MOTOROLA COMMANDSTAR LITE™
SYSTEM DATABASE MANAGER MANUAL

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CHAPTER 4: CONFIGURATION MENU

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LIST OF FIGURES

LIST OF TABLES

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LIST OF PROCEDURES & PROCESSES

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ABOUT THIS MANUAL

ABOUT COMMANDSTAR LITE CONSOLE™

The CommandSTAR Lite push-button console is a digital, modular radio dispatch console. The console has independent processing capabilities and interfaces directly to selected system resources.

An on-line System Database Manager (CSDM Lite) position connects to the console. The CSDM Lite position can be operated locally or remotely and is used to configure the CommandSTAR Lite push-button console.

EXTERNAL EQUIPMENT

CSDM LITE

RADIO CHANNELS

TELEPHONE LINES

RECORDER

GENERAL I/O RELAYS, DATA PORTS, CLOCK ETC..

RS-232 PORT OR MODEM

DESKTOP CONSOLE
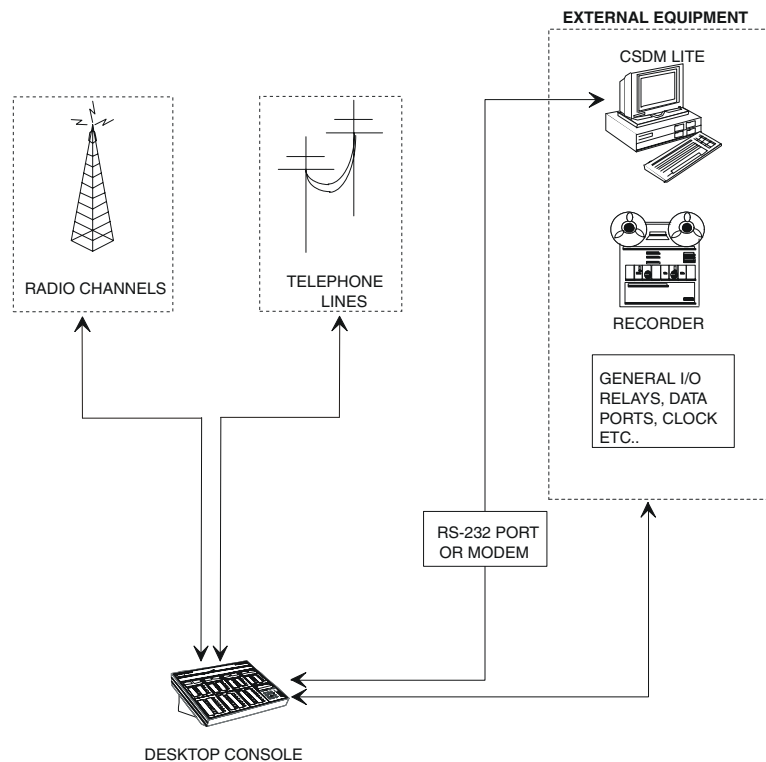
ABOUT THE CSDM LITE

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The CommandSTAR Lite System Database Manager (CSDM Lite) is a powerful configuration and maintenance tool designed with an easy to use graphic user interface (GUI) in a Windows® XP environment. Remote access is available through the CSDM Lite using pcAnywhere™. With the CSDM Lite, it is possible to configure the CommandSTAR Lite console to meet numerous requirements, such as:

- Produce the CommandSTAR Lite system configuration file and save it to disk or upload it to the console
- Produce diagnostic logs (or lists) of system events
- Remotely access the CommandSTAR Lite system via modem
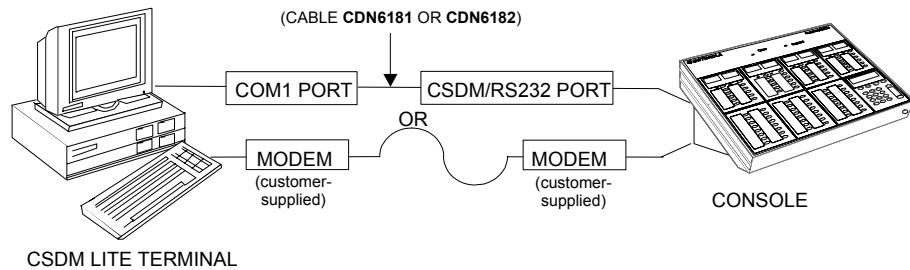
HARDWARE CONFIGURATION OF THE CSDM LITE

The main components for the CSDM Lite are:

- CSDM Lite program
- PC with a Pentium 4, 1.5 GHz or faster processor
- 20 GB hard disk
- 256 MB RAM or greater
- AGP SVGA video card (32 MB or greater SDRAM)
- SVGA or better Monitor
- 1 COM (serial) port
- 1 printer (parallel) port
- CD-ROM drive
- PS/2 mouse port
- 2-button scroll mouse, 2-button trackball, or touchscreen
- 102-key keyboard
- Microsoft Windows XP Professional, Service Pack 2

> **NOTE**
>
> To ensure the CSDM Lite software program is displayed within the visible viewing area, set your screen resolution to 1024 by 768 or better.

> **NOTE**
>
> The CSDM Lite application has been designed to run under Windows XP Professional with the display properties using a **Font size** of **Normal** and a **DPI setting** of **Normal size (96 DPI)**. If you alter the display characteristics to change the font sizes, you may not be able to see all the text necessary.

> **IMPORTANT**
>
> The Power Options Properties of the CSDM Lite computer must be set so that the value for **Turn off hard disks** is selected as **Never**. To access this feature, click **Start** and select **Settings** > **Control Panel**, then double-click **Power Options**.

HOW THIS MANUAL IS ORGANIZED

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

About This Manual – gives information about the CommandSTAR Lite Console system, the CSDM Lite, and the CSDM Lite manual.

Chapter 1: Getting Started – explains how to install, start, and operate your CSDM Lite.

Chapter 2: Working with the CSDM Lite – describes how to perform various operations to help you configure your CSDM Lite.

Chapters 3 to 8 – explain the purpose and use of each menu on the CSDM Lite menu bar.

Appendix A: Paging Codes – explains and shows the tables for different supported paging code formats.

Glossary – defines specialized words, abbreviations, and acronyms.

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

To access information in this manual about the menus, see the headers at the top of the pages, which indicate the menu and submenu.

OTHER MANUALS AND REFERENCE MATERIAL

Related manuals and reference material include:

- *CommandSTAR Lite Operator Manual* (6880309J99)
- *CommandSTAR Lite Installation and Troubleshooting Manual* (6880309J98)

MANUAL TERMINOLOGY AND CONVENTIONS

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

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

The word "system" refers to the combination of equipment in your setup: namely the CSDM Lite PC and the CommandSTAR Lite push-button console. The word "console" or "push-button" or "COP" refers to the CommandSTAR Lite radio push-button console.

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GETTING STARTED

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This section explains how to install, start, and operate your CSDM Lite and it introduces you to the interface elements. The following topics are covered:

INSTALLING THE CSDM LITE PROGRAM

To install the CSDM Lite:

PROCEDURE 1-1 HOW TO INSTALL THE CSDM LITE

1	Place the Motorola CommandSTAR Lite CD in the CD drive. **Result:** The installation wizard begins.
2	Follow the instructions provided by the installation wizard.
3	Click **Finish** to complete the installation. **Result:** The program is installed in the following default file path, unless specified otherwise: C:\Program Files\Motorola\CSDM-Lite.

NOTE

The CSDM Lite application has been designed to run under Windows XP Professional with the display properties using a **Font size** of **Normal** and a **DPI setting** of **Normal size (96 DPI)**. If you alter the display characteristics to change the font sizes, you may not be able to see all the text necessary.

IMPORTANT

The Power Options Properties of the CSDM Lite computer must be set so that the value for **Turn off hard disks** is **Never**. To access this feature, click **Start** and select **Settings > Control Panel**, then double-click **Power Options**.

STARTING AND RUNNING THE CSDM LITE

By default, Windows places a shortcut in the Windows **Start** menu and on the desktop when the CSDM Lite is installed.

To start and run the CSDM Lite program:

PROCEDURE 1-2 HOW TO START AND RUN THE CSDM LITE PROGRAM

1   On the Windows **Start** menu, select **Programs > Motorola > CSDM-Lite** or select (double-click) the **CSDMLite** shortcut on your desktop.

Result: The No Login CSDM Lite screen appears.
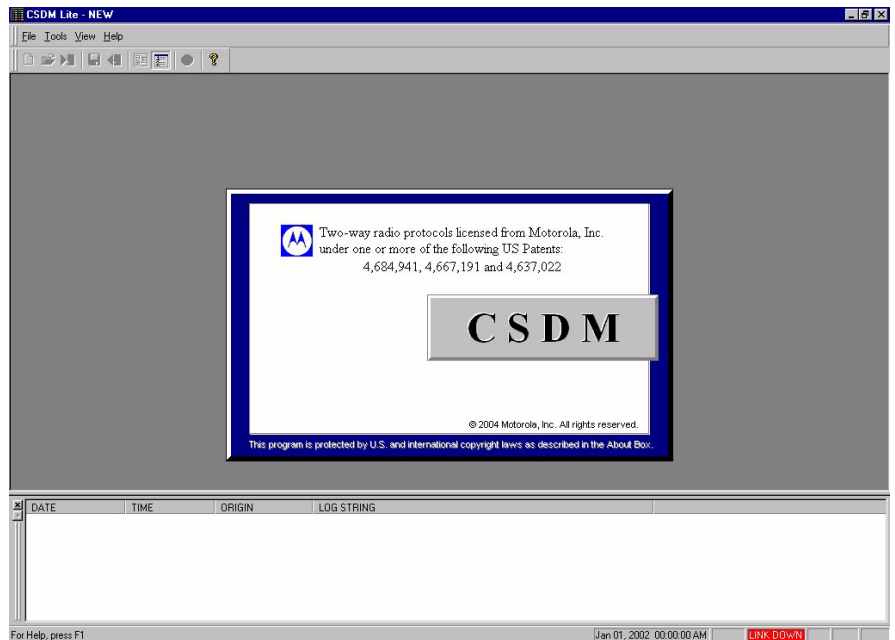
Depending on the tasks to be performed, you can run the CSDM Lite when it is:

• Not connected to the console

• Connected to the console

For example, if you want to modify an existing system configuration from a file on a disk drive, there is no need to be connected to the console.

If you want to modify the current system configuration, upload software, or review system diagnostics, then you need to be connected to the console (and logged in appropriately).

CONNECTED TO THE CONSOLE

If you start the CSDM Lite when it is connected to the CommandSTAR Lite™ push-button console, the **Serial Communication** dialog box appears, declaring that the console link is operational.

FIGURE 1-1 CSDM LITE SERIAL CONNECTION LINK OPERATIONAL DIALOG BOX

Next, the **Database Transfer** dialog box appears to inform you that the CSDM Lite is receiving a configuration file from the console.

FIGURE 1-2 CSDM LITE DATABASE TRANSFER DIALOG BOX

This message means the CSDM Lite is receiving the SYSTEM configuration automatically. When the transfer is complete, the SYSTEM database name appears at the top of the Configuration Tree.

Also, your connection to the console is always indicated in the status bar. See "Main Screen Components," on page 1-6.

NOT CONNECTED TO THE CONSOLE

If you start the CSDM Lite when it is not connected to the console, the CSDM Lite does not download the SYSTEM database and the **Serial Communication** dialog box appears, declaring a link failure when trying to communicate with the console. You can continue to work on any database file stored on the CSDM Lite computer, but you cannot upload it to the console.

FIGURE 1-3 CSDM LITE SERIAL COMMUNICATION LINK FAILURE DIALOG BOX

Instead of receiving the SYSTEM configuration, a blank database is available to you and "NEW" appears at the top of the Configuration Tree.

MAIN SCREEN COMPONENTS

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FIGURE 1-4 MAIN SCREEN COMPONENTS
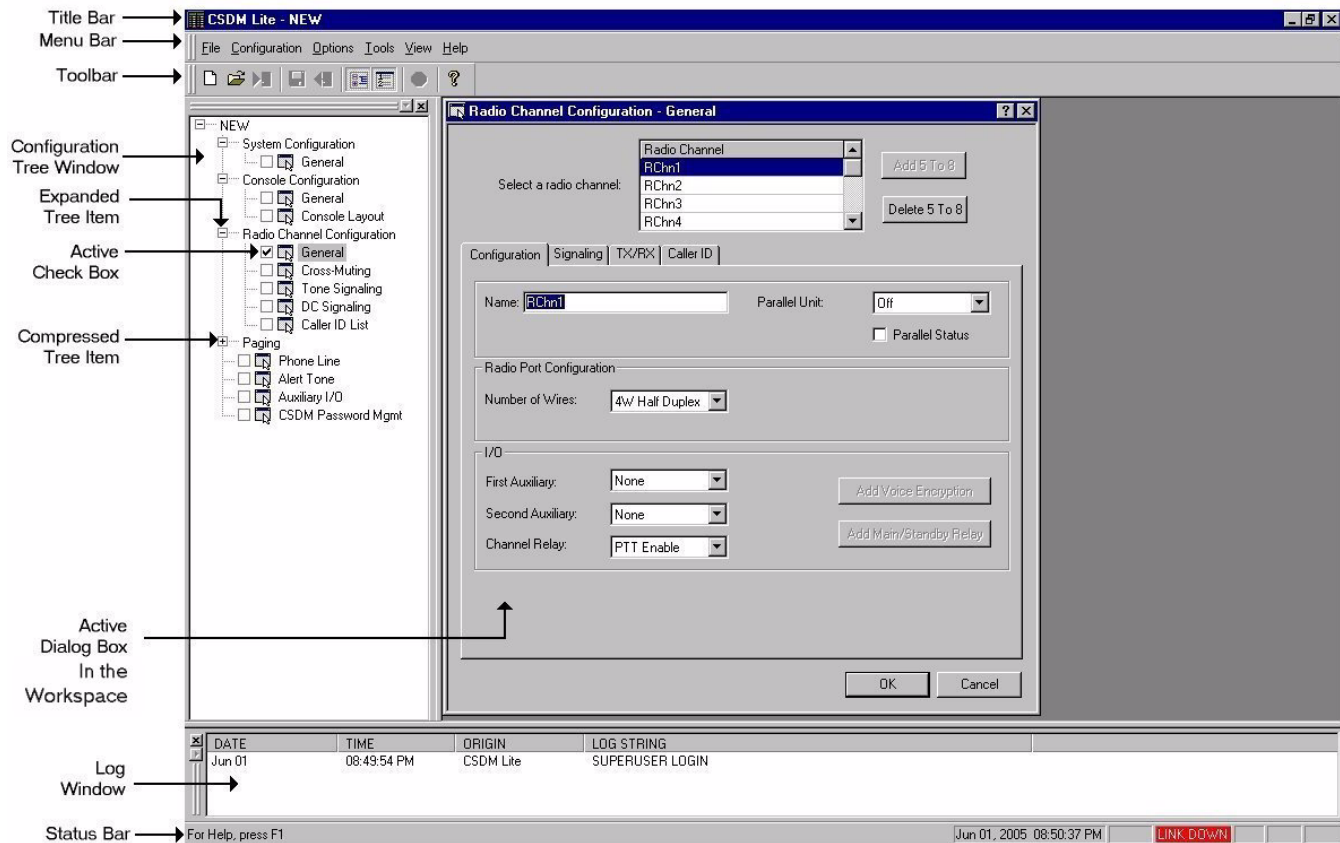
TITLE BAR

The title bar contains the application name and the current database (.db) file. The title bar appears highlighted when the CSDM Lite application is the focus on your Windows desktop.

MENU BAR

The menu bar contains the menus: **File**, **Configuration**, **Options**, **Tools**, **View**, and **Help**, depending on your login level. These menus, when selected, drop down to display their available menu commands. The menu bar can be moved, but not closed; it can connect to the title bar or it can be dragged to another location in the workspace.

TOOLBAR

The toolbar contains some of the most common menu commands used in the CSDM Lite. From left to right, these commands are: **New**, **Open, Download**, **Save**, **Upload**, **Configuration Tree (show/hide)**, **Log Window (show/hide)**, **ACK Alarm**, and **About CSDM Lite**. The buttons that appear dimmed are unavailable; the ones in full color are available. The toolbar can be moved and also closed; it can connect to the menu bar or it can be dragged to another location in the workspace. See also "Toolbar" on page 7-1.

CONFIGURATION TREE WINDOW

The Configuration Tree window contains the Configuration Tree, which lists all the dialog boxes that are available from the **Configuration** menu. This window can be closed by selecting the X at the top right hand corner and opened again from the **View** menu or the toolbar. The Configuration Tree window is moveable; it can be docked at the left or right hand side of the screen. It can also be dragged to another location in the workspace.

COMPRESSED TREE ITEM

A compressed tree item, shown with a plus symbol (+), is expandable to display its related dialog boxes. Select the plus symbol to expand the item.

EXPANDED TREE ITEM

An expanded tree item, shown with a minus symbol (–), displays the related dialog boxes. Select the minus symbol to compress the item.

ACTIVE CHECK BOX

A check mark in the active check box identifies the active configuration dialog box currently open in the workspace.

WORKSPACE

The workspace is the layout of the CSDM Lite interface, which you can customize to suit your preference. It includes the menu bar, toolbar, Configuration Tree, Log Window and the area where the dialog boxes appear. It does not include the dialog boxes themselves. Both the Configuration Tree and the Log Window can be moved or resized. A Workspace can be saved using the **File > Save Workspace** command. In most cases, only one dialog box can be opened at a time.

ACTIVE DIALOG BOX

The active dialog box is the dialog box in the Workspace that is in focus; it can be used to configure settings. Active Configuration dialog boxes are indicated by a check mark in the Configuration Tree.

LOG WINDOW

The Log Window keeps a history of all events and errors that have occurred in the current session and can be moved or closed; it can be docked at the bottom or top of the screen or it can be dragged to another location in the workspace. A maximum of 100 logs can appear in the window. Any new logs after the maximum overwrite the existing logs in the window. New log entries do not overwrite the entries in the log file, which keeps a record of all the logs for the day. See also "Logs Window" on page 7-2.

- **DATE** and **TIME –** these columns display the date and time that the log occurred

- **ORIGIN –** indicates if the log came from the CSDM Lite or the console. Until the database has been downloaded, the console is identified by its console ID. After downloading the database, the console is identified by its console name.

- **LOG STRING –** provides information about the log occurrence, for example, SUPERUSER LOGIN

STATUS BAR

The status bar displays the date and time and indicates whether you are connected to the console or not. If "LINK UP" appears, you are currently connected.

FIGURE 1-5 STATUS BAR LINK INDICATOR (CONNECTED)

| Jun 25, 2003 17:55:43 | | LINK UP | | NUM | |

You are not connected if the status bar shows"LINK DOWN" with a red background.

FIGURE 1-6 STATUS BAR LINK FAILURE INDICATOR (NOT CONNECTED)

| Jun 25, 2003 17:56:20 | | LINK DOWN | | NUM | |

For further information about the status bar, see "Ack Alarm" on page 6-4 and "Status Bar" on page 7-1.

KEY FUNCTIONALITY

. . . .

ESCAPE KEY (ESC)

The ESC (escape) key selects the **Cancel** button from a focused dialog box in the workspace or closes an open menu or drop-down list. Before a dialog box closes, a confirmation dialog box appears.

ALT KEY

The ALT key places the focus on the **File** menu for navigation with the arrow keys. The ALT key is also used in combination with other keys to perform shortcut commands. ALT + O, for example, opens the **Options** menu.

TAB KEY (TAB)

The TAB key lets you change from option to option in a dialog box that currently has the focus, from top to bottom and from left to right, outlining buttons and boxes and highlighting options. These options, boxes and buttons, now outlined, can now be activated or edited using the keyboard.

SHIFT PLUS TAB KEYS (SHIFT+TAB)

The combination of the shift and tab keys (SHIFT+TAB) lets you change from option to option in the opposite order offered by pressing just the tab key. In so doing, you highlight boxes and options just as you would if you were just using the Tab key.

DELETE KEY (DELETE)

The DELETE key erases text to the right of the cursor or all selected (highlighted) text in an edit box.

BACKSPACE KEY (BACKSPACE)

The BACKSPACE key erases text to the left of the cursor or all selected (highlighted) text in an edit box.

SPACE BAR

The space bar places a space in an edit box, or enables an outlined button or box, or activates an option button.

ENTER KEY (ENTER)

The ENTER key automatically selects the **OK** button in a focused dialog box, selects a highlighted menu and activates a menu command.

F1 KEY

The F1 function key activates the Help window. If a dialog box is open, on-line help opens at that subject.

UP/DOWN ARROW KEYS

The UP/DOWN arrow keys move the cursor up and down within menus, selection lists, option buttons, check boxes, and drop-down lists.

LEFT/RIGHT ARROW KEYS

The LEFT/RIGHT arrow keys move the cursor left and right along the menu bar and within edit boxes and move you up and down in drop-down lists and option buttons.

PAGE UP/DOWN KEYS

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.

LOGIN PRIVILEGES

There are three levels of login privileges in the CSDM Lite:

- No Login
- Supervisor
- Superuser

Everyone has access to the No Login level. The No Login level has limited access to the **File** and **View** menus and complete access to the **Tools** and **Help** menus.

At the Supervisor level, you have limited access to the **File, Configuration,** and **Options** menus, and complete access to the **Tools**, **View**, and **Help** menus.

At the Superuser level, you have full access to all menus (see "Menu Map" on page 1-18 for the complete diagram of menus or see Table 1-1 for a complete list of menu commands based on your access level).

Valid user names and passwords are necessary for access to the Supervisor and Superuser levels of the CSDM Lite. The console allows a maximum of two Supervisors and one Superuser. If you are not given Supervisor or Superuser privileges, you are restricted to operating the CSDM Lite in the No Login mode.

TABLE 1-1 MENU COMMAND AVAILABILITY FOR DIFFERENT ACCESS LEVELS

Menu Command/Access Level	No Login	Supervisor	Superuser
File	Y	Y	Y
New Database	N	N	Y
Open Database	N	Y	Y
Download Database *	Y	Y	Y
Upload Database *	N	Y	Y
Save Database	N	Y	Y
Save Database As	N	N	Y
Save Workspace	N	Y	Y
Report Label	Y	Y	Y
Report Configuration	Y	Y	Y
Recent Files (database)	N	Y	Y
Login/Logout	Login	Logout	Logout
Exit	Y	Y	Y
Configuration	N	Y	Y
System	N	N	Y
General	N	N	Y

TABLE 1-1 MENU COMMAND AVAILABILITY FOR DIFFERENT ACCESS LEVELS (CONTINUED)

Menu Command/Access Level		No Login	Supervisor	Superuser
Console		N	Y	Y
	General	N	Y	Y
	Console Layout	N	Y	Y
Radio Channel		N	N	Y
	General	N	N	Y
	Cross-Muting	N	N	Y
	Tone Signaling	N	N	Y
	DC Signaling	N	N	Y
	Caller ID List	N	N	Y
Paging		N	Y	Y
	Custom Page	N	N	Y
	Page Format	N	N	Y
	External Pager	N	N	Y
	Manual Page	N	Y	Y
	Paging Aliases	N	Y	Y
Phone Line		N	N	Y
Alert Tone		N	N	Y
Auxiliary I/O		N	N	Y
CSDM Password Mgmt		N	Y	Y
Options		N	Y	Y
Setup		N	Y	Y
	Date and Time	N	Y	Y
Call Event Logging *		N	N	Y
Software Upload *		N	N	Y
Tools		Y	Y	Y
Diagnostics		Y	Y	Y
	Hardware *	Y	Y	Y
	Ack Alarm	Y	Y	Y
Labels		Y	Y	Y
View		Y	Y	Y
Toolbar		Y	Y	Y
Status Bar		Y	Y	Y
Configuration Tree		N	Y	Y
Logs Window		Y	Y	Y

TABLE 1-1 MENU COMMAND AVAILABILITY FOR DIFFERENT ACCESS LEVELS (CONTINUED)

Menu Command/Access Level	No Login	Supervisor	Superuser
Help	Y	Y	Y
Search	Y	Y	Y
Content	Y	Y	Y
About CSDM Lite	Y	Y	Y

> **NOTE**
>
> Menu items with as asterisk (*) require a connection to the CommandSTAR Lite Console to become available.

LOGIN PROCEDURE
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∙

To use the CSDM Lite at the Supervisor or the Superuser level, you must first log in.

All user names and passwords can be up to 16 alphanumeric characters long, are not case sensitive when typing and can be changed. Supervisors can change their own passwords through the **Configuration > CSDM Password Mgmt** menu command, while Superusers can change the user name, password and access type of all users.

To log into the CSDM Lite at the Supervisor or the Superuser level:

PROCEDURE 1-3 HOW TO LOG IN

---

1   Select the CTRL + L keys or from the **File** menu select **Login**.

Result: The **CSDM Lite Login** dialog box appears.

