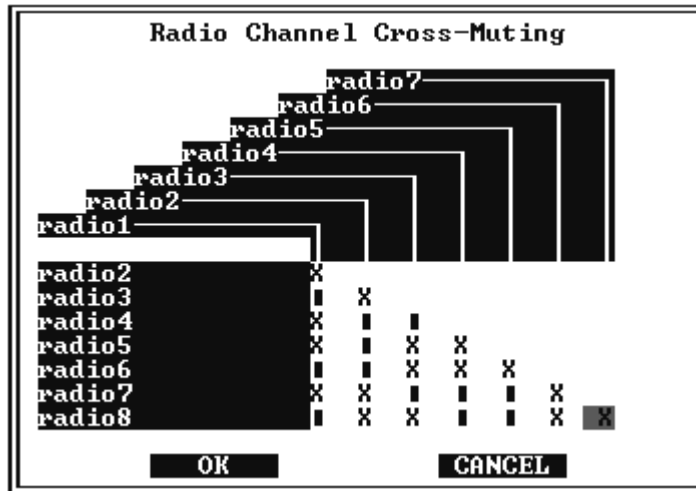
Figure 2-9:   Typical Matrix

Configuration File Setup

If you do not have a configuration database file available, the menu items under the **Configuration** menu are dimmed. To create a new configuration database file, select **File>New** as described in **Chapter 3 "File Menu"**, then follow the procedures below in sequence. For further information on configuration, refer to the chapters that follow. **Chapter 3** also explains how to load an existing database file if setting up a new configuration file is not required.

Important: The following procedures must be performed in the order in which they occur.

To add a console:

1.   Select **Configuration>Console>Configuration** from the menu.

     The Console screen appears.

2.   Type in a name and select the **OK** button.

Note: Save your configuration file each time a change has been made (after each procedure in this section) using the **File>Save** command, as described in **Chapter 3 "File Menu"**.

To enable CO lines:

1.   Select **Configuration>Phone Line** from the menu.

     The Phone Line Configuration screen appears.

2.   Enable (check mark) **Dual CO Line Module**.

     Two default lines appear in the list.

3.   Select **OK**.

Note: Save your configuration file each time a change has been made (after each procedure in this section) using the **File>Save** command, as described in **Chapter 3 "File Menu"**.

To add an I/O module:

1. Select **Configuration>Console>Operator Module** from the menu.

    The Operator Module Configuration screen appears.

2. Select the **ADD** button.

    The Add Operator Module screen appears.

3. Select I/O Module from the drop-down list in the **Type** field and click **OK**.

4. Click **OK** in the Operator Module Configuration screen.

Note: Save your configuration file each time a change has been made (after each procedure in this section) using the **File>Save** command, as described in **Chapter 3 "File Menu"**.

To add radio channels:

1. Select **Configuration>Radio Channel>Configuration** from the menu.

    The Radio Channel Configuration screen appears with four default radio channels.

2. To add the remaining four channels, select the **ADD RADIO 5 TO 8** button.

    A WARNING dialog appears to confirm.

3. Click **OK**.

4. Select a channel and click the **EDIT** button.

    The Edit Radio Channel screen appears.

5. If you want to change the default name, type in a new name.

6. Click the **OK** button in the Edit Radio Channel screen.

7. Click **OK** in the Radio Channel Configuration screen.

Note: Save your configuration file each time a change has been made (after each procedure in this section) using the **File>Save** command, as described in **Chapter 3 "File Menu"**.

To setup Custom Page:

1. Select **Configuration>Paging>Custom Page** from the menu.

    The Custom Page Configuration screen appears.

2. Select the **ADD** button.

    The Add Custom Page screen appears.

3. Type in a numeric three-digit code to identify the page and select **OK**.

4. Select **OK** in the Custom Page Configuration screen.

Note: Save your configuration file each time a change has been made (after each procedure in this section) using the **File>Save** command, as described in **Chapter 3 "File Menu"**.

To setup Page Format:

1. Select **Configuration>Paging>Page Format** from the menu.

   The Page Format Configuration screen appears.

2. Select the **ADD** button.

   The Add Page Format screen appears.

3. Type in any alphanumeric name and click **OK**.

4. Click the **OK** button in the Page Format Configuration screen.

Note: Save your configuration file each time a change has been made (after each procedure in this section) using the **File>Save** command, as described in **Chapter 3 "File Menu"**.

To setup External Pager:

1. Select **Configuration>Paging>External Pager** from the menu.

   The Edit External Pager screen appears.

2. Select a radio channel from the **Channel Steering** field and Enabled from the **Ptt** field.

3. Click **OK** in the Edit External Pager screen.

Note: Save your configuration file each time a change has been made (after each procedure in this section) using the **File>Save** command, as described in **Chapter 3 "File Menu"**.

To add Auxiliary I/O and Relays:

1. Verify address IDs are set for the I/O module (see the Installation Manual).

2. Select **Configuration>Auxiliary I/O** from the menu.

   The Auxiliary I/O Configuration screen appears.

3. Select **ADD**.

   The Add Auxiliary I/O screen appears.

4. Type in an I/O Name and select **ADD** to add the relay.

   The Select Relay for Auxiliary Output screen appears.

5. Click **OK** in the Select Relay for Auxiliary Output screen.

6. Click **OK** in the Add Auxiliary I/O screen.

7. Click **OK** in the Auxiliary I/O Configuration screen.

Note: Save your configuration file each time a change has been made (after each procedure in this section) using the **File>Save** command, as described in **Chapter 3 "File Menu"**.

Chapter 3
File Menu

The File menu has the following menu items:

- Load

- Save

- Upload

- New

- Report

    - Label

    - Configuration

- Exit/Logout

Load

The "Load" menu item allows you to load configuration files into the CSDM Lite from disk or to download the configuration from the CommandSTAR Lite system to which the CSDM Lite is connected.

You must first use the "Load" menu item if you wish to:

- modify a configuration file and save it to disk

- modify a configuration file and upload it to the CommandSTAR Lite system

- upload a configuration file to the CommandSTAR Lite system

In order to load configuration files from disk, the files must be in the directory containing the CSDM Lite program.

In order to download the system configuration, the CSDM Lite must be connected to the system.

To load a configuration file:

1. Select "Load" from the "File" menu.

The "Load Configuration from Disk" screen appears.


```
┌─────────────────────────────────┐
│ Load Configuration from Disk│
│    ┌─────────────────────────┐  │
│    │ File name      Size     │  │
│    │ CONFIG01.DB    6038↑    │  │
│    │ CONFIG02.DB    5182     │  │
│    │                         │  │
│    │                         │  │
│    │                         │  │
│    │                         │  │
│    │                    ↓    │  │
│    └─────────────────────────┘  │
│      SYSTEM    CANCEL           │
└─────────────────────────────────┘
```
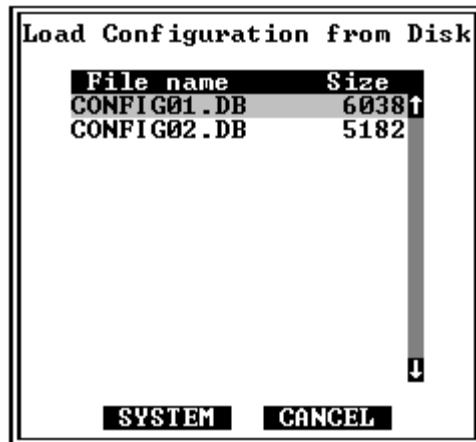
Figure 3-1:   Load Configuration from Disk Screen

2.   Select the desired configuration file from the scroll list.

The configuration file loads and you are returned to the "File" menu.

The active configuration (Active config.) field, below the menu bar in the top right corner of the screen, indicates that the configuration file you selected has been loaded. If you are not connected to the system, many of the menu items that were deactivated are now active and you can proceed with modifying the configuration.

*   In the "File" menu, the "Save" and "Report" menu items become active.

*   In the Configuration menu, all the menu items become active.

*   In the Diagnostic menu, the "Status" menu item becomes active if the CSDM Lite is connected to the system.

Button

SYSTEM

If the CSDM Lite is not connected to the CommandSTAR Lite system, the "SYSTEM" button is deactivated.

If the CSDM Lite is connected to the CommandSTAR Lite system, the "SYSTEM" button allows you to download the system configuration to the CSDM Lite. Although the system configuration is automatically downloaded at startup, the "SYSTEM" button is useful if you need to download the system configuration again. This necessity might arise if you have made changes to the originally downloaded version but wish to discard the changes and start again.

Save

The "Save" menu item allows you to save the active configuration file to the hard disk of the CSDM Lite computer. You can save a configuration that was loaded into the CSDM Lite from disk or downloaded from the CommandSTAR Lite system connected to the CSDM Lite.

To save a configuration file:

1. Select "Save" from the "File" menu.

The "Save Configuration to Disk" screen appears.

```
              Save Configuration to Disk

Existing Configurations
CONFIG01.DB        6038  ↑
CONFIG02.DB        5182         Filename: CONFIG01

                            EXPORT    SAVE   CANCEL
                          ↓
```
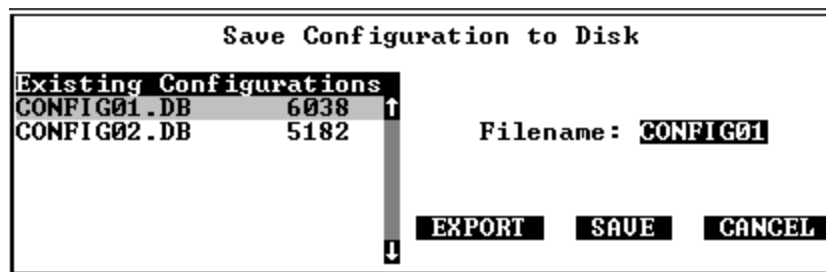
Figure 3-2:   Save Configuration to Disk Screen

2. Select the "SAVE" button if you wish to retain the name that is currently displayed in the "Filename" field.

   OR

   Select the "Filename" field, type the desired file name, and then select the "SAVE" button. The extension ".DB" is automatically added to the 8-character filename.

   OR

   Select the desired configuration file from the "Existing Configurations" scroll list and then select the "SAVE" button.

   If the configuration file exists, you will be warned that the filename exists and you will be asked if you want to overwrite the existing file.

The file is saved to disk.

Buttons

SAVE

Select this button to save the configuration with the name identified in the "Filename" field of the window. The configuration will be saved in the directory where the CSDM Lite is located (ex: C:\CSDMLITE).

EXPORT

The "EXPORT" button displays the "Export Configuration File" screen.

```
┌─────────────────────────────────────────┐
│   Export Configuration File: SYSTEM.DB    │
│                                           │
│        Console version: 006               │
│                                           │
│            ┌─Versions─────┐               │
│            │003         ↑ │               │
│            │004           │               │
│            │005           │               │
│            │006           │               │
│            │                              │
│            │            ↓ │               │
│            └──────────────┘               │
│                                           │
│        Export to version 006              │
│                                           │
│                                           │
│        ▐ OK ▌      ▐ CANCEL ▌             │
└─────────────────────────────────────────┘
```
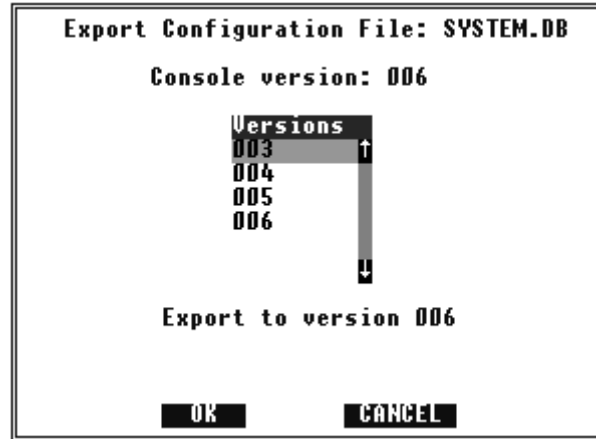
Figure 3-3:   Export Configuration File Screen

The "EXPORT" button allows you to save the configuration file using a configuration version that can be handled by older CommandSTAR Lite systems. CommandSTAR Lite versions start at version 006.

Use the scroll list to select the desired configuration version. The selected version is displayed below the scroll list.

If the CSDM Lite is connected to a CommandSTAR Lite system that is using an older configuration version, the version number of that older configuration appears in the "Version" field.

If the CSDM Lite is not connected, the message "unknown (link down)" appears in the "Version" field.

Select "OK" to convert the file and save it to disk.

Upload

The "Upload" menu item allows you to transfer the active configuration (the configuration currently in the CSDM Lite) to the CommandSTAR Lite system via the CSDM Lite-Console data link.

If the CSDM Lite is not connected to the CommandSTAR Lite system, the "Upload" menu item is deactivated.

To upload the configuration to the system:

1.   Select "Upload" from the "File" menu

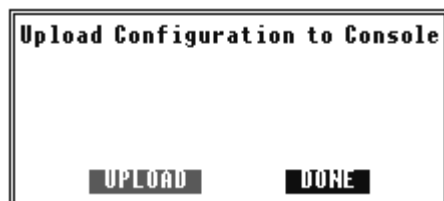The "Upload Configuration to Console" screen appears.

Figure 3-4:   Upload Configuration to Console Screen

2.   Select the "UPLOAD" button.

The configuration is uploaded to the CommandSTAR Lite system.

During the upload, the message "Uploading Data" appears in the "Upload Configuration to Console" screen.

When the upload is complete, the message "Upload Successful" appears in the "Upload Configuration to Console" screen.

New

The "New" menu item allows you to create a new configuration file.

When you select the "New" menu item, you are prompted to confirm your selection.
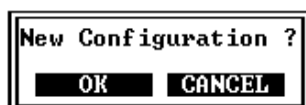
Figure 3-5:   "New Configuration ?" Prompt

If you select "OK" the current active configuration is replaced by a new active configuration.

Report

The "Report" menu item displays a sub-menu with the following menu items:

• Label

• Configuration

Label

The "Label" menu item allows you to produce a label file to be used with the console label printing program that comes with the CSDM Lite program.

Note: For information on how to install and use the Label program please see Appendix A of this manual.

The console label printing program allows you to print the labels that will appear on the CommandSTAR Lite consoles.

Before you can create a label file, you must first load or create a configuration file in which buttons are defined for the operator modules.

To create a label file:

1. Select "Report" from the "File" menu.

2. Select "Label" from the sub-menu.

Two files are created and saved to disk:

• The printable label file (file with extension .LB2) (which is also displayed on screen)

• The label file used by the label printing program (file with extension .LBL).

The label file appears.

Figure 3-6:   A Typical Label File

Buttons

SEARCH

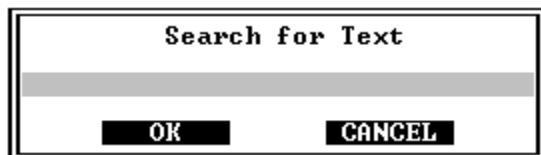The "SEARCH" button displays the "Search for Text" window.

Figure 3-7:   Search for Text Window

To search for text:

1. Type the text you wish to find into the field provided.

2. Select "OK".

The CSDM Lite searches for and highlights the specified text.

AGAIN

The "AGAIN" button searches for and highlights the next occurrence of the specified text. The search is case insensitive.

Configuration

The "Configuration" menu item allows you to produce a configuration manual which provides information on the configuration and electrical interconnection of the system. The file generated may be printed using the DOS "Print" command.

To create a configuration manual:

1. Select "Report" from the "File" menu.

2. Select "Configuration" from the sub-menu.

The configuration manual file for the active configuration in the CSDM Lite is created (file with extension .CMA), saved to disk, and displayed on screen.

Figure 3-8:   The Configuration Manual File

Buttons

SEARCH

The "SEARCH" button displays the "Search for Text" window.
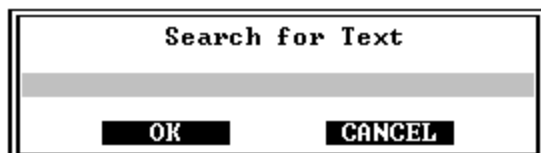

Figure 3-9:   Search for Text Window

To search for text:

1.   Type the text you wish to find into the field provided.

2.   Select "OK".

The CSDM Lite searches for and highlights the specified text.

AGAIN

The "AGAIN" button searches for and highlights the next occurrence of the specified text. The search is case insensitive.

Exit/Logout

The "Logout" menu item allows you to leave the superuser level and return to the Basic CSDM Lite.

The "Exit" menu item, which appears after you logout, allows you to exit the CSDM Lite program.

When you log out, the CSDM Lite still collects diagnostic information.

When you exit from the CSDM Lite, the CSDM Lite can no longer collect diagnostic information.

To log out and exit the CSDM Lite:

1. Select the "File" menu.

2. Select "Logout".

You are returned to the basic CSDM Lite.

3. Select the "File" menu.

4. Select "Exit".

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Chapter 4
Configuration Menu

The items on the Configuration menu become available after a configuration file has been loaded into the CSDM Lite. For information on how to load a Configuration file please refer to the section of this manual covering the "File/Load" menu item in Chapter 3.

After modifying the configuration file, use the "File/Save" menu item to save your changes.

For CommandSTAR Lite to make use of the changes you have made, upload the configuration file to the system by using the "File/Upload" menu item.

The Configuration menu has the following menu items:

- General
- Console
    - Configuration
    - Operator Module
    - Console Layout
    - Control Assignment
    - Password Configuration
- Radio Channel
    - Configuration
    - Assignment
    - Cross-Muting
    - Tone Signaling
    - DC Signaling
    - Caller ID List

- Phone Line
- Paging
    - Custom Page
    - Page Format
    - External Pager
    - Manual Page
    - Speed Page
    - Paging Aliases
    - Load/Save Paging Aliases
- Auxiliary I/O

General

The "General" menu item displays the "General Configuration" screen.

Figure 4-1:   General Configuration Screen

Fields

Cross-Mute attenuation level - radio channel

If two radio channels interfere with one another, the audio from the keyed channel can crossover onto the interfering channel and be heard on the transmitting console's speaker. The audio from the speaker can be picked up by the transmitting microphone and cause feedback.

The cross-mute feature lets you mute the audio of the interfering channel so it will not be heard on the speaker when the other channel is keyed.

The cross-mute feature can be set to one of two levels. The level you choose is system wide, that is, it is applied to all the cross-muted channels in the system. The levels are:

• Audible - lowers audio by 24 dB

• Muted - totally muted

To set the radio channel cross-mute feature, select "Radio Channel" in the "Configuration" menu and then select "Cross-Muting".

Voice annotation - alert 1, 2, 3

The voice annotation - alert 1, 2, and 3 fields allow you to specify the length of time that a channel will be keyed for voice transmission after alert tones 1, 2, or 3 have been transmitted.

The duration for voice annotation after an alert tone can range from 0 to 60 seconds.

The alert tone feature provides a means of transmitting a special alert tone over the selected radio channel(s). Alert tones assigned to operator module buttons and are activated when the buttons are pressed. Three types of alert tones are available:

- **Alert 1 -** provides a continuous 1 kHz tone.

- **Alert 2 -** provides two tones, 800 Hz and 1.5 kHz alternating at 2 Hz.

- **Alert 3 -** provides a 1.5khz tone alternating with silence at 2 Hz.

Clock - source

Although you can set the system time from the CSDM Lite or from the console, a clock source is needed to synchronize the time in each of these system entities. The "clock - source" field allows you to set which entity, will be the clock source for the system.

The choices are:

- CSDM (use computer system clock)

- Master - the console (use time entered on CommandSTAR Lite keypad, test #73).

- External - a device capable of receiving time information from an external source is linked to a console, for example, NETCLOCK.

  Note: In order for this feature to work, the console's keypad test #73 must be set to "Clock". Also, the NETCLOCK needs to be configured with the following parameters:

- 9,600 baud rate

- 1 stop bit

- 8 data bits

- no parity

Clock - type

The "Clock - type" field identifies the type of device supported by CommandSTAR Lite for the external clock source. The device currently supported is the Netclock2 format 1. This device receives time information from radio station WWVB in the United States.

Clock - host

The "Clock - host" field allows you to specify which console is linked to the external clock source device. For CSDM Lite, the only option is Console1.

Clock - port

The "Clock - port" field allows you to specify which port is being used to link to the external clock source device. For CSDM Lite, the only option is COM1.

Paging package

A number of paging formats are available with the CSDM Lite.

The "Paging package" field allows you to choose between two paging packages, Basic and Extended.

The Basic paging package supports the following paging formats:

- Motorola 1+1

- Motorola 2+2

- GE type 99

- DTMF

- STAT-ALERT

The Extended paging package supports the following paging formats:

- All the paging formats in the Basic package

- Motorola 5 tone

- Motorola 6 tone

- Nec 5 tone

- Nec 6 tone

- Reach

- Rotary Pulse

The Extended paging package also supports the custom paging feature.

Full duplex patch

A patch allows radio operators on separate channels to talk to one another.

The Full duplex patch feature allows the dispatcher to create a patch in which the partici-pants can transmit and receive audio simultaneously. This is in contrast to a half duplex patch in which audio can only be transmitted by one participant at a time, and received by those who are not transmitting.

The "Full duplex patch" field allows you to enable or disable the Full duplex patch feature.

If the field is set to enabled (checked), full duplex communication is allowed on patches.

Note: Even if the "Full duplex patch" field is enabled, if one radio in a patch does not allow full duplex communication, the whole patch will be half duplex.

If the field is set to disabled (rectangle), the full duplex communication is not allowed on patches.

Unselect callers ID

The "Unselect callers ID" field allows you to enable or disable the Unselect callers ID fea-ture.

If a caller with an ID keys a channel, the ID appears on the CCM for that channel.

If the field is set to enabled (checked), the callers ID appears on CCMs of selected and unselected channels.

If the field is set to disabled (rectangle), the caller's ID appears on CCMs of selected chan-nels.

Caller ID min. time disp.

The "Caller ID min. time disp." field allows you to specify the amount of time a caller's ID will remain displayed on a console CCM after the channel PTT has been released. The duration can be in the range of 0 to 60 seconds.

Phone hangover delay

The "Phone hangover delay" field allows you to specify the amount of time a channel will remain keyed in after speech stops on a patched phone line. The duration can be in the range of 0 to 30000 ms.

Console

The "Console" menu item displays a sub-menu with the following menu items:

- Configuration

- Operator Module

- Console Layout

- Control Assignment

- Password Configuration

Configuration

The "Configuration" menu item displays the "Console" menu.

```
                     Console
Name:                         console1
All mute time-out delay:      30 seconds
All mute level:               Muted   ▶
Date and time setup:          √
Switch radio to speaker:      √
Console chime ID:             0▶
CO line audio level:          -9 dB
Patched call dir. level:       0 dB
Console auto login:           ■
STAT-ALERT PTT ID:            0001
DTMF decode ID:
Call director type:           None    ▶
Call director interface:      600 Ohms ▶
Console type:                 Lite Push Button ▶

        OK              CANCEL
```

Figure 4-2:   Console Menu

Fields

Name

The "Name" field allows you to change the name of the console. The field cannot be left blank, nor can a name be duplicated.

All mute time-out delay

The All Mute feature allows a dispatcher to mute all the channels on the unselect speaker by pressing the All Mute button on the ACM. All Mute has a predetermined duration or "time-out delay" after which the muting stops and the unselect audio is restored to its previous volume. If the All Mute button is pressed while the unselect audio is muted, the muting stops and the unselect audio is restored to its previous volume.

The "All mute time-out delay" field allows you to set the duration of the all mute for the console being configured. The duration can be in the range of 0 to 120 seconds. 0 represents an infinite duration.

All mute level

The All Mute feature allows a dispatcher to mute all the channels on the unselect speaker by pressing the All Mute button on the ACM.