---

2   Type your user name in the **User Name** option.

---

3   Type your password in the **Password** option, then select the **Login** button or press ENTER.

Default user names and passwords are provided when you first get your system. The default user names are shown in the table that follows. Regardless of the case used, they appear as uppercase in the CSDM Lite Login window:

Level	User Name	Password
SUPERVISOR	SUPERVISOR1	SUPERVISOR1
SUPERVISOR	SUPERVISOR2	SUPERVISOR2
SUPERUSER	SUPERUSER	SUPERUSER

LOGOUT AND EXIT PROCEDURE

To log out and exit the CSDM Lite:

PROCEDURE 1-4 HOW TO LOG OUT/EXIT

1   Select the CTRL + L keys or from the **File** menu select **Logout**

Result: The **Logout Confirmation** dialog box appears.

Logout Confirmation
⚠ This action will logout the current user from the CSDM system. Do you wish to continue?
[Yes]   [No]
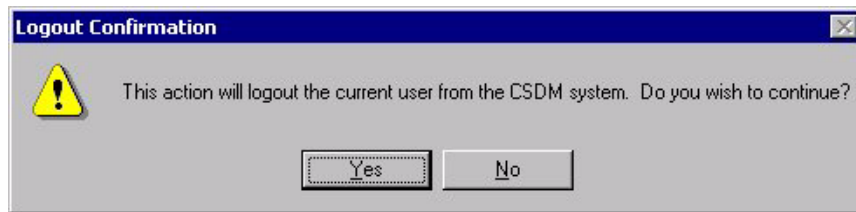
2   Select **Yes** to logout.

Result: You are returned to the No Login CSDM Lite level. The Configuration Tree window and the **Configuration** menu are made unavailable.

Or, select **No** to remain logged in.

3   From the **File** menu select **Exit**.

4   Select **Exit**.

> **NOTE**
>
> When you exit, the CSDM Lite can no longer record system events. See "Viewing Log Files," on page 2-19. Also, if you want to exit without first returning to the No Login CSDM Lite level, you may do so by selecting **Exit** and you are logged out automatically.

MENUS

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.

The menu bar is located at the top of the screen. Menus appear when you select items from the menu bar. Depending on your level of access and connection state, some of the menu commands might not be available to you.

FIGURE 1-7 THE MENU BAR

Menus are composed of menu commands. When there is an arrow (▸) to the right of the menu command, it means the menu command opens a sub-menu.

FIGURE 1-8 A TYPICAL MENU AND SUB-MENU
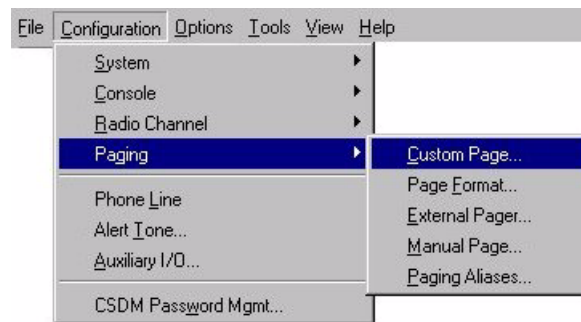
MENU MAP

. . . .
                                                        . .
                                                          .

The following menu map displays access privileges that are available to the Superuser only. For information about access privileges at the No Login and Supervisor levels, refer to "Login Privileges," on page 1-12.

FIGURE 1-9 MENU MAP FOR THE CSDM LITE (SUPERUSER LEVEL)
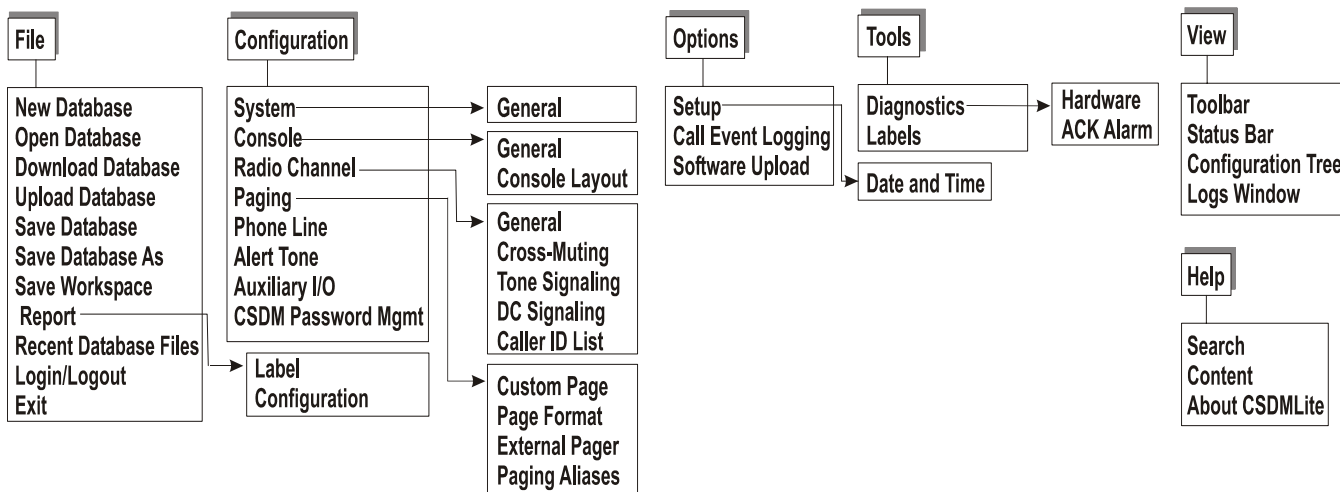
> **NOTE**
>
> An unavailable menu command due to disconnection has precedence over any login level availability. The following menu commands are not available when the CSDM Lite is not connected to the console: **Download Database**, **Upload Database**, **Call Event Logging**, and Software **Upload**.

OPTIONS AND LISTS

· ·
                                                          ·
                                                          ·

The CSDM Lite uses the following types of options and lists.

EDIT OPTIONS

Edit options are used for typing alphanumeric information.

To use an edit option using the mouse:

- Select the option with the mouse to highlight it, then start typing

To use an edit option using the keyboard:

- Press TAB or SHIFT+TAB to highlight the option, then start typing

To modify information in an edit option, use the LEFT and RIGHT arrow, BACKSPACE, DELETE, and INSERT keys.

To finish using an edit option, click on another option or press TAB, SHIFT+TAB, or ENTER.

If you type an invalid alphanumeric character or value or exceed the allowable length into an edit option, you are informed by an audible indicator. Only the "-", "_", and space characters are allowed in addition to the normal alphanumeric characters for edit options.

OPTION BUTTONS

Option buttons allow you to choose one from a number of available options. The selected option is represented with a black dot within the white circle.

To use an option button using the mouse:

- Select the white circle that represents the option you desire

To use an option button using the keyboard:

- Press TAB or SHIFT+TAB to highlight the Option Button you want chosen, then press the spacebar

CHECK BOXES

Check boxes toggle an item between enabled and disabled. Enabled is shown by a check mark in the box; disabled is shown by an empty check box (no check mark).

To use a check box using the mouse:

- Click on the option with the mouse. The option toggles between enabled and disabled.

To use a check box using the keyboard:

- Press TAB or SHIFT+TAB to highlight the option, then press Space Bar. The option toggles between enabled and disabled.

LISTS

Lists provide a number of values from which you can select the desired value. There are three types of lists: drop-down, scroll, and selection.

DROP-DOWN LISTS

A drop-down list contains a short list of values that drop down when you select the black arrow on the right hand side of the option. The values in this type of list do not change.

To use a drop-down list using a mouse:

PROCEDURE 1-5 HOW TO USE A MOUSE IN LISTS

1	Select the arrow at the end of the option to open and view the whole list.
	Result: The list of available values to choose from appears.
2	Select the desired item in the selection list, using the scroll bar if necessary.
	Result: The desired value appears in the option and the list collapses.

To use a drop-down list using the keyboard:

PROCEDURE 1-6 HOW TO USE A KEYBOARD IN LISTS

1	Press TAB or SHIFT+TAB to highlight the desired drop-down list.
2	Use the UP and DOWN arrow keys to scroll through the list and highlight the desired item. You can also type a letter corresponding to the first letter of the desired item. Or, you can press ALT+UP or Down to open the drop down list to then cycle though it.
3	When you press TAB to move to the next option or SHIFT+TAB to move to the previous option, the list item that was highlighted becomes the selected item.

SCROLL LISTS

A scroll list can include information added by a user. The length of the list is determined by the number of entries that have been added or deleted. Scroll lists display a portion of a list if the number of entries exceeds the viewable area of the option. If it does not exceed the viewable area, there is no scroll bar or arrows.

To use a scroll list using a mouse:

PROCEDURE 1-7 HOW TO SELECT ITEMS IN A SCROLL LIST WITH A MOUSE

1	Select either the up or down arrow at the end of the option or move the scroll bar slider to scroll though the list.
2	Select the desired item in the scroll list.

To use a scroll list using the keyboard:

PROCEDURE 1-8 HOW TO SELECT ITEMS IN A SCROLL LIST WITH A KEYBOARD

1	Press TAB or SHIFT+TAB to select the desired scroll list.
2	Use the UP/ DOWN arrow keys or the PAGE UP/PAGE DOWN keys to scroll through the list and highlight the desired item.
3	When you press TAB to move to the next option or SHIFT+TAB to move to the previous option, the list item that was highlighted becomes the selected item.

SELECTION LISTS

A selection list lets you choose values, usually numerical, within a specified range.

To use a selection list using a mouse:

PROCEDURE 1-9 HOW TO USE A MOUSE IN A SELECTION LIST

| 1 | Highlight the currently displayed value and type in a new value

OR

Select the up or down arrow at the end of the option to increase or decrease the value (move up or down the list). Values do not exceed the minimum and maximum allowable in the range. |
|---|---|
| 2 | Select the desired item in the selection list. |

To use a selection list using the keyboard:

PROCEDURE 1-10 HOW TO USE A KEYBOARD IN A SELECTION LIST

1	Press TAB or SHIFT+TAB to highlight the desired selection list option.
2	Use the SHIFT + LEFT or RIGHT arrow key to highlight the currently displayed value and type in a new value. OR Use the UP/DOWN arrow keys to scroll through the list to obtain the desired value (move up or down the list).
3	When you press TAB to move to the next option or SHIFT+TAB to move to the previous option, the list item that was highlighted becomes the selected item.

FIGURE 1-10 TYPICAL OPTIONS IN THE CSDM LITE
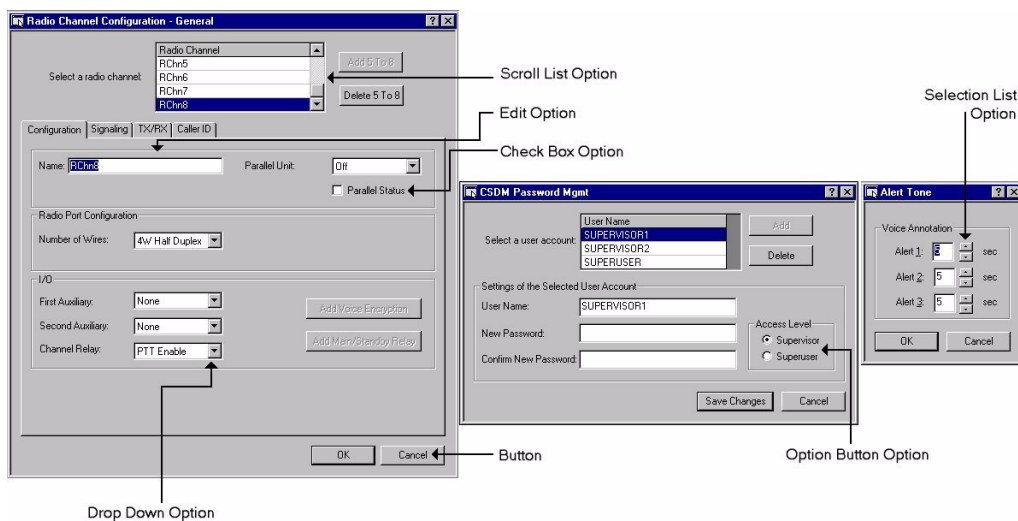
BUTTONS

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

MATRICES

A Matrix is a group of feature elements arranged in a tabular format.

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

PROCEDURE 1-11 HOW TO USE A MOUSE TO ENABLE/DISABLE FEATURES ON A MATRIX

1	Locate the desired matrix element by finding the intersection of the two items. Valid intersections are indicated by white squares.
2	Click on the matrix element. A check mark indicates that the element is enabled. An empty square (no check mark) indicates that the element is disabled.

> **NOTE**
>
> Only a mouse can be used to select individual matrix elements, a keyboard cannot.

FIGURE 1-11 TYPICAL MATRIX
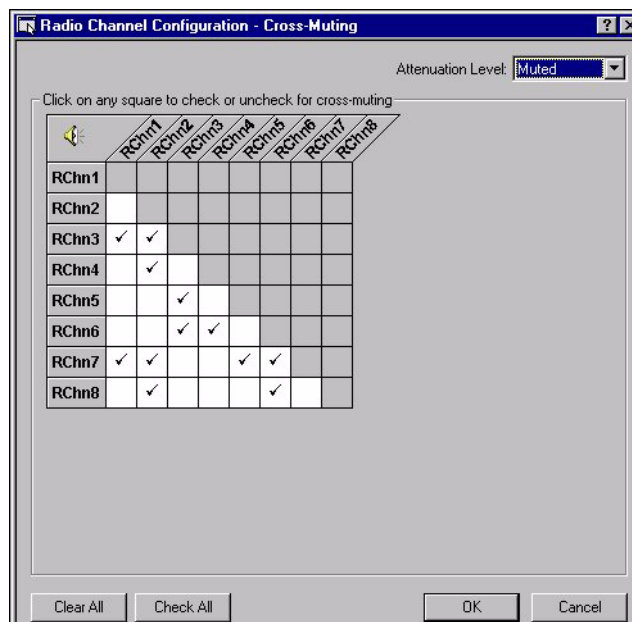
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WORKING WITH CSDM LITE

· ·
                                                         ·
                                                          ·
                                                          ·
                                                         ·

This section describes how to perform the most significant operations required to configure your CommandSTAR Lite™ push-button console. The information is offered in a task-oriented fashion to allow you to quickly find and proceed with the necessary steps for configuring and personalizing your console.

If this is the first time you are setting up a database configuration file, follow the steps in the order provided. If you already have a database configuration file, use this section as a reference.

The following topics are covered in this section:

CONFIGURATION FILE SETUP

This section describes how to set up a generic configuration database file. For information about the options necessary for your specific configuration, refer to Chapter 4, "Configuration Menu." The configuration file stores the information needed for the operator to access and use the resources (such as radio channels and telephone lines) connected to the push-button console.

To create a new database configuration file, select **File > New** as described in "New Database" on page 3-2, then follow the procedures in sequence. "Upload Database" on page 3-6 explains how to load an existing database file ifyou don't require a new configuration.

IMPORTANT

The following procedures must be performed in the order in which they appear.

NOTE

Before uploading a database file, you must click **OK** on all dialog boxes open in the workspace to close them and record the configured. If you close such dialog boxes using the **Cancel** button instead of clicking **OK**, the modifications will not be recorded and included in the uploaded database.

NOTE

Contact Motorola System Support Center at 1-800-221-7144 if you need an older database upgraded for your current system.

STEP 1: CONFIGURING THE SYSTEM

The CommandSTAR Lite position consists of a personal computer (PC), and a push-button console. All the resources available for use by the operators of the system are connected to the system equipment.

For information about the significance of the options available for adding configuring the system, refer to "System" on page 4-3.

To configure the system:

PROCEDURE 2-1 HOW TO CONFIGURE THE SYSTEM

1	On the **Configuration** menu, select **System > General** or, select **System Configuration > General** from the Configuration Tree. **Result:** The **Console System - General** dialog box appears. A default system name and settings appear.
2	Assign a name to your system by typing in the **System Name** option.
3	Assign a system clock source and change the default settings as required.
4	Select **OK** to record the configured settings and close the dialog box.

STEP 2: CONFIGURING THE CONSOLE

For information about the significance of the options available for configuring the console, refer to "Console" on page 4-7.

To configure the console:

PROCEDURE 2-2 HOW TO CONFIGURE THE CONSOLE

1	On the **Configuration** menu, select **Console > General** or select **Console Configuration > General** from the Configuration Tree. **Result:** The **Console Configuration - General** dialog box appears.
2	Assign a name to the console by typing in the **Name** option.
3	Assign a Call Director type and configure the default settings as required.
4	Select **OK** to record the configured settings and close the dialog box.

STEP 3: ADDING AN I/O MODULE OR AN I/O SHELF

An I/O module makes relays and opto-couplers available for use in operating equipment.

Adding I/O modules or I/O shelves is required for configuring auxiliary I/Os.

For information about the significance of the options available for adding I/O modules, refer to "Console Layout" on page 4-9.

To add an I/O Module or an I/O Shelf:

PROCEDURE 2-3 HOW TO ADD AN I/O MODULE OR AN I/O SHELF

1	On the **Configuration** menu, select **Console > Console Layout** or select **Console Configuration > Console Layout** from the Configuration Tree. **Result:** The **Console Configuration - Console Layout** dialog box appears.
2	Select the **I/O Module** button. **Result:** The **I/O Module Configuration** dialog box appears.
3	Select one or more I/O module addresses from either the I/O Box or the I/O Shelf.

> **NOTE**
>
> If the module you are adding is in an I/O Shelf, select an address in the row labelled **I/O Shelf**. If the module you are adding is an I/O Box, select an address in the row labelled **I/O Box**. For information about how addresses are allocated for the two types of I/O module, see "I/O Module" on page 4-11.

Result: A check mark appears in the selected boxes.

4	Select **OK** to record the configured settings and close the dialog box.

> **NOTE**
>
> Select I/O module addresses in sequential order. It is preferable not to skip addresses or to pick addresses randomly.

STEP 4: ADDING RADIO CHANNELS

There are either four or eight radio channels mapped to the console at any one time. Toggle between four and eight channels with the add or delete buttons. Configure the channels to allow a dispatcher to transmit and receive radio signals.

For information about the significance of the options available for radio channel configuration, refer to "[Channel] General" on page 4-16.

To add radio channels:

PROCEDURE 2-4 HOW TO ADD RADIO CHANNELS

1	On the **Configuration** menu, select **Radio Channel > General** or select **Radio Channel Configuration > General** from the Configuration Tree. **Result:** The **Radio Channel Configuration - General** dialog box appears.
2	Toggle between four and eight radio channels using the **Add 5 to 8** and **Delete 5 to 8** buttons depending on how many channels you have mapped to the console. **Result:** The number of radio channels in the **Radio Channel** list will display either four or eight channels depending on the selected setting. You can change the default settings by selecting the radio channel from the **Radio Channel** list and editing the values in the various options.
3	Select the desired radio channel from the **Radio Channel** list. **Result:** The desired radio channel and its settings are highlighted.
4	Configure the default settings as required for the highlighted radio channel. **NOTE** Radio channel settings are organized across four tabs (Configuration, Signalling, TX/RX, and Caller ID). Cycle through each tab so as to configure all necessary radio channel settings.
5	Repeat steps 3-4 for each radio channel until each is configured as desired.
6	Select **OK** to record the configured settings and close the dialog box.

STEP 5: CONFIGURING TONE SIGNALING

Configuring Tone Signaling allows you to send signaling tones to base stations to tell the base station to perform specific functions. Tone signaling uses analog signals with single or multiple tone frequencies, which are transmitted over a radio or over a dedicated or leased phone line for signaling and control. A tone signaling plan is a grouping of tone definitions in which the frequencies and gain levels of commonly used signaling tones are defined.

For information about the significance of the options available for tone signaling configuration, refer to "Signaling Tab" on page 4-22.

To configure tone signaling:

PROCEDURE 2-5 HOW TO CONFIGURE TONE SIGNALING

1	On the **Configuration** menu, select **Radio Channel > Tone Signaling** or **Radio Channel Configuration > Tone Signaling** from the Configuration Tree.
	Result: The **Radio Channel Configuration - Tone Signaling** dialog box appears. A default Tone Signaling plan is already present. You may use the default or create your own.
2	Select **Add**.
	Result: A new Tone Signaling Plan with default settings appears in the **Tone Signaling Plan** list; for example, Tone 1.
3	Configure the settings in the **Radio Channel Configuration - Tone Signaling** dialog box and select **OK**. Settings include, but are not limited to: frequencies, the number of frequencies and encryption.
4	Save the configuration database file (**File > Save Database**) as described in "Save Database" on page 3-8.
5	On the **Configuration** menu, select **Radio Channel > General** or **Radio Channel Configuration > General** from the Configuration Tree.
	Result: The **Radio Channel Configuration - General** dialog box appears.
6	Select the **Signaling** tab.
7	Select **Tone** or **Tone & DC** from the **Signaling Method** list.
8	From the **Tone Signaling Plan** list, select a **Tone Plan ID**.
9	Select **OK** and then save the configuration database file (**File > Save Database**) as described in "Save Database" on page 3-8.

STEP 6: CONFIGURING DC SIGNALING

Configuring DC Signaling allows you to send signaling currents to base stations to tell the base station to perform specific functions. DC signaling uses analog signals with single or multiple DC currents, which are transmitted over a dedicated or leased phone line for signaling and control. A DC signaling plan is a grouping of DC current definitions in which the levels of commonly used signaling currents are defined.

For information about the significance of the options available for DC signaling configuration, refer to "Signaling Tab" on page 4-22.

To configure DC signaling:

PROCEDURE 2-6 HOW TO CONFIGURE DC SIGNALING

1	On the **Configuration** menu, select **Radio Channel > DC Signaling** or **Radio Channel Configuration > DC Signaling** from the Configuration Tree.
	Result: The **Radio Channel Configuration - DC Signaling** dialog box appears. A default DC Signaling Plan is already present. You can use the default or create your own.
2	Select **Add**.
	Result: A new DC Signaling Plan with default settings appears in the **DC Signaling Plan** list; for example, DC 1.
3	Configure the settings in the **Radio Channel Configuration - DC Signaling** dialog box. Configuration setting vary depending on whether the **DC Mode** selected is **Pulse** or **Latch**. Select **Latch** if a constant DC signal is required. Select **Pulse** if a brief (750 ms) DC signal is required.
	Result: The **Radio Channel Configuration - DC Signaling** dialog box displays the options appropriate to the selected **DC Mode**.
4	Settings include, but are not limited to: current values representing frequencies and the number of frequencies. Enabling (check mark) or disabling the **Repeater Supported** and **Monitor Supported** options lets you edit different currents.
	See "DC Signaling" on page 4-39 for information about the options available.
	Select **OK** when done.
5	Save the configuration database file (**File > Save Database**) as described in "Save Database" on page 3-8.
6	On the **Configuration** menu, select **Radio Channel > General** or **Radio Channel Configuration > General** from the Configuration Tree.
	Result: The **Radio Channel Configuration - General** dialog box appears.
7	Select the **Signaling** tab from the **Radio Channel Configuration - General** dialog box.

PROCEDURE 2-6 HOW TO CONFIGURE DC SIGNALING (CONTINUED)

8	Select **DC** or **Tone & DC** from the **Signaling Method** list.
9	From the **DC Signaling Plan** list, select a **DC Plan ID**.
10	Select **OK** and save the configuration database file (**File > Save Database**) as described in "Save Database" on page 3-8.

STEP 7: ADDING PHONE LINES

You can have either zero (0) available phone lines or two (2) available phone lines for the console.

For information about the significance of the options available for phone line configuration, refer to "Phone Line" on page 4-55.

To add phone lines:

PROCEDURE 2-7 HOW TO ADD PHONE LINES

1	On the **Configuration** menu, select **Phone Line** or select **Phone Line** from the Configuration Tree. **Result:** The **Phone Lines** dialog box appears.
2	Select the **Dual CO Lines Module** option to enable the two phone lines. **Result:** Two phone lines with default settings appear in the **Phone Line** list.

> **NOTE**
>
> You can have either zero or two phone lines enabled.

3	Adjust the name and other settings of the phone line as required.
4	Select **OK** to record the configured settings and close the dialog box.

STEP 8: SETTING UP A CUSTOM PAGE

The custom page feature lets you create a page that is not associated with any standard paging formats.

For information about the significance of the options available for custom page setup, refer to "Custom Page" on page 4-45.

To setup a custom page:

PROCEDURE 2-8 HOW TO SET UP A CUSTOM PAGE

1	On the **Configuration** menu, select **Paging > Custom Page** or select **Paging > Custom Paging** from the Configuration Tree. **Result:** The **Paging - Custom Page** dialog box appears.
2	Select **Add** to add page codes with default values in the **Page Code** list. **Result:** A page code with default values is added to the **Page Code** list and the options in the **Paging - Custom Page** dialog box are made available.
3	Configure the custom page settings as required.
4	Select **OK** to record the configured settings and close the dialog box.

STEP 9: SETTING UP A PAGE FORMAT

The page format feature lets you configure the parameters of standard paging formats.

For information about the significance of the options available for page format setup, refer to "Page Format" on page 4-47.

To setup page format:

PROCEDURE 2-9 HOW TO SET UP A PAGE FORMAT

1	On the **Configuration** menu, select **Paging > Page Format** or select **Paging > Page Format** from the Configuration Tree.
	Result: The **Paging - Page Format** dialog box appears.
2	Select **Add**.
	Result: A page format with default settings is added to the **Page Format** list and the options in the dialog box are made available.
3	Select the desired page format from the **Page Format** option.
	Result: The configurable settings appropriate to the specified page format appear.

> **NOTE**
>
> Certain settings are available only for specific page formats. Choosing a page format will make these settings available. Selecting a page format after having made configurations to settings may result in those configurations disappearing and being replace by different options with default configuration values.

4	Change the default settings, if desired, by editing the various options and select **OK** to record the configured settings and close the dialog box.

STEP 10: SETTING UP AN EXTERNAL PAGER

The external pager feature lets you produce tones with a device that is external to the CommandSTAR Lite console system.

For information about the significance of the options available for external pager setup, refer to "External Pager" on page 4-51.

To setup an external pager:

PROCEDURE 2-10 HOW TO SET UP AN EXTERNAL PAGER

1	On the **Configuration** menu, select **Paging > External Pager** or select **Paging > External Pager** from the Configuration Tree. **Result:** The **Paging - External Pager** dialog box appears.
2	Select **Add External Pager** to configure an external pager for the console. **Result:** An external pager is configured to the console and the options in the **Paging - External Pager** dialog box are activated.
3	In the **Input Level** box, select the input level for the tones that the console receives from the external pager. Values range from –40 dB to +11 dB. **Result:** The value appears in the **Input Level** box.
4	In the **Opto Debounce Time** box, select the debounce time for the opto-coupler. Values range from 0 ms to 1275 ms, in 5 ms increments. **Result:** The value appears in the **Opto Debounce Time** box.
5	In the **Opto Detection** option, select the configurable state of the opto-coupler when it is detected. You can select one of the following options: • **Current –** a PTT is detected if current is flowing (state) though the opto-coupler • **No Current –** a PTT is detected if no current is flowing (state) through the opto-coupler.
6	In the **Channel Steering** list, select the channel(s) on which you send the page. You can select one of the following options: • **Selected –** a page is sent on all the channels selected at the console • **Individual Channel –** selects a single channel on which to send the page no matter what is currently selected at the console
7	The **Frequency Steering** list is active when the **Channel Steering** list is set to **Individual Channel**. It specifies the frequency on which to send the page. You can select one of the following options: • **Selected –** sends a page on the frequency that is selected on the channel • **Individual Frequency –** sends the page on a selected single frequency in the channel
8	Select **OK** to record the configured settings and close the dialog box.

STEP 11: ADDING AN AUXILIARY I/O

Auxiliary I/Os are available in the form of relays (output) and opto-couplers (input). Relays and opto-couplers are available on the console. Before you can assign an auxiliary I/O you must configure an I/O module by following "Step 3: Adding an I/O Module or an I/O Shelf" on page 2-5.

For information about the significance of the options available for adding auxiliary I/O, refer to "Auxiliary I/O" on page 4-57.

To add an Auxiliary I/O:

PROCEDURE 2-11 HOW TO ADD AN AUXILIARY I/O

1	Verify address IDs are set for the I/O module (see the Installation Manual).
2	On the **Configuration** menu, select **Auxiliary I/O** or select **Auxiliary I/O** from the Configuration Tree. **Result:** The **Auxiliary I/O** dialog box appears.
3	Select **Add** to add an auxiliary I/O with default settings to the **I/O** list. **Result:** An I/O with default settings is added to the **I/O** list and the corresponding options are activated.
4	Select the **I/O Type**. **NOTE** Some I/O types activate the **Relay** options, some only activate the **Opto** options and some activate both.
5	Configure the options in the grids for relays and optos as required.
6	Select **OK** to record the configured settings and close the dialog box.
7	After the database has been uploaded to the console, the I/O resource must be manually added by an operator (see the *CommandSTAR Lite Operator Manual*).

STEP 12: ASSIGNING OPERATOR MODULES

The **Console Layout** dialog box allows you to assign operator modules and assign feature buttons to your CommandSTAR Lite push-button console. Use the dialog box to replicate your console layout.

For information about the significance of the options available for assigning operator modules, refer to "Console Layout" on page 4-9.

To assign operator modules:

PROCEDURE 2-12 HOW TO ASSIGN OPERATOR MODULES

---

1   On the **Configuration** menu, select **Console > Console Layout** or select **Console > Console Layout** from the Configuration Tree.

Result: The **Console - Console Layout** dialog box appears.

---

2   Select a module slot.

> **NOTE**
>
> A blank module slot is a big grey square. An assigned module slot has a picture of one of the operator module types.

Result: The **Module Assignment** dialog box appears.

---

3   Using the **Module Type** option, select the type of module you want to assign to this module slot.

Result: A picture of the chosen module appears at the centre of the dialog box.

---

4   If the module is a radio type (CCM type, DCCM type, or DRCM), assign the right and/or left radio channels using the **Right Radio** and/or **Left Radio** options.

Result: The module type picture at the centre of the dialog box displays the assigned radio channels in the display screen.

---

5   Select **OK** to record the configured settings and close the **Module Assignment** dialog box.

Result: A picture of the selected module type appears in the selected module slot.

---

6   Repeat steps 2-5 for each module slot on the **Console - Console Layout** dialog box until the console layout replicates your push-button console layout.

---

7   Select **OK** to record the configured settings and close the **Console - Console Layout** dialog box.

STEP 13: MAPPING FEATURE BUTTONS

Assigning radio features and global features to the push buttons on your push-button console using the **Console Layout** dialog box. Two kinds of features exist: those that can be assigned to radio module types (CCM types and DCCM types) and those that can be assigned to auxiliary module types (ACMs).

For information about the significance of the options available for assigning feature buttons, refer to "Console Layout" on page 4-9.

To map feature buttons:

PROCEDURE 2-13 HOW TO MAP FEATURE BUTTONS

---

1   On the **Configuration** menu, select **Console > Console Layout** or select **Console > Console Layout** from the Configuration Tree.

  Result: The **Console - Console Layout** dialog box appears.

---

2   Select an assigned module slot.

  NOTE

  A blank module slot is a big grey square. An assigned module slot has a picture of one of the operator module types.

  Result: The **Module Assignment** dialog box appears.

---

3   Select a configurable button.

  NOTE

  An assignable button appears grey on the module picture but becomes forest green when the mouse cursor moves over it.

  Result: The **Function Assignment** dialog box appears.

---

4   Select the desired feature from the **Function Type** list and select **OK**.

  Result: The **Function Assignment** dialog box closes and the feature label appears next to the selected button in the picture of the assigned module.

  NOTE

  Radio Features are specific to the assigned radio channel that they are found under. The same feature cannot be assigned more than once to the same radio channel. Global Features affect all radio channel and can only be assigned once regardless of which ACM it has been assigned to unless the **Function ID / Alias** specifies otherwise (such as for the MSel Mem and PatchMem features which can both be assigned 10 times).

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PROCEDURE 2-13 HOW TO MAP FEATURE BUTTONS

5	Repeat steps 3-4 until all configurable buttons you desire on the operator module have been configured and select **OK** to record the configured settings and close the **Module Assignment** dialog box.
6	Repeat steps 2-5 until all assigned operator modules you desire have configured buttons and select **OK** to record the configured settings and close the **Console - Console Layout** dialog box.

SETTING UP CHANNEL CROSS-MUTING

When two radio channels interfere with one another, the audio from the keyed channel can crossover onto the second channel and be heard on the transmitting console speaker or another speaker in the dispatch room. As well, 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.

For information on the significance of the options available for channel cross-muting setup, refer to "[Channel] Cross-Muting" on page 4-33.

To cross-mute channels:

PROCEDURE 2-14 HOW TO CROSS-MUTE CHANNELS

1	On the **Configuration** menu, select **Radio Channel > Cross-Muting** or select **Radio Channel > Cross-Muting** from the Configuration Tree. **Result:** The **Radio Channel Configuration - Cross-Muting** dialog box appears.
2	In the **Attenuation Level** option, select **Audible** to lower interference by 24 db, or select **Muted** to mute all interference from the other channel. The **Attenuation Level** option affects all checked elements in the cross-muting matrix.
3	Select the channels that are to be cross-muted by selecting the white box of the matrix that corresponds to the two channels (intersection point of the two channels). A check mark appears to indicate the channels are cross-muted. To select all matrix elements, select the **Check All** button. To remove all matrix elements, select the **Clear All** button.
4	Select **OK** to record the configured settings and close the dialog box.

VIEWING LOG FILES

A log file (.log) keeps a record of all the system diagnostics that are generated by the CommandSTAR Lite system. Log files are recorded regardless of whether anyone is logged in. These diagnostic messages also appear in the Logs Window, which can display up to the last 100 logs received. If the CSDM Lite is not running, the system stores the last 100 messages, ready to be sent to the CSDM Lite when it starts.

A new log file is created on each new day that the CSDM Lite is running. The file name that is generated indicates the year, month, and day on which the file was created (that is, 20030617.log). If you repeatedly log in and out of the CSDM Lite on the same day, the diagnostics information continues to be recorded in the same log file for that day with each subsequent login.

Log files are stored in a sub folder within the folder holding the CSDM Lite program. If the disk space is insufficient when 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 system continues to store the last 100 messages, overwriting the old ones with new ones.

To open a log file:

PROCEDURE 2-15 HOW TO OPEN A LOG FILE

1	Open Windows Explorer.
2	Locate the folder: Program Files\Motorola\CSDM-Lite\Logs where the CSDM Lite software was installed (default is the C: drive).
3	Open the Logs folder and then the desired log file. **Result:** The log file opens with Notepad (usually the default application) or any other text editor application.

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FILE MENU

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This section explains the functionality of each of the menu commands available from the **File** menu in the menu bar. The following **File** menu commands are described:

- "New Database" on page 3-2
- "Open Database" on page 3-3
- "Download Database" on page 3-4
- "Upload Database" on page 3-6
- "Save Database" on page 3-8
- "Save Database As" on page 3-9
- "Save Workspace" on page 3-11
- "Report Configuration" on page 3-12
- "Report Label" on page 3-13
- "Recent Files" on page 3-13
- "Login" on page 3-14
- "Logout" on page 3-14
- "Exit" on page 3-15

NEW DATABASE

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The **New Database** menu command lets you create an empty configuration database. Only Superusers have access to this command. Use this option when you want to create a new configuration file.

To create a new configuration file:

PROCEDURE 3-1 HOW TO CREATE A NEW CONFIGURATION DATABASE

1	If another database file is currently open and you want to save any modifications, refer to the "Save Database" on page 3-8 or "Save Database As" on page 3-9.
2	On the **File** menu, select **New Database** or select the **New** button from the toolbar.
	Result: A blank database without any configurations opens, a default name "NEW" appears at the top of the Configuration Tree and any dialog boxes that were open in the workspace area are closed.
3	Modifications to the "NEW" database should now be made. Refer to "Configuration File Setup" on page 2-2 for configuration information.

OPEN DATABASE

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The **Open Database** menu command lets you use an existing configuration database file.

To open a database file:

PROCEDURE 3-2 HOW TO OPEN A CONFIGURATION DATABASE FILE

---

1   On the **File** menu, select **Open Database** or select the **Open** button from the toolbar.

Result: The **Open** dialog box appears.

---

2   Select the desired database file and select **Open**.

Result: The database opens and its name appears at the top of the Configuration Tree. If you did not save the previous database file after making a modification, you are prompted to do so before opening the selected database.

DOWNLOAD DATABASE

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                                                                         ・
                                                                         ・

The **Download Database** menu command becomes available when the CSDM Lite is connected to the CommandSTAR Lite push-button console and lets you download a system configuration database to the console.

When you first connect to the console, the download occurs automatically. The **Download Database** menu command is useful if you have made changes to the originally downloaded version, but want to discard the changes and start again.

To download a system configuration database:

PROCEDURE 3-3 HOW TO DOWNLOAD A CONFIGURATION DATABASE

---

1   On the **File** menu, select **Download Database** or the **Download** button from the toolbar.

Result: The **Database Transfer** dialog box appears. This dialog box closes automatically after the download finishes.

When the transfer finishes, unless you have made no changes to the database since the previous download, a confirmation dialog box appears.

PROCEDURE 3-3 HOW TO DOWNLOAD A CONFIGURATION DATABASE (CONTINUED)

2   Click **Yes** to load the system configuration database file (overwriting the existing CSDM Lite database file), or click **No** to maintain the currently open database file on the CSDM Lite.

Result: If **Yes** is selected and you made modifications to the prior download, a confirmation dialog box appears asking if you would like to save the modified database.
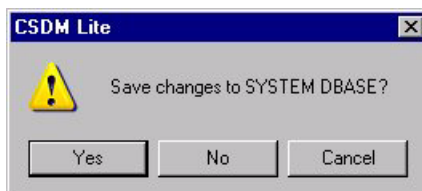
If you click **Yes** to save the changes, a standard Windows **Save** dialog box appears. After the changes have been saved and if you selected **Yes** to load the system configuration database file, the name at the top of the Configuration Tree changes to the downloaded default SYSTEM database name or the name of the previously uploaded database file.

UPLOAD DATABASE

The **Upload Database** menu command becomes available when the CSDM Lite computer is connected to the push-button console and you are logged in. This command uploads a new system configuration database to the console, causing it to reset.

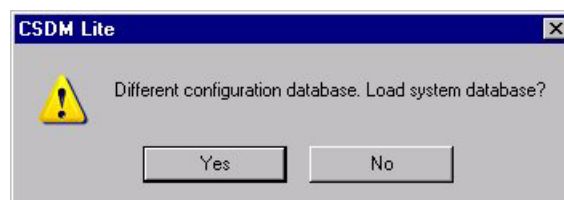To upload a system configuration database file:

PROCEDURE 3-4 HOW TO UPLOAD A CONFIGURATION DATABASE FILE

1   On the **File** menu, select **Upload Database** or select the **Upload** button from the toolbar.

Result: A dialog box appears for you to confirm the upload.

IMPORTANT

Before uploading the database file, ensure that you have selected **OK** on all dialog boxes where information was entered. Otherwise, the changes do not become part of the database file that is uploaded.

2   Select **OK** to continue the database upload or **Cancel** to abort.

Result: If you select **OK**, then the **Database Transfer** dialog box appears.

The **Database Transfer** dialog box closes automatically after uploading is complete.

PROCEDURE 3-4 HOW TO UPLOAD A CONFIGURATION DATABASE FILE (CONTINUED)

3 When the upload is complete, the console resets, causing a temporary Link Failure followed by Link Operational as indicated by the dialog boxes.

4 Select **Close** or wait for 5 seconds.

 Result: The dialog box closes and, provided that the link is operational again, the **Database Transfer** dialog box reappears. The uploaded configuration database file is downloaded to the CSDM Lite.

 The **Database Transfer** dialog box closes automatically after downloading is complete.

IMPORTANT

 If you are prompted to load the SYSTEM database, the upload was unsuccessful. Repeat steps 1 - 4 and notify your system administrator.

SAVE DATABASE

. . . .
                                                              .
                                                              .

The **Save Database** menu command becomes available after an open configuration database file has been modified, allowing you to replace the configuration file.

To save database modifications using the same database file name:

PROCEDURE 3-5 HOW TO SAVE A CONFIGURATION DATABASE FILE WITH THE SAME NAME

---

1   On the **File** menu, select **Save Database** or the **Save** button from the toolbar.

Result: The configuration database file is saved.

> **NOTE**
>
> The **Save As** dialog box appears when a configuration database file is saved for the first time.

---

2   Save additional configuration database file modifications as they are made.

SAVE DATABASE AS

· ·
                                                                ·
                                                                ·

The **Save Database As** menu command becomes available after an open configuration database file has been modified, allowing you to save the database file.

FIGURE 3-1 SAVE AS DIALOG BOX
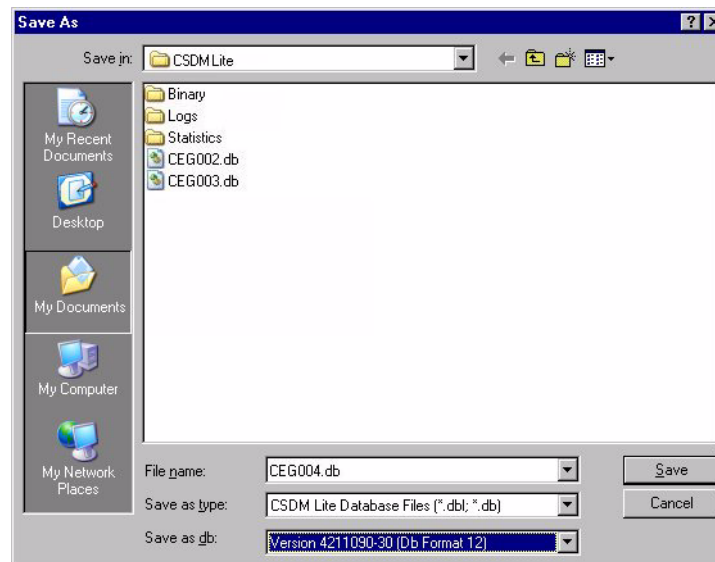
To save database modifications using a different database file name:

PROCEDURE 3-6 HOW TO SAVE A CONFIGURATION DATABASE FILE WITH A DIFFERENT NAME

1	On the **File** menu, select **Save Database As**.
	Result: The **Save As** dialog box appears.
2	Browse to the CSDM Lite folder.

PROCEDURE 3-6 HOW TO SAVE A CONFIGURATION DATABASE FILE WITH A DIFFERENT NAME

3   Type a name for the configuration database file in the **File name** option.

> **NOTE**
>
> Using the **Save Database As** command changes the default location for database files. If you select a new folder, all new databases are saved in the new folder. This action might leave database files vulnerable to deletion by accident. We recommend that you save all database files to the default folder.

> **NOTE**
>
> The database version number should match the CSDM Lite software version found in the **About** dialog box, as is the case when the database is first shipped with the software. This number is normally the highest version number in the list.
>
> When the CSDM Lite is upgraded, save the configuration database file using the same version number as the software. For existing database files, you might select previous version numbers from the **Save as db** option.
>
> If you use the save command or do not select a version number, the default version in the **Save as db** option is not changed. You must also take care if you save a database file back to the original version number to avoid overwriting the current database file of the same name.

4   Select **Save**.

Result: The configuration database file is saved.

> **NOTE**
>
> If the file name already exists, you must confirm if you want to replace the existing file.

> **NOTE**
>
> The current version of the CSDM Lite XP is backwards compatable with versions 9 and 11 of the DOS CSDM Lite software. To recycle your current database setup during a system upgrade from versions 9 or 11, be mindful to create a backup of your database file. Once the new CSDM Lite software is installed and operating, load your backed up database file and use the **Save As** command to upgrade it to the most recent software version. Once this is done, use the **Upload Database** command to upload the database file to the console. All configuration settings are preserved, however default values are assigned to any new features added since your version of the CSDM Lite software.

SAVE WORKSPACE

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The **Save Workspace** menu command lets you customize the layout of your workspace. You can relocate the various CSDM Lite screen elements (Configuration Tree, Logs Window, menu bar, and toolbar) and resize the main program window to suit your needs. When you open the CSDM Lite, the most recently saved workspace file (.wsp) is restored. If you modify the workspace and close the CSDM Lite without saving the changes, you are asked if you want to save them.

To save a workspace, select **Save Workspace** from the **File** menu.

PROCEDURE 3-7 HOW TO SAVE A WORKSPACE

1	On the **File** menu, select **Save Workspace**.
	Result: A message box appears informing you that the workspace layout is saved. The workspace with the windows in their current position is saved to a workspace file, which is saved in the same directory as the CSDMLite.exe file by default (cannot be changed) with the filename **CSDMLiteWorkspace.wsp**. Any subsequent changes directly overwrite the workspace file when saved again.

REPORT CONFIGURATION

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                                                          ・

The **Configuration Report** menu command lets you produce a configuration report, which provides information about the configuration and the electrical interconnection of the system. The file generated is in HTML format and can be viewed with a web browser.

To create a configuration report:

PROCEDURE 3-8 HOW TO CREATE A CONFIGURATION REPORT
_____

1   On the **File** menu, select **Configuration Report**.

             Result: The configuration report file for the active configuration is created (with extension.HTML), saved to disk, and displayed on screen. If you have made changes to the database, you are prompted about overwriting the existing configuration report. Selecting **Yes** obtains the new report or selecting **No** displays the previous report.
_____

FIGURE 3-2 THE CONFIGURATION REPORT FILE (THE TABLE OF CONTENTS PAGE)

```
System: SYSTEM DBASE                                   TABLE OF CONTENTS
System Part No.:

    ------------------------------------------------------------------

    1.0   SYSTEM SUMMARY.................................................. 002
    2.0   CONSOLE DEFINITION  :Cs11    .................................. 004
          2.1   CONTROL PANEL LAYOUT...................................... 004
          2.2   MODULE CONFIGURATION...................................... 005
    3.0   OPERATOR MODULE FIGURES.......................................... 006
    4.0   CONSOLE WIRING................................................... 009
    5.0   CONSOLE PIN OUT.................................................. 010
    6.0   SYSTEM POWER REQUIREMENTS........................................ 014
    7.0   GLOSSARY......................................................... 015
    8.0   TESTS LIST....................................................... 016
```

REPORT LABEL

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                                                        .

The Report Label feature generates two types of files which describe the operator module assignments and the feature button assignments on the operator modules. The first file type is an HTML file which can be viewed in any web browser (such as Internet Explorer, for example). The second is a *.lbl file that can be used by the CommandSTAR Lite Labels Program to print your label assignments for your operator modules which you can then insert into the push-button console. Using the Report Label feature can save you a lot of time when it comes time to print your module labels because this feature generates the present button assignments configured on your push-button console. Otherwise, with the Label Program, you have to manually enter the values for each of your module buttons and then for each of your operator modules.

NOTE

If you are using Internet Explorer to view the HTML label file, you must adjust the view to properly display the labels. Select **View > Encoding > User Defined** from the menu bar to properly display the label file. Other web browsers display the label file without difficulty.

RECENT FILES

. . . .
                                                        .
                                                        .

A list of recently opened database files lets you select and re-open the database directly from the **File** menu. Selecting a configuration database file from the list automatically performs the **Open Database** command.

LOGIN

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.

When not logged into the CSDM Lite, the menu command displays **Login**.

To login:

PROCEDURE 3-9 HOW TO LOG IN TO CSDM LITE

1	On the **File** menu, select **Login**.

Result: The **CSDM Lite Login** dialog box appears.

2	Type your user name in the **User Name** option.

3	Type your password in the **Password** option. Select **Login** or press **ENTER**.

Result: You are now logged in and the **File** menu now reads **Logout**.

LOGOUT

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.

When you are logged in to CSDM Lite, the File menu displays **Logout**.

To log out:

PROCEDURE 3-10 HOW TO LOG OUT OF CSDM LITE

1	On the **File** menu, select **Logout**.

Result: The **Logout Confirmation** dialog box appears.

2	Select **Yes** to confirm the logout or **No** to abort the logout.

Result: You are now logged out (after confirmation) and the **File** menu now reads **Login**.

3-15

EXIT

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                                                            .

To exit CSDM Lite:

PROCEDURE 3-11 HOW TO EXIT CSDM LITE

1	On the **File** menu, select **Exit**.
	Result: The CSDM Lite application closes after confirmation to save any database and/or workspace changes.

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CONFIGURATION MENU

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                                                                  .
                                                                  .
                                                                  .
                                                                  .

This section describes the following **Configuration** menu commands:

> **NOTE**
>
> Some menu commands are not available unless you are logged in at the Superuser level, while others are not available unless the CSDM Lite computer is connected to the console and you are logged in.

IMPORTANT

If you click Cancel or press ESC to close a configuration dialog box in which you have made modifications, the following message box appears. Click Yes to close the configuration dialog box without saving your modifications. Click No to keep the configuration dialog box open. To record modifications that you made in a configuration dialog box, click **OK** at the bottom of that dialog box.

CSDM Lite

⚠ All unsaved data will be lost! Are you sure you wish to close this window?

Yes   No
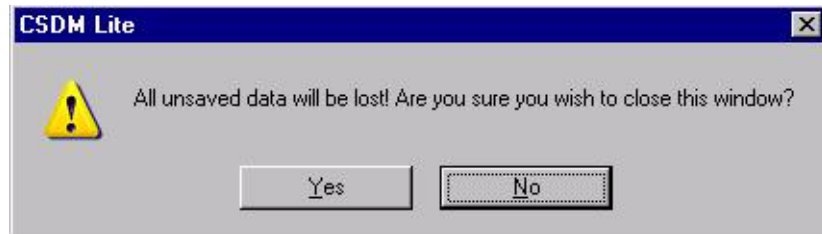
IMPORTANT

Before uploading the database file (**File > Upload Database**), ensure that you have selected OK on all configuration dialog boxes where information was entered. Otherwise, the changes do not become part of the database file that is uploaded.