The "All mute level" field allows you to set the muting level of the All Mute feature. The levels are:

- Audible - lowers audio by 24 dB

- Muted - totally muted

Date and time setup

The date and time that is displayed on the CSDM Lite and on each console in the system can be set from the CSDM Lite or from any console if the feature is enabled on the console.

The "Date and Time setup" field allows you to control whether or not the date and time can be set from the console.

If the field is set to enabled (checked), date and time can be set from the console.

If the field is set to disabled (rectangle), date and time cannot be set from the console.

Switch radio to speaker

The Switch radio to speaker feature allows you to control whether or not the audio from radio and telephone will switch from the headset to the speaker when call director audio is received.

The "Switch radio to speaker" field allows you to enable or disable the Switch radio to speaker feature for the console being configured.

If the field is set to enabled (checked), the feature is allowed at the console. That is, the audio from radio and telephone will switch from the headset to the speaker when call director audio is received.

If the field is set to disabled (rectangle), the feature is not allowed at the console. That is, the audio from radio and telephone will remain in the headset when call director audio is received.

Console chime ID

Console chime is a tone or tone combination that is heard at a console when the console receives an intercom or telephone call. CommandSTAR Lite provides 6 different chimes. Each chime has its own ID number.

The "Console Chime" field allows you to select the chime for the console being configured. The choices are 0 to 5.

CO line audio level

The "CO line audio level" field allows you to set the receive gain for the console's telephone calls.

Valid CO line audio levels are between -21dB and +12dB.

Patched call dir. level

The "Patched call dir. level" field allows you to set the receive gain for the console's call director calls when patched.

Valid Patched call dir. audio levels are between -21dB and +12dB.

Console auto login

The "Console auto login" field allows you to enable or disable auto login at the console.

STAT-ALERT PTT ID

The "STAT-ALERT PTT ID" field allows you to specify the ID number that will be sent when the console keys a channel.

For STAT-ALERT, values can range from 0001 to DEEE.

DTMF decode ID

The "DTMF decode ID" field allows you to specify the DTMF ID number of your console that must be received for audio to go through on the channel. Values can range from 00000000 to 99999999.

Call director type

The basic Call Director is a telephone set that is linked to the console so that telephone callers can be heard and spoken to through the console's headset.

The "Call director type" field allows you specify the type of call director for the console. Choices are:

• None - no call director

• Basic call director

• Enhanced - the basic call director plus the ability to include calls from the call director in a patch

Call director interface

The "Call director interface" field allows you to specify the type of Call Director interface for the console. Choices are:

• 600 Ohms

• Carbon

Console type

The "Console type" field allows you to specify the type of console. Choices are:

- PC Console (not applicable)

- Lite Push Button

Operator Module

The "Operator Module" menu item allows you to add operator modules to consoles. You can add:

- Auxiliary Control Modules (ACMs) - each ACM has 16 buttons that can be used to access CommandSTAR Lite features.

- three types of Channel Control Module (CCM) - CCMs allow you to control radio channels.

  - Dual with display (Dual DCCM) - allows a dispatcher to control two radio channels. This module has a programmable display for each channel.

  - Dual without display (Dual CCM) - allows a dispatcher to control two radio channels. As the name suggests, this module does not have a programmable display.

  - Single with display (Single DCCM) - allows a dispatcher to control one radio channel. This module has one programmable display for the channel.

- Input/Output module - has 6 form C relays and 12 opto-couplers that can be used for any non-specific input/output function.

(See the "Control Assignment" section of this manual for information on button features.)

The "Operator Module" menu item displays the "Operator Module Configuration" screen.
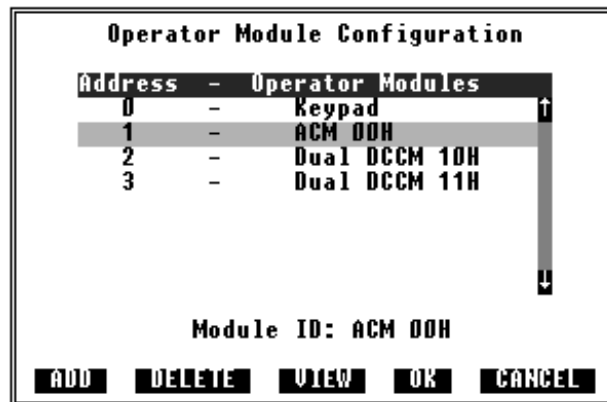

Figure 4-3:   Operator Module Configuration Screen

The "Operator Module Configuration" screen lists the operator modules that are present on a console.

When you select an operator module, the "DELETE" and "VIEW" buttons become active.

For the CSDM Lite, the total number of operator modules is 8. There is always one keypad and a maximum of 6 ACMs. The maximum number of CCMs and/or DCCMs is 4. The maximum number of Single DCCMs is 6.

Buttons

ADD

The "ADD" button on the "Operator Module Configuration" screen allows you to add an operator module to the console.

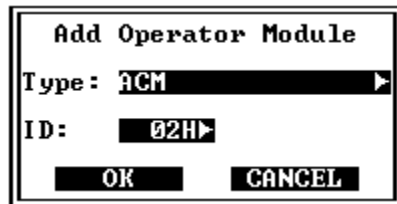The "Add Operator Module" screen appears.

```
┌────────────────────────────┐
│  Add Operator Module        │
│ Type: ACM                 ▶ │
│ ID:     02H▶                │
│   ┌────────┐  ┌──────────┐  │
│   │   OK   │  │  CANCEL  │  │
│   └────────┘  └──────────┘  │
└────────────────────────────┘
```

Figure 4-4:   Add Operator Module Screen

The "Add Operator Module" screen has the following fields:

Type - The "Type" field allows you to select the desired operator module. Choices are:

• Auxiliary Control Modules (ACMs)

• Dual Display Channel Control Module (Dual DCCM)

• Dual Channel Control Module without display (Dual CCM)

• Single Display Channel Control Module (Single DCCM)

• Input/Output module (I/O Box Module)

ID - The "ID" field allows you to specify a unique identification number for the selected operator module.

• ACM IDs range from 00H to 05H.

• Dual CCM IDs range from 10H to 13H.
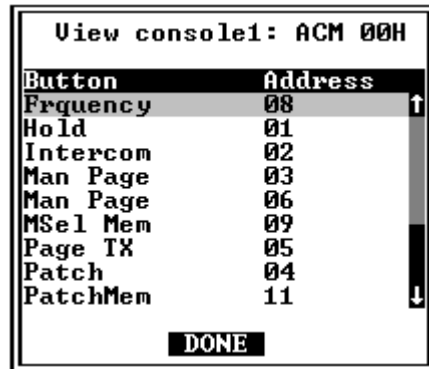
• Input/Output module IDs range from 30H to 3FH.

DELETE

The "DELETE" button on the "Operator Module Configuration" screen allows you to delete the selected operator module from the console.

VIEW

The "VIEW" button on the "Operator Module Configuration" screen shows the buttons that have been assigned to the selected operator module.

ACM

When you select the "VIEW" button for an ACM, the "View Console" scroll list for the ACM module appears.

```
┌─────────────────────────────────┐
│   View console1: ACM 00H        │
│ ┌─────────────────────────────┐ │
│ │Button          Address      │ │
│ │Frquency        08         ↑ │ │
│ │Hold            01           │ │
│ │Intercom        02           │ │
│ │Man Page        03           │ │
│ │Man Page        06           │ │
│ │MSel Mem        09           │ │
│ │Page TX         05           │ │
│ │Patch           04           │ │
│ │PatchMem        11         ↓ │ │
│ └─────────────────────────────┘ │
│          DONE                   │
└─────────────────────────────────┘
```
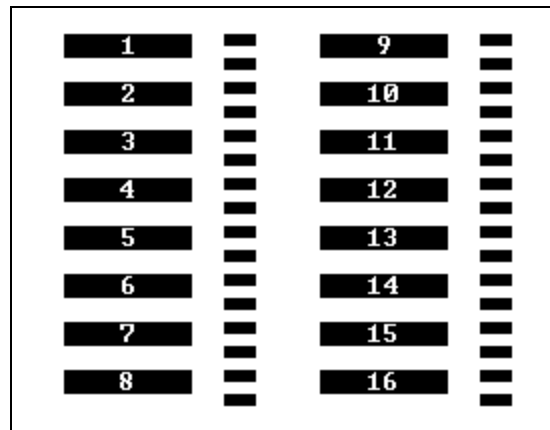
Figure 4-5:   View Console Scroll List

The "View Console" scroll list for the ACM has the following columns:

Button - identifies the button feature

Address - identifies the button address, that is, the position of the button on the operator module. The button address for an ACM can range from 1 to 16 as shown below.

Figure 4-6:   ACM Button Addresses

CCM

When you select the "VIEW" button for a CCM (Dual CCM, Dual DCCM, Single DCCM), the "View Console" scroll list for the CCM module appears.

```
      View console1: CCM 10H

Type                    Reference
Dual CCM (left)         radio1        ↑
Dual CCM (right)        radio2



                                      ↓

            DONE
```

Figure 4-7:   View Console Scroll List for CCM

The "View Console" scroll list for the CCM has the following columns:

Type - identifies the type of CCM

Regroup - identifies the regroup buttons that affect the channel assignments for this CCM

Reference - identifies the channels assigned to this CCM

I/O module

When you select the "VIEW" button for an I/O module, the "View Console" scroll list for the I/O module appears.

```
View console1: IO module 30H

Type    Port  Form C  Usage
Input    8                   ↑
Input    9
Input   10
Input   11
Input   12
Output   1      √
Output   2      √
Output   3      √
Output   4      √             ↓

            DONE
```

Figure 4-8:   View Console Scroll List for I/O

The "View Console" scroll list for the I/O module has the following columns:

Type - identifies the type of port (input or output)

Port - identifies the port number

Form C - identifies whether or not the port supports a form "C" relay

Usage - identifies the use of the port

Console Layout

The "Console Layout" menu item allows you to assign operator modules to specific positions on consoles.

This is required to correctly print out the configuration manual.

The "Console Layout" menu item displays the "Operator Module Layout" screen.

Figure 4-9:   Operator Module Layout Screen

Buttons

New Layout

The "NEW LAYOUT" button clears the operator module assignments from the layout and replaces them with the word "BLANK".

Labeled Rectangles

The labeled rectangles on the "Operator Module Layout" screen represent the positions on the console where operator modules can be located. When you select a rectangle, the "Operator Module Selection" screen appears.
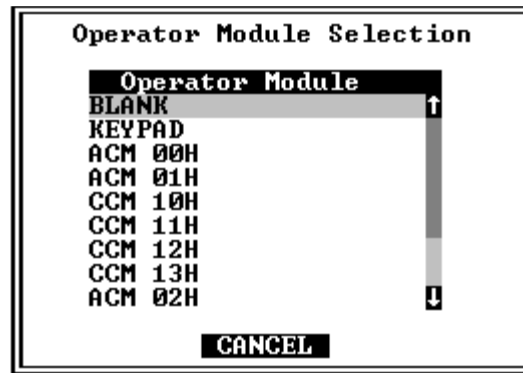
Figure 4-10: Operator Module Selection Screen

Use the "Operator Module Selection" screen to assign an operator module to the selected position on the console.

Control Assignment

The "Control Assignment" menu item allows you to assign button features to specific operator modules (ACMs and CCMs) on specific consoles. For DRCMs, the buttons are predefined and specific to the radio.

The "Control Assignment" menu item displays the "Console Control Definition" screen.
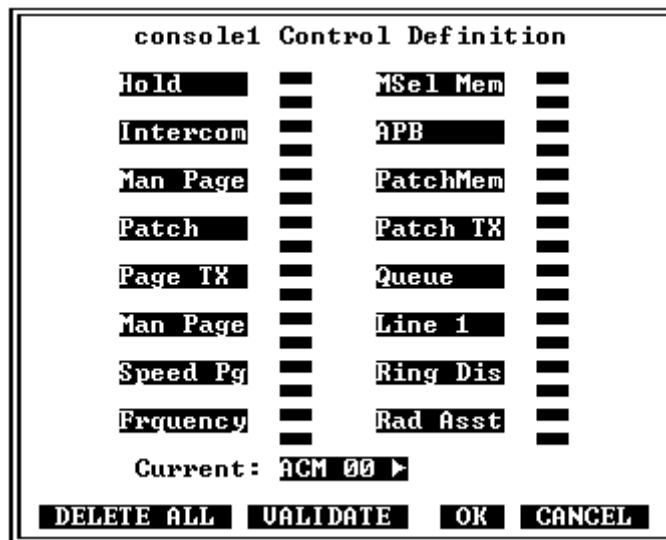
Figure 4-11: Console Control Definition Screen

The large black rectangles on the screen represent operator module buttons, the small black rectangles represent LEDs and have no function on the screen.

Field

Current

Several "Control Definition" screens are available for display depending on the types of operator modules being used on the console. The "Current" selection list field at the bottom of the screen lists the operator modules that have been assigned to the console. When you select the "Current" selection list field the selected operator module appears on the screen.

Use the [Page Up] and [Page Down] keys to display the operator modules.

Buttons

VALIDATE

If the call director feature is enabled for the console, the "VALIDATE" button on the "Control Definition" screen informs you whether or not a Call Director button has been assigned. This button is not available for DRCMs.

DELETE ALL

The "DELETE ALL" button on the "Control Definition" screen allows you to delete all the button assignments for the currently displayed screen. This button is not available for DRCMs.

To assign (or add) a feature to a button:

1. Select the "Current" selection list field at the bottom of the "Control Definition" screen.

A selection list of all the available operator modules appears.
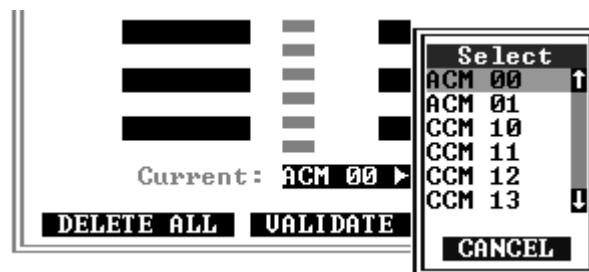
Figure 4-12: Available Operator Modules Selection List

2. Select the desired operator module.

3. Select, from the "Control Definition" screen, the button to be assigned a feature.

   Note: DRCM buttons are pre-defined and cannot be assigned features.

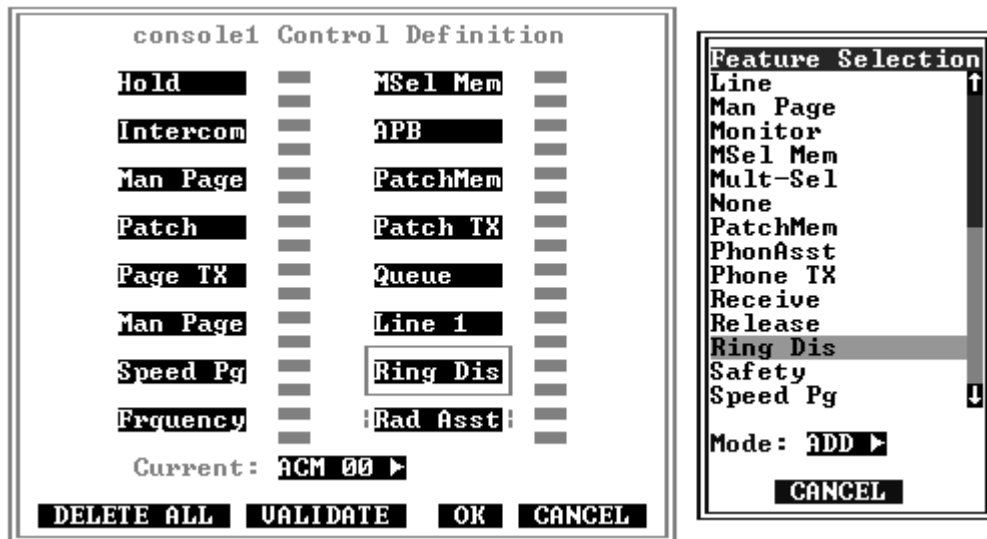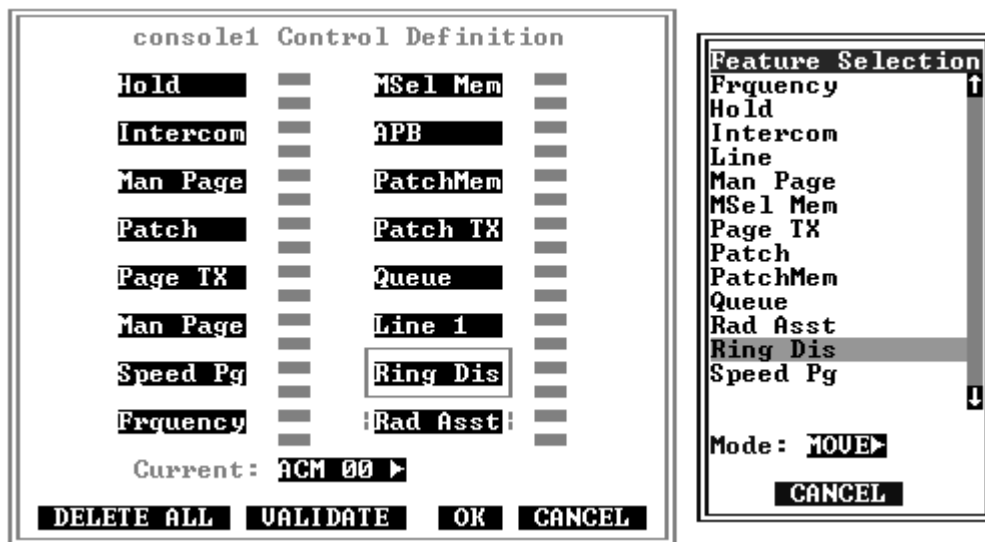The "Feature Selection" scroll list appears.

Figure 4-13: Feature Selection Scroll List

4.   Make sure that the "Mode" field is set to "ADD", then select the feature you wish to assign to the selected button.

The selected feature is assigned to the selected button.

Some button features can only be added once and after they are added they are removed from the selection list.

A special case of button assignment occurs when a dual button feature is involved (see Dual Button Features below).

Note: The "None" feature removes a feature from a button.

5.   Repeat as desired and select "OK" when you are finished.

To move a feature from one button to another:

1.   Select the "Current" selection list field at the bottom of the "Control Definition" screen.

A selection list of all the available operator modules appears.

Figure 4-14: Available Operator Modules Selection List

2.   Select the desired operator module.

3.   Select the button you want to change from the "Control Definition" screen.

The "Feature Selection" scroll list appears.

Figure 4-15: Feature Selection Scroll List

4.   Make sure that the "Mode" field is set to "MOVE", then select the feature you wish to assign to the selected button.

The selected feature is reassigned to the selected button. (The features are swapped between buttons.)

When the mode is set to "MOVE", the selection list only contains the button features that are currently assigned to the console.

A special case of button reassignment occurs when dual button features are involved (see Dual Button Features below).

5. Repeat as desired and select "OK" when you are finished.

Dual Button Features

A dual button feature is a feature that needs two buttons to operate. The two buttons are always placed one after the other. When one of the buttons is selected on the "Control Definition" screen, it is indicated with a surrounding box and the other is indicated by side bars.
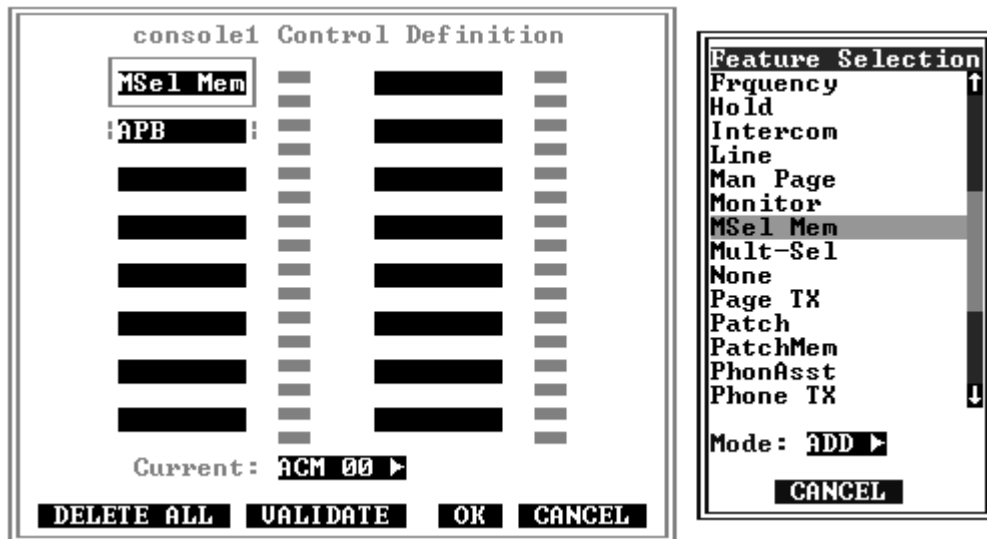
Figure 4-16: Control Definition Screen Dual Button Selected

When a dual button feature is reassigned, both buttons are reassigned.

The following features are always assigned to two buttons:

- Multiselect with memory (MSel Mem)
  and
  All points bulletin (APB)

- Patch with memory (PatchMem)
  and
  Patch transmit (Patch TX)

- Receive
  and
  Mute

- Call director patch (CDir Pat)
  and
  Call director transmit (CDir TX)

Feature Descriptions for ACMs

Alarm

The Alarm button allows a dispatcher to deactivate an I/O alarm that is sounding at the console. To make this button available in the "Feature Selection" scroll list you must:

1. add an auxiliary I/O using "Configuration/Miscellaneous/Auxiliary I/O". The "Type" field in the "Edit Auxiliary I/O" screen must be set to C, D, E, F, G, or H.

2. add an alarm to the I/O using the "Alarm" field in the "Edit Auxiliary I/O" screen.

Alert 1, 2, and 3

The alert tone feature provides a means of transmitting a special alert tone over the selected radio channels. Alert tones assigned to operator module buttons are activated when the buttons are pressed. Three types of alert tones are available:

*   **Alert 1 -** provides a continuous 1 kHz tone.

*   **Alert 2 -** provides two tones, 800 Hz and 1.5 kHz alternating at 2 Hz.

*   **Alert 3 -** provides a 1.5khz tone alternating with silence at 2 Hz.

Alias Page

The Alias page feature transmits one preprogrammed page code automatically. No digit entry is required. The dispatcher only needs to scroll through a list of entries.

All Mute

The All Mute feature allows a dispatcher to mute all the channels on the unselect speaker by pressing the All Mute button on the ACM. All Mute has a predetermined duration or "time-out delay" after which the muting stops and the unselect audio is restored to its previous volume. If the All Mute button is pressed while the unselect audio is muted, the muting stops and the unselect audio is restored to its previous volume.

The All mute level and the All mute time-out delay are set from "Configuration/Console/ Configuration" in the CSDM Lite.

APB (All Points Bulletin)

The APB feature allows a dispatcher to transmit an all points bulletin. The APB button which is always associated with the MSel Mem button allows a dispatcher to transmit immediately over the stored set of channels regardless of the current selection.

Intercom

The intercom feature allows a dispatcher to talk directly to a person at a base station or parallel unit. The console user selects a radio channel associated with the desired base station or parallel unit, then presses and holds the Intercom button and talks into the microphone. The person at the base station or parallel unit responds by speaking into the base station or parallel unit microphone.

Digital Takeover

The Digital Takeover feature allows a supervisor to take over the channel to communicate with the radio by blocking all other consoles. Digital Takeover is activated when the supervisor selects a digital radio channel and then presses the DigTakOv button. To deactivate

Digital Takeover and allow the other consoles to communicate with the radio, the DigTakOv button is pressed again.