SYSTEM
. . . .
                                                              .
                                                              .

The following commands of the **System** submenu are described:

- "[System] General" on page 4-3

Basic system management, such as setting the system attributes, controlling user access, and labeling of buttons are done through these three dialog boxes.

[SYSTEM] GENERAL

The **System Configuration – General** dialog box is opened by selecting the **Configuration > System > General** menu command or by selecting **System Configuration> General** from the Configuration Tree.

FIGURE 4-1 SYSTEM CONFIGURATION – GENERAL DIALOG BOX
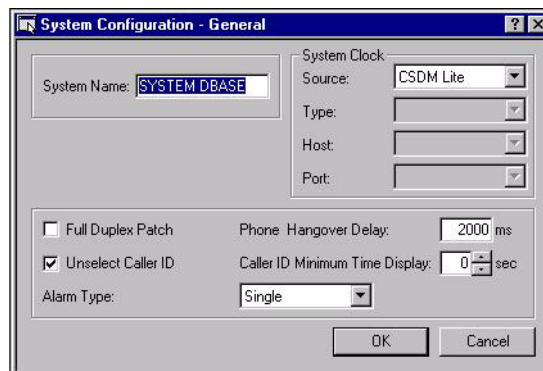
OPTIONS

SYSTEM NAME

This option lets you assign a name to the system configuration setup you create. This name can contain up to 24 alphanumeric characters and space (" "), underscore ("_") or hyphen ("-"). SYSTEM DBASE is the default name that appears in this option.

SYSTEM CLOCK SOURCE

The **System Clock – Source** option lets you set the entity that will be used as the clock source for the system. The choices are:

- **CSDM Lite–** used to display the PC time and date using the PC time zone format (the default setting)
- **COP Lite–** the console that is connected to the CSDM Lite

NOTE

If you select COPLite, you must set the clock every time you power up the push-button console.

- **External –** a device capable of receiving time information from an external source is linked to the console. When selected, the **Type**, **Host**, and **Port** options display their hardcoded values which cannot be changed. This selection overrides the time of the CSDM Lite or CommandSTAR Lite push-button console. The Netclock is the only currently compatible external time device.

NOTE

This feature works in conjunction with the date and time settings in the **Setup – Date and Time** dialog box. Refer to "Date and Time" on page 5-2 for more information.

CommandSTAR Lite™ offers three options for setting a source for date and time updates:

1. The CSDM Lite PC

2. The master console

3. An external clock (WWVB receiver)

The *CommandSTAR Lite Installation and Service Manual* (6880309J98) contains procedures for setting the system to use each of these sources as a clock source.

NOTE

The Call Event Logging and System Clock Source both use the CSDM/RS232 port; therefore, the Call Event Logging and System Clock cannot both be configured at the same time. As a result, you cannot have both Call Event Logging and an External Clock source configured at the same time.

SYSTEM CLOCK TYPE

The **System Clock – Type** option identifies the type of device supported by CommandSTAR Lite push-button console for the external clock source. The device currently supported is the Netclock2 format 1. This option cannot be changed.

SYSTEM CLOCK HOST

The **System Clock – Host** option displays the console name that is linked to the external clock source device. This option cannot be changed.

SYSTEM CLOCK PORT

The **System Clock – Port** option lets you select the port that is used to link to the external clock source device. "CSDM/RS232" is the only available value for this option and cannot be changed.

FULL DUPLEX PATCH

A patch lets you communicate using radios that are on separate channels, call directors, and phone lines.

The full-duplex patch feature allows the dispatcher to create a patch in which the participants can transmit and receive audio simultaneously. This feature 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** option lets you enable or disable the full-duplex patch feature. If the option is enabled (checked), full-duplex communication is allowed on patches, provided that all the elements in the patch (telephone, radio) are full duplex. Otherwise, communication is half duplex. By default, this option is disabled (not checked).

> **NOTE**
>
> Even if the **Full Duplex Patch** option is enabled, if one radio channel in a patch does not allow full-duplex communication, the whole patch is half duplex.

If the option is disabled, full-duplex communication is not allowed on patches.

UNSELECT CALLER ID

The **Unselect caller ID** option lets you enable or disable the Unselect callers ID feature.

If a caller with an ID keys a channel, the ID can be displayed on the radio channel control for that channel.

If this option is checked, the caller ID appears on the radio channel control of unselected and selected channels.

If the option is set to disabled, the caller ID appears only on the radio channel controls of selected channels. By default, this option is enabled (checked).

PHONE HANGOVER DELAY

The **Phone Hangover Delay** option lets you select the amount of time any patch entity (such as a channel) will remain keyed in after speech stops on a patched phone line. The duration can be in the range of 0 ms to 30000 ms. By default, this option is set to 2000 ms.

CALLER ID MINIMUM TIME DISPLAY

The **Caller ID Minimum Time Display** option lets you select the amount of time a caller ID will remain displayed on a console radio channel control after the channel PTT has been released. The duration can be in the range of 0 seconds to 60 seconds, with 0 seconds representing an infinite duration. By default, this option is set to 0 seconds.

NOTE

The caller ID remains displayed until either the expiration of time delay or the receipt of a new call from a different mobile radio, whichever comes first.

ALARM TYPE

This feature lets you choose the type of alarm you will hear when a hardware failure occurs. The choices are:

- **Off –** No sound
- **Burst –** 250ms beep when alarm is turned on, 250ms beep when alarm is corrected
- **Steady –** steady beep of 250ms at 5 second intervals when alarm is on
- **Single –** 250ms beep when a new console failure occurs (default)

CONSOLE

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The following commands of the **Console** submenu are described:

- "[Console] General" on page 4-7
- "Console Layout" on page 4-9

[CONSOLE] GENERAL

The **Console Configuration – General** dialog box can be opened by selecting **Configuration > Console > General** from the menu bar or by selecting **Console > General** from the Configuration Tree.

FIGURE 4-2 CONSOLE CONFIGURATION GENERAL DIALOG BOX
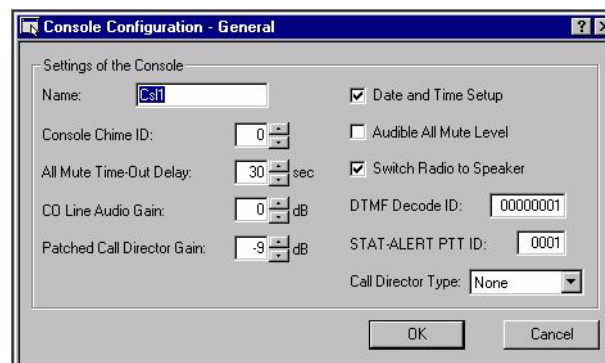
The **Console Configuration - General** dialog box allows you to name and configure the console.

OPTIONS

NAME

The **Name** option lets you specify a name for the console. A console name can contain up to eight alphanumeric characters. The console must have a name. The default console name is "Csl1."

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. The CommandSTAR Lite™ provides 6 different chimes; each chime has its own ID number. The default setting for this option is 0.

The **Console chime ID** option lets you select the chime for the console being configured. The choices are represented by the numbers 0 to 5.

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. 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** option lets you set the duration of the all mute for the console being configured. The duration can be in the range of 0 seconds to 120 seconds with 0 seconds representing an infinite duration. By default, this option is set to 30 seconds.

CO LINE AUDIO GAIN

The **CO Line Audio Gain** option lets you set the receive gain for the console telephone calls.

Valid landline audio levels are between –21 dB and +12 dB. By default, this option is set to -9 dB.

PATCHED CALL DIRECTOR GAIN

The **Patched Call Director Gain** option lets you set the receive gain for the console call director calls when patched.

Valid **Patched Call Director** audio levels are between –21 dB and +12 dB. By default, this option is set to 0 dB.

DATE AND TIME SETUP

The date and time displayed on the CSDM Lite can be set from the CSDM Lite or from the console, if the feature is enabled on the console.

The **Date and time setup** option lets you control whether or not the date and time can be set from the console.

If the option is set to enabled (check mark), the date and time can be set from the console.

If the option is not checked, the date and time cannot be set from the console.

By default, this option is checked.

AUDIBLE 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.

The **Audible All Mute Level** option lets you set the muting level of the All Mute feature. When the **Audible All Mute Level** is enabled (check mark), the audio is lowered by 24 dB. When it is disabled (not checked), the audio is totally muted.

The default setting for this option is Muted (not checked).

SWITCH RADIO TO SPEAKER

This 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** option allows you to enable or disable this feature for the console being configured. If the option 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 (unchecked), 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.

DTMF DECODE ID

The **DTMF Decode ID** option 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 rage from 00000000 to 99999999. The default value is 00000001.

STAT-ALERT PTT ID

The **STAT-ALERT PTT ID** option allows you to specify the ID number that will be sent when the console keys a channel. Values range from 0001 to DEEE. The default value is 0001.

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 with through the console headset.

The **Call Director Type** option allows you to specify the type of call director for the console. The possibly values are:

- None - no call director
- Basic - the basic call director
- Enhanced - the basic call director plus the ability to be include in a patch

CALL DIRECT INTERFACE

The **Call Director Interface** option allows you to specify the type of Call Director interface for the console. Choices are:

- 600 Ohms
- Carbon

CONSOLE LAYOUT

The **Console Layout** dialog box can be opened by selecting **Configuration > Console > Console Layout** from the menu bar or by selecting **Console > Console Layout** from the Configuration Tree.

FIGURE 4-3 CONSOLE LAYOUT DIALOG BOX
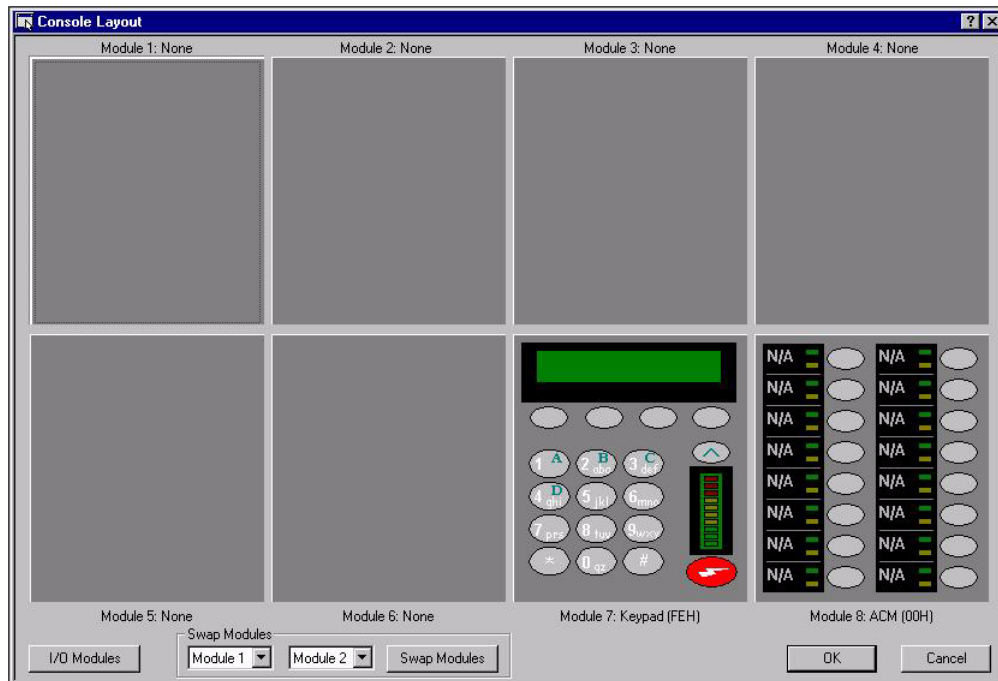
The **Console Layout** dialog box allows you to add and configure operator modules to the console. You can add the following types of operator modules:

- ACM: Auxiliary Control Modules - each ACM has 16 push buttons that can be used to access CommandSTAR Lite features. The ACM has no programmable display.

- CCM: Channel Control Module - a CCM allows you to control radio channels. Four types of CCMs are available:

  - Single CCM: channel control module without display — allows you to control one radio channel. This module has eight programmable buttons.

  - Dual CCM: dual CCM without display — allows you to control two radio channels. This module has six programmable buttons.

  - Single DCCM: CCM with display — allows you to control one radio channel. This module has eight programmable buttons with one display screen.

  - Dual DCCM: Dual CCM with a display - allows you to control two radio channels. This module has six programmable buttons and has a programmable display for each channel.

- DRCM: digital radio control module — allows you to control one digital radio (1) channel. This module has eight pre-assigned feature buttons which correspond to the value assigned to the **Mobile Radio Type** on the **Signaling** tab of the **Radio Channel Configuration - General** dialog box.

The total number of operator modules is eight. Module 7 is configured with a keypad by default, and module 8 is configured with an ACM by default. A maximum of six additional ACMs can be configured. A maximum of four dual operator modules can be configured. A maximum of six non-dual or DRCM modules can be configured.

BUTTONS

MODULE SLOT

Select any module slot (except for the slot occupied by the keypad) to access the **Module Assignment** dialogue box. The **Module Assignment** dialog box is where you assign and configure operator modules. See "Module Assignment Dialog Box" on page 4-13.

I/O MODULE

The **I/O Module** button on the **Console Layout** dialog box opens the **I/O Module Configuration** dialog box, allowing you to assign I/O modules on the I/O shelf or the I/O box. See "I/O Module Configuration Dialog Box" on page 4-14.

SWAP MODULES

The **Swap Modules** button allows you to reverse the positions of the two operator modules specified in the **Swap Modules** options. This feature saves you from having to unassign and reconfigure modules.

ASSIGNING AN OPERATOR MODULE

To assign an operator module:

PROCEDURE 4-1 HOW TO ASSIGN AN OPERATOR MODULE

1	Open the **Console Layout** dialog box by selecting **Console Configuration > Console Layout** from the menu tree or by selecting **Configuration > Console > Console Layout** from the menu bar. **Result:** The **Console Layout** dialog box appears.
2	Select an operator module slot that you would like to configure. **Result:** The **Module Assignment** dialog box appears.
3	Select a value for the **Module Type** option corresponding to the module installed in your CommandSTAR Lite for that slot. **Result:** A picture of that module appears in the dialog box.
4	If appropriate, assign up to two radio channels for the operator module from the **Left Radio** and **Right Radio** options. **Result:** The picture of the operator module changes to reflect the assigned radio channels in the display screen.

PROCEDURE 4-1 HOW TO ASSIGN AN OPERATOR MODULE (CONTINUED)

5	If appropriate, select a configurable (grey) button that you want a function assigned to.

> **NOTE**
>
> A configurable buttons changes to forest green when the mouse moves over it. Buttons that cannot be configured do not change color.

Result: The **Function Assignment** dialog box appears displaying a list of possible functions to assign to the button.

6	Select the desired function for the chosen button and select **OK**.

Result: The **Function Assignment** dialog box is closed and the picture of the module in the **Module Assignment** dialog box changes to reflect the assigned function next to the chosen button.

7	Repeat steps 5 to 6 for as many buttons you want to assign functions to and select **OK**.

Result: You are returned to the **Console Layout** dialog box and a picture of the configured module occupies the slot you chose to have configured.

8	Select OK to close the **Console Layout** dialog box and record your operator module configuration.

MODULE ASSIGNMENT DIALOG BOX

FIGURE 4-4 MODULE ASSIGNMENT DIALOG BOX
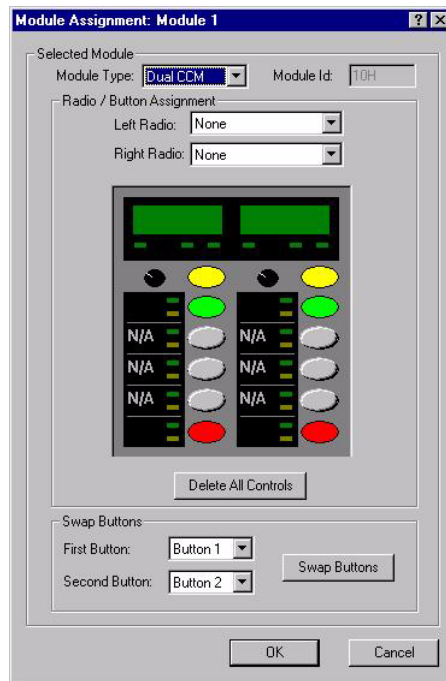
The **Module Assignment** dialog box allows you to assign a module to the selected module slot, and to configure the desired module feature buttons. For lists and definitions of the features available to the various modules, refer to the following sections:

- "ACM Feature" on page C-2
- "CCM Feature Buttons" on page C-7
- "DRCM Feature Buttons" on page C-9

OPTIONS

Module Type — choose the module type for the selected slot that corresponds to the type of module in the CommandSTAR Lite.

> ⚠️ **WARNING**
>
> **If you change the value in the Module Type option, all assignment functions and radio assignments are lost.**

Module ID — identifies the unique identification number for the selected operator module. ACM IDs range from 00H to 06H. Single and Dual CCM IDs range from 10H to 15H. DRCM IDs range from 50H to 55H. I/O IDs range from 30H to 3FH.

Left Radio and **Right Radio** — these options are enabled when either a single or dual CCM is selected as the module type. These options allow you to assign a radio channel to a CCM. No more than two (2) radio channels can be assigned to any one (1) module, and no more than eight (8) channels can be assigned across the console.

BUTTONS

Module — each module type, with the exception of the DRCM, has configurable buttons. Configurable buttons are grey, but become highlighted in forest green when the mouse moves over them. Select a button highlighted in green to open the **Function Assignment** dialog box and assign a function to the selected module button. Once a function is assigned, the button is labelled with the function name. For more information on the **Function Assignment** dialog box see "Function Assignment Dialog Box" on page 4-15.

Delete All Controls — this button removes all the assigned functions from the configurable buttons.

Swap Buttons — this button allows you to reverse the position of two assigned functions specified in the **First Button** and **Second Button** options.

I/O MODULE CONFIGURATION DIALOG BOX

FIGURE 4-5 I/O MODULE CONFIGURATION DIALOG BOX
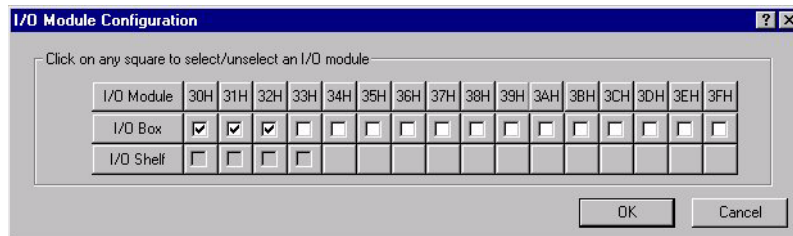
You can assign up to sixteen I/O modules on the I/0 Box and up to four I/O modules on the I/O Shelf. The modules should be added in numerical order from left to right.

FUNCTION ASSIGNMENT DIALOG BOX

FIGURE 4-6 FUNCTION ASSIGNMENT DIALOG BOX
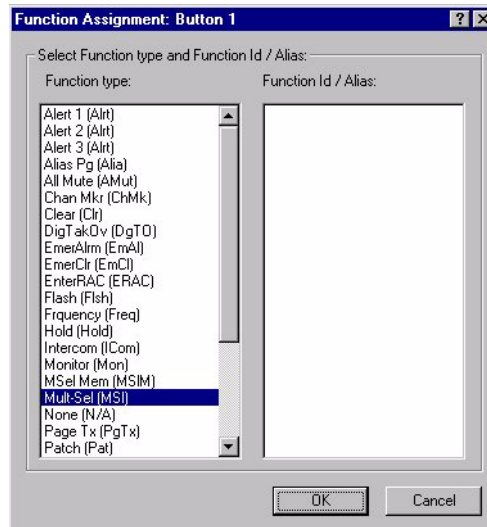
The **Function Assignment** dialog box allows you to assign features to module buttons. Each module type, with the exception of the DRCM, has configurable buttons that can have features assigned on them. Select the desired feature from the **Function Type** list and select **OK** to assign it to the button you selected on the module.

For information on module button feature definitions for the ACM, CCM and DRCM, refer to the following sections:

- "ACM Feature" on page C-2
- "CCM Feature Buttons" on page C-7
- "DRCM Feature Buttons" on page C-9

RADIO CHANNEL

・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・

The following commands of the **Radio Channel** submenu are described:

- "[Channel] General" on page 4-16
- "[Channel] Cross-Muting" on page 4-33
- "Tone Signaling" on page 4-35
- "DC Signaling" on page 4-39
- "Caller ID List" on page 4-42

[CHANNEL] GENERAL

The **Radio Channel Configuration – General** dialog box can be opened by selecting **Configuration > Radio Channel > General** from the menu bar or by selecting **Radio Channel > General** from the Configuration Tree.

FIGURE 4-7 RADIO CHANNEL CONFIGURATION – GENERAL DIALOG BOX; CONFIGURATION TAB
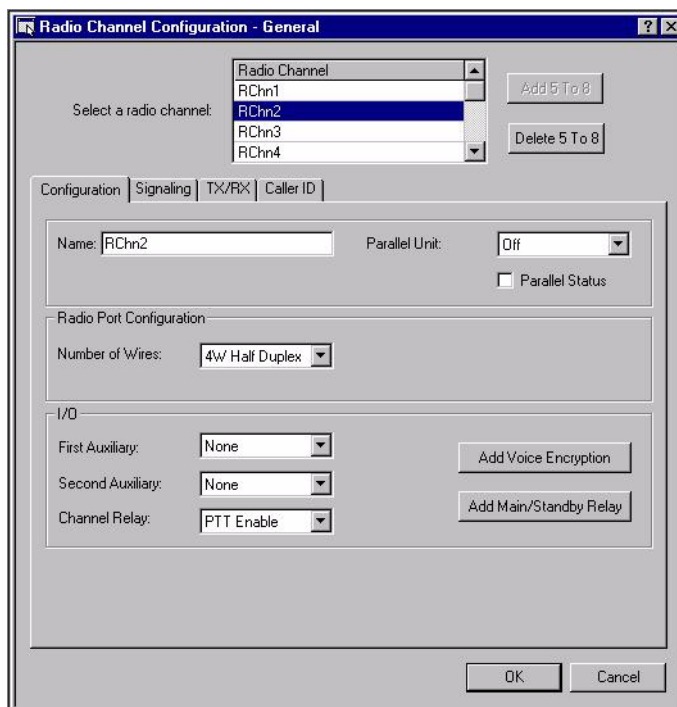
The radio channels are shown in a scrollable grid object. When you select one of the listed channels, the remaining options organized over the tabs (Configuration, Signaling, TX/RX, and Caller ID), become enabled, permitting general configuration of the selected channel. By default, eight radio channels are mapped on the console.

BUTTONS

ADD 5 TO 8 AND DELETE 5 TO 8

By default, there are 8 channels available for you to use. The **Delete 5 to 8** option reduces the number of available radio channels to four. This option is available only if there are already eight channels available. You are prevented from using this option if any of the channels from 5 to 8 are already assigned to operator modules. The **Add 5 to 8** option increases the number of available channels from four to eight. This option is available only if there are only four channels presently available.

CONFIGURATION TAB

The configuration tab permits the initial selection and identification required for a radio channel. This tab appears by default when the **Radio Channel Configuration – General** dialog box is first opened.

CONFIGURATION TAB OPTIONS

NAME

The **Name** option lets you specify a name for the radio channel. Radio channel names can contain up to 16 alphanumeric characters. Default names have the form "RChn$n$" where n is a number, starting at 1.

PARALLEL UNIT

The **Parallel Unit** option can be enabled or disabled. When this option is enabled, the console with this channel will indicate when a parallel unit external to the CommandSTAR Lite system is using the channel.

- **On** –this channel indicates when a parallel unit is using the channel (for either intercom or transmit audio); parallel unit keying busies out the channel; the Takeover feature is enabled

- **Off –** there is no indication when a parallel unit is using the channel and, if a parallel unit is connected through the Remote Control Unit (RCU) port for this channel, it cannot use the channel (default)

- **X-muted –** RCU intercom audio only is heard in the console; parallel unit keying busies out the channel; the Takeover feature is enabled; this option for the **Parallel Unit** feature is not available if **Signaling Type** is set to "Mobile"

> **NOTE**
>
> If **Parallel Unit** is set to either "On" or "X-muted", you must use the **RX Detect Threshold** option to configure it. The **RX Detect Threshold** option is found on the **TX/RX** tab of the **Radio Channel Configuration - General** dialog box. For more infomration, see "TX/RX Tab Options" on page 4-26.

> **NOTE**
>
> When operating two separate console systems through a digital junction box setup with the **Parallel Unit** option turned ON and using channels with MDC 1200 capability (with **Caller ID Format** on the Caller ID tab set to STAT-ALERT) the **Leading Pretime** setting (on the Caller ID tab, "Leading Pretime" on page 4-31) of the two systems must differ by at least 250 ms. If you select the default setting (300 ms) for one system, the other system must be at least 550 ms or higher. Otherwise, when sending commands from the radio, such as Status, Message, Page, Call, or Emergency, the console ACK might not be sent.