CDir TX (Call Director Transmit)

The Call Director TX button allows a dispatcher to place a call through a call director interface. A call director interface connects the headset or the microphone and select speaker of the console to a telephone that is separate from the console.

To make this button available in the "Feature Selection" scroll list you must set the call-director type to Basic or Enhanced using "Configuration/Console/Configuration".

"Basic" allows you to transmit.

"Enhanced" allows you to transmit and create a patch.

CDir Pat (Call Director Patch)

The Call Director button allows a dispatcher to patch a call director call. A call director call is one that is made through call director interface. A call director interface connects the headset or the microphone and select speaker of the console to a telephone that is separate from the console.

To make this button available in the "Feature Selection" scroll list you must set the call-director type to Enhanced using "Configuration/Console/Configuration". "Enhanced" allows you to transmit and create a patch.

Clear

The Clear button is used to correct, remove, or erase an entry, a function, a display, or memory.

Line (Line 1, Line 2)

The Line 1 or Line 2 button gives a dispatcher direct access to a phone line.

• To access a phone line, the dispatcher presses the button for the phone line and then dials the phone number.

The buttons and assignments are set from "Configuration/Phone Line" in the CSDM Lite.

For this feature to work, the CO Line must be enabled in the Phone Line menu.

EmerAlrm (Emergency Alarm)

The Emergency Alarm button allows the dispatcher to stop an emergency alarm sounding at that console. As a result of pressing the button, the current emergency alarm will not be heard at the console, but, the emergency alarm will be heard at all other consoles with the channel assigned.

EmerClr (Emergency Clear)

The Emergency Clear button allows the dispatcher to cancel the current emergency alarm.

Enter RAC (Repeater Access Code)

The Enter RAC button allows the dispatcher to change the repeater access code.

Flash

The Flash button allows a dispatcher to send a hook flash signal over a phone line.

Frequency

The Frequency button allows the dispatcher to specify the frequency on which to transmit and receive on the selected radio channel.

Hold

The Hold button allows a dispatcher to put a telephone call on hold.

I/O (Input/Output)

The I/O button allows a dispatcher to control an Auxiliary I/O.

Man Page (Manual Page)

The Manual Page feature allows a dispatcher to send a page by pressing the Man Page button and then typing the paging code. To use this feature you must:

1. Add a Man Page button.

2. Add a paging format using "Configuration/Paging/Page Format".

3. Assign the format to the button using "Configuration/Paging/Manual Page".

Monitor

The Monitor feature allows a dispatcher to check if anyone is using the selected channel before keying it. This is useful when the channel is using PL tones. PL tones prevent specific groups from receiving on the channel, yet allow those groups to transmit. Hence the potential exists for conflicting transmissions. If members of an excluded group wish to use the channel, before they transmit they can monitor the channel and find out if it is being used.

MSel Mem (Multi-Select with Memory)

The Multi-Select with memory feature allows a dispatcher to select more than one channel at a time and stores the selected channels in memory. The APB button which is always associated with the MSel Mem button allows a dispatcher to transmit immediately over the stored set of channels regardless of the current selection.

Mult-Sel (Multi-Select)

The Multi-Select feature allows a dispatcher to select more than one channel at a time (also known as simul-select).

None

"None" has no application as an operator module feature. It allows you to remove a button feature from a button.

Page TX (Page Transmit)

The Page TX button allows a dispatcher to transmit a page.

Patch

The Patch button allows the dispatcher to create a patch.

Patch TX

The Patch TX button allows the dispatcher to transmit a patch.

Patch Mem (Patch with Memory)

The Patch Mem button allows a dispatcher to store patch settings in memory so that it can be recreated easily.

PhonAsst (Phone Assist)

The Phone Assist button allows a dispatcher to force phone line audio onto the radio during a call director patch.

Phone TX (Phone Transmit)

When dispatchers have intercom or telephone conversations the audio is routed through the headset or, in the absence of a headset, through the console microphone and select speaker. When the audio is routed through the microphone and select speaker, feedback can occur.

To avoid feedback telephone conversations are half-duplex:

- The dispatcher presses the Phone TX button to enable the microphone and mute audio from the select speaker.

- The dispatcher releases the Phone TX button to disable the microphone and unmute audio from the select speaker.

Queue

The Queue feature gives a dispatcher a list of the last 15 messages that were received over a channel.

Rad Asst (Radio Assist)

The Radio Assist button allows a dispatcher to force radio audio onto the radio during a call director patch.

Receive

The Receive feature adds a Receive button and an associated Mute button to an ACM. These buttons allow a dispatcher to select and mute a channel using an ACM. A channel can be assigned to the receive button using "Configuration/Radio Channel/Assignment".

Release

The Release button allows a dispatcher to release a telephone call.

Ring Dis (Ring Disable)

The Ring Disable button allows a dispatcher to stop the console from ringing when a telephone call comes in.

Safety

The Safety button prevents a dispatcher from pressing an I/O button at the wrong time. The dispatcher must press the Safety button first.

Speed Pg

The Speed Page feature allows a dispatcher to transmit one of several pre-programmed page codes automatically. No digit entry is required from the keypad. The code can be assigned to the button using "Configuration/Paging/Speed Page".

Feature Descriptions for CCMs

Aux1 I/O and Aux2 I/O (Auxiliary I/O 1 and 2)

The Aux I/O buttons 1 and 2 can be used for any non-specific output relay function.

F1/2 Aux (Frequency 1, Frequency 2, Auxiliary)

The F1/2 Aux button controls the auxiliary 1 output relay <u>plus</u> controls frequency 1 and 2. When the button is pressed, the relay is activated and frequency 2 becomes the transmit and receive frequency. When the button is pressed again, the relay is deactivated and frequency 1 becomes the transmit and receive frequency.

F1/2 Cpl (Frequency 1, Frequency 2, Coupled)

The F1/2 Cpl button controls frequencies 1 and 2. When the button is pressed, frequency 1 becomes the transmit and receive frequency. When the button is pressed again, frequency 2 becomes the transmit and receive frequency.

F3/4 Cpl (Frequency 3, Frequency 4, Coupled)

The F3/4 Cpl button controls frequencies 3 and 4. When the button is pressed, frequency 3 becomes the transmit and receive frequency. When the button is pressed again, frequency 4 becomes the transmit and receive frequency.

F5/6 Cpl (Frequency 5, Frequency 6, Coupled)

The F5/6 Cpl button controls frequencies 5 and 6. When the button is pressed, frequency 5 becomes the transmit and receive frequency. When the button is pressed again, frequency 6 becomes the transmit and receive frequency.

F1/2 Shr (Share Frequency 1 and 2)

The F1/2 Shr button controls frequencies 1 and 2 in the following way:

- The channel is not selected

  - When the F1/2 Shr button is pressed, frequency 1 becomes the receive frequency.

  - When the F1/2 Shr button is pressed again, frequency 2 becomes the receive frequency

- The channel is selected

  - When the F1/2 Shr button is pressed, frequency 1 becomes the transmit frequency.

- When the F1/2 Shr button is pressed again, frequency 2 becomes the transmit frequency.

F3/4 Shr (Share Frequency 3 and 4)

The F3/4 Shr button controls frequencies 3 and 4 in the following way:

- The channel is not selected

  - When the F3/4 Shr button is pressed, frequency 3 becomes the receive frequency.

  - When the F3/4 Shr button is pressed again, frequency 4 becomes the receive frequency

- The channel is selected

  - When the F3/4 Shr button is pressed, frequency 3 becomes the transmit frequency.

  - When the F3/4 Shr button is pressed again, frequency 4 becomes the transmit frequency.

F5/6 Shr (Share Frequency 5 and 6)

The F5/6 Shr button controls frequencies 5 and 6 in the following way:

- The channel is not selected

  - When the F5/6 Shr button is pressed, frequency 5 becomes the receive frequency.

  - When the F5/6 Shr button is pressed again, frequency 6 becomes the receive frequency

- The channel is selected

  - When the F5/6 Shr button is pressed, frequency 5 becomes the transmit frequency.

  - When the F5/6 Shr button is pressed again, frequency 6 becomes the transmit frequency.

None

"None" has no application as an operator module feature. It allows you to remove a button feature from a button.

PL A/B (Private Line A and B)

The PL A/B button allows a dispatcher to select private line A or B.

PL C/D (Private Line C and D)

The PL C/D button allows a dispatcher to select private line C or D.

PL E/F (Private Line E and F)

The PL E/F button allows a dispatcher to select private line E or F.

Repeat

The Repeat button allows a dispatcher to enable or disable the repeater function for the channel.

RX F1/F2 (Receive Frequency 1, Receive Frequency 2)

The RX F1/F2 button controls frequencies 1 and 2 in the following way:

• When the RX F1/F2 button is pressed, frequency 1 becomes the receive frequency.

• When the RX F1/F2 button is pressed again, frequency 2 becomes the receive frequency.

RX F3/F4 (Receive Frequency 3, Receive Frequency 4)

The RX F3/F4 button controls frequencies 3 and 4 in the following way:

• When the RX F3/F4 button is pressed, frequency 3 becomes the receive frequency.

• When the RX F3/F4 button is pressed again, frequency 4 becomes the receive frequency.

RX F5/F6 (Receive Frequency 5, Receive Frequency 6)

The RX F5/F6 button controls frequencies 5 and 6 in the following way:

• When the RX F5/F6 button is pressed, frequency 5 becomes the receive frequency.

• When the RX F5/F6 button is pressed again, frequency 6 becomes the receive frequency.

Secure

The Secure button allows a dispatcher to encrypt a channel.

Station

The Station button allows a dispatcher to switch between the main and standby base stations.

Takeover

The Takeover button allows a dispatcher to disable a Parallel unit.

TX F1/F2 (Transmit Frequency 1, Transmit Frequency 2)

The TX F1/F2 button controls frequencies 1 and 2 in the following way:

• When the TX F1/F2 button is pressed, frequency 1 becomes the transmit frequency.

• When the TX F1/F2 button is pressed again, frequency 2 becomes the transmit frequency.

TX F3/F4 (Transmit Frequency 3, Transmit Frequency 4)

The TX F3/F4 button controls frequencies 3 and 4 in the following way:

• When the TX F3/F4 button is pressed, frequency 3 becomes the transmit frequency.

- When the TX F3/F4 button is pressed again, frequency 4 becomes the transmit frequency.

TX F5/F6 (Transmit Frequency 5, Transmit Frequency 6)

The TX F5/F6 button controls frequencies 5 and 6 in the following way:

- When the TX F5/F6 button is pressed, frequency 5 becomes the transmit frequency.

- When the TX F5/F6 button is pressed again, frequency 6 becomes the transmit frequency.

WldCard 1 and 2 (Wildcard 1 and 2)

The WldCard button sends tones used to operate miscellaneous devices. A wildcard has two frequencies. The first frequency, used to turn the device on, is sent when the wildcard button is pressed. The second frequency, used to turn the device off, is sent when the wildcard button is pressed again.

DRCM "Control Definition" Screen

When a DRCM is selected from the "Current" field of the "Control Definition" screen, pre-defined buttons specific to the radio and a box indicating radio number and type appear.
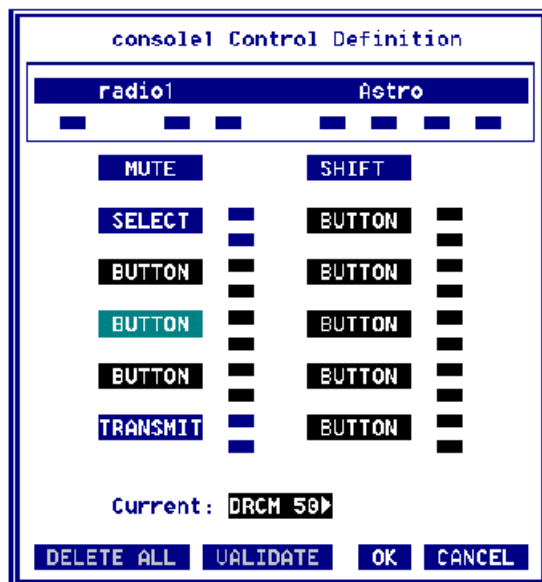
Figure 4-17: DRCM "Control Definition" Screen

The buttons cannot be changed or assigned features. Labels on the DRCM need to made manually. For further information on the buttons, refer to the CommandSTAR Lite Installation and Troubleshooting Manual.

Password Configuration

The "Password Configuration" menu item displays the "Password Configuration" screen and is available when the "Console type" field of the "Console" screen is set to "PC Console".

Figure 4-18: Password Configuration Screen

The "Password Configuration" menu item lists the passwords and their corresponding level of access for the console.

When you select a password from the list, the "DELETE" and "EDIT" buttons become active.

Buttons

ADD

The "ADD" button on the "Password Configuration" screen allows you to add a password with an assigned level of access.

The "Add Password" screen appears.

Figure 4-19: Add Password Screen

The "Add Password" screen has the following fields:

Password - The "Password" field allows you to assign a password.

Level - The "Level" field allows you to specify the level of access for the assigned password. Choices are:

•   Operator (provides basic access)

- Supervisor (provides access to supervisory features of the console)

DELETE

The "DELETE" button on the "Password Configuration" screen allows you to delete a password and its level of access from the "Password Configuration" screen.

EDIT

The "EDIT" button on the "Password Configuration" screen allows you to change the assigned password or the level of access.

The "Edit Password" screen appears.

```
┌────────────────────────────┐
│      Edit Password         │
│                            │
│ Password: SUPER1           │
│ Level:    Supervisor▶      │
│                            │
│      ▓OK▓      ▓CANCEL▓     │
└────────────────────────────┘
```

Figure 4-20: Edit Password Screen

Radio Channel

The "Radio Channel" menu item displays a sub-menu with the following menu items:

- Configuration

- Assignment

- Cross-Muting

- Tone Signaling

- DC Signaling

- Caller ID list

Configuration

The "Configuration" menu item displays the "Radio Channel Configuration" scroll list.

```
                Radio Channel Configuration

           Name
           radio1                                    ↑
           radio2
           radio3
           radio4
           radio5
           radio6
           radio7
           radio8                                    ↓


        ADD RADIO 5 TO 8      EDIT     OK     CANCEL
```
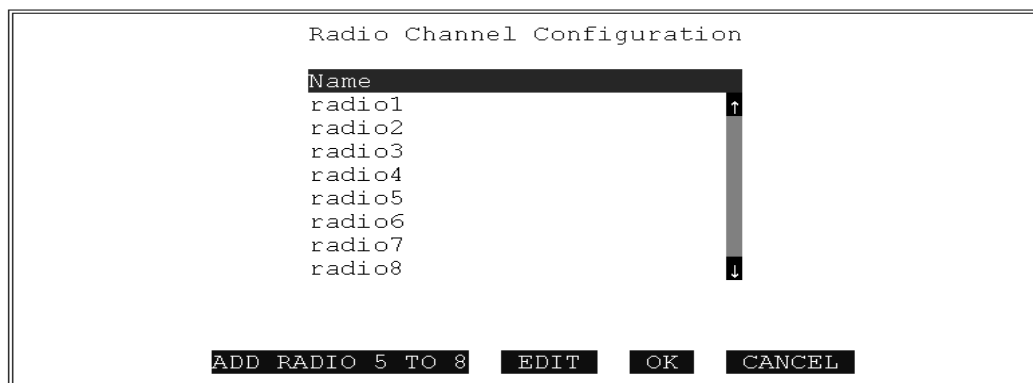
Figure 4-21: Radio Channel Configuration Scroll List

The "Radio Channel Configuration" scroll list has the following columns for identifying radio channels.

Name - the names of the channels

When you select the desired radio channel, the "EDIT" button becomes active.

Buttons

ADD RADIO 5 TO 8

The "ADD RADIO 5 TO 8" button on the "Radio Channel Configuration" screen allows you to automatically add radio channels 5 to 8 to the system. When selected, a dialog box appears asking if you wish to proceed.

Figure 4-22: Add Radio 5 to 8 Warning Dialog Box

EDIT

The "EDIT" button on the "Radio Channel Configuration" screen allows you to change the settings for a radio channel.

When you select "EDIT", a screen appears allowing you to set the parameters for the channel.

Figure 4-23: First Edit Radio Channel Screen

Buttons

NEXT

Select the "NEXT" button (or press [Page Down]) to display the second "Edit Radio Channel" screen.

Figure 4-24: Second Edit Radio Channel Screen

PREVIOUS

Select the "PREVIOUS" button (or press [Page Up]) to return to the first "Edit Radio Channel" screen.

Fields

Name

The "Name" field allows you to change the name of the radio channel. The "Name" field is actually two fields. The two fields allow you to name the channel with two 8 character words. At least one of the fields must contain data and a name cannot be duplicated.

Mode

The "Mode" field allows you to specify whether a channel is capable of:

• Receiving and transmitting (RX-TX)

Call detection method

The "Call detection method" field allows you to specify the type of method used by the channel to tell whether a call is coming in on the channel. The following call detection methods are possible:

• Voice detect - the channel detects speech on the line and then indicates the call in the system.

• Carrier Operated Relay detection (COR detect) - The channel detects the line's carrier through an opto-coupler input and then indicates the call in the system.

See also "Signaling method" on page 4-33.

High speed mute

The "High speed mute" field allows you to enable or disable the high speed mute feature for this channel. The high speed mute feature mutes audio when an external data decoder closes a data detection relay. This muting is "high speed" because data transmission only lasts for a very short period of time.

If the call detection is set to COR, the "High speed mute" field is not available (N/A).

Note: High speed mute does not need to be specified for STAT-ALERT channels, the system will automatically mute the STAT-ALERT data burst.

Voice encryption

The "Voice encryption" field allows you to specify the location for the opto-coupler and the relay controlling DES/DVP voice encryption on this channel. For the CSDM Lite, the default is that the relays and optos are coming from the I/O box only.

Main/standby relay

The "Main/standby relay" identifies the location and the settings for the relays that allow you to switch between main and standby channels. "RX+", "RX-", "TX+", "TX-", etc. refer to the relays for each of the wires that are used to receive and transmit through the main and standby channels. For the CSDM Lite, configuration of a Main/Standby relay is only through an I/O box.

First auxiliary I/O

The "First auxiliary I/O" field allows you to specify which auxiliary I/O is assigned to the "Aux1 I/O" button on the CCM assigned to this channel. For the CSDM Lite, configuration is only through an I/O box. Refer to the Auxiliary I/O section in this chapter for more information on how to assign an Aux I/O to a button.

Note: On DCCM modules for Aux1 and Aux2, only the I/O types A and B are supported.

Second auxiliary I/O

The "Second auxiliary I/O" field allows you to specify which auxiliary I/O is assigned to the "Aux2 I/O" button on the CCM assigned to this channel. For the CSDM Lite, configuration is only through an I/O box. Refer to the Auxiliary I/O section in this chapter for more information on how to assign an Aux I/O to a button.

Note: On DCCM modules for Aux1 and Aux2, only the I/O types A and B are supported.

Parallel Status

The "Parallel Status" field allows you to set the parallel status on or off and is only available in Tone Control Signalling mode. When set to ON, the channel will decode other console change of functions (for example, F1 to F2).

TX Voice Delay

The "TX Voice Delay" field allows you to enable or disable a delay in the voice transmission. When enabled, a value for the delay in milliseconds may be entered.

Num. wires

The "Num. wires" field allows you to specify the configuration for the base station interface. The choices are:

- 2W half duplex

- 4W half duplex

- 4W full duplex

Location

The "Location" field allows you to specify the port through which the channel is connected to the system. This field is configured automatically with the port number.

Repeater

The "Repeater" field allows you to specify the type of repeat function for the channel. Choices are:

- None - no repeater is being used for the channel

- Local - the repeat function is performed at the console

- Remote - the repeat function is performed at the base station

For the CSDM Lite, configuration of a Repeat Relay is only through an I/O box.

Channel relay

The "Channel relay" field allows you to specify the relay operation options. A PTT relay can be used to key the channel if the transmitter is located very close to the console or just to provide a relay closure when transmitting over the channel for other purposes. Choices are:

- PTT Disable - the PTT relay is disabled

- PTT Enable - the PTT relay is enabled

When the "Signaling method" field is set to Digital, the following additional choices appear. These options are only for the Astro and iDEN radios when an emergency is coming from a mobile or portable radio:

- EmerWTimer - the PTT relay closes for a maximum of 5 seconds when a message is received and opens again after timing out. If another message is received from the radio during the 5 second interval, the PTT relay opens.

- EmerWMsg - the PTT relay closes when a message on is received and opens when a message off is received from the radio.

See also "Signaling method" on page 4-33.

Remote repeat disable

The "Remote repeat disable" field allows you to specify the method used to disable the remote repeat function if the repeat function is set to "Remote" in the "Repeater" field. Choices are:

- Relay only - remote repeat is disabled through the use of a relay.

- Signaling - remote repeat is disabled through the use of a tone or current.

- Sign and Relay - remote repeat is disabled through the use of a relay and a tone or current.

Repeat disable relay

The "Repeat disable relay" field allows you to specify the location and settings for the remote repeat disable relay. The "Repeat disable relay" field displays the default ADD value. Configuration of a Repeat Relay is only through an I/O box, therefore, the console must be equipped with an I/O box.

If the "Remote repeat disable" field is set to Signaling, the "Repeat disable relay" field is not available (N/A).

RX multi-frequency

The "RX multi-frequency" field allows you to specify the number of receive frequencies available for the channel. The maximum is 16 frequencies.

The number of frequencies available to select here is set in the RX freq. field of the Edit Tone Signaling Plan Screen (page 4-48) or RX frequencies of the Edit DC Signaling Plan Screen (page 4-51).

TX multi-frequency

The "TX multi-frequency" field allows you to specify the number of transmit frequencies available for the channel. The maximum is 16 frequencies.

The number of frequencies available to select here is set in the TX freq. field of the Edit Tone Signaling Plan Screen (page 4-48) or TX frequencies of the Edit DC Signaling Plan Screen (page 4-51).

Signaling method

The "Signaling method" field allows you to specify the type of signaling for the channel. Choices are: Tone, DC, Tone + DC, Mobile, and None. Mobile radio is not available for channels 7 and 8.

Note: E&M (Ear & Mouth) signaling is possible for any Signaling method whenever you enable COR detect in the Call detection method field (E) and PTT Enable in the Channel relay field (M), even if you select None as the Signaling method. Select None in the Signaling method field if you do not want either DC or Tone.

Parallel unit

The "Parallel unit" field allows you to specify how a Parallel unit will interface to the channel. Choices are:

- Off - Parallel unit keying is not detected.

- On - Parallel unit intercom and transmit audio is heard in the console; Parallel unit keying busies out the channel.

- X-muted - Parallel unit intercom audio only is heard in the console; Parallel unit keying busies out the channel.

Caller ID format

The "Caller ID format" field allows you to specify the caller ID for the channel. Choices are: None, STAT-ALERT, and DTMF.

Talk Permit

The "Talk Permit" field allows you to enable or disable talk permit. With the "Talk Permit" field enabled, the "Talk Permit Settings" field may be edited. For the "Talk Permit" field to be active, the "Num. wires" field must be set to 4W full duplex.

DTMF Selective call

The "DTMF Selective call" field allows you to specify whether DTMF Selective call is enabled or disabled for the channel. If either the "DTMF Selective call" field is enabled, or the "Caller ID format" field is set to DTMF, the "DTMF decode settings" field may be edited.

If the "Caller ID format" field is set to DTMF, the "DTMF Selective call" field is not available (N/A).

Recorder level

The "Recorder level" field allows you to specify the gain at which the channel will be presented to the recorder port. Valid values are from -60dBm to +11dBm.

Muting level

The "Muting level" field allows you to specify the muting level for the channel. Choices are:

- Muted - there is no audio from this channel when the mute button is pressed.