PARALLEL STATUS

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

NUMBER OF WIRES

Lets you select the configuration for the base station interface if the **Mode** option on the **TX/RX** tab is set to TX/RX. The choices are: 2W half duplex, 4W half duplex, and 4W full duplex. The default setting for this option is 4W half duplex.

FIRST AUXILIARY I/O

The **First auxiliary I/O** option lets you select the auxiliary I/O that is assigned to the Auxiliary I/O_1 indicator on the radio channel control for this channel. See "Auxiliary I/O" on page 4-57 for more information about how to assign an Aux I/O to a radio channel. The default setting for this option is None.

SECOND AUXILIARY I/O

The **Second auxiliary I/O** option lets you select the auxiliary I/O that is assigned to the Auxiliary I/O_2 indicator on the radio channel control for this channel. (See "Auxiliary I/O" on page 4-57 for more information about how to assign an Aux I/O to a radio channel.) The default setting for this option is None.

CHANNEL RELAY

The **Channel Relay** option lets you select whether the channel relay is enabled or disabled. A channel relay can be used to key the channel instead of using the usual tone keying. A channel relay might be used if the transmitter is located very close to the console. The choices are:

- **PTT Disable –** channel relay is disabled

- **PTT Enable –** channel relay is enabled

- **PTT Emergency –** operator module display flashes when an emergency call is received (for the Consolette mobile radio type only, **Signaling Method** must be set to Mobile)

By default, this option is set to PTT Enable.

CONFIGURATION TAB BUTTONS

ADD VOICE ENCRYPTION

When you select the **Add Voice Encryption** (or **Edit Voice Encryption,** if an entry already exists) button, the **Voice Encryption I/O Selection** dialog box appears. See "Voice Encryption I/O Selection" on page 4-19. This button is made available only if an I/O module has been configured on the **Console Layout** dialog box.

ADD OR EDIT MAIN/STANDBY RELAY

When you select the **Add Main/Standby Relay** (**Edit Main/Standby Relay** if an entry already exists), the **Main/Standby Relay Selection** dialog box appears. This option requires at least four unassigned I/O module relays and is made available only if an I/O module has been configured on the **Console Layout** dialog box. See "Main/Standby Relay Selection" on page 4-21.

VOICE ENCRYPTION I/O SELECTION

The **Voice Encryption I/O Selection** dialog box allows you to identify an external encryption device for secure communication.

FIGURE 4-8 VOICE ENCRYPTION I/O SELECTION DIALOG BOX

OPTIONS

The **Voice Encryption I/O** dialog box has the following options:

The **Opto (in)** row refers to the opto-coupler, which tells the console that voice encryption of receive audio has been detected by an external device.

The **Relay (out)** row refers to the relay that tells the external encrypting device to momentarily suspend encryption of transmit audio while data (such as Stat-Alert) is being transmitted.

The **Input** and **Output** options on the **Voice Encryption I/O Selection** dialog box have the following options:

I/O MODULE

This options allows you to specify the I/O module ID on the relay or opto-coupler that controls voice encryption. By default, the CSDM Lite selects the first configured ID. For more information on assigning I/O modules IDs, see "I/O Module" on page 4-11.

PORT

Identifies the ports containing the opto-coupler and relay for controlling voice encryption. By default, the system selects the next available port.

DETECTION/IDLE STATE

Identifies the state of the relay and opto-coupler when they are idle. These states are possible:

- Relays:

    - **Opened –** the transmit audio is encrypted if the relay is in the open state (default)

    - **Closed –** the transmit audio is encrypted if the relay is in the closed state

- Opto-couplers:

    - **Current –** encryption has been detected if current is flowing (state) through the opto-coupler (default)

    - **No current –** encryption has been detected if no current is flowing (state) through the opto-coupler

ECHO CANCELLATION DELAY

When a dispatcher releases a PTT, the incoming audio on the channel will be muted for a duration specified by this option. This muting is useful for removing noise generated by encryption devices. Values range from 0 ms to 60,000 ms. The default setting is 0 ms.

OPTO DEBOUNCE TIME

Lets you select the debounce time for the opto-coupler. Values range from 0 ms to 1275 ms, in 5 ms increments. The default setting for this option is 25 ms.

TONE ENCRYPTION

This check box is available when a tone signaling plan (other than the default tone signaling plan) is assigned for this channel. It enables or disables the Tone Encryption feature. Tone Encryption lets you do voice encryption without the use of the relays and optos. This option lets you enable function tones to control encryption. By default this option is disabled (not checked).

BUTTONS

The **Voice Encryption I/O** dialog box has these buttons:

The **OK** button closes this dialog box, returning you to the Configuration tab of the **Radio Channel Configuration – General** dialog box, and records the changes and new entries. The **Cancel** button closes this dialog box without saving any of the changes. The **Delete I/O** button removes all data from all editable options (except **Echo Cancellation Delay** and **Tone Encryption**) and does not close the **Voice Encryption I/O Selection** dialog box.

MAIN/STANDBY RELAY SELECTION

The **Main/Standby Relay Selection** dialog box allows the configuration of receive and transmit relay ports.

FIGURE 4-9 MAIN/STANDBY RELAY SELECTION DIALOG BOX
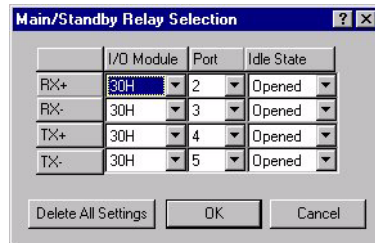
OPTIONS

I/O MODULE

Identifies the module address to which the I/O module is connected. By default, the system selects the position with the next available relay.

PORT

Identifies the current selected ports containing the Main/Standby switching relays. By default, the system selects the port with the next available relay.

IDLE STATE

Identifies the configurable state of the relay when it is idle. Two states exist:

- **Opened –** if the relay is opened, the main channel is used (default)
- **Closed –** if the relay is closed, the main channel is used

BUTTONS

The **Main/Standby Relay Selection** dialog box has these buttons:

The **OK** button closes this dialog box, returning you to the Configuration tab of the **Radio Channel Configuration – General** dialog box, and records the changes and new entries. The **Cancel** button closes this dialog box without saving any of the changes. The **Delete All Settings** button removes all data from all editable options and does not close the **Main/Standby Relay Selection** dialog box.

SIGNALING TAB

The Signaling tab allows the configuration of signaling plans, talk permit, and repeater settings. This tab is enabled only after a radio channel has been added using the **Add Main** button.

FIGURE 4-10 RADIO CHANNEL CONFIGURATION – GENERAL DIALOG BOX; SIGNALING TAB
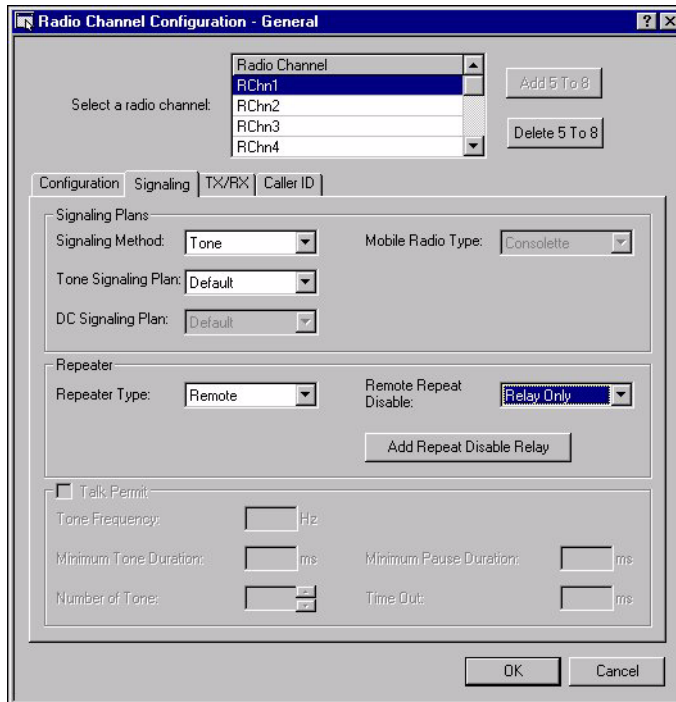
SIGNALING TAB OPTIONS

SIGNALING METHOD

The **Signaling method** option lets you select the type of signaling for the channel. The choices are:

- Tone (default)
- DC
- None
- Tone & DC
- Mobile

> **NOTE**
>
> Radio channels 7 and 8 (Rchn7 and Rchn8) cannot be assigned the "Mobile" signaling method.

TONE SIGNALING PLAN

The **Tone signaling plan** option lets you select the tone signaling plan for the channel as defined in the **Tone Plan ID** option of the **Radio Channel Configuration – Tone Signaling** dialog box in "Tone Signaling" on page 4-35. This option is active only if the **Signaling method** option is set to Tone or Tone & DC. The default setting for this option is Default.

DC SIGNALING PLAN

The **DC Signaling Plan** option lets you select the DC signaling plan for the channel as defined in the **DC Plan ID** option of the **Radio Channel Configuration – DC Signaling** dialog box in "DC Signaling" on page 4-39. This option is active only when the **Signaling Method** option is set to DC or Tone & DC. The default setting for this option is Default.

MOBILE RADIO TYPE

The **Mobile Radio Type** option lets you select the type of Mobile signaling that this channel will use. This option is active only if the **Signaling Method** option is set to Mobile. The mobile radio types available for selection are:

- Consolette (ASTRO Spectra, XTL5000)
- CDM 1550LS+
- MCS 2000 III
- iDEN

REPEATER TYPE

Lets you select whether or not a Repeater is supported at the base station. The choices are:

- **None –** no repeater is being used for the channel (default)
- **Remote –** the repeat function is performed at the repeater station
- **Local –** the repeat function is performed at the console

Selecting Remote enables the **Remote Repeat Disable** option.

> **NOTE**
>
> When the channel is selected as Local and the station is in the Base Operation mode, then the MDC ID, Call Alert, and Voice Alert from radio to radio do not work.

REMOTE REPEAT DISABLE

The **Remote repeat disable** option lets you select the method used to disable the remote repeat function if the repeat function is set to Remote in the **Repeater Type option**. The choices are:

- **Relay Only –** remote repeat is disabled through the use of a relay

- **Signal Only –** remote repeat is disabled through the use of a tone or current (default)

- **Relay & Signal –** remote repeat is disabled through the use of a relay and a tone or current

If the **Repeater Type** option is set to None, this option is not available.

TALK PERMIT

The **Talk Permit** option allows you to enable or disable talk permit. With the **Talk Permit** enabled, you can edit the talk permit settings. For the **Talk Permit** option to be active, the **Number of Wires** option must be set to 4W full duplex. The default value for this feature is disabled (unchecked).

TONE FREQUENCY

Specify the radio Go-ahead Tone Bursts Frequency that needs to be detected. Values range from 200 Hz to 3400 Hz. An incorrect value will render the OK button unavailable. The default value is 900 Hz.

MINIMUM TONE DURATION

Specify the minimum duration of radio tone bursts. Values range from 0 ms to 1000 ms. The default value is 25 ms.

NUMBER OF TONE

Specify the number of radio tone bursts. Values range from 0 to 255. The default value is 3.

MINIMUM PAUSE DURATION

Specify the minimum pause duration between the minimum tone bursts. Values range from 0 ms to 1000 ms. The default value is 25 ms.

TIME OUT

Specify the time which the console will wait for the reception of the Go-ahead tones. Values range from 0 ms to 5000 ms. The default value is 3500 ms.

SIGNALING TAB BUTTONS

REPEAT DISABLE RELAY SETTINGS

Selecting the **Add/Edit Repeat Disable Relay** button opens the **Relay Port Selection** dialog box. This button is enabled by selecting Relay Only or Relay & Signal in the **Remote Repeat Disable** option. See "Relay Port Selection" on page 4-24.

RELAY PORT SELECTION

The **Relay Port Selection** dialog box allows the configuration of the repeat disable relay location. The **Add/Edit Repeat Disable Relay** button is unavailable if the **Remote Repeat Disable** option is set to Signal Only.
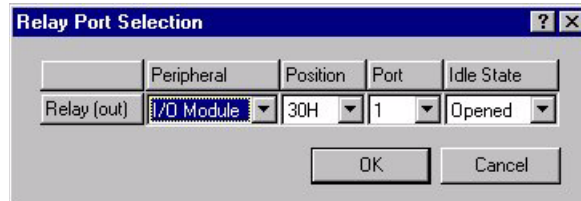
OPTIONS

PERIPHERAL

Identifies the peripheral set for the relay port. I/O Module is the only available value for this option. This value cannot be changed.

POSITION

The **Position** option is enabled only when **Peripheral** is set to I/O module. It shows the address of the I/O module. By default, the system selects the device with the next available relay.

PORT

Identifies the ports containing the relay port. By default, the system selects the port with the next available relay.

IDLE STATE

Identifies the state of the relay when it is idle. The following states are possible:

- **Opened –** the relay is idle in the open state (default)
- **Closed –** the relay is idle in the closed state

TX/RX TAB

The TX/RX tab allows for the configuration of transmitting and receiving settings.

FIGURE 4-11 RADIO CHANNEL CONFIGURATION GENERAL DIALOG BOX; TX/RX TAB
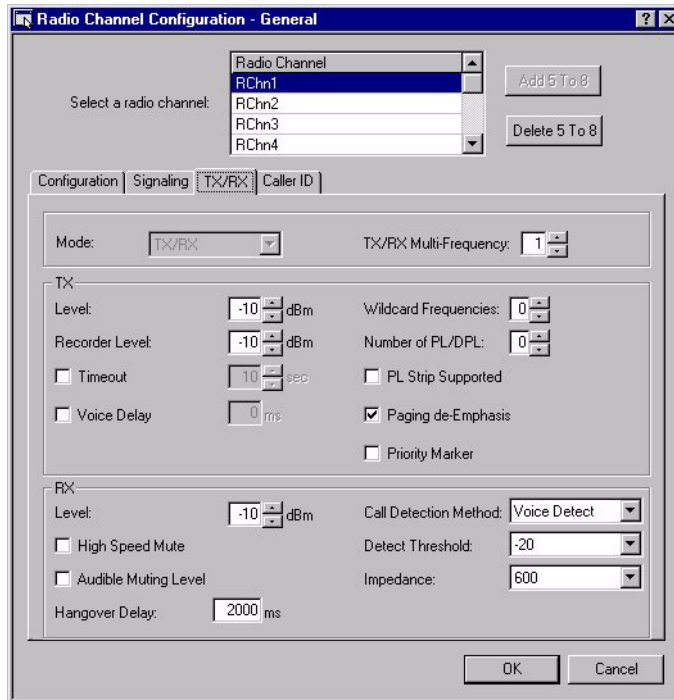
TX/RX TAB OPTIONS

MODE

The only available Mode is TX/RX. This option cannot be changed.

TX/RX MULTI-FREQUENCY

The **TX/RX Multi-Frequency** option lets you select the number of transmit and receive frequencies available for a multi-frequency channel. The maximum is 16 frequencies (16 TX and 16 RX frequencies).

TX LEVEL

The **TX Level** option lets you select the transmit level for the channel. Values can range from –40 dBm to +11 dBm. The default setting for this option is -10 dBm.

TX RECORDER LEVEL

The **Recorder** option lets you select the gain at which the audio will be presented to the recorder port. Valid values range from –40 dBm to +11 dBm. The default setting for this option is –10 dBm.

TX TIMEOUT

The **TX Timeout** option lets you limit the duration of the PTT. After you select this option, you can select the timeout time. The timeout ranges from 10 seconds to 60 seconds. By default, the **TX Timeout** option is not checked. The default timeout is 10 seconds.

WILDCARD FREQUENCIES

The **Wildcard Frequencies** option lets you select the number of wildcard tone sequences to be used with the channel. The maximum number of wildcard frequencies is 2 and the default setting for this option is 0.

> **NOTE**
>
> The number of wildcard frequencies available depends on what the signaling plan supports. For example, DC-controlled channels cannot use wildcard frequencies, therefore the default setting (0) for wildcard frequencies should not be changed.

NUMBER OF PL/DPL

The **Number of PL/DPL** option lets you select the number of PL/DPL frequencies supported by the tone signaling plan. The maximum is 6. The default value for this option is 0. This option is not available for channels configured for ASTRO signaling.

> **NOTE**
>
> The number of PL/PDL frequencies available depends on what the signaling plan supports. For example, DC-controlled channels cannot use PL/DPL frequencies, therefore the default setting (0) for the number of PL/DPL frequencies should not be changed.

TX VOICE DELAY

The **TX Voice Delay** option allows you to enable or disable a delay in the voice transmission. When enabled, a value for the delay in milliseconds may be entered. By default, this feature is disabled. The maximum value for this option is 900 ms.

PAGING DE-EMPHASIS

The **Paging De-Emphasis** option lets you select whether to use paging de-emphasis on this channel. Paging de-emphasis applies an attenuation of –6 dB per octave over 300 Hz to 3000 Hz for paging frequencies generated on a channel. By default, this option is enabled (checked).

PRIORITY MARKER

The **Priority marker** option enables or disables the priority marker feature 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.

PL STRIP SUPPORTED

The **PL Strip Supported** option lets you select whether or not the PL strip feature is supported at the base station. By default, this option is disabled (not checked).

RX LEVEL

The **RX Level** option lets you select the receive level for the channel. Values can range from –40 dBm to +11 dBm. The default setting for this option is -10 dBm.

HIGH SPEED MUTE

The **High Speed Mute** option lets you 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.

By default, this option is disabled (not checked). If if the call detection is set to COR, the **High Speed Mute** option is not available.

High speed mute does not need to be specified for Stat-Alert channels, the system will automatically mute the Stat-Alert data burst.

AUDIBLE MUTING LEVEL

The **Audible Muting Level** option lets you select the muting level:

- **Disabled – Muted –** there is no audio from this channel (default)
- **Enabled – Audible –** the audio volume from this channel is lowered by 24 dB

HANGOVER DELAY

The **Hangover Delay** option lets you select 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 ms to 30000 ms. The default setting for this option is 2000 ms.

CALL DETECTION METHOD

The **Call Detection Method** option lets you select the type of method used by the console to recognize whether a call is coming in on the channel. The following call detection methods are available:

- **Voice Detect –** the push-button console detects speech on the channel and then indicates the call in the system (default)
- **Carrier Operated Relay detection (COR detect) –** The push-button console detects the channel carrier through an opto-coupler input and then indicates the call in the system (not supported for the Mobile signaling method).

DETECT THRESHOLD

The **Detect Threshold** option lets you select the level below which the receive audio will not be accepted through the port and hence will not be heard. Values can range from –5 dB to –32 dB in 3 dB increments and is relative to the RX level. The default setting for this option is –20 dB.

IMPEDANCE

The **Impedance** option lets you select the impedance level for RX input on this channel. Available impedance values are 600 ohms and 10000 ohms. Use this option to match the impedance of the CommandSTAR Lite console to the requirements of the radio equipment connected to it. The "Local" setting is for mobile radios connected directly to the console. The default setting for this option is 600 ohms.

CALLER ID TAB

The Caller ID tab contains options for configuring the caller ID type.

FIGURE 4-12 RADIO CHANNEL CONFIGURATION GENERAL DIALOG BOX; CALLER ID TAB
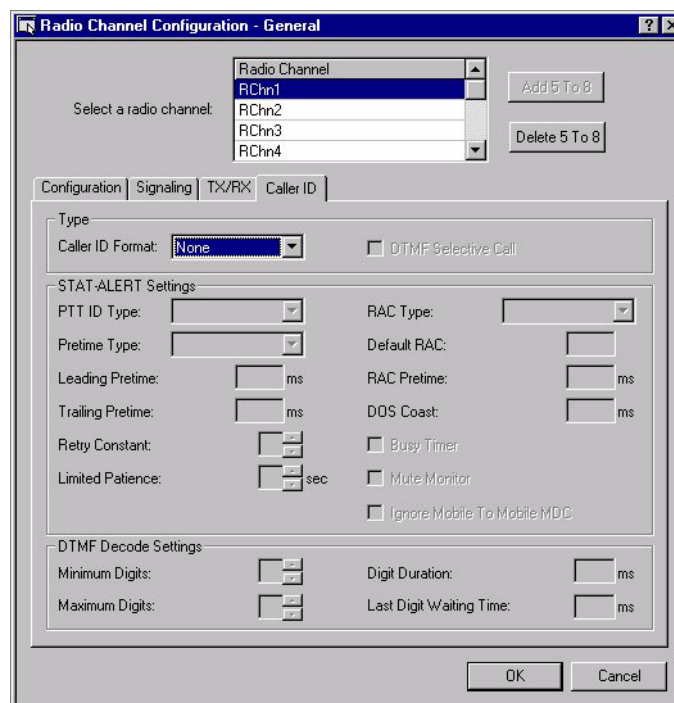
OPTIONS

CALLER ID FORMAT

The **Caller ID Format** option lets you select the caller ID for the channel. The choices are: None, STAT-ALERT, and DTMF. None is the default setting for this option.

DTMF CALLER ID OPTIONS

This set of options for the Caller ID tab only become active when DTMF is selected as the **Caller ID Format**.

TWO MODES: PTT ID AND SELECTIVE CALL (DTMF SELECTIVE CALL)

A channel that is configured for DTMF Caller ID can function in one of two modes: PTT-ID mode or Selective-Call mode. For channels operating in PTT-ID mode, the mobile or portable PTT ID is decoded and displayed on the console. For channels operating in Selective-Call mode, each console is assigned an ID. When a console has a Selective-Call channel muted, the channel is un-muted at that console when the console ID is decoded on that channel. Console IDs can be assigned independently for each console. Any number of consoles can have the same or different console IDs.

MINIMUM DIGITS

This option specifies the minimum number of DTMF digits to expect as a caller ID. You can specify as few as 1 digit or as many as 7 for the minimum number of digits. The value of **Minimum Digits** cannot be more than the value of **Maximum Digits**. The default setting is 1.

MAXIMUM DIGITS

This option specifies the maximum number of DTMF digits to expect as a caller ID. You can specify as few as 2 digits or as many as 8 for the maximum number of digits. The value of **Maximum Digits** cannot be less than the value of **Minimum Digits**. The default setting is 2.

DIGIT DURATION

This option specifies the length of time in milliseconds that a DTMF digit must last to be decoded. You can specify a duration as short as 1 ms or as long as 1000 ms. The default setting is 32 ms.

LAST DIGIT WAITING TIME

This option specifies the length of time in milliseconds from the detection of a DTMF digit after which the CommandSTAR Lite console will stop listening for another DTMF digit and end the DTMF decoding process. You can specify a waiting time as short as 20 ms or as long as 1000 ms. The default setting is 200 ms.

DTMF SELECTIVE CALL

This option enables Selective Call mode. When the check box is checked, this channel operates in Selective Call Mode. When the check box is clear, this channel operates in PTT-ID mode. See "Two Modes: PTT ID and Selective Call (DTMF Selective Call)" on page 4-30 for a description of the two modes. By default, this option is disabled (not checked).

STAT-ALERT CALLER ID OPTIONS

This set of options for the Caller ID tab only become active when STAT-ALERT is selected as the **Caller ID Format**.

PTT ID TYPE

The PTT ID is data that identifies the console keying the channel. The **PTT ID Type** option 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 (default)
- **Trailing –** the PTT ID is sent when the PTT button is released

PRETIME TYPE

The **pretime type** option can have the following values:

- **Silent –** during the leading pretime, no data nor tones are sent (default)
- **Bit sync –** The bit sync sequence of the Stat-Alert message is sent during the leading pretime. This approach gives the receivers more time to synchronize with the transmitter.

LEADING PRETIME

The leading pretime is the delay between the time the PTT button is pressed and the time the PTT ID is sent. If there is a remote access code (RAC), the leading pretime is the delay between the time the RAC ends and the time the PTT ID is sent. See Figure 4-13, "PTT, RAC, PTT ID Timing" for an illustration. Values can range from 200 ms to 60000 ms. The default setting for this option is 300 ms. See also "Parallel Unit" on page 4-17.

FIGURE 4-13 PTT, RAC, PTT ID TIMING
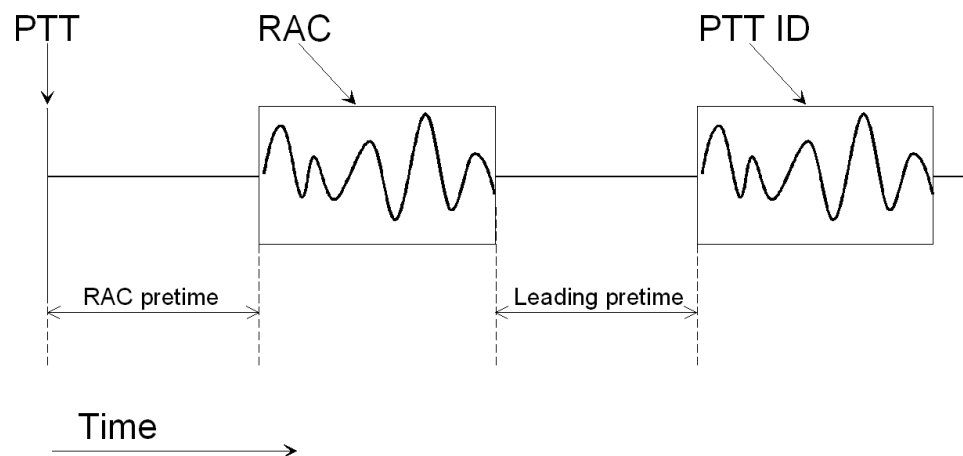
Pressing the PTT is followed by the RAC pretime, the RAC, the leading pretime, and the PTT ID.