- Audible - the audio volume from this channel is lowered by 24dB when the mute button is pressed.

Unselect speaker

The "Unselect speaker" field allows you to specify the unselect speaker you want the channel to be heard on.

Tone signaling plan

The "Tone signaling plan" field allows you to specify the tone signaling plan for the channel. This field is active only if the "Signaling method" field is set to "Tone" or "Tone+DC".

DC signaling plan

The "DC signaling plan" field allows you to specify the DC signaling plan for the channel. This field is active only if the "Signaling method" field is set to "DC" or "Tone+DC".

Mobile Radio Type

The "Mobile Radio Type" field allows you to select the type of radio for the channel. This field is active only if the "Signaling method" field is set to "Mobile".

PL strip supported

The "PL strip supported" field allows you to specify whether PL strip is enabled or disabled for the channel.

If two separate groups must use the same frequency, private line (PL) tones can accompany transmitted audio and ensure that the transmission is only picked up by the intended group.

When "PL strip supported" is enabled, the private line (PL) tones that are ordinarily sent with transmitted audio are not sent on the channel if the channel is used for paging. As a

result, pagers (which do not require PL tones) will pick up the page signal while radio receivers (which do require PL tones) will not.

Number of PL/DPL

The "Number of PL/DPL" field allows you to specify the number of PL tones or DPL tones (Private Line tones or Digital Private Line tones) assigned to the channel.

Wildcard frequencies

The "Wildcard frequencies" field allows you to specify the number of wildcard tone sequences to be used with the channel.

A "Wildcard" can be used to operate miscellaneous devices and is operated by pressing the wildcard button on the channel's CCM. A wildcard has two frequencies. The first frequency, used to turn the device on, is sent when the wildcard button is pressed. The second frequency, used to turn the device off, is sent when the wildcard button is pressed again. Each tone signaling plan can have up to two wildcard frequencies.

The "Wildcard frequencies" field can have the following values:

*   0 - no wildcard

*   1 - one wildcard which is operated by the "WldCard1" button on the channel's CCM.

*   2 - two wildcards, the first of which is operated by the "WldCard1" button on the channel's CCM, the second of which is operated by the "WldCard2" button on the channel's CCM.

STAT-ALERT settings

The "STAT-ALERT settings" field allows you to set the parameters for the STAT-ALERT caller ID format. If the "Caller ID format" field is not set to STAT-ALERT, the "STAT-ALERT settings" field is not available (N/A). The "STAT-ALERT settings" field displays the "STAT-ALERT Configuration" screen.

Figure 4-25: STAT-ALERT Configuration Screen

The "STAT-ALERT Configuration" screen has the following fields:

PTT ID Type - The PTT ID is data that identifies the console keying the channel. "PTT ID Type" field can have the following values:

- None - no PTT ID is used on the channel

- Leading - the PTT ID is sent when the PTT button is pressed.

- Trailing - the PTT ID is sent when the PTT button is released.

Leading pretime - The leading pretime is the time delay between the time the PTT button is pressed (or the time the RAC code ends) and the time the PTT ID is sent (see Figure 4-21). Values can range from 0 to 60000 milliseconds.

Trailing pretime - The trailing pretime is the time delay between the time the PTT button is released and the time the PTT ID is sent. Values can range from 0 to 60000 milliseconds.

Pretime type - The "pretime type" field can have the following values:

- Silent - During the leading pretime, no data nor tones are sent.

- Bit sync - During the leading pretime, the bit sync sequence of the STAT-ALERT message is sent. This gives the receivers more opportunity to synchronize with the transmitter.

RAC type - The Remote Access Code (RAC) is a code sent to activate a specific remote repeater. When used, the RAC is sent before the leading pretime. The "RAC type" field can have the following values:

- No RAC - No RAC is used on the channel.

- Manual RAC - The RAC has to be sent manually (using a manual page button that has been assigned the "STAT-ALERT" format and the "manual RAC" type) before the PTT button is pressed.

- Auto RAC - The RAC is sent when the PTT button is pressed.

Default RAC - The "Default RAC" field allows you to specify the RAC that will be sent when the RAC type field is set to "Auto RAC".

RAC pretime - The RAC pretime is the time delay between the time the PTT button is released and the time the RAC is sent (see Figure 4-21). Values can range from 0 to 60000 ms.
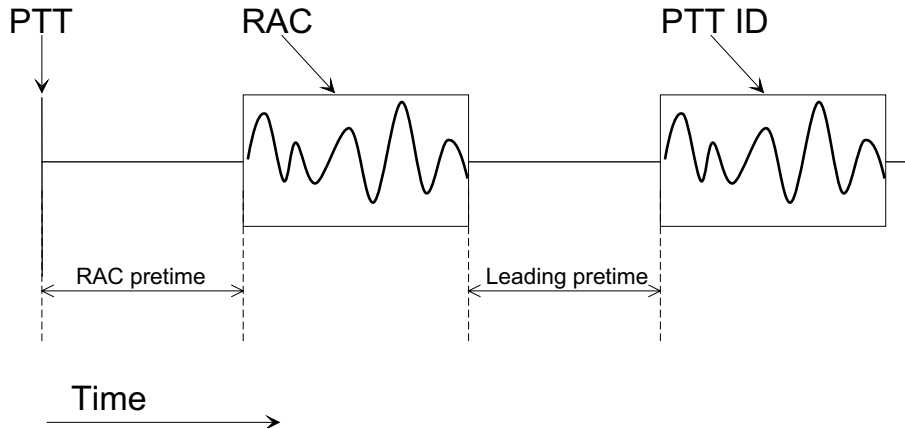
Figure 4-26: The PTT is followed by the RAC pretime, the RAC, the leading pretime, and the PTT ID.

Mute monitor - The "mute monitor" field allows you to enable or disable the mute monitor feature. When enabled, the mute monitor feature detects when the channel is "muted" (not being used).

The mute monitor feature is useful if the channel is using PL tones. PL tones prevent specific groups from receiving on the channel, yet allow those groups to transmit. Hence the potential exists for conflicting transmissions. If members of an excluded group wish to use the channel for paging, they can go through the motions of sending a page, but the console waits until the channel is "muted" (not being used) before the page is actually sent. After sending the page the console waits for acknowledgment. If the page is not acknowledged within a certain period of time the console sends the page again.

Retry constant - The retry constant can be a number from 2 to 17. This number is used in a software equation to determine the length of time the console should wait before trying to send the page again after not receiving an acknowledgment. The higher the number the longer the delay. (Please see the explanation for "mute monitor".)

Limited patience - The "Limited patience" field allows you to specify a period of time after which the console ignores the mute monitor and transmits whether the channel is free or not. Values for this field can range from 0 to 60 seconds. A value of 0 (zero) means console will never ignore the mute monitor. (Please see the explanation for "mute monitor".)

Busy timer - The "Busy timer" field allows you to enable or disable the busy timer function.

If two consoles are using mute monitor to monitor the same channel, and both consoles are waiting to send pages, as soon as the channel is available the pages will be sent at the same time resulting in a both messages being garbled. When the "Busy timer" field is enabled, the pages are less likely to collide and become garbled because each page must wait a randomly generated period of time before it can be sent. (Please see the explanation for "mute monitor".)

DOS coast - The "Data Operated Squelch (DOS) coast" field allows you to specify the length of time for the DOS coast. Values can range from 0 to 60000 ms.

Data Operated Squelch (DOS) coast is a muting of the channel during the portion of the message between data and speech.

DTMF decode settings

The "DTMF decode settings" field allows you to set the parameters for the DTMF caller ID format and the DTMF Selective call. If the "Caller ID format" field is not set to DTMF and the "DTMF Selective call" field is not enabled, the "DTMF decode settings" field is not available (N/A). The "DTMF decode settings" field displays the "DTMF Decode Settings" screen.

```
              DTMF Decode Settings

Minimum DTMF digits:        1 ▶
Maximum DTMF digits:        2 ▶
DTMF digit duration:     2000  ms
Interdigit duration:     2000  ms
Last digit waiting time: 2500  ms

          OK              CANCEL
```

Figure 4-27: DTMF Decode Settings Screen

The "DTMF Decode Settings" screen has the following fields:

Minimum DTMF digits - The minimum number of DTMF digits for decode can be from 1 to 7. Only the decodes that are within the minimum and maximum value set are displayed and sent to the logging printer.

Maximum DTMF digits - The maximum number of DTMF digits for decode can be from 2 to 8. Only the decodes that are within the minimum and maximum value set are displayed and sent to the logging printer.

DTMF digit duration - The time for one DTMF digit.

Interdigit duration - The time between DTMF digits.

Last digit waiting time - The maximum time to wait for the next digit before decoder reset.

Talk Permit Settings

The "Talk Permit Settings" field allows you to set the parameters for the Go-ahead tones. If the "Num. wires" field is not set to 4W full duplex and the "Talk Permit" field not enabled (no check mark), the "Talk Permit Settings" field is not available (N/A). Also, the "Signaling

method" field must NOT be set to Digital. The "Talk Permit Settings" field displays the "Talk Permit Configuration" screen.

```
┌──────────────────────────────────────────┐
│        Talk Permit Configuration          │
│                                            │
│   Tone Frequency:        900.0    Hz       │
│   Min Tone Duration:        25    ms       │
│   Min Pause Duration:       25    ms       │
│   Number Of Tone:            3             │
│   Time Out:               3500    ms       │
│                                            │
│                                            │
│        ┌──────────┐     ┌──────────┐       │
│        │    OK    │     │  CANCEL  │       │
│        └──────────┘     └──────────┘       │
└──────────────────────────────────────────┘
```

Figure 4-28: Talk Permit Configuration Screen

The "Talk Permit Configuration" screen has the following fields:

Tone Frequency - Enter the radio Go-ahead Tone Burst Frequency that needs to be detected. Valid values are from 200 Hz to 3400 Hz.

Min Tone Duration - Enter the Min Duration of radio Tone Bursts. Valid values are from 0 ms to 1000 ms.

Min Pause Duration - Enter the Min Pause Duration between the radio Tone Bursts. Valid values are from 0 ms to 1000 ms.

Number of Tones - Enter the number of radio Tone Bursts. Valid values are from 0 to 5.

Time Out - Enter the time which the console will wait for the reception of the Go-ahead Tones. Valid values are from 0 ms to 10000 ms.

TX level

The "TX level" field allows you to specify the transmit level for the channel. Values can range from -60dBm to +11dBm.

Note: When setting up a console to be used with a Digital Junction Box (L3208, L3239), be sure to set the TX level to -20dBm.

RX level

The "RX level" field allows you to specify the receive level for the channel. Values can range from -60dBm to +11dBm. This is the overall gain for audio reception. Set this value to be the same as the level of the audio coming in from the radio.

RX detect threshold

The "RX detect threshold" field allows you to specify the level below which the receive audio will not be accepted through the port and hence will not be heard. Values can range from -5dB to -32dB in 3dB increments and is relative to the RX level. RX detect threshold works in combination with RX level to specify the lowest level of audio that the console detects. Set this value so that the console can still pick up the human voice when it falls below the average loudness for human conversation.

RX hangover delay

The "RX hangover delay" field allows you to specify the RX hangover delay. The RX hangover delay is a period of time after incoming audio has stopped that the system will consider that the channel is still in use. When the hangover delay period runs out, the call light on the console goes out. Values can range from 250 to 30000 ms. Set this value so that the channel is not released every time there is a pause in conversation. For half-duplex systems, set this value so that the channel is released for reply without too long a wait.

Priority marker

The "Priority marker" field enables or disables the priority marker on the channel. The priority marker is a 700Hz tone transmitted on the channel every ten seconds used to warn users that this channel is reserved for emergencies.

RX impedance

The "RX impedance" field allows you to select an impedance of 600 or 10K Ohms.

TX Timeout

The "TX Timeout" field allows you to set the maximum duration (10 to 60 seconds) of a transmission.

Assignment

The "Assignment" menu item allows you to specify which channels will be assigned to which operator modules.

The "Assignment" menu item displays the "Radio Assignment to Operator Module" matrix.

```
        Radio Assignment to Operator Module

                          radio7
                        radio6
                      radio5
                    radio4
                  radio3
                radio2
              radio1
            CCM10A
            CCM10B
            CCM11A
            CCM11B
            CCM12A
            CCM12B
            CCM13A

              OK              CANCEL
```
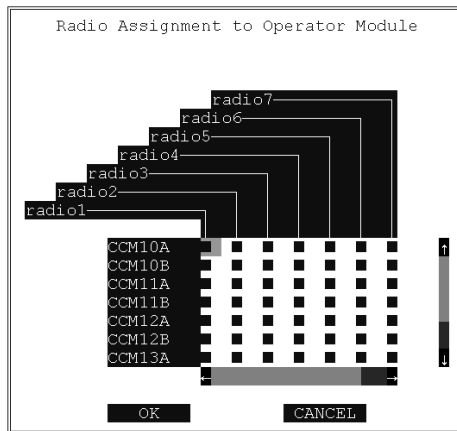
Figure 4-29: Radio Assignment to Operator Module Matrix Screen

To assign a channel to an operator module:

1. If no matrix elements are currently selected, select the matrix elements that correspond to the desired channel and operator module combinations.

    Note that a row can only contain one "X". If you wish to change the current settings, you must first disable the current settings, then select the matrix elements that correspond to the desired channel and operator module combinations.

When enabled, a matrix element contains an "X".

When disabled, a matrix element contains a rectangle.

2. Select "OK".

You are returned to the "Radio Channel" submenu.

Cross-Muting

If two radio channels interfere with one another, the audio from the keyed channel can crossover onto the interfering channel and be heard on the transmitting console's speaker. The audio from the speaker can be picked up by the transmitting microphone and cause feedback.

The cross-mute feature lets you mute the audio of the interfering channel so it will not be heard on the speaker when the other channel is keyed.

The "Cross-Muting" menu item displays the "Radio Channel Cross-Muting" matrix.
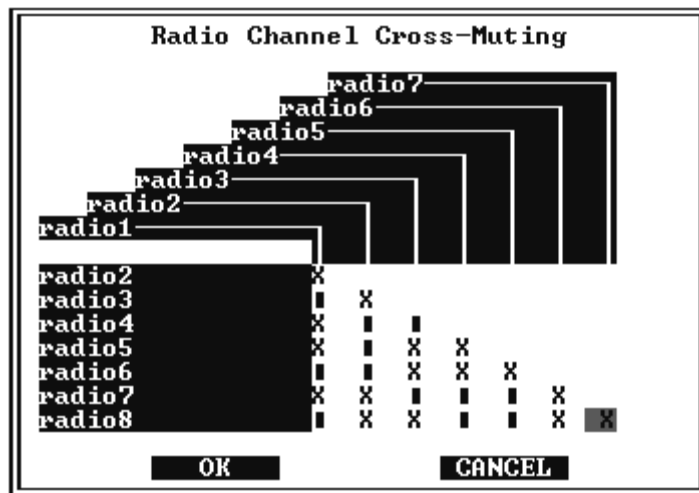
Figure 4-30: Radio Channel Cross-Muting Matrix

To enable cross-mute between two channels:

1.   Select the matrix element that corresponds to the two channels you wish to cross-mute.

The rectangle changes to an "X".

2.   Select "OK".

You are returned to the "Radio Channel" submenu.

To set the radio channel cross-mute level:

Select the "General" menu item in the "Configuration" menu and then select the "radio channel" field under the heading "Cross-mute attenuation level".

The cross-mute feature can be set to one of two levels. The level you choose is system wide, that is, it is applied to all the cross-muted channels in the system. The levels are:

•   Audible - lowers audio by 24 dB

•   Muted - totally muted

Tone Signaling

Consoles send signaling tones to base stations to tell the base stations to perform specific functions.

A tone signaling plan is a grouping of tone definitions in which the frequencies and gain levels of commonly used signaling tones are defined.

The "Tone Signaling" menu item displays the "Tone Signaling Plan Configuration" screen.
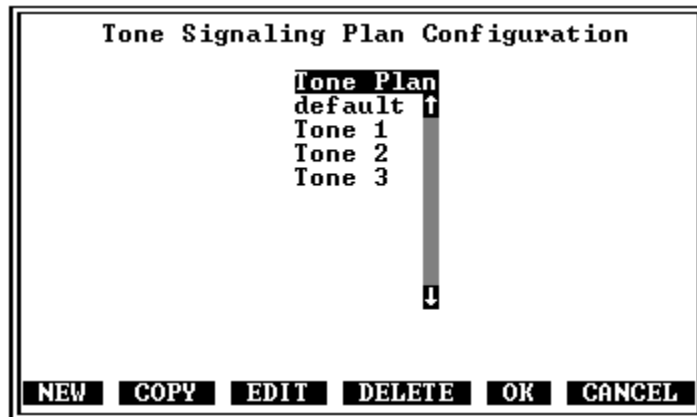
Figure 4-31: Tone Signaling Plan Configuration Screen

When you select a plan from the "Tone Signaling Plan Configuration" screen, the COPY, EDIT, and DELETE buttons become active. The default tone signaling plan cannot be edited.

Buttons

NEW

The "NEW" button on the "Tone Signaling Plan Configuration" screen allows you to create a new tone signaling plan.

COPY

The "COPY" button on the "Tone Signaling Plan Configuration" screen allows you to copy the settings of the selected tone signaling plan and save them as a new tone signaling plan.

DELETE

The "DELETE" button on the "Tone Signaling Plan Configuration" screen allows you to delete the selected tone signaling plan.

EDIT

The "EDIT" button on the "Tone Signaling Plan Configuration" screen allows you to change the settings of an existing tone signaling plan.

When you select "NEW", "COPY" or "EDIT" from the "Tone Signaling Plan Configuration" screen, the "Edit Tone Signaling Plan" screen appears allowing you to set the parameters for the tone.

```
                    Edit Tone Signaling Plan

Tone plan ID:        Tone 1 ▶   Secure & hold tone:      2175▶ Hz
Secure tone gain:      10 dB    Secure tone duration:     125  ms
Hold tone gain:       -20 dB    Function tone duration:    40  ms
Function tone gain:     0 dB    Inter function delay:       0  ms

Repeater supported:      √      Encryption Supported: ■
Repeater enable freq.: 1450.0 Hz   Coded:              <N/A>  Hz
Repeater disable freq.: 1550.0 Hz   Clear:             <N/A>  Hz

PL strip supported: ■              Monitoring:       Disable▶
PL strip freq.: <N/A>  Hz          Disable freq.:    2050.0 Hz
                                   Enable freq.:     <N/A>  Hz

            TX freq.: 4 ▶   Wildcard freq.: 1 ▶
            RX freq.: 4 ▶   PL/DPL freq.:   5 ▶

  TRANSMIT      RECEIVE     WILDCARDS     PL/DPL      OK     CANCEL
```

Figure 4-32: Edit Tone Signaling Plan Screen

Buttons

TRANSMIT

The "TRANSMIT" button displays the "TX Frequencies" screen.

```
        TX Frequencies      Talk Permit

TX freq.1:   1950.0  Hz          ■
TX freq.2:   1850.0  Hz          ■
TX freq.3:   1350.0  Hz          ■
TX freq.4:   1250.0  Hz          ■

                DONE
```

Figure 4-33: TX Frequencies Screen
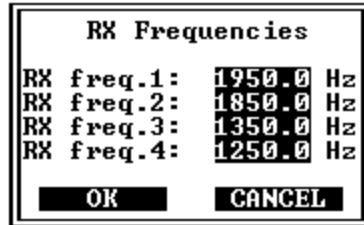
The "TX Frequencies" screen has two types of field:

TX freq. - The "TX freq." field allows you to specify the frequencies of TX frequency signaling tones. A TX frequency signaling tone tells a base station to transmit on a specific frequency. Values can range from 200Hz to 3400Hz.

Talk Permit - A check mark instructs the system to wait until Talk Permit is received before sending MDC signaling or paging tones through the air.

RECEIVE

The "RECEIVE" button displays the "RX Frequencies" screen.

```
          RX Frequencies
RX freq.1:   1950.0 Hz
RX freq.2:   1850.0 Hz
RX freq.3:   1350.0 Hz
RX freq.4:   1250.0 Hz
       OK       CANCEL
```
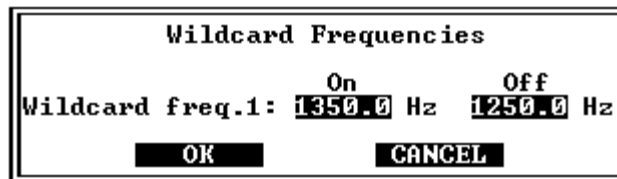
Figure 4-34: RX Frequencies Screen

The "RX Frequencies" screen has one type of field:

RX freq. - The "RX freq." field allows you to specify the frequencies of RX frequency signaling tones. An RX frequency signaling tone tells a base station to receive on a specific frequency. Values can range from 200Hz to 3400Hz.

WILDCARDS

The "WILDCARDS" button displays the "Wildcard Frequencies" screen.

```
         Wildcard Frequencies
                  On          Off
Wildcard freq.1:  1350.0 Hz   1250.0 Hz
          OK           CANCEL
```

Figure 4-35: Wildcard Frequencies Screen
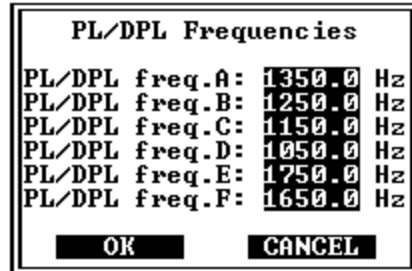
The "Wildcard Frequencies" screen has the following fields:

Wildcard freq. On - The "Wildcard freq. On" field allows you to specify Wildcard signaling tone frequencies for turning devices on at a base station. Values can range from 200Hz to 3400Hz.

Wildcard freq. Off - The "Wildcard freq. Off" field allows you to specify Wildcard signaling tone frequencies for turning devices off at a base station. Values can range from 200Hz to 3400Hz.

PL/DPL (Private Line/Digital Private Line)

The "PL/DPL" button displays the "PL/DPL Frequencies" screen.

Figure 4-36: PL/DPL Frequencies Screen

The "PL/DPL Frequencies" screen has the following field:

PL/DPL freq. - The "freq." field allows you to specify PL/DPL signaling tone frequencies. The PL/DPL frequency signaling tone tells the base station to use a specific PL/DPL group. Values can range from 200Hz to 3400Hz.

Fields

Tone plan ID

The "Tone plan ID" field allows you to select the name for the tone signaling plan. Names can range from Tone 1 to Tone 31, plus default.

Secure tone gain

The "Secure tone gain" field allows you to set the gain level for the Secure tone. The level is relative to the channel TX level. Values can range from -40dB to 11dB.

Hold tone gain

The "Hold tone gain" field allows you to set the gain level for the Hold tone. The level is relative to the channel TX level. Values can range from -40dB to 11dB.

Function tone gain

The "Function tone gain" field allows you to set the gain level for the Function tone. The level is relative to the channel TX level. Values can range from -40dB to 11dB.

Secure & hold tone

The "Secure & hold tone" field allows you to set the frequency for the Secure & hold tone.

Secure tone duration

The "Secure tone duration" field allows you to set the duration for the Secure tone. Values can range from 0ms to 60,000ms.

Function tone duration

The "Function tone duration" field allows you to set the duration for the Function tone. Values can range from 0ms to 60,000ms.

Inter function delay

The "Inter function delay" field allows you to set the duration for the Inter function delay, a time period between two successive signaling tones. Values can range from 0ms to 60,000ms.

Repeater supported

The "Repeater supported" field allows you to specify whether or not a Repeater is supported at the base station.

Repeater enable freq.

The "Repeater enable freq." field allows you to set the frequency to enable the repeater function. Values can range from 200Hz to 3400Hz.