TRAILING PRETIME

The trailing pretime is the 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. The default setting for this option is 0.

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. The default setting for this setting is 5.

LIMITED PATIENCE

This option lets you select a value from 0 seconds to 60 seconds for the amount of time to wait for a channel to become free, after which time the console ignores the mute monitor and transmits on the channel even if it is busy. The default setting for this option is 0 seconds.

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** option can have the following values:

- **No RAC** – No RAC is used on the channel (default)
- **Manual RAC** – The RAC has to be sent manually (by manual page) before the PTT button is pressed
- **Auto RAC** – The RAC is sent when the PTT button is pressed

DEFAULT RAC

The **Default RAC** option lets you select the RAC that will be sent when the RAC type option is set to Auto RAC. The default setting for this option is 0001. Note that the values entered in this option are in hexadecimal format. The default RAC value set here is used as the default value in the push-button console.

RAC PRETIME

The RAC pretime is the time delay between the time the PTT button is pressed and the time the RAC is sent (see Figure 4-13, "PTT, RAC, PTT ID Timing"). Values can range from 0 ms to 60000 ms. The default setting for this option is 0 ms.

DOS COAST

The DOS Coast time is the amount of time after loss of data detect that the timed mute shall remain active and affects the mute after data detect. Should the mute timer expire without detecting data, the audio is immediately unmuted. DOS Coast is useful when the console sends multiple Stat-Alert messages that are separated by a short length of no modulation.

The **DOS Coast** option lets you select the length of time for the DOS coast. Values can range from 0 ms to 60000 ms. By default, this option is set to 0 ms.

BUSY TIMER

The **Busy Timer option** lets you enable the console to wait for a random time, after the radio channel clears, before transmitting the Stat Alert call. The reason for the random time comes into play when two or more consoles (operating in parallel) have initiated a Stat Alert call at the same time. If the radio channel is busy when the calls are initiated, then when the radio channel clears, each console page will go out at a different time. By default, this option is disabled (not checked).

MUTE MONITOR

Lets you enable or disable the mute monitor feature. When enabled, the mute monitor feature detects when the channel is muted (not being used). By default, this option is disabled (not checked).

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 want to use the channel for paging, they can try to send 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.

IGNORE MOBILE TO MOBILE MDC

When enabled, this option prevents Stat-Alert, Voice Alert, and Call Alert messages from appearing on console displays. Instead of displaying a Voice Alert or Call Alert message, only the PTT ID of the calling mobile appears in the Activity Log Window and the Radio Channel Control. The operator can still hear all traffic on the radio channel. By default, this option is enabled (checked).

[CHANNEL] CROSS-MUTING

The **Radio Channel Configuration – Cross-Muting** dialog box can be opened by selecting the **Configuration > Radio Channel > Cross-Muting** menu command or by selecting **Radio Channel > Cross-Muting** from the Configuration Tree.

FIGURE 4-14 RADIO CHANNEL CONFIGURATION CROSS-MUTING DIALOG BOX
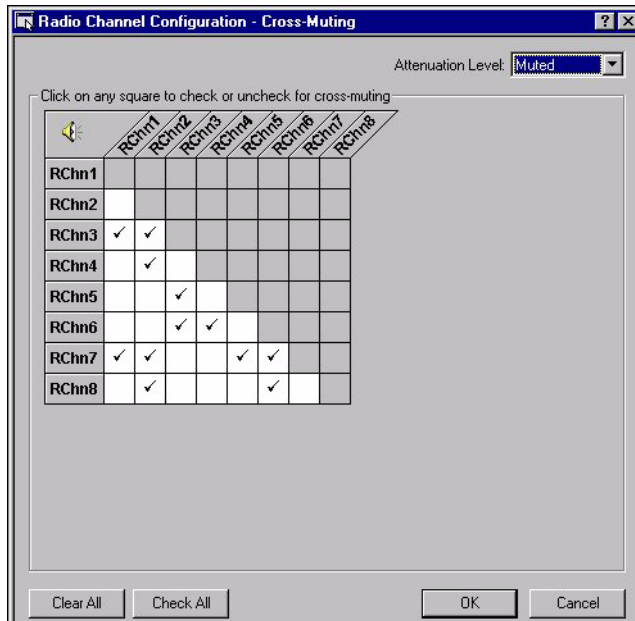
If two radio channels interfere with one another, the audio from the keyed channel can crossover onto the second channel and be heard on the transmitting console speaker or another speaker in the control room. The audio from the speaker can be picked up by the transmitting microphone and cause feedback.

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.

To enable a cross-mute between two channels, select the square in the matrix representing where you want to mute the interference from a channel. This action places a check mark in the matrix square where the two channels intersect. Then select the desired attenuation level from the **Attenuation Level** list. Selecting Audible will lower the audio interference by 24 dB; selecting the Mute will completely mute all interference from an other channel. The selected attenuation level is applied to the whole system.

The **Clear All** button will remove all check marks from the matrix and **Check All** button will place check marks at all the channel intersections in the matrix.

TONE SIGNALING

The **Radio Channel Configuration – Tone Signaling** dialog box is opened by selecting **Configuration > Radio Channel > Tone Signaling** from the menu bar or by selecting **Radio Channel > Tone Signaling** from the Configuration Tree.

When this dialog box first appears, the default tone signaling plan is selected. The default tone signaling plan cannot be changed or deleted, so all options are unavailable and appear dimmed. As soon as you add a new tone signaling plan or select an existing tone signaling plan, all options become available, permitting general configuration of the selected plan.

FIGURE 4-15 RADIO CHANNEL CONFIGURATION – TONE SIGNALING DIALOG BOX
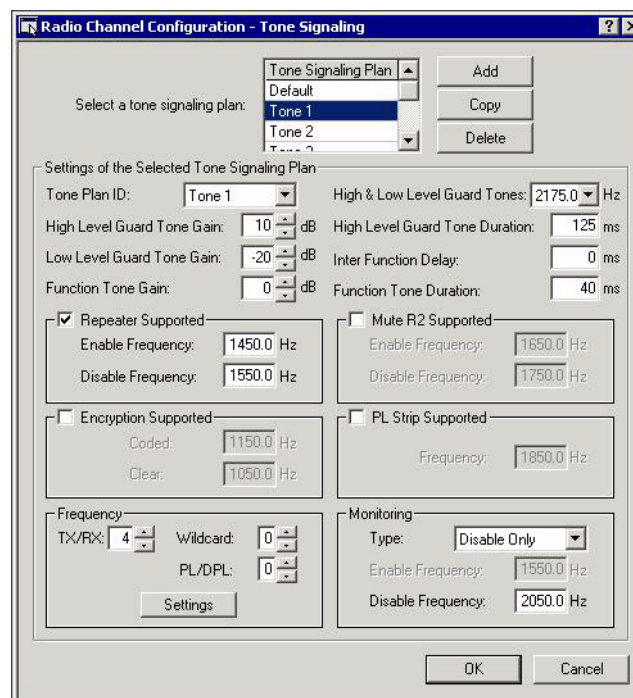
The following diagram shows the high level guard tone (HLGT), function tone, and low level guard tone (LLGT). Descriptions of these options appear under "Options" on page 4-36.

FIGURE 4-16 HIGH LEVEL GUARD TONE, FUNCTION TONE, AND LOW LEVEL GUARD TONE

BUTTONS

ADD
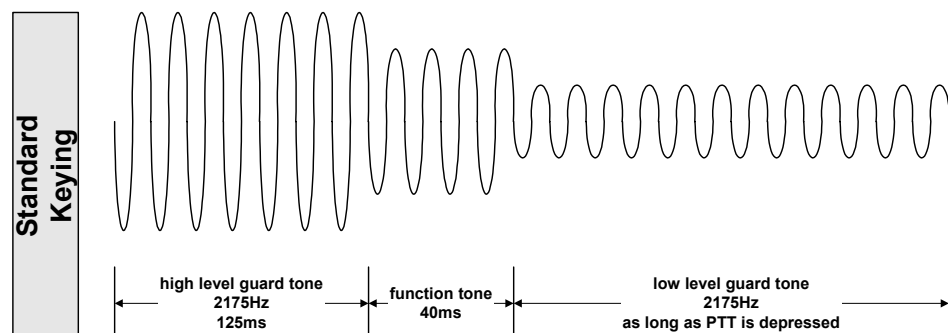
Selecting the **Add** button adds a new tone signaling plan with default settings to the **Tone Signaling Plan** list. Up to 31 tone signaling plans can be created.

COPY

Selecting this button when a plan has already been selected from the **Tone Signaling Plan** list duplicates the settings of a plan. It is now possible to edit the duplicate settings.

DELETE

The **Delete** button is enabled only when a plan is highlighted from the **Tone Signaling Plan** list. Selecting this button will remove the plan from the list, along with all its recorded settings. The default tone plan cannot be deleted. If the plan is in use by a radio channel, the following message appears:

- Cannot delete this Tone signaling Plan because: - It is configured on a Channel – You must remove this plan from any channels using it under the **Radio Channel** – **General – Signaling** tab. Refer to "Signaling Tab" on page 4-22 for more information.

OPTIONS

TONE PLAN ID

The **Tone plan ID** option lets you select the name for the tone signaling plan. Names can range from Tone 1 to Tone 31, and Default. By default, the system assigns the next available ID from the list.

HIGH LEVEL GUARD TONE GAIN

The **High Level Guard Tone Gain** option lets you set the gain level for the HLGT. The level is relative to the channel TX level set in the **Radio Channel Configuration – General** dialog box (see "TX Level" on page 4-26 and the **Radio Channel Configuration – General** dialog box preceding it). The default setting for this option is 10 dB.

LOW LEVEL GUARD TONE GAIN

The **Low Level Guard Tone Gain** option lets you set the gain level for the LLGT. The level is relative to the channel TX level (see "TX Level" on page 4-26). The default setting for this option is –20 dB.

FUNCTION TONE GAIN

The **Function Tone Gain** option lets you set the gain level for the Function tone. The level is relative to the channel TX level (see "TX Level" on page 4-26). The default value for this option is 0 dB.

HIGH & LOW LEVEL GUARD TONES

The **High & Low Level Guard Tones** option lets you set the frequency for the HLGT and LLGT. The default setting for this option is 2175.0 Hz.

HIGH LEVEL GUARD TONE DURATION

The **High Level Guard Tone Duration** option lets you set the duration for the HLGT. The default setting for this option is 125 ms.

INTER FUNCTION DELAY

The **Inter Function Delay** option lets you set the duration for the inter-function delay, a time period between two successive signaling tones or the completion of one Tone Control command and the start of another. The inter-function delay ensures that the wire line and base station have sufficient time between commands. Without such a delay, the next command could be missed or not recognized. The default setting for this option is 0 ms.

FUNCTION TONE DURATION

The **Function Tone Duration** option lets you set the duration for the Function tone. The default setting for this option is 40 ms.

REPEATER SUPPORTED

This option specifies whether the repeater is supported at the base station. By default, this option is enabled (checked). When enabled, the **Enable Frequency** (default setting is 1450.0 Hz) and **Disable Frequency** (default setting is 1550.0 Hz) options become available. The **Enable Frequency** option lets you set the frequency to enable the repeater function while the **Disable Frequency** option lets you set the frequency to disable the repeater function.

ENCRYPTION SUPPORTED

This option specifies whether the channel is capable of encryption control. By default, this option is enabled (checked). When enabled, the **Coded** (default setting is 1150.0 Hz) and **Clear** (default setting is 1050.0 Hz) options become available. The **Coded** option lets you set the frequency to enable the encryption of a transmission while the **Clear** option lets you set the frequency to disable the encryption of a transmission.

MUTE R2 SUPPORTED

This option lets you enable muting of the secondary receiver on this channel. By default, this option is disabled (not checked). When enabled, the **Enable Frequency** (default setting is 1650.0 Hz) and **Disable Frequency** (default setting is 1750.0 Hz) options become available. The **Enable Frequency** option lets you select a tone frequency to mute the secondary receiver for this channel while the **Disable Frequency** option lets you select a tone frequency to unmute the secondary receiver for this channel.

PL STRIP SUPPORTED

This option lets you specify whether or not stripping of private line (PL) information is supported at the base station. By default, this option is disabled (not checked). When enabled, the **Frequency** (default setting is 1850.0 Hz) option becomes available. The **Frequency** option lets you set the frequency to enable PL Strip.

FREQUENCY

The **Frequency TX/RX** lets you select the number of transmit and receive frequencies supported by the tone signaling plan. The maximum number is 16; the default is 4. The **Wildcard** option lets you select the number of Wildcard frequencies supported by the tone signaling plan. The maximum number is 2; the default is 0. The **PL/DPL** option lets you select the number of PL/DPL frequencies supported by the tone signaling plan. The maximum number is 8; the default is 0.

Selecting the **Settings** button opens the **Tone Signaling Frequency Settings** dialog box. See "Tone Signaling Frequency Settings" on page 4-39.

MONITORING

The **Monitoring Type** option lets you set controls for channel Monitoring. The choices are:

- **Disable Only –** lets the operator disable the squelch on the currently selected resources, allowing the operator to hear all of the audio, regardless of the private line code (default)
- **Enable & Disable –** lets the operator enable and disable squelch monitoring
- **None –** monitoring is not supported

ENABLE FREQUENCY

The **Enable Frequency** option lets you set the frequency to enable Monitoring.

DISABLE FREQUENCY

The **Disable Frequency** option lets you set the frequency to disable Monitoring.

TONE SIGNALING FREQUENCY SETTINGS

The **Tone Signaling Frequency Settings** dialog box lets you assign frequencies to the number and type of radio channels you previously enabled.

FIGURE 4-17 TONE SIGNALING FREQUENCY SETTINGS DIALOG BOX
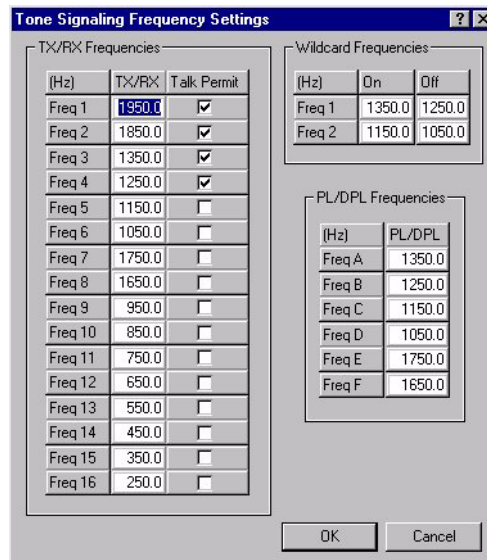
Each area in this dialog box reflects the number of frequencies selected in the appropriate options from the Frequency area of the **Radio Channel Configuration – Tone Signaling** dialog box.

The **Talk Permit** option instructs the push-button console to wait until Talk Permit is received before sending MDC signaling or paging tones. The **Talk Permit** option is available for each available frequency. By default, this option is not enabled (unchecked).

DC SIGNALING

The **Radio Channel Configuration – DC Signaling** dialog box can be opened by selecting **Configuration > Radio Channel > DC Signaling** from the menu bar or by selecting **Radio Channel > DC Signaling** from the Configuration Tree.

When this dialog box first appears, the default DC signaling plan is selected. The default DC signaling plan cannot be changed or deleted, so all options are unavailable and appear dimmed. As soon as you add a new DC signaling plan or select an existing DC signaling plan, all options become available, permitting general configuration of the selected plan. The options available in the **DC Current Function** area are different, depending on the DC Mode selected (Latch or Pulse).

FIGURE 4-18 RADIO CHANNEL CONFIGURATION – DC SIGNALING DIALOG BOX (LATCH)

BUTTONS

ADD
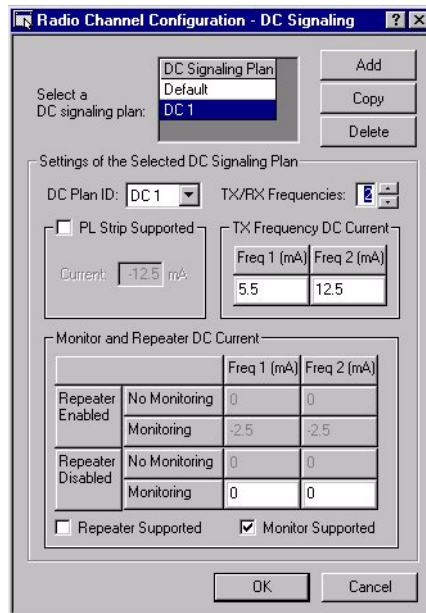
Selecting the **Add** button adds a new DC signaling plan with default settings to the **DC Signaling Plan** list. Up to 31 DC signaling plans can be created.

COPY

The **Copy** button lets you copy the settings of the selected DC signaling plan and record them as a new DC signaling plan in the list, which can then be edited.

DELETE

The **Delete** button is enabled when a DC signaling plan is selected and lets you delete the selected DC signaling plan from the list. The default DC plan cannot be deleted. Ifrecord the plan is in use by a radio channel, the following message appears:

- Cannot delete this DC signaling Plan because: - It is configured on a Channel – You must remove this plan from any channels using it under the **Radio Channel** – **General – Signaling** tab. Refer to "Signaling Tab" on page 4-22 for more information.

OPTIONS

DC PLAN ID

The **DC plan ID** option lets you select the name for the DC signaling plan. Names can range from DC 1 to DC 31, and Default. By default, the system assigns the next available ID from the list.

TX/RX FREQUENCIES

The **TX/RX Frequencies** option lets you select the number of transmit and receive frequencies supported by the DC signaling plan. The maximum is 2 TX/RX frequency pairs. The default setting for this option is 2.

PL STRIP SUPPORTED

The **PL strip supported** option lets you specify whether or not the stripping of private line (PL) information is supported at the base station. By default, this option is not enabled (unchecked).

TX FREQUENCIES

- **Freq 1** and **Freq 2 –** lets you select the DC current values for TX frequencies. Each DC current value tells a base station to transmit on a specific frequency. The default settings are 5.5 mA and 12.5 mA respectively for Freq 1 and Freq 2.

RX FREQUENCIES (DC MODE – LATCH)

- **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 1** to **Freq 2–** These options allow you to select DC signaling current for RX frequencies. A DC signaling current for RX frequencies commands a base station to receive on a specific frequency.

> **NOTE**
>
> For Motorola base stations, the **RX freq.** in the RX Frequencies table should be set to 0 mA when the **Repeater Supported** and **Monitor Supported** options are not enabled.
>
> If you set a non-zero current for **No Monitoring**, when the **Repeater Supported** option is enabled, any circuit to which it is applied can never be hardware tested because the current makes the circuit appear to be in use even when it is idle.

REPEATER SUPPORTED

The **Repeater supported** option lets you select whether or not a Repeater is supported at the base station. By default, this option is disabled (not checked).

MONITOR SUPPORTED

The **Monitor supported** option lets you select whether or not the Monitor feature is supported at the base station. By default, this option is enabled (checked).

CALLER ID LIST

The **Radio Channel Configuration – Caller ID List** dialog box can be opened by selecting **Configuration > Radio Channel > Caller ID List** from the menu bar or by selecting **Radio Channel > Caller ID List** from the Configuration Tree.

FIGURE 4-19 RADIO CHANNEL CONFIGURATION – CALLER ID LIST DIALOG BOX
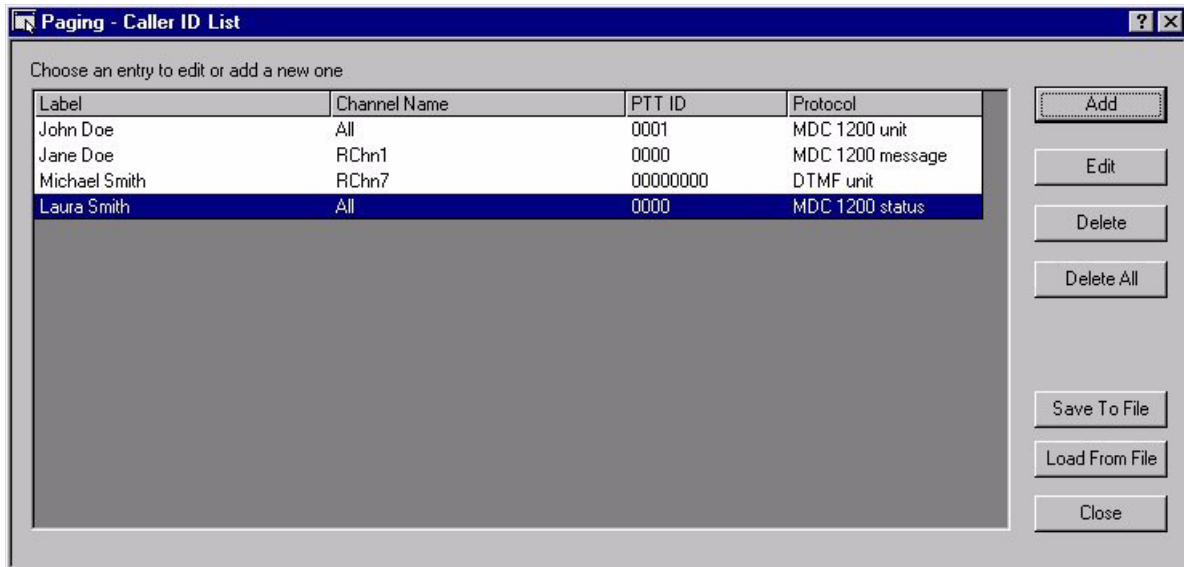
BUTTONS

ADD

The **Add** button opens the **Edit PTT ID Aliases** dialog box, allowing you to configure a caller ID entry. See "Edit PTT ID Aliases Dialog Box" on page 4-43 for more information.

EDIT

The **Edit** button opens the **Edit PTT ID Aliases** dialog box, allowing you to modify a selected caller ID entry. This button is enabled only when a caller ID entry is selected.

DELETE

The **Delete** button removes the selected entry from the **Alias** list. This button is enabled only when a caller ID entry is selected.

DELETE ALL

The **Delete All** button removes all entries from the **Alias** list. This button is available only when there is at least one entry in the **Caller ID** list.

SAVE TO FILE

The **Save To File** button saves a copy of the **Caller ID** list to a specified directory. Selecting the **Save To File** button opens **Save As** dialog box where you can specify the location where you want the **Caller ID** list file stored. The default file name is "CallerID.cal". This button is available only when there is at least one entry in the **Caller ID** list. It is recommended that you store your **Alias** list in the CSDM Lite directory.

LOAD FROM FILE

The **Load From File** button opens the **Open** dialog box where you specify which *.cal file to load. Select the desired **Caller ID** list and select OK to load the file into the CSDM Lite.

CLOSE

The **Close** button closes the **Radio Channel Configuration – Caller ID List** dialog box.

EDIT PTT ID ALIASES DIALOG BOX

FIGURE 4-20 EDIT PTT ID ALIASES DIALOG BOX
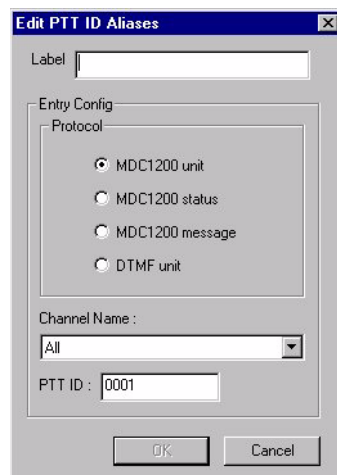
Label — specify an alias for the entry.

Protocol — specify the signaling protocol used by the caller. Choose from the four following values:

- MDC1200 unit — the caller is using the STAT-ALERT protocol
- MDC1200 status — the caller is using the STAT-ALERT protocol and signifies that the caller is sending a status message
- MDC1200 message — the caller is using the STAT-ALERT protocol and signifies that the caller is sending a message
- DTMF unit — the caller unit ID uses the standard DTMF frequencies

Channel Name — specify the radio channel(s) associated with the alias. Values range from Rchn1 to Rchn8 and All. All is the value by default.

PTT ID — specify the identification number for the alias. When MDC1200 unit is selected, values for this options range from 0001 to DEEE. When MDC1200 status or message are selected, values for this option range from 0000 to 0255. When DTMF unit is selected, values for this option range from 00000000 to 99999999.