Repeater disable freq.

The "Repeater disable freq." field allows you to set the frequency to disable the repeater function. Values can range from 200Hz to 3400Hz.

Encryption Supported

The "Encryption Supported" field allows you to specify whether or not DES/DVP Encryption is supported at the base station.

Coded

The "Coded" field allows you to set the frequency to enable the encryption of a transmission. Values can range from 200Hz to 3400Hz.

Clear

The "Clear" field allows you to set the frequency to disable the encryption of a transmission. Values can range from 200Hz to 3400Hz.

PL strip supported

The "PL strip supported" field allows you to specify whether or not PL strip is supported at the base station.

PL strip freq.

The "PL strip freq." field allows you to set the frequency to enable PL strip. Values can range from 200Hz to 3400Hz.

Monitoring

The "Monitoring" field allows you to set controls for channel Monitoring. Choices are:

- disabled - Monitoring can be disabled
- enabled and disabled - Monitoring can be enabled and disabled.
- none - monitoring is not supported

Disable freq.

The "Disable freq." field allows you to set the frequency to disable Monitoring. Values can range from 200Hz to 3400Hz.

Enable freq.

The "Enable freq." field allows you to set the frequency to enable Monitoring. Values can range from 200Hz to 3400Hz.

TX freq.

The "TX freq." field allows you to specify the number of transmit frequencies supported by the tone signaling plan. The maximum is 16.

Note: Select the drop down list arrow to change the number of frequencies. The number of frequencies set here determines the number of frequencies available in the First Edit Radio Channel Screen for "TX multi-frequency" on page 4-33.

RX freq.

The "RX freq." field allows you to specify the number of receive frequencies supported by the tone signaling plan. The maximum is 16.

Note: Select the drop down list arrow to change the number of frequencies. The number of frequencies set here determines the number of frequencies available in the First Edit Radio Channel Screen for "RX multi-frequency" on page 4-33.

Wildcard freq.

The "Wildcard freq." field allows you to specify the number of Wildcard frequencies supported by the tone signaling plan. The maximum is 2.

PL/DPL freq.

The "PL/DPL freq." field allows you to specify the number of PL/DPL frequencies supported by the tone signaling plan. The maximum is 8.

DC Signaling

Consoles send specific DC currents to base stations to tell the base stations to perform specific functions.

A DC signaling plan is a group of DC currents used for signaling.

The "DC Signaling" menu item displays the "DC Signaling Plan Configuration" screen.
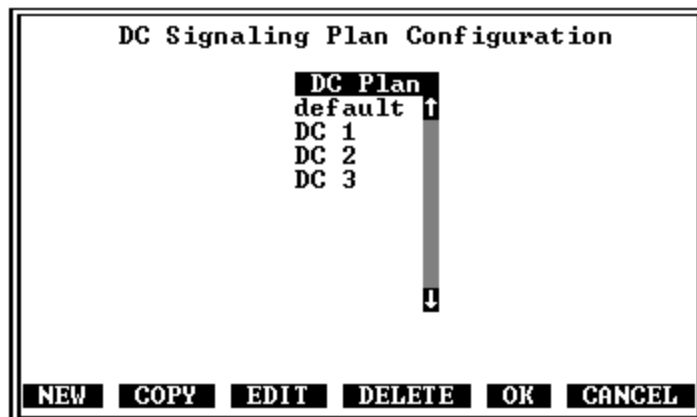
Figure 4-37: DC Signaling Plan Configuration Screen

When you select a plan from the "DC Signaling Plan Configuration" screen, the COPY, EDIT, and DELETE buttons become active. The default DC signaling plan cannot be edited.

Buttons

NEW

The "NEW" button on the "DC Signaling Plan Configuration" screen allows you to create a new DC signaling plan.

COPY

The "COPY" button on the "DC Signaling Plan Configuration" screen allows you to copy the settings of the selected DC signaling plan and save them as a new DC signaling plan.

DELETE

The "DELETE" button on the "DC Signaling Plan Configuration" screen allows you to delete the selected DC signaling plan.

EDIT

The "EDIT" button on the "DC Signaling Plan Configuration" screen allows you to change the settings of an existing DC signaling plan.

When you select "NEW", "COPY", or "EDIT" from the "DC Signaling Plan Configuration" screen, the "Edit DC Signaling Plan" screen appears allowing you to set the parameters for the signal.

```
          Edit DC Signaling Plan

        DC plan ID: DC 1    ▶

Repeater supported: √  PL strip supported: ▮
Monitor supported:  √  PL strip curr.: ◀N/A▶ mA

 TX frequencies: 2 ▶     RX frequencies: 2 ▶
        TX FREQ   RX FREQ   OK   CANCEL
```

Figure 4-38: Edit DC Signaling Plan Screen

Buttons

TX FREQ

The "TX FREQ" button displays the "TX Frequencies" screen.

```
    TX Frequencies

TX freq. 1:   6.0 mA
TX freq. 2:  11.0 mA

    OK      CANCEL
```

Figure 4-39: TX Frequencies Screen

The "TX Frequencies" screen has the following fields:

TX freq. 1 and 2 - field allows you to specify the TX frequency DC current. A TX frequency DC current tells a base station to transmit on a specific frequency.

RX FREQ

The "RX FREQ" button displays the "RX Frequencies" screen.

```
┌──────────────────────────────────────────────────────────────┐
│                      RX Frequencies                            │
│             No monitoring              Monitoring              │
│           ────────────────────     ────────────────────        │
│                                                                 │
│ Repeater  RX freq. 1:  0.0 mA     RX freq. 1: -2.5 mA          │
│ enabled   RX freq. 2: -6.0 mA     RX freq. 2: -11.0 mA         │
│ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─      │
│ Repeater  RX freq. 1:  0.0 mA     RX freq. 1:  0.0 mA          │
│ disabled  RX freq. 2:  0.0 mA     RX freq. 2:  0.0 mA          │
│                   OK                      CANCEL               │
└──────────────────────────────────────────────────────────────┘
```

Figure 4-40: RX Frequencies Screen

The "RX Frequencies" screen has the following fields:

"No monitoring" - the base station will allow a dispatcher to receive the specified frequency and the frequency will not be monitored.

"Monitoring" - the base station will allow a dispatcher to receive the specified frequency and the frequency will be monitored.

"Repeater Enabled" - these currents enable the repeater.

"Repeater Disabled" - these currents disable the repeater.

RX freq. - These fields allow you to specify DC signaling current for RX frequencies. A DC signaling current for RX frequencies tells a base station to receive on a specific frequency.

Fields

DC plan ID

The "DC plan ID" field allows you to select the name for the DC signaling plan. Names can range from DC 1 to DC 31, plus default.

Repeater supported

The "Repeater supported" field allows you to specify whether or not a Repeater is supported at the base station.

Monitor supported

The "Monitor supported" field allows you to specify whether or not the Monitor feature is supported at the base station.

PL strip supported

The "PL strip supported" field allows you to specify whether or not the PL strip feature is supported at the base station

PL strip curr.

The "PL strip curr." field allows you to specify DC signaling current for the PL strip feature.

TX frequencies

The "TX frequencies" field allows you to specify the number of transmit frequencies supported by the DC signaling plan. The maximum is 2.

Note: Select the drop down list arrow to change the number of frequencies. The number of frequencies set here determines the number of frequencies available in the First Edit Radio Channel Screen for "TX multi-frequency" on page 4-33.

RX frequencies

The "RX frequencies" field allows you to specify the number of receive frequencies supported by the DC signaling plan. The maximum is 2.

Note: Select the drop down list arrow to change the number of frequencies. The number of frequencies set here determines the number of frequencies available in the First Edit Radio Channel Screen for "RX multi-frequency" on page 4-33.

Caller ID List

The "Caller ID List" menu item allows you to add and edit the parameters of caller IDs. The caller ID feature is used to identify the calling party. When a person with a caller ID keys a channel, that person's ID is received by a console and used to extract the persons alias (name) from the caller ID database. The alias is then displayed at the console and the dispatcher knows who is making the call. If no alias is defined, the ID is displayed at the console.

The "Caller ID List" menu item displays the "Caller ID List" scroll list.
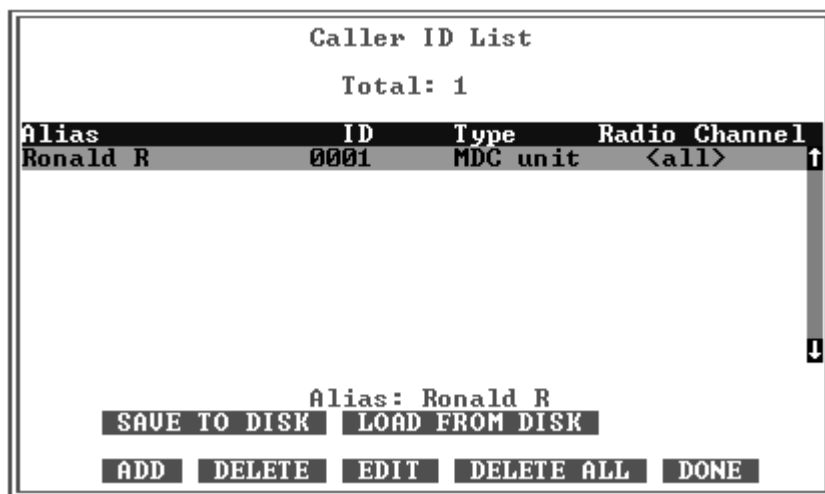
Figure 4-41: Caller ID List Scroll List

The "Caller ID List" scroll list has the following columns:

Alias - identifies the alias (usually the caller's name)

ID - identifies the ID number associated with the alias

Type - identifies the type of protocol being used
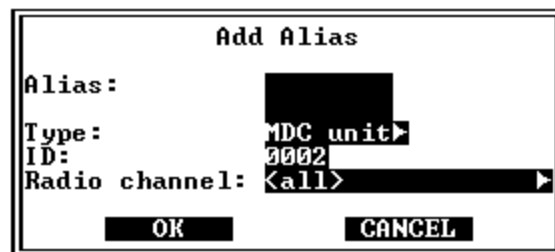
Radio Channel - identifies which channel associated with the alias

When you select the desired alias, the DELETE and EDIT buttons become active.

Buttons

ADD

Select the "ADD" button to display the "Add Alias" screen and add an alias.
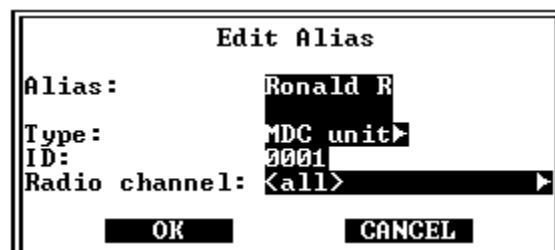
Figure 4-42: Add Alias Screen

DELETE

Select the "DELETE" button to delete the selected alias.

EDIT

Select the "EDIT" button to display the "Edit Alias" screen and edit the selected alias.

Figure 4-43: Edit Alias Screen

DELETE ALL

Select the "DELETE ALL" button to delete all the aliases.

SAVE TO DISK

Select the "SAVE TO DISK" button to save the Caller ID Alias to the disk in the CSDM Lite directory. The file name "CallerID.txt" is created.

LOAD FROM DISK

Select the "LOAD FROM DISK" button to load the Caller ID Alias from the CDSM Lite directory on the disk.

Fields

Alias

The "Alias" field allows you to specify the caller's alias (name). The "Alias" field is actually two fields. The two fields allow you to name the "Alias" with two 8 character words. At least one of the fields must contain data and a name cannot be duplicated.

Type

The "Type" field allows you to specify the signaling protocol used by the caller. Choices are:

- MDC Unit - which uses the STAT-ALERT protocol

- Status - which uses the STAT-ALERT protocol and signifies that the caller is sending a status message.

- Message - which uses the STAT-ALERT protocol and signifies that the caller is sending a message.

- DTMF - unit ID which uses the standard DTMF frequencies.

ID

The "ID" field allows you to specify the identification number for the alias.

For STAT-ALERT, values can range from 0 to D for the most significant digit and 0 to E for the other digits. 0000 is not allowed.

For Status and Message, values can range from 0000 to 0255.

For DTMF types, values can range from 00000000 to 99999999.

Radio channel

The "Radio channel" field allows you to specify the radio channel(s) associated with the alias.

Phone Line

The "Phone line" menu item displays the "Phone Line Configuration" scroll list.
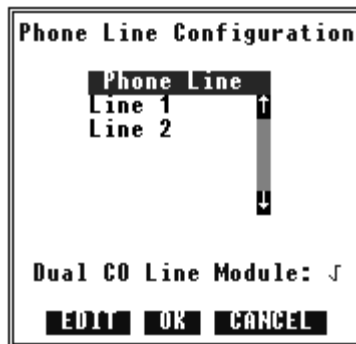
Figure 4-44: Phone Line Configuration Scroll List

When you select the desired phone line, the "EDIT" button becomes active.

Buttons

EDIT

The "EDIT" button allows you to set the parameters of the selected phone line.

Note: Phone lines, "Line 1" and "Line 2", are assigned automatically when the user enables the CO Line module in the "Phone Line Configuration" menu.

When you select "EDIT" from the "Phone Line Configuration" screen, the "Edit Phone Line" screen appears allowing you to set the parameters for the phone line.
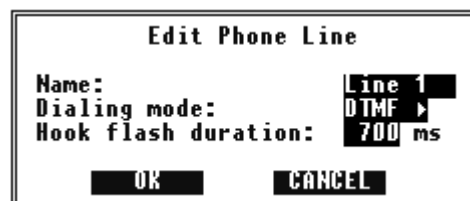
Figure 4-45: Edit Phone Line Screen

Fields

Name

The "Name" field allows you to name the phone line or change the name of the phone line. This field cannot be left blank nor can it be duplicated.

Dialing mode

The "Dialing mode" field allows you to specify the dialing mode for the phone line. Choices are:

- DTMF (Dual Tone Multi Frequency)

- Pulse

Hook flash duration

The "Hook flash duration" field allows you to define the duration of the hook flash for the phone line. Valid values range from 0ms to 2000ms, with 5ms increments.

Paging

The "Paging" menu item displays a sub-menu with the following menu items:

- Custom Page

- Page Format

- External Pager

- Manual Page

- Speed Page

- Paging Aliases

Custom Page

The Custom Page feature, available in the extended paging package, allows you to create a page that is not associated with any of the standard paging formats. With the Custom Page feature you can define the frequencies, the duration, and the delay between two tones.

The "Custom Page" menu item displays the "Custom Page Configuration" screen.

```
         Custom Page Configuration
                 Page Code
           001                    ↑
           002
           003
           004



                                  ↓
  ADD    DELETE    EDIT    OK    CANCEL
```
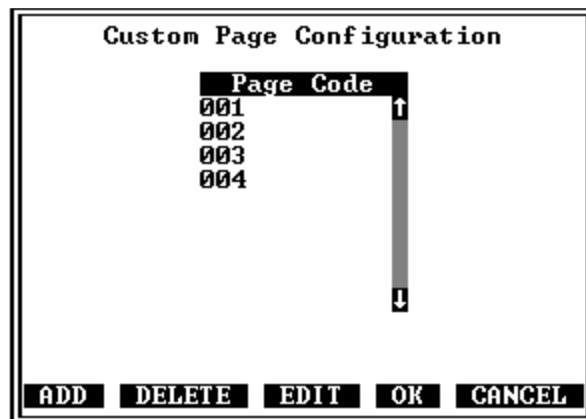
Figure 4-46: Custom Page Configuration Screen

When you select a page code from the "Custom Page Configuration" screen, the "DELETE" and "EDIT" buttons become active.

Buttons

ADD

The "ADD" button allows you to add a new custom page and set its parameters.

DELETE

The "DELETE" button allows you to delete the selected custom page.

EDIT

The "EDIT" button allows you to set the parameters of the selected custom page.

When you select "ADD" or "EDIT" from the "Custom Page Configuration" screen, the "Add Custom Page" or "Edit Custom Page" screen appears allowing you to set the parameters for the custom page.

```
          Add Custom Page

Code:
First tone frequency:    200.0  Hz
First tone duration:     1000   ms
Intertone delay:            0   ms
Second tone frequency:   200.0  Hz
Second tone duration:    3000   ms
Inhibit delay:           3000   ms
PC CSL voice annotation: 0       s

        OK            CANCEL
```

Figure 4-47: Add Custom Page Screen

Fields

Code

The "Code" field allows you to specify the custom page code. This is the number a dispatcher will use to send a specific custom page. Valid custom page codes can range from 000 to 999.

First tone frequency

The "First tone frequency" field allows you to set the frequency of the first tone in the page. Valid custom page code frequencies can range from 200 Hz to 3400 Hz.

Caution: If radio channel is tone control, do not use a frequency close to the guard tone (2175 Hz default) as the paging tone level will be severely affected.

First tone duration

The "First tone duration" field allows you to set the duration of the first tone in the page. Valid tone durations can range from 0 ms to 10000 ms.

Intertone delay

The "Intertone delay" field allows you to set the duration of the time delay between the two tones. Valid tone durations can range from 0 ms to 10000 ms.

Second tone frequency

The "Second tone frequency" field allows you to set the frequency of the second tone in the page. Valid custom page code frequencies can range from 200 Hz to 3400 Hz.

Caution: If radio channel is tone control, do not use a frequency close to the guard tone (2175 Hz default) as the paging tone level will be severely affected.

Second tone duration

The "Second tone duration" field allows you to set the duration of the second tone in the page. Valid tone durations can range from 0 ms to 10000 ms.

Inhibit delay

The "Inhibit delay" field allows you to set the time delay between the end of the second tone and the time when speech can be transmitted. Valid tone durations can range from 0 ms to 10000 ms.

PC CSL voice annotation

The "PC CSL voice annotation" field allows you to specify how long the channel will remain keyed after the page tone ends in order to send a voice message over the air. The value can range from 0 to 60 seconds. This field applies only to the PC console.

Page Format

The "Page Format" menu item allows you to add page formats to the configuration file. The "Page Format" menu item also allows you to set parameters for each page format.

Note: For information on the main page formats please see Appendix B.

The "Page Format" menu item displays the "Page Format Configuration" screen.
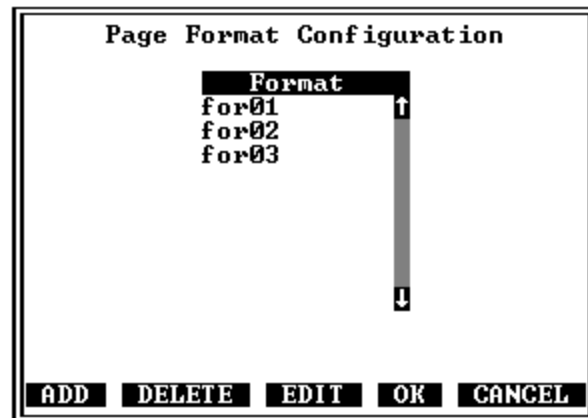
Figure 4-48: Page Format Configuration Screen

When you select a format from the "Page Format Configuration" screen, the "DELETE" and "EDIT" buttons become active.

Buttons

ADD

The "ADD" button allows you to add a new page format and set its parameters.

DELETE

The "DELETE" button allows you to delete the selected page format.

EDIT

The "EDIT" button allows you to set the parameters of the selected page format.

When you select "ADD" or "EDIT" from the "Page Format Configuration" screen, the "Add Page Format" or "Edit Page Format" screen appears allowing you to set the parameters for the page format.

```
          Edit Page Format

Name:                  for01
Page format:           Motorola 1+1    ▶
Code plan:             B  ▶
First tone duration:   1000 ms
Second tone duration:  3000 ms
Intertone delay:          0 ms
Inhibit delay:         3000 ms
Group call duration:   8000 ms
PC CSL voice ann:         0    s

        OK              CANCEL
```

Figure 4-49: Edit Page Format Screen

Fields

Name

The "Name" field allows you to name the page format.

Page format

The "Page format" field allows you to select the desired page format. Depending on whether the "Paging package" field in the "Configuration/General" menu is set to "Basic" or "Extended", the following paging formats are available:

- Basic:
    - Motorola 1+1
    - Motorola 2+2
    - GE type 99
    - DTMF
    - STAT-ALERT
- Extended:
    - All the paging formats in the Basic package
    - Motorola 5 tone
    - Motorola 6 tone

- NEC 5 tone

- NEC 6 tone

- Reach

- Rotary Pulse

Depending on which paging format is selected, different fields become available for setting parameters.

Code plan (Motorola 1+1, Motorola 2+2, GE Type 99)

The "Code Plan" field allows you to select a code plan for the paging format.

First tone duration (Motorola 1+1, Motorola 2+2, GE Type 99)

The "First tone duration" field allows you to set the duration of the first tone in the page. Valid tone durations can range from 0 ms to 10000 ms.

Second tone duration (Motorola 1+1, Motorola 2+2, GE Type 99)

The "Second tone duration" field allows you to set the duration of the second tone in the page. Valid tone durations can range from 0 ms to 10000 ms.

Intertone delay (Motorola 1+1, Motorola 2+2, GE Type 99, DTMF)

The "Intertone delay" field allows you to set the duration of the time delay between the two tones. Valid tone durations can range from 0 ms to 1000 ms.

Inhibit delay (Motorola 1+1, Motorola 2+2, GE Type 99, DTMF)

The "Inhibit delay" field allows you to set the time delay between the end of the second tone and the time when speech can be transmitted. Valid tone durations can range from 0 ms to 10000 ms.

Group call duration (Motorola 1+1, Motorola 2+2)

The "Group call duration" field allows you to set the duration of a group call tone. Valid tone durations can range from 0 ms to 10000 ms.

Tone duration (DTMF, Motorola 5 Tone, Motorola 6 Tone, NEC 5 Tone, NEC 6 Tone)

The "Tone duration" field allows you to set the duration of the each tone in the page. Valid tone durations can range from 0 ms to 1000 ms.

Type (STAT-ALERT)

The "Type" field allows you to select a STAT-ALERT type. Choices are:

- Voice alert - This feature allows a dispatcher to send a one time message to a remote unit.

- Call alert - This feature allows a dispatcher to send a message to a remote unit. A call alert message is evident at the remote unit until the remote unit transmits. When you select this feature the "Long call alert" field appears. The "Long call alert" field allows you to enable or disable the long call alert protocol.

- Radio check - This feature allows a dispatcher to check if a remote unit is on.

- Remote monitor - This feature allows a dispatcher to listen through a remote unit. When you select this feature the "Silent monitor" and the "Xmit time multiplier" fields appear. The "Silent monitor" field allows you to enable or disable the silent monitor feature for remote monitoring. The "Xmit time multiplier" field allows you to set the number of times the Xmit time is multiplied to extend the duration of remote monitor.

- Radio enable - This feature allows a dispatcher to enable a remote unit.

- Radio disable - This feature allows a dispatcher to disable a remote unit.

- Manual RAC - This feature allows a dispatcher to manually access a repeater.

- Status request - This feature allows a dispatcher to request the vehicle status of a remote unit.

- Repeater enable - This feature allows a dispatcher to enable a repeater's ability to handle the STAT-ALERT protocol.

- Repeater disable - This feature allows a dispatcher to disable a repeater's ability to handle the STAT-ALERT protocol.

Preamble (Motorola 5 Tone, Motorola 6 Tone)

The "Preamble" field allows you to set the preamble tone frequency. Choices are:

- 0 : 600 Hz
- 1 : 741 Hz
- 2 : 882 Hz
- 3 : 1023 Hz
- 4 : 1164 Hz
- 5 : 1305 Hz
- 6 : 1446 Hz
- 7 : 1587 Hz
- 8 : 1728 Hz
- 9 : 1869 Hz

Preamble duration (Motorola 5 tone, Motorola 6 Tone, Nec 5 Tone, Nec 6 Tone)

The "Preamble duration" field allows you to set the duration of the preamble tone. Valid tone durations can range from 0 ms to 1000 ms.

Gap delay (Motorola 5 Tone, Motorola 6 Tone, Nec 5 Tone, Nec 6 Tone)

The "Gap delay" field allows you to set the duration of the time delay between each tone. Valid tone durations can range from 0 ms to 1000 ms.

X tone/gap duration (Motorola 6 Tone, Nec 6 Tone)

The "X tone/gap duration" field allows you to set the duration of the time delay between the last tone and the X tone. Valid tone durations can range from 0 ms to 1000 ms.

Tone frequency (Rotary Pulse)

The "Tone frequency" field allows you to set the frequency of the pulse for the rotary pulse signaling. Valid rotary pulse tone frequencies can range from 200 Hz to 3400 Hz.

Header duration (Rotary Pulse)

The "Header duration" field allows you to set the duration of the first tone in a rotary pulse signal. Valid tone durations can range from 0 ms to 10000 ms.

Pulse on duration (Rotary Pulse)

The "Pulse on duration" field allows you to set the duration of the pulse. Valid tone durations can range from 0 ms to 1000 ms.

Pulse off duration (Rotary Pulse)

The "Pulse off duration" field allows you to set the duration of the pause between pulses. Valid tone durations can range from 0 ms to 1000 ms.

Interdigit duration (Rotary Pulse)

The "Interdigit duration" field allows you to set the duration of the pause between digits. Valid tone durations can range from 0 ms to 10000 ms.

Trailer duration (Rotary Pulse)

The "Trailer duration" field allows you to set the duration of the last tone in a rotary pulse signal. Valid tone durations can range from 0 ms to 10000 ms.

PC CSL voice ann

The "PC CSL voice ann" field allows you to specify how long the channel will remain keyed after the page tone ends in order to send a voice message over the air. The value can range from 0 to 60 seconds.

External Pager

The external pager feature allows you to produce paging tones with a device that is external to the CommandSTAR Lite system. The external pager tells the console to key the channel and to send the tone on a predetermined channel and frequency.

The "External Pager" menu item allows you to add an external pager to the system, specify the Input level, the Channel steering, and the Frequency steering of each external pager.

The "External Pager" menu item displays the "Edit External Pager" screen.

```
        Edit External Pager

Input level:          0  dBm
Channel steering:     Selected▶
Frequency steering:   (N/A)
Ptt:                  Disabled▶
Opto detection:       (N/A)
Debounce time:        (N/A)ms

        OK        CANCEL
```

Figure 4-50: Edit External Pager Screen

Fields

Input level

The "Input level" field allows you to specify the input level for the tones received by the console from the external pager. Valid values can range from -60 dBm to +11dBm.

Channel steering

The "Channel steering" field allows you to specify the channel(s) on which to send the page. Choices are:

• Selected - The page will be sent on the channel that is selected at the console.

• Individual channel - You can a select a single channel on which to send the page.

Frequency steering

The "Frequency steering" field is active when the "Channel steering" field is set to other than Selected.

The "Frequency steering" field allows you to specify the frequency on which to send the page. Choices are:

• Selected - The page will be sent on the frequency that is selected on the channel.

• Individual frequency - You can a select a single frequency in the channel on which to send the page.

Ptt

The "Ptt" field on the "Edit External Pager" screen allows you to enable or disable the capability to be hooked up with an external pager.

Opto detection

The "Opto detection" field allows you to specify the state of the opto-coupler when it is idle.

*   "Current" means that if current is flowing through the opto-coupler, a Ptt has been detected.

*   "No current" means that if no current is flowing through the opto-coupler, a Ptt has been detected.

Debounce time

The "Debounce time" field allows you to specify the debounce time for the opto-coupler. Valid values can range from 0 sec to 1000 sec in 5 ms increments.

Manual Page

A dispatcher sends a manual page by pressing a manual page button to specify the page format and then keying in a numeric code on the keypad to specify the frequencies to send. Please see Appendix B in this manual for Page Code Frequency tables.

In order to have access to the "Manual Page Configuration" scroll list:

*   at least one manual page "Man Page" button must be added to the ACM of a console. To do this, use the "Configuration/Console/Control Assignment" menu item.

AND

*   at least one paging format must be added to the configuration. To do this, use the "Configuration/Paging/Paging Format" menu item.

The "Manual Page" menu item displays the "Manual Page Configuration" scroll list.
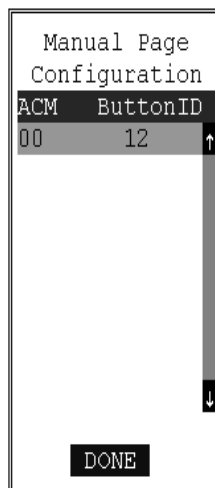
Figure 4-51: Manual Page Configuration Scroll List

The "Manual Page Configuration" scroll list has the following columns.

ACM - The ACM on which the manual page button is located.

ButtonID - The position on the ACM where the button is located.

When you select the desired button, the "Edit Manual Page" screen appears.

```
┌─────────────────────────────────────────┐
│ Console: console1   ACM 00 Man Page 03   │
│                                           │
│ Page format:      for01     ▶            │
│ Voice annotation: 0 seconds              │
│         ▄▄▄ OK ▄▄▄        ▄ CANCEL ▄      │
└─────────────────────────────────────────┘
```
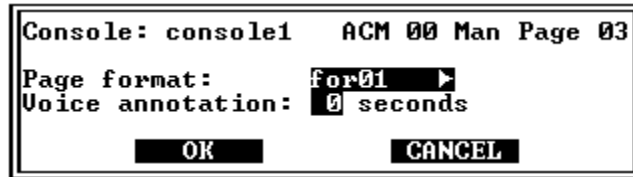
Figure 4-52: Edit Manual Page Screen

Fields

Page format

The "Page format" field allows you to specify the page format. The choices for the page format are defined through the "Paging/Page Format" menu item.

Voice annotation

The "Voice annotation" field allows you to specify how long the channel will remain keyed after the page tone ends in order to send a voice message over the air. The value can range from 0 to 60 seconds.

Speed Page

A dispatcher sends a speed page by pressing a speed page button. The speed page button must be associated with a paging alias. A paging alias is a name that is associated with a specific tone sequence that will be sent on a specific channel, and at a specific frequency on the channel. To define a paging alias use the "Paging/Paging Alias" menu item.

In order to have access to the "Speed Page Configuration" scroll list, at least one speed page "Speed Pg" button must be added to the ACM of a console. To do this, use the "Configuration/Console/Control Assignment" menu item.

The Speed Page menu item allows you to specify which alias is associated with which speed page button.

The "Speed Page" menu item displays the "Speed Page Configuration" scroll list.

Figure 4-53: Speed Page Configuration Scroll List

The "Speed Page Configuration" scroll list has the following columns.

ACM - The ACM on which the speed page button is located.

ButtonID - The position on the ACM where the speed page button is located.

Alias - The name of the party who will be paged. A paging alias is a name that is associated with a specific tone sequence that will be sent on all or specific channels, and at all or specific frequencies on those channels.

When you select the desired button, the "Paging Alias Selection" scroll list appears.
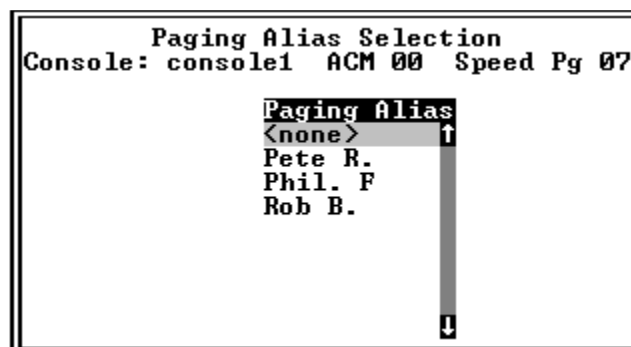
Figure 4-54: Paging Alias Selection Scroll List

Select the desired paging alias.

You are returned to the "Speed Page Configuration" scroll list.

Paging Aliases

Note: Paging Aliases applies only to the Push Button Console.

A paging alias is a name that is associated with a speed page.

The "Paging Alias" menu item allows you to specify the name of the person or group who will receive the page, the specific tone sequence that will be sent, and the channel and the frequency on which the page will be sent.

In order to have access to the "Paging Aliases Configuration" scroll list, at least one paging format must be added to the configuration. To do this, use the "Configuration/Paging/ Paging Format" menu item.

The "Paging Aliases" menu item displays the "Paging Aliases Configuration" scroll list.
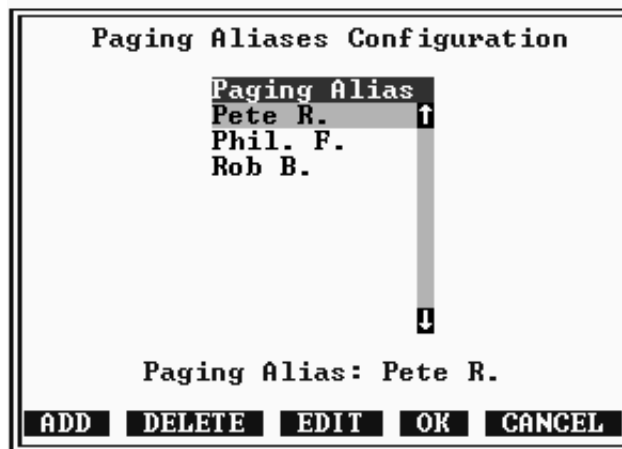
Figure 4-55: Paging Aliases Configuration Scroll List

When you select the desired alias, the DELETE and EDIT buttons become active.

Buttons

ADD

Select the "ADD" button to display the "Add Paging Alias" screen and add a paging alias.
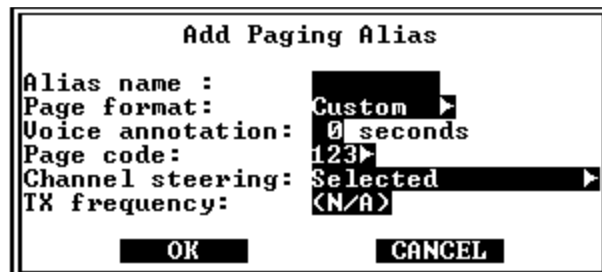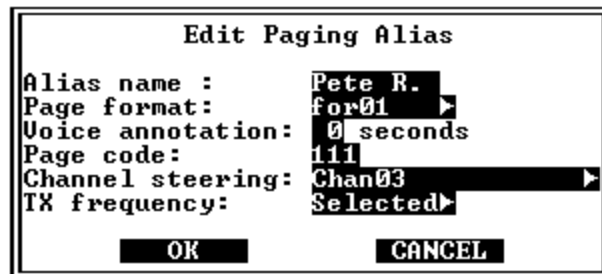
Figure 4-56: Add Paging Alias Screen

DELETE

Select the "DELETE" button to delete the selected paging alias.

EDIT

Select the "EDIT" button to display the "Edit Paging Alias" screen and edit the selected paging alias.

```
┌─────────────────────────────────────────┐
│          Edit Paging Alias                │
│ ┌───────────────────────────────────┐    │
│ │Alias name :      │Pete R.    │     │    │
│ │Page format:      │for01   ▶  │     │    │
│ │Voice annotation: │0│ seconds        │    │
│ │Page code:        │111        │     │    │
│ │Channel steering: │Chan03          ▶ │    │
│ │TX frequency:     │Selected▶  │     │    │
│ └───────────────────────────────────┘    │
│        ███ OK ███        ███ CANCEL ███   │
└─────────────────────────────────────────┘
```

Figure 4-57: Edit Paging Alias Screen

Fields

Alias name

The "Alias name" field allows you to specify the name of the person or group who will receive the page.

Page format

The "Page format" field allows you to specify the page format. The choices for the page format are defined through the "Paging/Page format" menu item.

Voice annotation

The "Voice annotation" field allows you to specify how long the channel will remain keyed after the page tone ends in order to send a voice message over the air. The value can range from 0 to 60 seconds.

Page code

The "Page code" field allows you to specify the paging code that defines the frequencies that will be sent. Please see Appendix B of this manual for Page Code Frequency tables.

Channel steering

The "Channel steering" field allows you to specify the channel on which to send the page. Choices are:

Selected - The page will be sent on the channel that is selected at the console.

Individual channel - You can select a single channel on which to send the page.

TX frequency

The "TX frequency" field is active when the "Channel steering" field is set to other than Selected.

The "TX frequency" field allows you to specify the frequency on which to send the page. Choices are:

• Selected - The page will be sent on the frequency that is selected on the channel.

• Individual frequency - You can a select a single frequency on the channel on which to send the page.

Load/Save Paging Aliases List

The "Load/Save Paging Aliases" menu item displays the "Load/Save Paging Aliases List" screen.
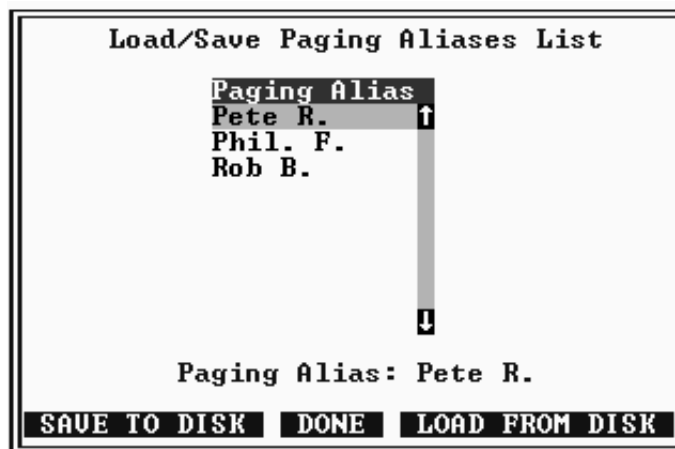
Figure 4-58: Load/Save Paging Aliases List Screen

Buttons

SAVE TO DISK

Select the "SAVE TO DISK" button to save the Paging Alias to disk. The file "Paging.txt" is created.

LOAD FROM DISK

Select the "LOAD FROM DISK" button to load the Paging Alias from disk.

Auxiliary I/O

The "Auxiliary I/O" menu item displays the "Auxiliary I/O Configuration" screen.
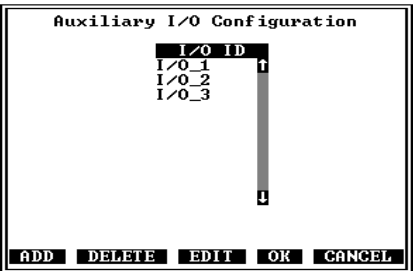
Figure 4-59: Auxiliary I/O Configuration Screen

When you select an I/O from the "Auxiliary I/O Configuration" screen, the "DELETE" and "EDIT" buttons become active.

Buttons

ADD

The "ADD" button allows you to add a new I/O and set its parameters.

DELETE

The "DELETE" button allows you to delete the selected I/O.

EDIT

The "EDIT" button allows you to set the parameters of the selected I/O.

When you select "ADD" or "EDIT" from the "Auxiliary I/O Configuration" screen, the "Add Auxiliary I/O" or "Edit Auxiliary I/O" screen appears, allowing you to set the parameters for the I/O.
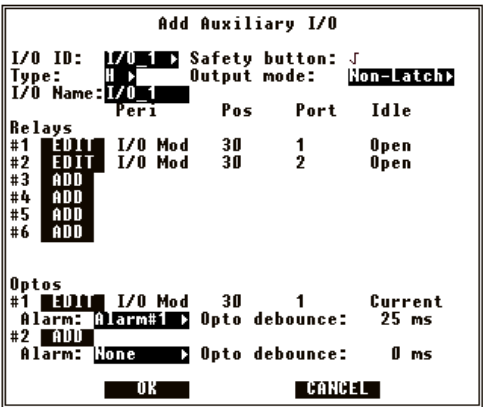
Figure 4-60: Add Auxiliary I/O Screen

Fields

I/O ID

The "I/O ID" field allows you to select a name for the I/O. Choices are: I/O_1 to I/O_64.

Type

The "Type" field allows you to specify the type of I/O. Choices are: A to H.

Note: To configure a voter site for a Push Button console, you must assign a "C" and an "H" I/O. To configure a voter site for a PC Console, you must assign an "I" and a "J" I/O.

Table 4-1: Type of I/O

Type	Relay	Opto	Top LED	Bottom LED
A	1 to 6	0	On when relay active	Off
B	1 to 6	0	On when relay active	Off when relay active
C	1 to 6	1	On when relay active	On when Input1 active
D	1 to 6	1	On when relay active	Blinks when Input1 active
E	0	1	On when Input1 active	Off
F	0	1	On when Input1 active	Off when Input1 active
G	0	2	On when Input2 active	On when Input1 active
H	1 to 6	2	On when Input2 active	On when Input1 active
I	1 to 6	2	On when Input2 active	On when Input1 active
J	1 to 6	1	On when Input2 active	On when Input1 active

Safety button

The "I/O ID" field allows you to enable or disable the safety button feature for this I/O. The safety button feature forces the dispatcher to activate the safety button prior to activating the I/O button.

Output mode

The "Output mode" field allows you to specify whether the I/O is latching or non-latching.

Relays

The "Relays" fields can contain the words "ADD" or "EDIT". "ADD" allows you to add a relay and set its parameters. "EDIT" allows you to change the parameters of an existing relay.

When you select ADD or EDIT from the Relays list the "Select Relay for Auxiliary Output" screen appears.

Figure 4-61: Select Relay for Auxiliary Output Screen

The "Select Relay for Auxiliary Output" screen has the following fields.

Console - allows you to select the console on which the relay is located.

I/O Module - (not shown above) allows you to select the I/O module on which the relay is located. This field is visible if the "Module location" field is set to "I/O module".

Module location - allows you to select the module on which the relay is located. Choices are: Tower and I/O module.

Output port - allows you to select the output port to which the relay is connected.

Relay idle state - allows you to specify which state, open or closed, will determine if the relay is active.

Optos

The "Optos" fields can contain the words "ADD" or "EDIT". "ADD" allows you to add an opto-coupler and set its parameters. "EDIT" allows you to change the parameters of an existing opto-coupler.

When you select ADD or EDIT from the Optos list the "Select Opto for General Input" screen appears.

Figure 4-62: Select Opto for General Input Screen

The "Select Opto for General Input" screen has the following fields.

Console - allows you to select the console on which the opto-coupler is located.

I/O Module - (not shown above) allows you to select the I/O module on which the opto-coupler is located. This field is visible if the "Module location" field is set to "I/O module".

Module location - allows you to select the module on which the opto-coupler is located. Choices are: Tower and I/O module.

Input port - allows you to select the input port on which the opto-coupler is located.

Opto detection - allows you to specify the state of the opto-coupler when it is active.

• "Current" means that if current is flowing, the opto-coupler is active.

• "No current" means that if no current is flowing, the opto-coupler is active.

Debounce time - allows you to specify the debounce time for the opto-coupler.

Alarm

The "Alarm" field allows you to specify an alarm to be associated with the opto-coupler. Choices are: none and alarms 1 to 32.

Opto debounce

The "Opto debounce" field identifies the debounce time for the opto-coupler.

Chapter 5
Diagnostics Menu

The Diagnostic menu has the following menu items:

- View logs

- Status/Hardware

- Call Event Logging

- Info

- Clear Screen

The "Status/Hardware" submenu is active only when the CSDM Lite is connected to the CommandSTAR Lite system.

View Logs

A log file keeps a record of all the system diagnostics (diagnostics generated by the CSDM Lite and the console in the CommandSTAR Lite console) that occur while the CSDM Lite is running. Diagnostics are recorded regardless of whether a user is logged in or not. The diagnostic messages are also displayed on the CSDM Lite screen. If the CSDM Lite is not running, the console stores 100 messages, ready to be sent to the CSDM Lite when it starts.

When you start a CSDM Lite for the first time of the day, a new .LOG file is created. The name of the file indicates the year, month, and day, (for example - 96_01_28.log) on which the file was created. If you log out of the system, then start again, as long as it is on the same day, your CSDM Lite session will be registered in the log file of the day.

Log files are stored in the directory containing the CSDM Lite. If the disk you are using becomes full while saving a configuration or receiving new logs from the system, a screen appears warning you that your disk is full. While the disk is full, diagnostics are not recorded.

The "View Logs" menu item displays the "View Logs" scroll list.

```
                    View Logs

        Log Files          Size
        96_04_03.LOG       1422 ↑
        96_04_04.LOG       1580
        96_04_15.LOG        316
                                        │
                                        │
                                        │
                                        │
                                     ↓

        BROWSE    DELETE    DONE
```
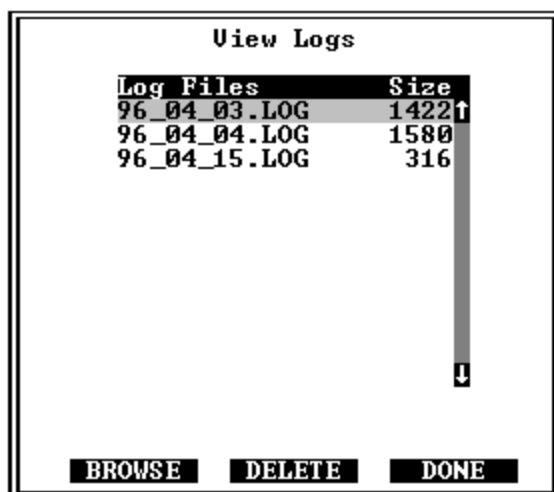
Figure 5-1:   View Logs Scroll List

The "View Logs" scroll list has the following columns.

Log Files - the names of the log files

Size - the sizes of the log files in bytes

When you select the desired log file, the BROWSE and DELETE buttons become active.

Buttons

BROWSE

The "BROWSE" button on the "View Logs" screen displays the selected log file.

```
96_04_03.LOG        1422 bytes
03/04 09:00:31              EXECUTING CSDM...                        ↑
03/04 09:00:37              LOGIN: A              SUPERUSER
03/04 09:00:37              EXECUTING CSDM...
03/04 09:00:38              CSDM-COP link failure.
03/04 09:01:16              LOGOUT: A             SUPERUSER
03/04 09:01:16              EXECUTING CSDM...
03/04 12:29:00              EXECUTING CSDM...
03/04 12:29:06              LOGIN: A              SUPERUSER
03/04 12:29:06              EXECUTING CSDM...
03/04 12:29:08              CSDM-COP link failure.
03/04 12:44:25              LOGOUT: A             SUPERUSER
03/04 12:44:25              EXECUTING CSDM...                        ↓

            SEARCH                  AGAIN              DONE
```

Figure 5-2:   Typical Log File

The "SEARCH" button on the log file screen allows you to search for a specified string of text.

To search for text:

1. Select the "SEARCH" button.

The "Search for text" screen appears.

Figure 5-3: Search for Text Screen

2. Type the text you wish to find into the field provided.

3. Select "OK".

The CSDM Lite searches for and highlights the first occurrence of the specified text.

4. Select the "AGAIN" button to search for the next occurrence of the specified text.

DELETE

The "DELETE" button on the "View Logs" screen deletes the selected log file.

Hardware Status

The "Status/Hardware" menu item is active only when the CSDM Lite is connected to the CommandSTAR Lite system.

The "Status/Hardware" menu item allows you to view the status of all the ports on all the modules in the console. The port statuses are reported to the CSDM Lite when you open the "Hardware Diagnostic" screen and select a peripheral. In order to obtain a "PASSED" result, the audio of each channel must be looped back.

Note 1: See Appendix A of the *CommandSTAR Lite Installation and Troubleshooting Manual* for information on creating a loopback cable.

Note 2: A warning dialogue box appears each time you enter the "Hardware Diagnostic on Console" test menu. This is to remind you that a loopback cable is required for each channel.