PAGING

・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・
                                                                                        ・

The following commands of the **Paging** submenu are described:

- "Custom Page" on page 4-45
- "Page Format" on page 4-47
- "External Pager" on page 4-51
- "Paging Aliases" on page 4-53

CUSTOM PAGE

The **Paging > Custom Page** Configuration Tree item or the **Configuration > Paging > Custom Page** menu command opens the **Paging – Custom Page** dialog box in the workspace.

FIGURE 4-21 PAGING CUSTOM PAGE DIALOG BOX
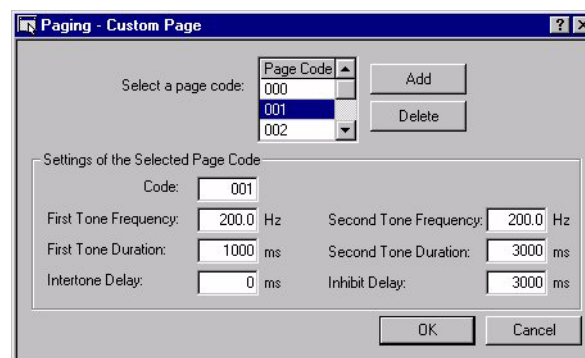
The Custom Page feature lets you create a page that is not associated with any of the standard paging formats. With the Custom Page feature you can define the duration, the frequencies, and the delay between two tones for new page functions.

BUTTONS

ADD

The **Add** button, when selected, adds a page code with default settings to the **Page Code** list. You can create up to 64 custom pages.

DELETE

The **Delete** button is enabled only when a page code is selected from the **Page Code** scroll list. Selecting this button will remove the page code from the list, along with all the settings associated with that code.

OPTIONS

CODE

The **Code** option lets you select the custom page code. This code is the number a dispatcher will use to send a specific custom page. Valid custom page codes range from 000 to 999. By default, the system selects the next available code from the list.

FIRST TONE FREQUENCY

The **First Tone Frequency** option lets you set the frequency of the first tone in the page. Valid frequencies range from 200 Hz to 3400 Hz. The default setting for this option is 200.0 Hz.

FIRST TONE DURATION

The **First Tone Duration** option lets you set the duration of the first tone in the page. Valid tone durations range from 0 ms to 10000 ms. The default setting for this option is 1000 ms.

INTERTONE DELAY

The **Intertone Delay** option lets you set the duration of the time delay between the two tones. Valid durations range from 0 ms to 10000 ms. The default setting for this option is 0 ms.

SECOND TONE FREQUENCY

The **Second Tone Frequency** option lets you set the frequency of the second tone in the page. Valid frequencies can range from 200 Hz to 3400 Hz. The default setting for this option is 200.0 Hz.

SECOND TONE DURATION

The **Second Tone Duration** option lets you set the duration of the second tone in the page. Valid tone durations range from 0 ms to 10000 ms. The default setting for this option is 3000 ms.

INHIBIT DELAY

The **Inhibit Delay** option lets you set the time delay between the end of the last tone of the page and the time when speech can be transmitted or another page can begin. Valid tone durations range from 0 ms to 10000 ms. The default setting for this option is 3000 ms.

> **NOTE**
>
> Inhibit delay does not apply to any single page with voice annotation. In multiple pages, inhibit delay is applied between pages and at the end of the last page (unless it includes voice annotation).

PAGE FORMAT

The **Configuration > Paging > Page Format** menu command or the **Paging > Page Format** Configuration Tree item opens the **Paging – Page Format** dialog box in the workspace. This dialog box allows the configuration of existing page formats or the creating and configuration of new page formats.

> **NOTE**
>
> For information about the main page formats, see Appendix A, "Paging Codes."

FIGURE 4-22 PAGING – PAGE FORMAT DIALOG BOX
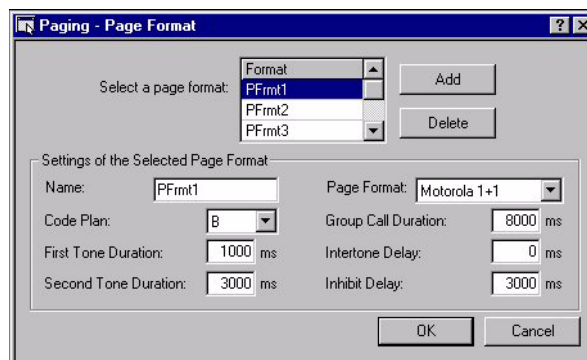
Selecting a page format from the **Page Format** list enables the other options and buttons in the dialog box. Selecting the **Add** button will add a default entry to the **Page Format** list with default settings.

> **NOTE**
>
> The options of the Paging – Page Format dialog box vary depending on the requirements of the page format selected from the **Page Format** list.

BUTTONS

ADD

The **Add** button, when selected, adds a page format with default settings to the **Page Format** scroll list. You can create up to 32 page formats.

DELETE

The **Delete** button is enabled only when a page format is selected from the **Page Format** scroll list. Selecting this button will remove the page format from the list, along with all the settings that were associated with the format.

OPTIONS

> **NOTE**
>
> Only the **Name** and **Page Format** options appear on all of the Selected Page Format area. The Selected Page Format area layout is dependent on the page format that is chosen from the drop-down list.

NAME

The **Name** option lets you give a name to a page format. The name can contain up to eight alphanumeric characters.

PAGE FORMAT

The following page formats are available:

- Motorola 1+1 (Default)
- Motorola 2+2
- GE type 99
- Motorola 5 tone
- Motorola 6 tone
- NEC 5 tone
- NEC 6 tone
- REACH
- DTMF
- Rotary Pulse
- STAT-ALERT

Depending on which paging format is selected, different options become available for setting parameters. Default values vary with the paging format selected.

CODE PLAN (MOTOROLA 1+1, MOTOROLA 2+2, REACH)

The **Code Plan** option lets you select a code plan for the paging format.

FIRST TONE DURATION (MOTOROLA 1+1, MOTOROLA 2+2, GE TYPE 99, REACH)

The **First tone duration** option lets you 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, REACH)

The **Second tone duration** option lets you 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, REACH)

The **Intertone delay** option lets you 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, REACH)

The **Inhibit Delay** option lets you set the time delay between the end of the last tone of the page and the time when speech can be transmitted or another page can begin. Valid tone durations range from 0 ms to 10000 ms. The default setting for this option is 3000 ms.

> **NOTE**
>
> Inhibit delay does not apply to any single page with voice annotation. In multiple pages, inhibit delay is applied between pages and at the end of the last page (unless it includes voice annotation).

GROUP CALL DURATION (MOTOROLA 1+1, MOTOROLA 2+2)

The **Group call duration** option lets you 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** option lets you set the duration of each tone in the page. Valid tone durations can range from 0 ms to 1000 ms.

TYPE (STAT-ALERT)

The **Type** option lets you select a Stat-Alert type. The choices are:

- **Voice Alert –** allows a dispatcher to send a one time selective voice alert message to a remote unit

- **Call Alert –** allows a dispatcher to send a call alert 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** option appears. The **Long Call Alert** option lets you enable or disable the long call alert protocol. When enabled, a remote unit can see the console Stat-Alert ID from whom the remote unit is paged.

- **Radio Check –** allows a dispatcher to check if a remote unit is on.

- **Remote Monitor –** allows a dispatcher to listen through a remote unit. When you select this feature the **Silent Monitor** and the **Xmit Time Multiplier** options appear. The **Silent Monitor** option lets you enable or disable the silent monitor feature for remote monitoring. The **Xmit Time Multiplier** option lets you set the number of times the Xmit time is multiplied to extend the duration of remote monitor.

- **Radio Enable –** allows a dispatcher to enable a remote unit

- **Radio Disable –** allows a dispatcher to disable a remote unit

- **Manual RAC –** allows a dispatcher to manually access a non-wireline repeater

- **Status Request –** allows a dispatcher to request the status of a remote unit

- **Repeater Enable –** allows a dispatcher to turn a repeater on

- **Repeater Disable –** allows a dispatcher to turn a repeater off

PREAMBLE (MOTOROLA 5 TONE, MOTOROLA 6 TONE)

The **Preamble** option lets you set the preamble tone frequency. The 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** option lets you 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** option lets you 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** option lets you 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** option lets you 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** option lets you 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** option lets you 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** option lets you 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** option lets you 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** option lets you set the duration of the last tone in a rotary pulse signal. Valid tone durations can range from 0 ms to 10000 ms.

EXTERNAL PAGER

The **Paging – External Pager** dialog box is opened from the **Configuration > Paging > External Pager** menu command or by selecting **Paging > External Pager** from the Configuration Tree. The external pager feature lets you produce tones with a device that is external to the CommandSTAR Lite push-button console.

The external pager tells the console to key the channel and to send the tone on a predetermined channel and frequency.

FIGURE 4-23 PAGING EXTERNAL PAGER DIALOG BOX
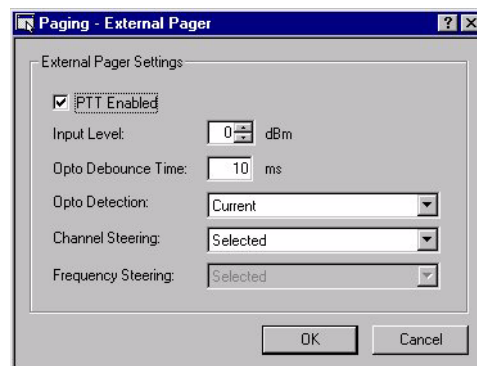
The external pager feature lets you add an external pager to the system, and to select the Input level, the Channel steering, and the Frequency steering of each external pager.

OPTIONS

PTT ENABLED

The **PTT Enabled** feature allows you to enable or disable the external pager hookup to the system. By default, this feature is disabled. When enabled, the Opto options become available.

INPUT LEVEL

Lets you select the input level for the tones received by the console from the external pager. Values range from –40 dBm to +11 dBm. The default setting for this option is 0 dBm.

OPTO DEBOUNCE TIME

Lets you select the debounce time for the opto-coupler. Values range from 0 to 1275 ms, in 5 ms increments. The default setting for this option is 10 ms.

OPTO DETECTION

The **Opto Detection** feature allows you to specify the state of the opto-coupler when it is idle. "Current" means that if the 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.

CHANNEL STEERING

The **Channel Steering** option lets you select the channel(s) on which you send the page. You can choose from:

- **Selected –** the page will be sent on all the channels that are selected at the console (default)
- **Individual Channel –** selects a single channel on which to send the page

FREQUENCY STEERING

The **Frequency steering** option is active when the **Channel steering** option is set to Individual Channel.

The **Frequency steering** option lets you select the frequency on which to send the page. The choices are:

- **Selected –** the page will be sent on the frequency that is selected on the channel (default)
- **Individual Frequency –** you can select a single frequency in the channel on which to send the page

PAGING ALIASES

The **Paging – Paging Aliases** dialog box is opened from the **Configuration > Paging > Paging Aliases** menu command or by selecting **Paging > Paging Aliases** from the Configuration Tree. A paging alias is a name that is associated with a speed page. The paging alias feature 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.

FIGURE 4-24 PAGING PAGING ALIASES DIALOG BOX
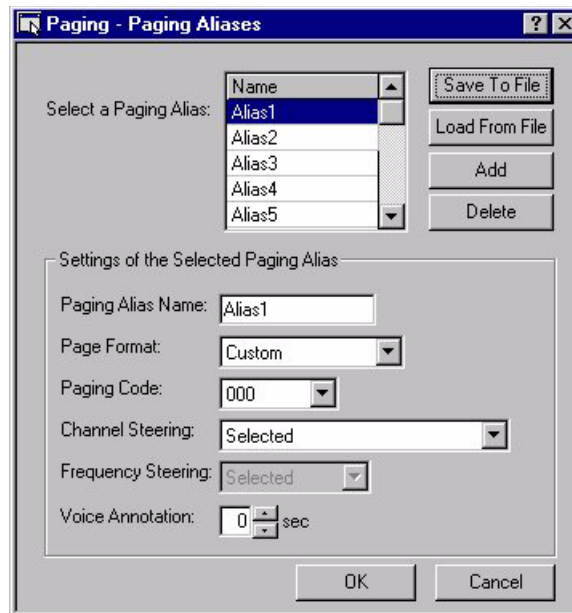
BUTTONS

SAVE TO FILE

The **Save To File** button saves a copy of the **Paging Alias** list to a specified directory. Selecting the **Save To File** button opens **Save As** dialog box where you can specify the location where you want the **Alias** list file stored. The default file name is "Pages.pag". This button is available only when there is at least one entry in the **Alias** list. It is recommended that you store your **Alias** list in the CSDM Lite directory.

LOAD FROM FILE

The **Load From File** button opens the **Open** dialog box where you specify which *.pag file to load. Select the desired **Alias** list and select **OK** to load the file into the CSDM Lite.

ADD

The **Add** button, when selected, adds a page alias with default settings to the **Page Alias** scroll list. You can create up to 32 page aliases.

DELETE

The **Delete** button is enabled only when a page alias is selected from the **Page Alias** scroll list. Selecting this button will remove the page alias from the list, along with all the settings that were associated with the alias.

OPTIONS

> **NOTE**
>
> Only the **Name** and **Page Format** options appear on all of the Selected Page Format area. The Selected Page Format area layout is dependent on the page format that is chosen from the drop-down list.

PAGING ALIAS NAME

The **Name** option allows you to give a alias to the page. The name can contain up to eight alphanumeric characters.

PAGE FORMAT

The **Page Format** option allows you to select a paging format for the page. This list contains as many entries as you configured in the **Paging - Paging Format** dialog box.

PAGING CODE

The **Paging Code** option allows you to specify the paging code that defines the frequencies that will be sent. REFER TO APP B.

CHANNEL STEERING

The **Channel Steering** option allows you to specify the channel on which to send the page. Selecting "Selected" will send the page out on the channel configured at the console. Selecting a specific channel will send out the page on the channel specified.

FREQUENCY STEERING

The **Frequency Steering** option allows you to specify the frequency on which to send the page. Selecting "Selected" will use the frequency of the specified channel. Selecting a specific frequency will use a specific frequency on the specified channel. This option can be modified only if the **Channel Steering** option is not set to "Selected".

VOICE ANNOTATION

The **Voice Annotation** option allows you to specify how long the channel will remain keyed, after the page tone, so as to send a voice message. Values range from 0 to 60 seconds, the default being 0.

PHONE LINE

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The **Phone Line Configuration** dialog box is opened by selecting **Configuration >
Phone Line** from the menu bar or by selecting **Phone Line Configuration** from the
Configuration Tree.

FIGURE 4-25 PHONE LINE CONFIGURATION DIALOG BOX
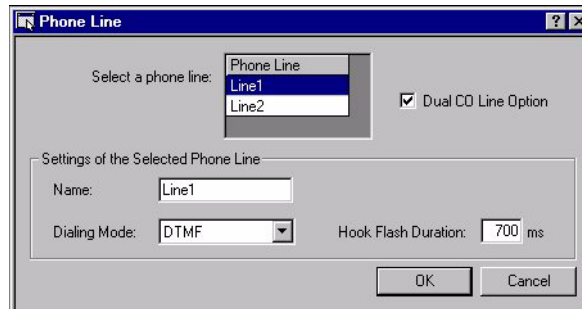
Selecting a phone line from the **Phone Line** list will enable the configuration options in
the Settings area.

OPTIONS

DUAL CO LINE OPTION

Selecting this option adds and enables two phone lines in the **Phone Line** list. When
disabled (unchecked), there are no available phone lines in the **Phone Line** list. By
default, this feature is disabled (unchecked).

NAME

Lets you give a name to the phone line highlighted in the **Phone Line** list. A name can
contain up to eight alphanumeric characters. Default names have the form "Line$n$"
where n is a number, starting at 1.

DIALING MODE

The **Dialing Mode** option lets you select the dialing mode for the phone line. The
choices are DTMF (Dual Tone Multi Frequency) and Pulse. The default value for this
feature is DTMF.

HOOK FLASH DURATION

The **Hook Flash Duration** option lets you define the duration of the hook flash for the
phone line. Values range from 0 ms to 2000 ms, at 10 ms increments. The default setting
for this option is 700 ms.

ALERT TONE

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The **Alert Tone** dialog box is opened by selecting **Configuration > Alert Tone** from the menu bar or by selecting **Alert Tone** from the Configuration Tree.

FIGURE 4-26 ALERT TONE DIALOG BOX
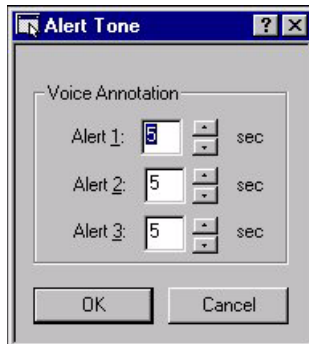
The alert tone feature provides a means of transmitting a special alert tone over the selected radio channels. Alert tones are assigned to operator module buttons and are activated when the buttons are pressed. Three types of alert tones are available and appear in a selection list:

- **Alert 1 –** provides a continuous 1.0 kHz tone

- **Alert 2 –** provides two tones, 800 Hz and 1.5 kHz alternating at 250 ms

- **Alert 3 –** provides a 1.0 kHz tone alternating with silence at 250 ms

The **Voice Annotation** option lets you select the length of time that a channel is kept keyed for voice transmission after alert tones 1, 2, or 3 have been transmitted. Values range from 0 to 60 seconds. The default value for this setting is 5 sec.

AUXILIARY I/O

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The **Auxiliary I/O** dialog box is opened by selecting **Configuration > Auxiliary I/O** from the menu bar or by selecting **Auxiliary I/O** from the Configuration Tree.

FIGURE 4-27 AUXILIARY I/O DIALOG BOX
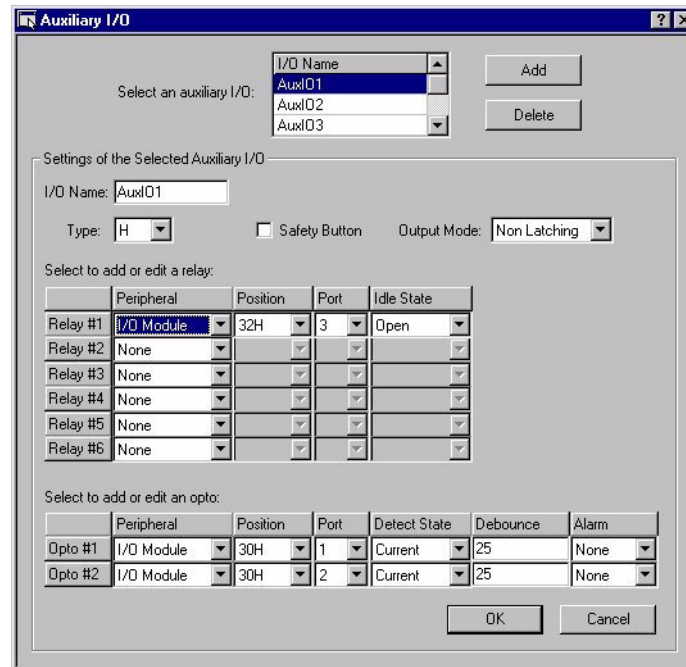
The names of all defined auxiliary I/Os are displayed in a scrollable list. The configuration options are enabled when a defined auxiliary I/O is selected.

BUTTONS

ADD

The **Add** button lets you add a new auxiliary I/O to the **Auxiliary I/O** list. The new I/O is given default settings. Up to 64 auxiliary I/O resources can be added to the push-button console, provided that the necessary I/O modules are present.

DELETE

The **Delete** button is enabled only when an auxiliary I/O is selected in the list. Selecting the **Delete** button removes the ID from the list, along with all the settings that were previously saved with the I/O. If, for any reason, an auxiliary I/O cannot be deleted, a message appears describing that resources that need to be removed. Possible messages include:

- Cannot delete this Auxiliary IO because: - It is configured on a Channel – You must remove this Auxiliary I/O from any channels using it under the **Radio Channel – General – Configuration** tab. Refer to "Configuration Tab" on page 4-17 for more information.

OPTIONS

I/O NAME

Lets you select a name for the auxiliary I/O. The name can contain up to eight alphanumeric characters. Default names have the form "AuxIO*nn*" where *nn* is a number, starting at 01.

TYPE

The **Type** option lets you select the type of I/O. The choices are: A, B, C, D, E, F, G, and H. The relays that are configured as an I/O type are activated when the button is pressed. Note that this selection does not apply to types E, F, and G; they do not have relays. The default setting for this option is A.

TABLE 4-1 AUXILIARY I/O TYPES

Type	Relay	Opto	Indicator 1	Indicator 2
A	1 to 6	0	On when relay active	Off
B	1 to 6	0	On when relay active	On when relay active
C	1 to 6	1	On when relay active	Off 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	Off when Input1 active

If you attempt to change the type of an I/O that is already used by a radio channel, the following message appears:

- Cannot change to this type for this Auxiliary because: - It is configured on a Channel – You must remove this Auxiliary I/O from any channels using it under the **Radio Channel – General – Configuration** tab before you can change the type. Refer to "Configuration Tab" on page 4-17 for more information.

SAFETY BUTTON

The **Safety Button** check box lets you 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. By default, this option is disabled (not checked).

OUTPUT MODE

The **Output Mode** option lets you select whether the I/O is **Latching** or **Non Latching**. The default setting for this option is **Non Latching**.

RELAY OPTIONS

Selecting any of the drop-down lists within the Relays grid will allow you to edit the current selected settings. For relay voltage and current thresholds, refer to the Installation Manual. This grid is enabled only after an I/O has been selected from the **I/O** list.

PERIPHERAL

Lets you select the module where the relay is located. The choices are either I/O Module or None. The default setting for this option is the next peripheral with available relays.

POSITION

Lets you select the I/O module where the relay is located. This option is enabled if the **Peripheral** is set to I/O module. The default value is the next available relay address.

PORT

Lets you select the output port to which the relay is connected. The default setting for this option is the port with the next available relay.

IDLE STATE

Lets you select the state that will determine if the relay is idle; Open or Closed. The default setting for this option is Open.

OPTO OPTIONS

Selecting any of the lists within the Optos grid will allow you to edit the current selected settings for the opto-couplers. This grid is enabled when you select the C to J type from the **Type** option.

Peripheral

Lets you select the module where the opto-coupler is located. The only choice is I/O Module. This value cannot be changed.

Position

Lets you select the I/O module where the opto-coupler is located. This option is enabled if **Peripheral** is set to I/O module. The default value is the position with the next available opto.

Port

Lets you select the input port where the opto-coupler is located. The default setting for this option is the next available opto port.

Detection State

Lets you configure the state of the opto-coupler that determines when it is active.

- **Current –** the opto-coupler is active if current is flowing (state) (default)

- **No current –** the opto-coupler is active if no current is flowing (state)

Debounce

The **Opto debounce** option identifies the debounce time for the opto-coupler. Values range from 0 to 1275 ms, in 5 ms increments. The default is 25 ms.

Alarm

The **Alarm** option lets you select an alarm to be associated with the opto-coupler. The choices are None or range from Alarm#1 to Alarm#32. The default setting for this option is None.

CSDM PASSWORD MANAGEMENT

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The **CSDM Password Management** dialog box can be opened by selecting **Configuration > CSDM Password Management** from the menu bar or by selecting **CSDM Password Management** from the Configuration Tree.

If you logged in with *Superuser* access, you can create new user accounts and change user names, passwords and access levels of all other users. If you logged in with *Supervisor* access, you can change your own password, but you cannot create new accounts or change the accounts of other users.

FIGURE 4-28 CSDM PASSWORD MANAGEMENT DIALOG BOX — SUPERUSER
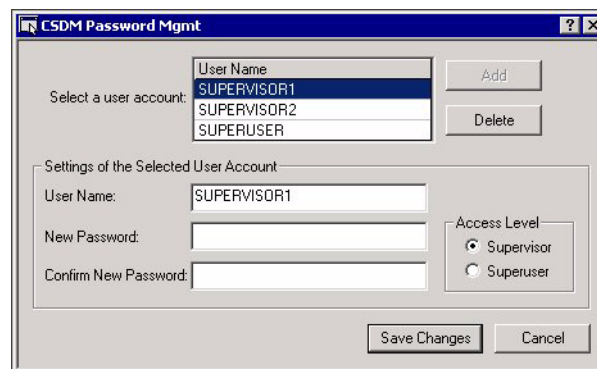
FIGURE 4-29 CSDM PASSWORD MANAGEMENT DIALOG BOX — SUPERVISOR

The **CSDM Password Management** dialog box lets you assign access levels for passwords at the CSDM Lite level. Selecting the **Add** button will add a default user account entry. Modify the user account settings and select an Access Level.

> **NOTE**
>
> The CSDM Lite requires one user to have *Superuser* access at all times and allows up to two users to have *Supervisor* access.

OPTIONS

USER NAME

The information entered in the **User Name** option here represents what the user will have to type as a **User Name** in the **Login** dialog box. The **User Name** can contain up to 16 alphanumeric characters.

PASSWORD

The **Password** option represents the password attached to that user name. The **Password** can contain up to 16 alphanumeric characters.

CONFIRM NEW PASSWORD

The **Confirm New Password** option is a security measure to ensure that you have correctly typed the new password for the user.