The "Hardware" menu item displays the "Hardware Diagnostic" scroll list.
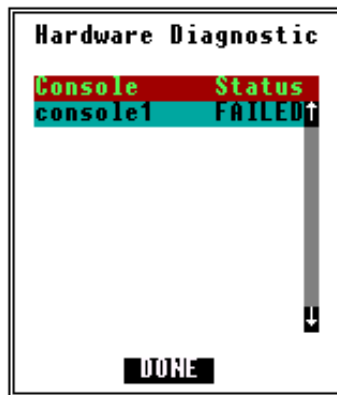
Figure 5-4:   Hardware Diagnostic Scroll List

The "Hardware Diagnostic" scroll list has the following columns:

Console - Identifies the console.

Status - Identifies whether or not the console and its peripherals are working properly.

When you select the console from the "Hardware Diagnostic" scroll list, the "Hardware Diagnostic on Console" screen appears. You will be reminded with a warning dialogue box to connect the loopback cable for each channel.
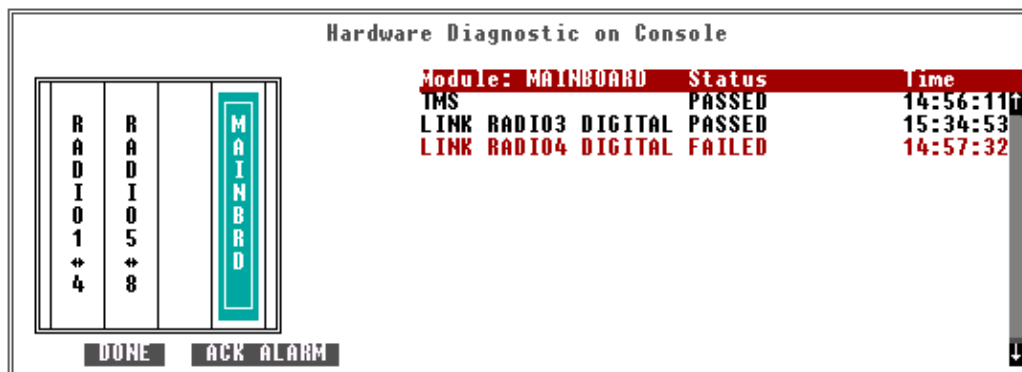
Figure 5-5:   Hardware Diagnostics Screen - Main Board Selected

The "Hardware Diagnostic" screen allows you to view the status of all the ports or major circuits on all the peripherals in the console.

The "Hardware Diagnostic" screen has the following columns:

Module - Identifies the peripheral and each of its circuits.

Status - Identifies whether or not the circuit is working properly.

Passed - Indicates that the circuit is working properly.

Failed - Indicates that the circuit is not working properly. The following fail messages are possible:

• Digital failed (in red text)

• Analog failed

• I/F failed

• Failed

When a failure is indicated, see the Installation and Troubleshooting manual for procedures on how to troubleshoot the problem.

Time - The port statuses are reported to the CSDM Lite when you open the "Hardware Diagnostic" screen and select a peripheral. The time of the reporting is reflected in the "time" column.

Button

ACK ALARM

The "Hardware Diagnostic" screen also allows you to acknowledge a system hardware failure alarm.

If the failure has already been rectified, you must press the "ACK ALARM" button to cancel both the audible and the visual alarms.

If the failure has not been rectified, pressing the "ACK ALARM" button cancels the audible alarm, but the visual alarm continues until the problem has been rectified and the "ACK ALARM" button has been pressed again.
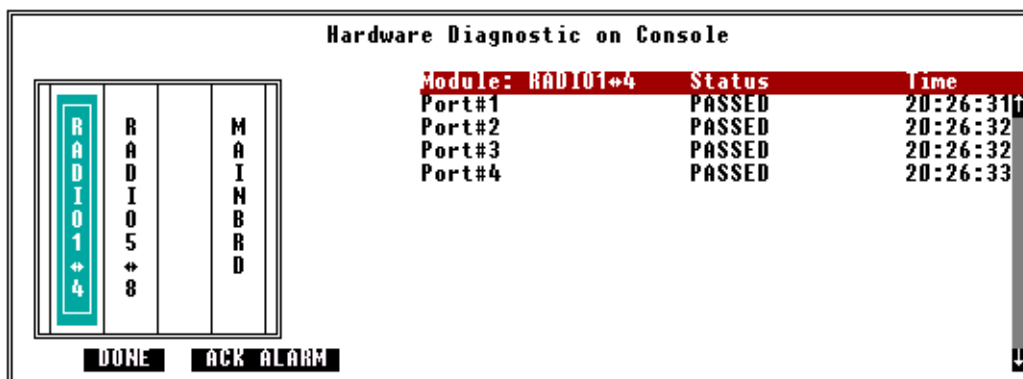
Figure 5-6:   Hardware Diagnostics Screen - Radio 1 to 4 Selected

Call Event Logging

The "Call Event Logging" feature allows you to specify:

• whether or not the system has a log printer

• whether the printer is linked to the CSDM Lite or to a console

• the settings for the selected printer

• which logs will be printed

Note: In order for this feature to work, the console's keypad test #73 must be set to "Printer".

The "Call Event Logging" menu item displays the "Call event logging" screen.

```
                        Call event logging

Radio incoming calls        : (N/A) Logging port host:       NONE  ▶
Radio outgoing calls        : (N/A) Logging port:            (N/A)
Radio intercom calls        : (N/A) Logging port baud rate:  (N/A)
Radio RCU calls             : (N/A) Logging port data bits:  (N/A)
Radio PTT Ids               : (N/A) Logging port stop bits:  (N/A)
Radio emergencies           : (N/A) Logging port parity:     (N/A)
Radio patches               : (N/A) Logging port handshake:  (N/A)
Radio main/standby switches: (N/A)
Phone call progress         : (N/A)


               OK                        CANCEL
```

Figure 5-7:   Call Event Logging Screen

For a typical call event logging printout, refer to Appendix C.

Fields

Radio incoming calls

When this field is enabled, information on incoming radio calls will be printed on the log printer. The radio incoming calls log includes information on:

• which channel was used

• when the call was received.

Radio outgoing calls

When this field is enabled, information on outgoing radio calls will be printed on the log printer. The radio outgoing calls log includes information on:

• which console sent the call

• which channel was used

• when the call was sent.

Radio intercom calls

When this field is enabled, information on intercom radio calls (PA) will be printed on the log printer. The radio intercom calls log includes information on:

• which console sent the call

• which channel was used

• when the call was sent

Radio RCU calls

When this field is enabled, information on radio calls from RCUs will be printed on the log printer. The radio RCU calls log includes information on:

• which channel was used

• when the call was sent

Radio emergencies

When this field is enabled, information on radio emergencies will be printed on the log printer. The radio emergencies log includes information on:

• the alias or ID of the person who sent the emergency call

• when it was received

Radio patches

When this field is enabled, information on radio patches will be printed on the log printer. The radio patches log includes information on:

• who was included in the patch

• when the patch took place

• who patched the channels

Radio main/standby switches

When this field is enabled, information on radio main/standby switches will be printed on the log printer. The radio main/standby switches log includes:

• the name of the radio channel

• whether it switched from main to standby or from standby to main.

• the time the switch took place

Phone call progress

When this field is enabled, information on phone call progress will be printed on the log printer. Phone call progress log includes:

• when calls were put on hold

• when calls were conferenced

- to whom calls were conferenced

Logging port host

This field allows you to specify whether or not the system has a log printer, and whether the printer is linked to the CSDM Lite or to a console.

Logging port

This field allows you to specify the port on the console to which the logging printer will be linked. The entry in this field is fixed to "COM1".

Logging port baud rate

This field allows you to specify the baud rate for the logging port. Choices are: 300, 1200, 2400, and 9600.

Logging port data bits

This field allows you to specify the data bits for the logging port. Choices are: 7 and 8.

Logging port stop bits

This field allows you to specify the stop bits for the logging port. Choices are: 1 and 2.

Logging port parity

This field allows you to specify the parity for the logging port. Choices are: none, odd, and even.

Logging port handshake

This field allows you to specify the handshake for the logging port. Choices are: none and XON/XOFF.

Info

The "Info" menu item displays the "General Information" screen.

```
                    General Information

    CommandSTAR System Database Manager Lite (CSDM Lite)
               (C) Copyright CML Technologies Inc.

    Two-way radio protocols licensed from Motorola, Inc.
         under one or more of the following US Patents:
             4,684,941, 4,667,191 and 4,637,022.
         1997, 1998 Motorola Inc. All rights reserved.

    Login level:          Superuser
    Software release:     3211933-12 SR1

    Free RAM:               128,307,200 bytes
    Free disk space:      2,109,734,912 bytes
    Total disk space:     2,147,450,880 bytes

                       DONE
```

Figure 5-8:   General Information Screen

Fields

Login level

The "Login level" field indicates the current user login level, Superuser, Supervisor, or User.

Software release

The "Software release" field indicates the software release version number of the CSDM Lite.

Free RAM

The "Free RAM" field indicates the amount of free random access memory (RAM) available on the CSDM Lite computer.

Free disk space

The "Free disk space" field indicates the amount of free disk space available on the CSDM Lite computer.

Total disk space

The "Total disk space" field indicates the maximum capacity of the computer's hard disk.

Clear Screen

The "Clear Screen" menu item allows you to clear system logs from the screen.

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Chapter 6
Setup Menu

The Setup menu has the following menu items:

- Software Setup

- Date and Time

- Account Management

- COM/Modem Setup

Software Setup

The "Software Setup" menu item displays the "Software Setup" screen.

Software Setup

Field auto detect: ☑

Screen saver enabled: √

Screen saver delay: ◀ 3 min ▶

Type of alarm: ◀Single▶

Upd Date & Time Bios: √

[OK]   [CANCEL]
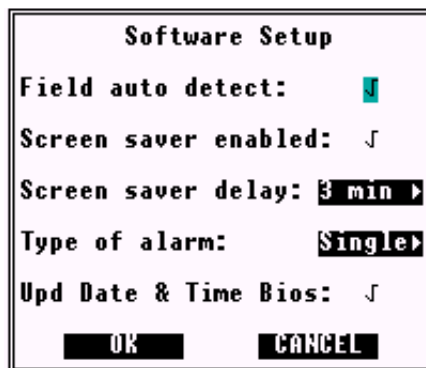
Figure 6-1:   Software Setup Screen

Fields

Field auto detect

The "Field auto detect" field, when enabled, allows you to:

- automatically open menus by placing the cursor on the menu title

- automatically highlight fields by placing the cursor on the field

---

Screen saver enabled

The "Screen saver enabled" field enables the screen saver. The screen saver reduces the possibility that a screen display will burn an image into the face of the picture tube. The screen saver starts when the CSDM Lite position is idle for a predefined period of time (see the "Screen saver delay" field below). When the screen saver is on, the message *Press any key to restore the CSDM* moves at random around the screen at 5-second intervals.

The screen saver only affects the screen display. While the screen saver is on, the CSDM Lite event logging capabilities are still enabled.

Screen saver delay

The "Screen saver delay" field allows you to specify the duration of time between the last touch of the keyboard and the start of the screen saver. Choices are: 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 minutes.

Type of alarm

The "Type of alarm" field allows you to specify the type of alarm sound when a hardware failure occurs. The sound will be heard from the CDSM computer speaker. Choices are:

- off

- burst - 250ms on, 250ms off

- steady

- single - one beep for every failure

Upd Date & Time Bios

The "Upd Date & Time Bios" field enables updating of the Personal Computer's date and time coming from the system.

Date and Time

The date and time can be changed from the CSDM Lite and from each console. The "Date and Time" menu item displays the "Date and Time Setup" screen.

Figure 6-2:   Date and Time Setup Screen

Fields

Date

The "Date" field allows you to specify the year, month, and date for the system.

Time Format

The "Time Format" field allows you to specify whether the time is displayed in the 12 hour or 24 hour time format.

Time

The "Time" field allows you to specify the time of day in hours, minutes, and seconds.

Time Zone

The "Time Zone" field allows you to specify the time zone for any geographical location in North America. When the time zone is set, the system time will change twice a year according to the following table. (The time changes only if the CSDM Lite is the clock master.)

Labrador and Yukon	Other
Last Sunday of Oct.: 2 to 1 am	Last Sunday of Oct.: 2 to 1 am
Last Sunday of April: 2 to 3 am	First Sunday of April: 2 to 3 am

Time Zone Abbreviations:

ST - standard time	M - Mountain
DT - daylight savings time	A - Atlantic
P - Pacific	N - Newfoundland
E - Eastern	L - Labrador
C - Central	Y - Yukon

Account Management

The "Account Management" menu item displays the "Account Management" screen.

Figure 6-3:   Account Management Screen

When you select the desired user name, the EDIT and DELETE buttons become active.

Buttons

ADD

Select the "ADD" button to display the "Add Account" screen and add a User name/Password combination.

EDIT

Select the "EDIT" button to display the "Edit Superuser Account" screen or the "Edit Supervisor Account" screen and edit the user name/password combination.

Figure 6-4:   Edit Superuser Account Screen

To edit (change) your User name/Password combination:

1. Type the new user name in the "User's Name" field and press [Enter].

2. Type the new password in the "Type New Password" field and press [Enter].

3. Type the new password in the "Re-Type New Password" field and select "OK".

DELETE

Select the "DELETE" button to delete a User name/Password combination.

COM/Modem Setup

The "COM/Modem Setup" menu item allows you to set the parameters for a modem link or direct serial link to the CommandSTAR Lite system.

The "COM/Modem Setup" menu item displays the "COM/Modem Setup" screen.

```
┌──────────────────────────────────────────────────┐
│              COM/Modem Setup                       │
│                                                    │
│  Port address:    03F8H▶      Interrupt port:  4▶  │
│                                                    │
│  Dial-in sequence:  ATDT5553335555                 │
│                                                    │
│  Hang-up sequence:  ^+++^ATH0                       │
│    ▐DIAL-IN▌      ▐HANG-UP▌      ▐ OK ▌   ▐CANCEL▌  │
└──────────────────────────────────────────────────┘
```

Figure 6-5: COM/Modem Setup Screen

Fields

Port address

The "Port address" field allows you to specify the address for the COM port used by the modem or direct serial connection. COM port 1 is address 3F8 interrupt 4, COM port 2 is address 2F8 interrupt 3.

Interrupt port

The "Interrupt port" field allows you to specify the interrupt used by the modem or direct serial connection.

Dial-in sequence

The "Dial-in sequence" field allows you to specify the control characters that will instruct the modem to dial a specified number. After the letters "ATDT", enter the phone number to be dialed.

Hang-up sequence

The "Hang-up sequence" field allows you to specify the control characters that will instruct the modem to hang-up and terminate communication.

Buttons

DIAL-IN

The "DIAL-IN" button allows you to initiate communication by instructing the CSDM Lite to send the dial-in sequence to the modem.

HANG-UP

The "HANG-UP" button allows you to halt communication by instructing the CSDM Lite to send the hang-up sequence to the modem.

Chapter 7
Upgrade Menu

The Upgrade menu has the "Software Upload" menu item.

Note 1: Software uploading is a maintenance activity and should be performed by trained personnel. For more information on software uploading, please see the CommandSTAR Lite Installation and Troubleshooting manual.

Note 2: Before using the "Software Upload" menu item, ensure that the three files TSM.hi, TSM.lo, and Cop.x are copied to the CSDM Lite computer's hard disk. If necessary, extract the files from an archive (e.g., a zip file). If any of the files are missing for the upload, the "File I/O Error" screen appears after the start upload process.

Software Upload

The "Software Upload" menu item allows you to upload software from the CSDM Lite directory in the CSDM Lite computer to the peripherals in the CommandSTAR Lite system.

The "Software Upload" menu item displays the "Software Upload Status" screen.
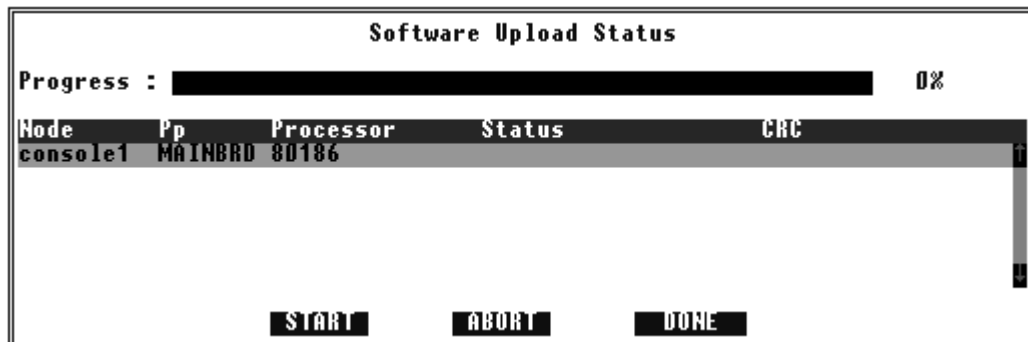
Figure 7-1:   Software Upload Status Screen

The "Software Upload Status" screen lists the processors to be upgraded, and has the following columns to identify processors:

*   Node - identifies the console

*   Pp - identifies the peripheral processor

- Processor - identifies the processor to be upgraded

- Status - identifies the status of the upload. The status column can display one of the following:

  - Aborted

  - Done

  - In progress

  - Time out

  - Failed

  - Bad file opening

  - File I/O error

  - File corrupted

- CRC - identifies the cyclic redundancy check (CRC) number of the software being uploaded

Field

Progress

The "Progress" field identifies the percent completion of the upload.

Buttons

START

The "START" button starts the upload.

The "ABORT" button stops the upload.

Appendix A
The "Labels" Program

About the Labels Program

The Labels program is a Windows application that allows you to produce and print the labels for the operator module buttons on CommandSTAR Lite consoles. You can produce a label file with the CSDM Lite and use the Label program to print it, or you can use the Labels program to create a new label file.

To create a label file using the CSDM Lite, follow the instructions in Chapter 3 under File/Report/Label.

The label file used by the label printing program has the file extension ".LBL".

Installing the Labels Program

To install the Labels program

1. Place the "Labels Setup" diskette in a floppy disk drive.

2. Select the Windows "Start" button, then from the menu select "Run".

The "Run" dialogue box appears.
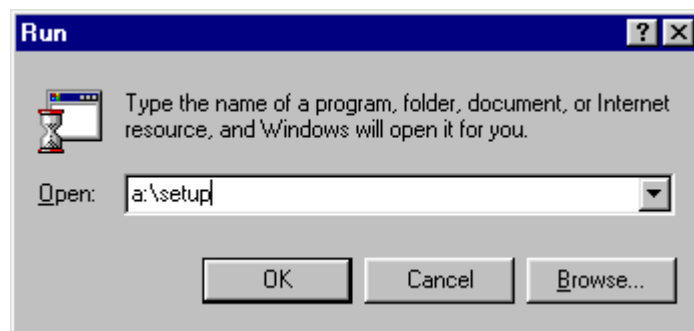
Figure A-1: Run Dialogue Box

3. In the "Open" field of the "Run" dialogue box, Type "`a:\setup`" or "`b:\setup`", depending on the drive in which the setup diskette was placed. Click the "OK" button.

The "CommandSTAR Setup" window appears.

4.   Select "Continue".

You are prompted to accept or change the default directory "C:\CSDM\LABELS".

5.   Select "Continue".

The installation starts.

6.   When the installation is complete, select "OK".

A "CommandSTAR" program group containing the "Labels" icon is created. Close the program group window. Installation of the Labels program is now complete.

Starting the Labels Program

To start the Labels program, select the Windows Start button, then from the menu select Programs/CommandSTAR/Labels

The "Labels" program window appears.
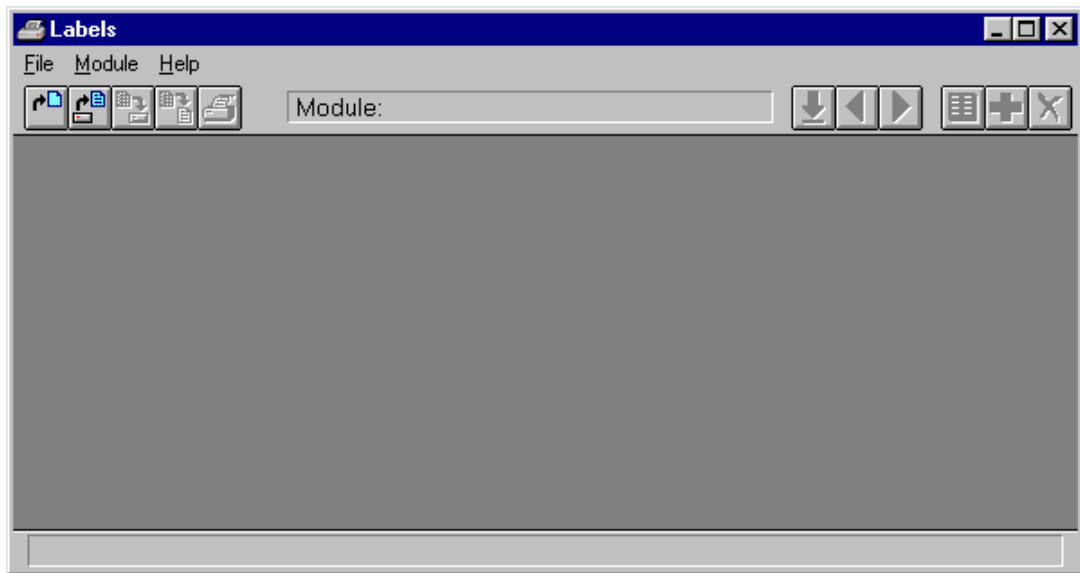
Figure A-2:   Labels Program Window
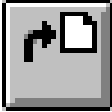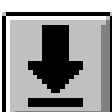
Help Feature

For information on how to use the Labels program, use the "Help" feature.

To start the "Help" feature, select "Contents" from the "Help" menu.

Toolbar

The Labels program has the following toolbar buttons:

	This button allows you to create a new label file.
	This button allows you to open an existing label file.
	This button allows you to save the current file.
	This button allows you to save the current file under a new name.
	This button allows you to print the labels.
	This button allows you to select a module from a list.
	These buttons allow to select the previous and next module in the list.
	This button allows you to edit the labels of the selected module.
	This button allows you to add a new module to the list.
	This button allows you to delete the selected module.

Creating a New Label File

You can produce a label file with the CSDM Lite or you can use the Labels program to create a new label file.

To create a label file using the CSDM Lite, follow the instructions in Chapter 3 under File/Report/Label.

To create a new label file using the labels program:

1.   Select , or "File/New label file".

The "System Information" dialogue box appears.
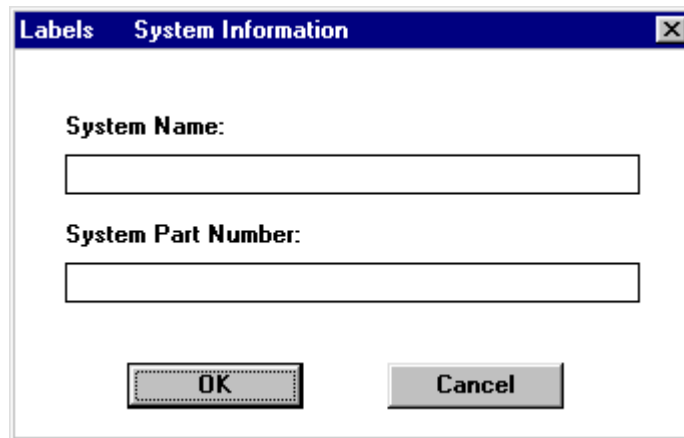
Figure A-3:   System Information Dialogue Box

2.   Add the system name and system number.

3.   Select OK.

, , and become active.

4.   Select , or "Modules/Add", to add a module.

The "Add Module" dialogue box appears.
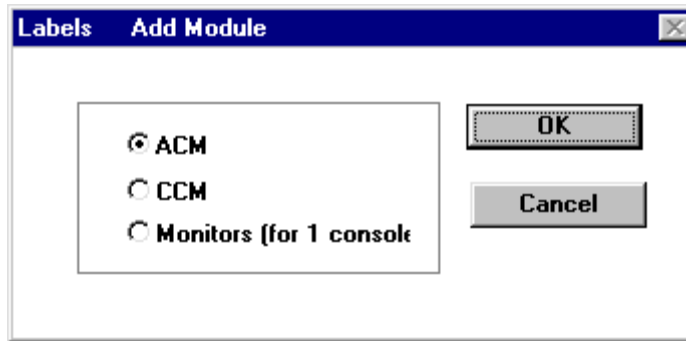
Figure A-4:   Add Module Dialogue Box

5.   Select one of the listed modules and click "OK"

The module label dialogue box appears for the selected module.

6.   Type in the text for the labels in the fields provided. Click "OK".

7.   Select "File/Save" to save the label file.

The "Save As" dialogue box appears.

8.   Type in the name of the file and click "OK".

You may now add more labels, modify, print, or delete existing labels.

Adding and/or Editing Label Text

To add and/or edit the label text:

1.   Select the desired module by using or, "Module/View Next" or"Module/
View Previous"

2.   Select , or "Module/Edit".

The module label dialogue box appears for the selected module.

Figure A-5:   Module Label Dialogue Box

3.   Select the field(s) you wish to edit.

The "Module Name" field allows you to add or modify the name of the module. The module name will be printed with the labels.

4.   Click "OK".

A print preview of the label is displayed.

5.   Save your changes.

Producing Labels

To produce labels:

1.   Select , or "File/Print".

The "Print the Labels" dialogue box appears.
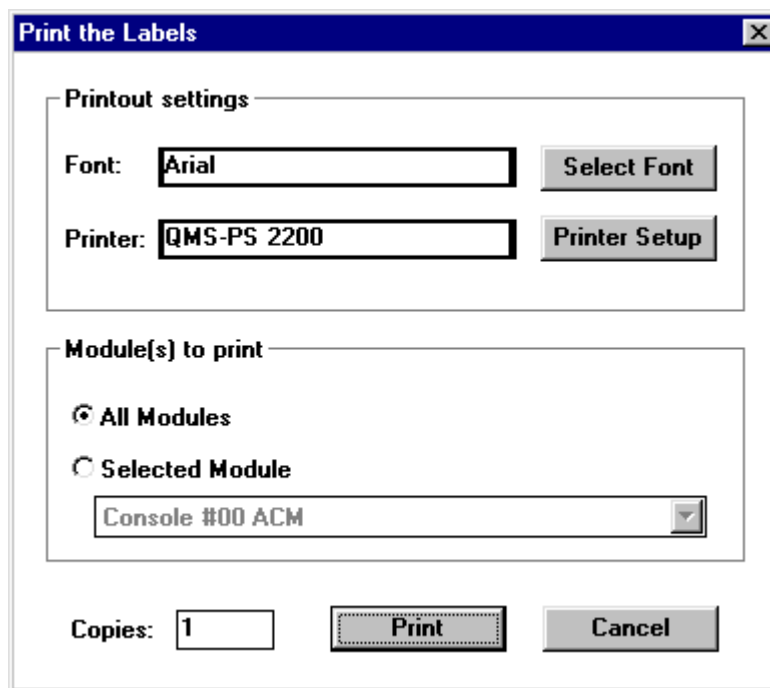
Figure A-6:   Print the Labels Dialogue Box

Use the "Select font" button to select the font for the labels.

Use the "Printer Setup" button to select the printer.

Select the "All Module" button to print the labels for all the modules.

Select the "Selected Module" button to print the module currently selected on the combo list box (directly below the "Selected Module" button).

2.   Select "Print".

The Labels print (see Figure A-7).

3.   Use scissors to cut out the labels.

4.   Insert the labels into the slots provided on the CommandSTAR Lite operator modules.

System Name: ABC Part Number: 123

Module: Console #01 CCM ID #10   Module: Console #01 ACM ID #00

Channel 1	Channel 2
Fire	Police

Select | Sel Call
Rx f1/f2
F7/8 Cpl
PL C/D
Transmit | Tx Busy

Select | Sel Call
Aux1 I/O
Aux2 I/O
Tx f7/f8
Transmit | Tx Busy

Hold | On
Intercom | Call Patch
For01 | On
Patch | Active
Page Tx | Tx Error
Page 2 | On
Spd Page | On
Frequenc | Sel

Multi-Sel | Active Mem
APB 01 | Tx Error
Patch 2 | Active Mem
Patch 3 | Tx Error
Queue | On
Regroup | On
Ring | Mute
Radio Ass | On Err

Figure A-7:   Example of a Label Printout

Appendix B
Paging Codes

Introduction

Over the years, as more and more radio channels were used, the need for special coding techniques for paging grew. As the demand increased, radio frequencies could no longer be used exclusively by one party. As a result, systems were developed with the ability to page one party or a sub-group from within a larger group sharing a radio channel.

These systems use paging codes that can be received by only one receiver. The industry developed code plans to manage these paging codes.

This appendix explains and shows the tables for 6 commonly used paging code formats:

- Motorola 1+1

- Motorola 2+2

- GE Type 99 Code Plans

- 5/6 sequential

- Reach Code Plans

- DTMF Frequencies

Motorola 1+1

Motorola 1+1 sends two frequencies, one after the other. It uses three digit pager codes and has 21 different code plans. The code plans range from B through Y (excluding I, O, and X).

Example

Assume you are using code plan "B", and you want to know the frequencies for the three digit pager code 543.

1. The first digit of the three digit pager code indicates the row on the Motorola 1+1 Code Plans table. On the Motorola 1+1 Code Plans table, at the intersection of row "5xx" and column "B", is "1+3".

2. The numbers 1 and 3 (1+3) indicate the columns on the Motorola 1+1 Frequencies table where the frequencies are listed. The number 4 and 3 from the three digit pager code 543 indicates the rows on the Motorola 1+1 Frequencies table.

3. The first frequency is on the Motorola 1+1 Frequencies table at the intersection of row 4 and column 1. The first frequency is 410.8 Hz.

4. The second frequency is on the Motorola 1+1 Frequencies table at the intersection of row 3 and column 3. The second frequency is 304.7 Hz.

Motorola 1+1 Code Plans Table

	B	C	D	E	F	G	H	J	K	L
0xx	2+4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1xx	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
2xx	2+2	2+2	2+2	2+2	1+3	1+3	1+3	1+4	1+4	1+5
3xx	3+3	1+2	1+2	1+2	3+3	3+3	3+3	4+1	4+1	5+1
4xx	1+2	4+4	1+5	2+1	4+4	3+1	3+1	4+4	4+4	1+6
5xx	1+3	1+4	5+5	1+6	3+1	5+5	1+6	5+5	1+6	5+5
6xx	2+1	2+1	2+1	6+6	1+4	1+5	6+6	1+5	6+6	6+6
7xx	3+1	4+1	5+1	6+1	4+1	5+1	6+1	4+5	6+1	6+1
8xx	2+3	2+4	2+5	2+6	3+4	3+5	3+6	5+4	4+6	5+6
9xx	3+2	4+2	5+2	6+2	4+3	5+3	6+3	5+1	6+4	6+5

M	N	P	Q	R	S	T	U	V	W	Y
4+2	4+2	4+2	4+2	4+2	4+2	4+2	4+2	4+2	4+2	N/A
2+3	2+3	2+3	2+4	2+4	2+5	3+4	3+4	3+5	4+6	A+A
2+2	2+2	2+2	2+2	2+2	2+2	4+3	4+3	5+3	6+4	B+B
3+3	3+3	3+3	4+2	4+2	5+2	3+3	3+3	3+3	5+6	Z+Z
4+4	3+2	3+2	4+4	4+4	2+6	4+4	4+4	3+6	4+4	A+B
3+2	5+5	2+6	5+5	2+6	5+5	5+5	3+6	5+5	5+5	A+Z
2+4	2+5	6+6	2+5	6+6	6+6	3+5	6+6	6+6	6+6	B+A
4+2	5+2	6+2	4+5	6+2	6+2	4+5	6+3	6+3	4+5	Z+A
3+4	3+5	3+6	5+4	4+6	5+6	5+4	4+6	5+6	5+4	B+Z
4+3	5+3	6+3	5+2	6+4	6+5	5+3	6+4	6+5	6+5	Z+B

Motorola 1+1 Frequencies Table

	1	2	3	4	5	6	A	B	Z
0	330.5	569.1	1092.4	321.7	553.9	1122.5	358.9	371.5	346.7
1	349.0	600.9	288.5	339.6	584.8	1153.4	398.1	412.1	384.6
2	368.5	634.5	296.5	358.6	617.4	1185.2	441.6	457.1	426.6
3	389.0	669.9	304.7	378.6	651.9	1217.8	489.8	507.0	473.2
4	410.8	707.3	313.0	399.8	688.3	1251.4	543.3	562.3	524.8
5	433.7	746.8	953.7	422.1	726.8	1285.8	602.6	623.7	582.1
6	457.9	788.5	979.9	445.7	767.4	1321.2	668.3	691.8	645.7
7	483.5	832.5	1006.9	470.5	810.2	1357.6	741.3	767.4	716.1
8	510.5	879.0	1034.7	496.8	855.5	1395.0	822.2	851.1	794.3
9	539.0	928.1	1063.2	524.6	903.2	1433.4	912.0	944.1	881.0

Motorola 2+2

Motorola 2+2 sends four frequencies, the first two are sent at the same time then the second two are sent at the same time. It uses four digit pager codes and has 3 different code plans. The code plans are A, B, and Z.

Example

Assume you are using code plan "A", and you want to know the frequencies for the four digit pager code 5432.

1. The first two digits of the four digit pager code indicate the first two frequencies. The second two digits of the four digit pager code indicate the second two frequencies.

2. At the intersection of row "5" and column "A", is 602.6 Hz, which is one of the first two frequencies.

3. At the intersection of row "4" and column "A", is 543.3 Hz, which is one of the first two frequencies.

4. At the intersection of row "3" and column "A", is 489.8 Hz, which is one of the second two frequencies.

5. At the intersection of row "2" and column "A", is 441.6 Hz, which is one of the second two frequencies.

Motorola 2+2 Frequencies Table

	A	B	Z
0	358.9	371.5	346.7
1	398.1	412.1	384.6
2	441.6	457.1	426.6
3	489.8	507.0	473.2
4	543.3	562.3	524.8
5	602.6	623.7	582.1
6	668.3	691.8	645.7
7	741.3	767.4	716.1
8	822.2	851.1	794.3
9	912.0	944.1	881.0
A	1011.6	1047.1	977.2
B	1122.1	1161.4	1084.0

GE Type 99 Code Plans

The GE Type 99 Code Plan sends two frequencies, one after the other. It uses three digit pager codes and has 4 different code types. The code plans are X, Y, Z400, and Z100.

Example

Assume you are using code plan "X", and you want to know the frequencies for the three digit pager code 345.

1. The first digit of the three digit pager code indicates the row on the GE Type 99 Code Plans table. On the GE Type 99 Code Plans table, at the intersection of row "3xx" and column "X", is "A/B".

2. The letters A and B (A/B) indicate the columns on the GE Type Frequencies table where the frequencies are listed. The numbers 4 and 5 from the three digit pager code 345 indicates the rows on the GE Type Frequencies table.

3. The first frequency is on the GE Type Frequencies table at the intersection of row 4 and column A. The first frequency is 847.5 Hz.

4. The second frequency is on the GE Type Frequencies table at the intersection of row 5 and column B. The second frequency is 922.5 Hz.

GE Type 99 Code Plans Table

	X	Y	Z400	Z100
0xx	A/A	B/B	A/A	C/C
1xx	B/A	C/B	C/A	N/A
2xx	B/B	C/C	C/C	N/A
3xx	A/B	B/C	A/C	N/A
4xx	C/C	N/A	N/A	N/A
5xx	C/A	N/A	N/A	N/A
6xx	C/B	N/A	N/A	N/A
7xx	A/C	N/A	N/A	N/A
8xx	B/C	N/A	N/A	N/A

GE Type 99 Frequencies Table

	A	B	C
0	682.5	652.5	667.5
1	592.5	607.5	712.5-
2	757.5	787.5	772.5
3	802.5	832.5	817.5
4	847.5	877.5	862.5
5	892.5	922.5	907.5
6	937.5	967.5	952.5
7	547.5	517.5	532.5
8	727.5	562.5	577.5
9	637.5	697.5	622.5
D	742.5	742.5	742.5

5 and 6 Tone Sequential Format

A preamble tone is sent prior to the 5 frequencies which is programmable for Motorola formats and identical to the first frequency for Nec formats. An X tone is sent after the 5 frequencies for odd 5th digits in the 6 tone format.

Example

Assume you want to know the frequencies for the five digit pager code 32045.

1. The first frequency is on the 5/6 Tone Frequencies table on row 3. The first frequency is 1023.0 Hz.

2. The second frequency is on the 5/6 Tone Frequencies table on row 2. The second frequency is 882.0 Hz.

3. The third frequency is on the 5/6 Tone Frequencies table on row 0. The third frequency is 600.0 Hz.

4. The fourth frequency is on the 5/6 Tone Frequencies table on row 4. The fourth frequency is 1164.0 Hz.

5. The fifth frequency is on the 5/6 Tone Frequencies table on row 5. The fifth frequency is 1305.0 Hz.

5/6 Tone Frequencies Table

0	600.0
1	741.0
2	882.0
3	1023.0
4	1164.0
5	1305.0
6	1446.0
7	1587.0
8	1728.0
9	1869.0
X	2010.0
R	459.0

Reach Code Plans

The Reach Code Plan sends two frequencies, one after the other. It uses three digit pager codes and has 1 code plan.

The order in which frequencies are sent depends on the order of the letters x and y in the Reach Code Plan table. The "x" frequency is sent first, the "y" frequency is sent second.

Example

Assume you want to know the frequencies for the three digit pager code 657.

1. The first digit of the three digit pager code indicates the row on the Reach Code Plan table. In the Reach Code Plan table on row "6yx" is "4/1".

2. The numbers 4 and 1 (4/1) indicate the columns on the Reach Frequencies table where the frequencies are listed. The numbers 5 and 7 from the three digit pager code 657 indicate the rows on the Frequencies table.

3. The frequency corresponding to the number 5 from the three digit pager code 657 is on the Reach Frequencies table at the intersection of row 5 and column 4. The frequency is 990.0 Hz.

4. The frequency corresponding to the number 7 from the three digit pager code 657 is on the Reach Frequencies table at the intersection of row 7 and column 1. The frequency is 2196.0 Hz.

Reach Code Plan Table

0yx	5/3
1xy	1/2
2yx	2/1
3xy	3/4
4yx	4/3
5xy	1/4
6yx	4/1
7xy	1/5
8yx	5/1
9xy	3/5

REACH Frequencies Table

	1	2	3	4	5
0	1980.0	1177.0	1400.0	832.0	588.0
1	2704.0	1608.0	1912.0	1137.0	804.0
2	2612.0	1553.0	1847.0	1098.0	776.0
3	2523.0	1500.0	1784.0	1061.0	750.0
4	2437.0	1449.0	1723.0	1025.0	725.0
5	2354.0	1400.0	1664.0	990.0	700.0
6	2274.0	1352.0	1608.0	956.0	676.0
7	2196.0	1306.0	1553.0	923.0	653.0
8	2121.0	1261.0	1500.0	892.0	631.0
9	2049.0	1219.0	1449.0	862.0	609.0

DTMF Frequencies

A DTMF (Dual Tone Multi Frequency) pager code may be any number of digits and allowable characters in length up to a maximum of 16. The set of digits and allowable characters are 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, *, and #. Each digit or character is associated with two tones that are sent simultaneously.

Example

Assume you want to know the frequencies for the letter D.

1. The letter D on the DTMF Frequency table is at the intersection of the frequencies 941.0 Hz and 1633.0 Hz.

2. When "D" is pressed, the frequencies 941.0 Hz and 1633.0 Hz are sent simultaneously.

DTMF Frequencies Table

	1209.0	1336.0	1477.0	1633.0
697.0	1	2	3	A
770.0	4	5	6	B
852.0	7	8	9	C
941.0	*	0	#	D

Appendix C
Call Event Logging Printout Examples

Introduction

The following are examples of call event logging printouts. For further information on call event logging, refer to Chapter 5, "Diagnostics Menu".

CallOn :
```
DD/MM/YYYY   XX:XX:XX   Incoming call on "ChannelName"
```

CallOff :
```
DD/MM/YYYY   XX:XX:XX   End of incoming call on "ChannelName"
```

PttOn :
```
DD/MM/YYYY   XX:XX:XX   "OprName" transmitting on "ChannelName"
```

BaseICOn :
```
DD/MM/YYYY   XX:XX:XX   "OprName" sending intercom on "ChannelName"
```

RCUOn :
```
DD/MM/YYYY   XX:XX:XX   RCU transmitting on "ChannelName"
```

EndOfPtt :
```
DD/MM/YYYY   XX:XX:XX   End of transmission on "ChannelName"
```

CallerIdIn :
```
DD/MM/YYYY   XX:XX:XX   "IdName" id received on "ChannelName"
```

EmerDeclare :
```
DD/MM/YYYY   XX:XX:XX   "IdName" emergency rcvd on "ChannelName"
```

EmerClearLog :
```
DD/MM/YYYY   XX:XX:XX   Emergency cleared on "ChannelName"
```

PatchOn :
```
DD/MM/YYYY   XX:XX:XX   "ChannelName" patched by "OprName"
```

PatchOff :
DD/MM/YYYY   XX:XX:XX   "ChannelName" unpatched by "OprName"

LLPatchOn :
DD/MM/YYYY   XX:XX:XX   "LineName" patched by "OprName"

LLPatchOff :
DD/MM/YYYY   XX:XX:XX   "LineName" unpatched by "OprName"

CDPatchOn :
DD/MM/YYYY   XX:XX:XX   Call director patched by "OprName"

CDPatchOff :
DD/MM/YYYY   XX:XX:XX   Call director unpatched by "OprName"

SwToMain :
DD/MM/YYYY   XX:XX:XX   "ChannelName" switched to main

SwToStby :
DD/MM/YYYY   XX:XX:XX   "ChannelName" switched to standby

LLsJoined :
DD/MM/YYYY   XX:XX:XX   "LineName" and "LineName2" connected

LLsUnjoined :
DD/MM/YYYY   XX:XX:XX   "LineName" and "LineName2" disconnected

OprToOprRing :
DD/MM/YYYY   XX:XX:XX   "OprName2" ringing "OprName"

OprToOprBusy :
DD/MM/YYYY   XX:XX:XX   "OprName" cannot receive call from "OprName2"

OprAnswersOpr :
DD/MM/YYYY   XX:XX:XX   "OprName2" answers call from "OprName"

OprToOprStopRing :
DD/MM/YYYY   XX:XX:XX   "OprName2" stops ringing "OprName"

OprReleasesOpr :
DD/MM/YYYY   XX:XX:XX   "OprName2" releases call with "OprName"

OprRetrieved :
DD/MM/YYYY   XX:XX:XX   "OprName2" retrieves call with "OprName"

OprHeld :
DD/MM/YYYY   XX:XX:XX   "OprName2" puts call with "OprName" on hold

OprsUnjoined :
DD/MM/YYYY   XX:XX:XX   "OprName2" and "OprName" disconnected

OprsJoined :
DD/MM/YYYY   XX:XX:XX   "OprName2" and "OprName" connected

LLRingIn :
DD/MM/YYYY   XX:XX:XX   "LineName" ringing in

LLStopRing :
DD/MM/YYYY   XX:XX:XX   "LineName" stops ringing

LLHeld :
DD/MM/YYYY   XX:XX:XX   "OprName" puts call with "LineName" on hold

LLRetrieved :
DD/MM/YYYY   XX:XX:XX   "OprName" retrieves call with "LineName"

LLAnswersOpr :
DD/MM/YYYY   XX:XX:XX   "LineName" answers call from "OprName"

OprReleasesLL :
DD/MM/YYYY   XX:XX:XX   "OprName" releases call with "LineName"

OprAnswersLL :
DD/MM/YYYY   XX:XX:XX   "OprName" answers call from "LineName"

LLOnHook :
DD/MM/YYYY   XX:XX:XX   "LineName" on hook'

OprAndLLJoined :
DD/MM/YYYY   XX:XX:XX   "OprName" and "LineName" connected

OprAndLLUnjoined :
DD/MM/YYYY   XX:XX:XX   "OprName" and "LineName" disconnected

OprSeizesLL :
DD/MM/YYYY   XX:XX:XX   "OprName" seizes "LineName"

```
OprRingsLL :
DD/MM/YYYY   XX:XX:XX   "OprName" rings out "LineName"


CDCallOn :
DD/MM/YYYY   XX:XX:XX   "OprName" call director off-hook


CDCallOff :
DD/MM/YYYY   XX:XX:XX   "OprName" call director on-hook


CallAlertDeclare :
DD/MM/YYYY   XX:XX:XX   "Id" call alert rcvd on "ChannelName"


UserStatusDeclare,
UserMsgDeclare,
VehicleStatusDeclare :
DD/MM/YYYY   XX:XX:XX   "Id" "StatusName" ch "ChannelName"


VoiceAlertDeclare :
DD/MM/YYYY   XX:XX:XX   "Id" voice alt rcvd on "ChannelName"
```

Glossary

ACM	Auxiliary Control Module
ADT	Atlantic Daylight Time
AST	Atlantic Standard Time
Aux, aux	Auxiliary
CCM	Channel Control Module
CDT	Central Daylight Time
Cluster	A group of consoles in a CommandSTAR system
CO	Central Office
CSDM Lite	CommandSTAR Lite System Database Manager
CST	Central Standard Time
DA button	Direct Access button, a button on a ACM allowing an operator direct access to an entity.
dB	decibel; a unit used to express relative difference in power, usually between acoustic or electric signals, equal to ten times the common logarithm of the ratio of the two levels.
dBm	decibel relative to 1 milliwatt
DOS	Disk Operating System
DTMF	Dual Tone Multiple Frequency - tones created by touch tone phones
EDT	Eastern Daylight Time
EST	Eastern Standard Time
Hz	A unit of frequency equal to one cycle per second.
I/F	Interface
IA	Indirect Access
KHz	kilo-hertz; thousand hertz (thousand cycles per second)
LDT	Labrador Daylight Time

LST	Labrador Standard Time
MDT	Mountain Daylight Time
Module	Hardware: freestanding (rack-mounted) hardware unit having controls for one or more circuit terminations. Examples: ACM, CCM, CO, DC, 4-channel, Digital
MRC	Mobile Radio Communications
ms	millisecond
MST	Mountain Standard Time
NDT	Northwest Territories Daylight Time
NST	Northwest Territories Standard Time
Operator Module	An ACM or a CCM.
PA	Public Address
Patch	An operation by which a set of radio channels, telephone lines, and enhanced call director circuits are actively communicating with one another without operator interaction and they are temporarily connected for telecommunications
PC	Personal Computer
PDT	Pacific Daylight Time
PST	Pacific Standard Time
PTT	Push (or Press) To Talk
RAM	Random Access Memory
RCU	Remote Control Unit
ROM	Read Only Memory
RX, Rx	Receive / Received / Receiving audio or data
TX, Tx	Transmit / Transmitted / Transmitting audio or data
YDT	Yukon Daylight Time
YST	Yukon Standard Time

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V