ACCESS LEVEL

Choose a level of access for the password by selecting either Supervisor or Superuser from the **Access Level** option. This option is only available to those with *Superuser* access.

USER NAME LIST

Selecting an entry from the **User Name** list allows you to edit the **User Name**, **Password** options, and **Access Level** option. This option is only available to those with *Superuser* access.

BUTTONS

ADD

To add a new user, select the **Add** button. This option is only available to those with *Superuser* access.

DELETE

To delete an entry, highlight it and select the **Delete** button. This option is only available to those with *Superuser* access.

SAVE CHANGES

The **Save Changes** button closes the dialog box, saves the changes locally on the CSDM Lite PC.

CANCEL

The **Cancel** button closes the dialog box without saving the changes.

IMPORTANT

It is not possible to select the **Save Changes** button if there is no configured Superuser account and there must always be at least one account in the **User Account** list. To create a new Superuser account, you must delete the current account and create a new one in the same session.

OPTIONS MENU

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This section explains how to prepare a basic setup of your CSDM Lite using the **Setup** menu, how to indicate which logs to print, and how to upload the system using the **Software Upload** menu option.

The following Options menu commands are described:

- "Setup" on page 5-2
  - "Date and Time" on page 5-2
- "Call Event Logging" on page 5-5
- "Software Upload (after login only)" on page 5-9

SETUP

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DATE AND TIME

The **Setup – Date and Time** dialog box permits you to set the current CommandSTAR Lite console date and time, the time format (12-hour or 24-hour), the time zone, and whether the CSDM Lite PC time is the same as the CommandSTAR Lite console time.

> **NOTE**
>
> The options available on **Setup – Date and Time** dialog box vary depending on the clock source defined in the **System Configuration – General** dialog box. Refer to "[System] General" on page 4-3 for more information.

> **IMPORTANT**
>
> The options available reflect the clock source defined in the *active configuration database*, which is not necessarily the same as the one currently loaded at the CSDM Lite.

FIGURE 5-1 SETUP DATE AND TIME DIALOG BOX
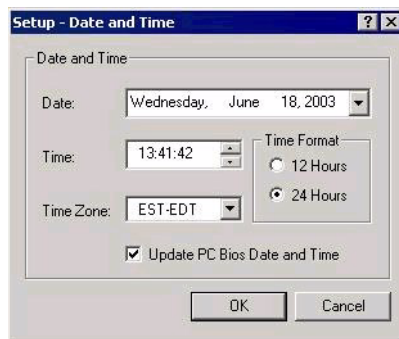
CommandSTAR Lite™ offers three options for setting a source for date and time updates:

1. The CSDM Lite PC— clock source is "CSDM Lite"

    The **Time Zone** option is unavailable. The CommandSTAR Lite console time and time zone information are taken from the CSDM Lite PC.

    The **Update PC Bios Date and Time** option is checked and cannot be changed. Changing the date or time values in this dialog box also changes the date or time on the CSDM Lite PC.

2.   The master console — clock source is "COP Lite"

It is recommended that you set the **Time Zone** option to the time zone in which the CommandSTAR Lite console is located. Only in exceptional circumstances should it be different.

You can select the **Update PC Bios Date and Time** option so that the CSDM Lite PC time is the same as the CommandSTAR Lite console time. When this option is checked, changing the date or time values in this dialog box also changes the time on the CSDM Lite PC.

3.   An external clock (WWVB receiver) — clock source is "External"

The **Time Zone** option is unavailable. Time zone information is supplied by the external clock.

You can select the **Update PC Bios Date and Time** option so that the CSDM Lite PC time is the same as the CommandSTAR Lite console time. When this option is checked, changing the date or time values in this dialog box also changes the time on the CSDM Lite PC.

The *CommandSTAR Lite Installation and Troubleshooting Manual* (6880309J98) contains procedures for setting the system to use each of these clock sources.

OPTIONS

DATE

Selecting the arrow for this option displays a one-month calendar. To select a different month and/or year, use the arrows at the top of the calendar to navigate to a new month and/or year. Selecting a date on the calendar closes the calendar and updates the current system date.

FIGURE 5-2 CALENDAR FOR CHANGING THE DATE

TIME

The hours, minutes, seconds and (depending on the time format) before/after noon indicator can each be selected and changed using the up and down arrows or the keyboard.

TIME FORMAT

The format of the CommandSTAR Lite console time can be either **12 Hours** (standard) or **24 Hours** (military).

TIME ZONE

The **Time Zone** option lists all possible time zones. This option is only available when the currently active configuration database has clock source set to Master.

UPDATE PC BIOS DATE AND TIME

The **Update PC Bios Date and Time** option enables updating of the CSDM Lite PC date and time from the CommandSTAR Lite console time. When this option is checked, both the CSDM Lite PC time and the CommandSTAR Lite console time are the same.

CALL EVENT LOGGING

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The **Call Even Logging** dialog box lets you specify whether the printer is linked to the CSDM Lite or to the console, the settings for the log printer, and which logs you want to print.

On the **Options** menu, select **Call Event Logging** to open the **Call Event Logging** dialog box.

FIGURE 5-3 CALL EVENT LOGGING DIALOG BOX
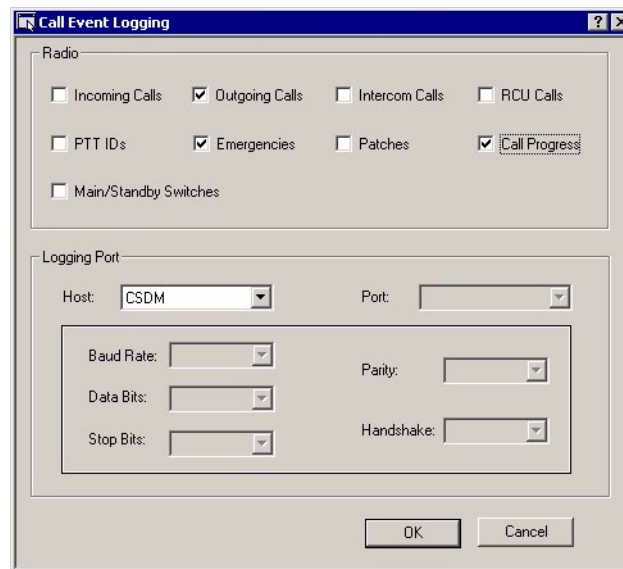
The Radio options become active when the **Logging Port Host** option is set to either CSDM Lite or COP Lite, the Logging Port options become active only after the **Logging Port Host** option is set to COP Lite.

OPTIONS

INCOMING CALLS

When this option is enabled, information about incoming radio calls will be printed on the log printer. The radio incoming calls log includes information about:

- which channel was used
- when the call was received

OUTGOING CALLS

When this option is enabled, information about outgoing radio calls will be printed on the log printer. The Outgoing Calls log includes information about:

- which console sent the call
- when the channel was used
- when the call was sent

INTERCOM CALLS

When this option is enabled, information about base intercom radio calls will be printed on the log printer. The Intercom Calls log includes information about:

- which console sent the call
- when the channel was used
- when the call was sent

RCU CALLS (RADIO PARALLEL UNIT CALLS)

When this option is enabled, information about radio calls from parallel units will be printed on the log printer. The RCU Calls log includes information about:

- when the channel was used
- when the call was sent

PTT IDS

When this option is enabled, information about Caller IDs will be printed on the log printer. The PTT IDs log includes information about:

- the PTT ID of the mobile that called
- when the call was received

EMERGENCIES

When this option is enabled, information about radio emergency calls will be printed on the log printer. The Emergencies log includes information about:

- the PTT ID of the mobile that sent the emergency call
- when the emergency call was received

PATCHES

When this option is enabled, information about patches will be printed on the log printer. Each line of the Patches log includes information about:

- which resource (channel, telephone line, Call Director) was included in the patch
- when the patch took place
- which console initiated the patch

CALL PROGRESS

When this option is enabled, information about the progress of calls on phone lines, Call Directors, and console intercoms will be printed on the log printer. The Call Progress log includes:

- when the call was put on hold
- when the call was conferenced
- to whom the call was conferenced

MAIN/STANDBY SWITCHES

When this option is enabled, information about radio main/standby switches will be printed on the log printer. The 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

HOST

This option lets you specify whether or not the system has a log printer, and whether the printer is linked to the CSDM Lite or to the COP Lite. Selecting either will activate the options under **Radio** and selecting COP Lite activates the options under **Logging Port**.

> **NOTE**
>
> The Call Event Logging and System Clock Source both use the COM2 port; therefore, the Call Event Logging and System Clock cannot both be configured at the same time. As a result, you cannot have both Call Event Logging and an External Clock source configured at the same time.

PORT

This option displays the selected port which is always "COM2" and cannot be changed.

> **NOTE**
>
> If the COM2 port has been assigned to an **External Clock Souce** in the **System Configuration – General** dialog box, the Port option is disabled, since a console does not appear in the Host option.

BAUD RATE

This option lets you select the baud rate for the logging port to which the logging printer is linked. The only value is 9600.

DATA BITS

This option lets you select the data bits for the logging port. You can select either 7 or 8 from this option.

STOP BITS

This option lets you select the stop bits for the logging port. You can select either 1 or 2 from this option.

PARITY

This option lets you select the parity for the logging port. You can select either Odd or Even from this option.

HANDSHAKE

This option lets you select the handshake for the logging port. You can select either None or XON / XOFF.

SOFTWARE UPLOAD (AFTER LOGIN ONLY)

The **Software Upload** dialog box is opened from the **Options > Software Upload** menu command. The **Software Upload** menu option is enabled only when you have logged in at the Superuser level and connected to the console. The **Software Upload** dialog box is used to upload software the CommandSTAR Lite push-button console.

> **NOTE**
>
> Software uploading is a maintenance activity and should be performed by trained personnel only. For more information about software uploading, see the *CommandSTAR Lite Installation and Troubleshooting Manual*.

FIGURE 5-4 SOFTWARE UPLOAD DIALOG BOX
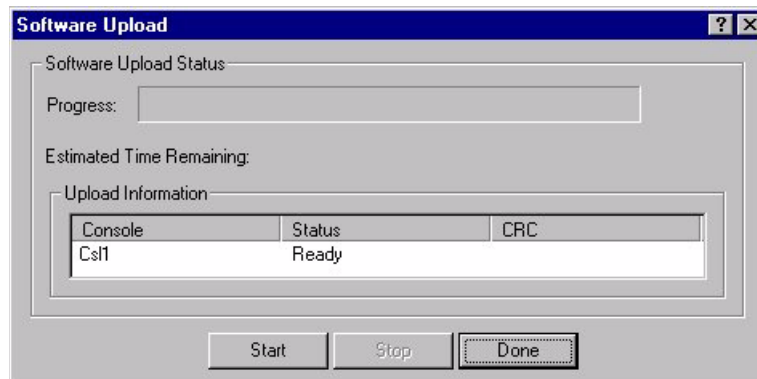
The **Software Upload Status** area displays the upload progress and the estimated time to completion. The **Upload Information** displays the status of the CommandSTAR Lite push-button console.

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TOOLS MENU

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This section explains how to monitor your CSDM Lite for errors using the Diagnostics command, and how to display the configuration of the console.

The following **Tools** menu commands are described:

- "Diagnostics" on page 6-2
    - "Hardware" on page 6-2
    - "Ack Alarm" on page 6-4

DIAGNOSTICS

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The **Diagnostics** menu command lets you view the status of the hardware. The following **Diagnostics** menu commands are described:

- "Hardware" on page 6-2
- "Ack Alarm" on page 6-4

HARDWARE

The **Hardware Status** dialog box is active only when the CSDM Lite is connected to the CommandSTAR Lite push-button console. The **Hardware Status** dialog box lets you view the status of all radio channels at the console. The channel statuses are reported to the CSDM Lite at an interval determined by the Channel Loopback Test and when you select a peripheral.

> **NOTE**
>
> See Appendix A of the *CommandSTAR Lite Installation and Troubleshooting Manual* for information on creating a loopback cable. A loopback cable is required for testing the status of the console hardware.

FIGURE 6-1 TOOLS - DIAGNOSTICS - HARDWARE STATUS DIALOG BOX
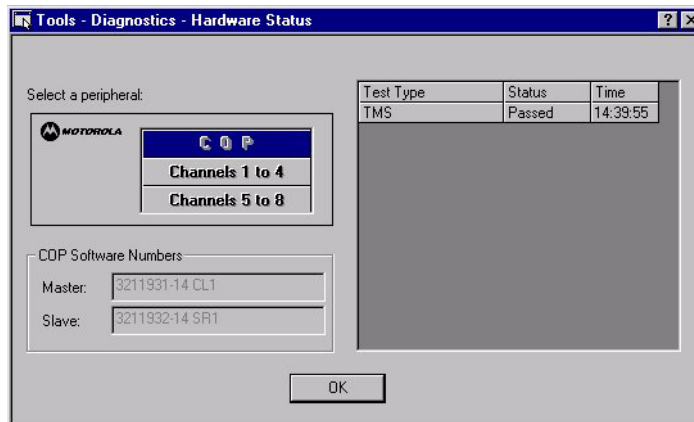
> **NOTE**
>
> Prior to performing a test by selecting a group of channels, ensure the system is idle, since the audio loopback test will interrupt any incoming or outgoing calls for 200 ms.

Make a selection from the **Select a peripheral** area. The result list displays the information under the following columns:

- **Test Type –** Indicates the type of test

- **Status –** Identifies whether the circuit is working properly. The following statuses are possible:

  - **Passed –** Indicates that the circuit is working properly

  - **Failed –** Indicates that the circuit is not working properly. The following fail messages are possible:

    - Digital fail

    - Analog fail

    - I/F fail

    - Failed

  - **Not Tested** – Indicates that the circuit has not been tested since the last time this module was reset

> **NOTE**
>
> A circuit configured for DC signaling that has a latched non-zero current applied when the channel is not being monitored (**Repeater Enabled/No Monitoring**) can never be tested because it always appears to be in use. Such a circuit will always have a status of **Not Tested**. See "RX Frequencies (DC Mode – Latch)" on page 4-41 for more information.

When a failure is indicated, see the *CommandSTAR Lite Installation and Service Manual (6880309J98)* for procedures on how to troubleshoot the problem.

- **Time –** Identifies the time of the reporting (time stamp). The time interval is determined by the Channel Loopback Test and when you select a peripheral.

When a a group of channels or the COP is selected from the **Select a peripheral** area, its software identification displays in the following options:

- **Master –** identifies the Master software part number for the peripheral

- **Slave –** identifies the Slave software part number for the peripheral

ACK ALARM

The **Ack Alarm** menu command or toolbar button lets you acknowledge a system hardware failure alarm.

If the failure has already been rectified, you must select the **Ack Alarm** menu command or the **Ack Alarm** button on the toolbar to cancel both the audible and the visual alarms.

If the failure has not been rectified, selecting the **Ack Alarm** menu command or the **Ack Alarm** button cancels the audible alarm, but the visual alarm continues until the problem has been rectified and Ack Alarm has been selected again either from the menu or the toolbar.

The word ALARM with a red background appears in the status bar when an alarm is triggered; it changes to ACK with a yellow background when the alarm is acknowledged.

FIGURE 6-2 STATUS BAR ALARM INDICATOR

FIGURE 6-3 STATUS BAR ALARM ACKNOWLEDGED INDICATOR
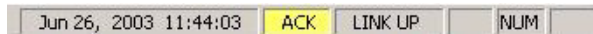
VIEW MENU

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This section tells how to toggle the different view options in the CSDM Lite. The following **View** menu commands are described:

- "Toolbar" on page 7-1
- "Status Bar" on page 7-1
- "Configuration Tree" on page 7-2
- "Logs Window" on page 7-2

TOOLBAR

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The **Toolbar** menu option toggles the toolbar on and off. If the toolbar is enabled, a check mark appears in the **View** menu next to the **Toolbar** menu command. When the toolbar is disabled, there is no check mark next to the **Toolbar** menu command. When enabled, the toolbar appears in the same place where it was last disabled. Select and hold the toolbar to drag it to a new position.

STATUS BAR

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The **Status Bar** menu option toggles the status bar on and off. If the toolbar is enabled, a check mark appears in the **View** menu next to the **Status Bar** menu command. When the status bar is disabled, there is no check mark next to the **Status Bar** menu command. The status bar appears at the bottom of the CSDM Lite workspace and cannot be moved.

CONFIGURATION TREE

The **Configuration Tree** menu option toggles the Configuration Tree window open and closed. The Configuration Tree window is open when the menu graphic is depressed. When the Configuration Tree window is closed, the menu graphic is flush. The same graphic appears on the toolbar and has the same functionality. The Configuration Tree window appears on the left of the CSDM Lite workspace or in the last place it was closed and can be moved by selecting and holding it to drag it.

LOGS WINDOW

The **Logs Window** menu command toggles the Logs window open and closed. The Logs window is open when the menu graphic is depressed. When the Logs window is closed, the menu graphic is flush. The same graphic appears on the toolbar and has the same functionality. The Logs window appears at the bottom of the CSDM Lite workspace or in the last place it was closed and can be moved by selecting and holding it while it is dragged.

HELP MENU

The **Help** menu provides access to the on-line help, search capabilities, and information about the program.

The following **Help** menu commands are described:

- "Search" on page 8-2
- "Content" on page 8-3
- "About CSDM Lite" on page 8-4

SEARCH

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The **Search** menu command opens the Help Topics window which offers the following tabs to help you:

- Contents
- Index
- Search

FIGURE 8-1 HELP TOPICS DIALOG BOX
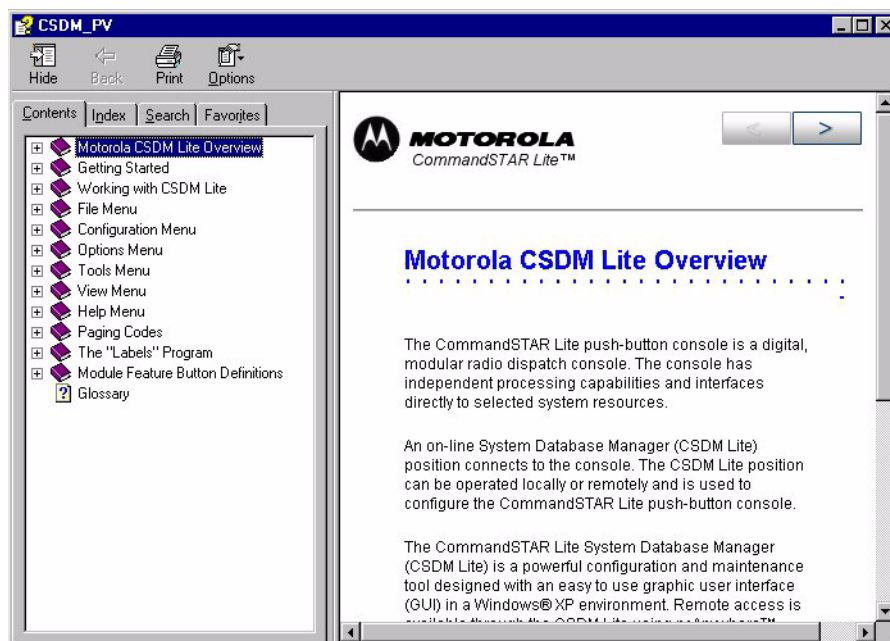
CONTENTS

Content accesses the on-line help files in the form of a table of contents. Book icons represent chapters while the question marks represent discussed topics.

INDEX

Index lets you search for a specific index entry. As you type, the list adjusts to display the closest alphabetical index entry to what you are entering.

SEARCH

Find provides a search for a specific feature or function through the on-line help files.

FAVORITES

Lets you add your favorite topics to a list for quick access.

CONTENT

. . . .
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:

If you have an open dialog box in the workspace, selecting the **Content** menu command will place a question mark next to your cursor. Select a section of the dialog box that you need help with and the relevant help topic is opened in the **Help Topic** dialog box.

ABOUT CSDM LITE

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The **About CSDM Lite** dialog box displays the program information, version number, and copyright information regarding the CommandSTAR Lite System Database Manager program.

FIGURE 8-2 ABOUT CSDM LITE DIALOG BOX

PAGING CODES

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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.

The industry developed code plans to manage the paging codes of these systems.

The next sections present explanations and tables for the following commonly used paging code formats:

MOTOROLA 1+1

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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.

PROCEDURE A-1 EXAMPLE OF FINDING FREQUENCIES FOR A THREE-DIGIT PAGER CODE

1	The first digit of the three-digit pager code indicates the row on the . On the , 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.

TABLE A-1 MOTOROLA 1+1 CODE PLANS TABLE (B–M)

	B	C	D	E	F	G	H	J	K	L	M
0xx	2+4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4+2
1xx	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	2+3
2xx	2+2	2+2	2+2	2+2	1+3	1+3	1+3	1+4	1+4	1+5	2+2
3xx	3+3	1+2	1+2	1+2	3+3	3+3	3+3	4+1	4+1	5+1	3+3
4xx	1+2	4+4	1+5	2+1	4+4	3+1	3+1	4+4	4+4	1+6	4+4
5xx	1+3	1+4	5+5	1+6	3+1	5+5	1+6	5+5	1+6	5+5	3+2
6xx	2+1	2+1	2+1	6+6	1+4	1+5	6+6	1+5	6+6	6+6	2+4
7xx	3+1	4+1	5+1	6+1	4+1	5+1	6+1	4+5	6+1	6+1	4+2
8xx	2+3	2+4	2+5	2+6	3+4	3+5	3+6	5+4	4+6	5+6	3+4
9xx	3+2	4+2	5+2	6+2	4+3	5+3	6+3	5+1	6+4	6+5	4+3

TABLE A-2 MOTOROLA 1+1 CODE PLANS TABLE (N–Z)

	N	P	Q	R	S	T	U	V	W	Y
0xx	4+2	4+2	4+2	4+2	4+2	4+2	4+2	4+2	4+2	N/A
1xx	2+3	2+3	2+4	2+4	2+5	3+4	3+4	3+5	4+6	A+A
2xx	2+2	2+2	2+2	2+2	2+2	4+3	4+3	5+3	6+4	B+B
3xx	3+3	3+3	4+2	4+2	5+2	3+3	3+3	3+3	5+6	Z+Z
4xx	3+2	3+2	4+4	4+4	2+6	4+4	4+4	3+6	4+4	A+B
5xx	5+5	2+6	5+5	2+6	5+5	5+5	3+6	5+5	5+5	A+Z
6xx	2+5	6+6	2+5	6+6	6+6	3+5	6+6	6+6	6+6	B+A
7xx	5+2	6+2	4+5	6+2	6+2	4+5	6+3	6+3	4+5	Z+A
8xx	3+5	3+6	5+4	4+6	5+6	5+4	4+6	5+6	5+4	B+Z
9xx	5+3	6+3	5+2	6+4	6+5	5+3	6+4	6+5	6+5	Z+B

TABLE A-3 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

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Motorola 2+2 sends four frequencies, the first two are sent simultaneously, then the second two are sent simultaneously. 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.

PROCEDURE A-2 EXAMPLE OF FINDING FREQUENCIES FOR A FOUR-DIGIT PAGER CODE

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.

TABLE A-4 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

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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.

PROCEDURE A-3 EXAMPLE OF FINDING FREQUENCIES FOR GE TYPE 99 CODE PLAN X

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 99 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 99 Frequencies Table.
3	The first frequency is on the GE Type 99 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 99 Frequencies Table at the intersection of row **5** and column **B**. The second frequency is 922.5 Hz.

TABLE A-5 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

TABLE A-6 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

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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.

PROCEDURE A-4 EXAMPLE OF FINDING FREQUENCIES FOR FIVE-DIGIT PAGER CODE

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 Tableon 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 Tableon 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.

TABLE A-7 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

MOTOROLA SINGLE TONE PAGING

The Motorola single tone paging format only accepts pager codes that are one digit long. If a single tone page code is longer than one digit it is considered invalid. Single tone pages are programmed using the custom page format. A custom page format needs to be set up for each single tone paging code used. The tone duration is an option set in the CSDM Lite.

EXAMPLE

Assume you are setting a single tone page with the one digit pager code 8 on a custom page configured for 0.5 second tone timing.

PROCEDURE A-5 EXAMPLE OF SETTING A SINGLE TONE PAGER TIMING

1	Complete the following settings in the **Custom Page** dialog box for each single tone page: • Set the custom page for code "8" as 008. • Make both frequencies the same and set the time of the first tone to be the length of the single tone with the time for the second tone set to zero. • Set Inhibit delay as the desired time delay between the end of the tone and the time when speech can be transmitted. • Set the Intertone delay as zero. • Set the Voice annotation to the desired length the channel will remain keyed after the page tone ends to send a voice message over the air.
2	Check the 0.5 Second Single Tone Timing Table for the Pre-Tone Delay. The table states that 0.5 second tone timing requires 0.80 seconds pre-tone delay.
3	Check the Motorola Single Tone Frequencies Table for the frequency. The digit 8 corresponds to a frequency of 1950 Hz. Therefore, set the Tone to 1950 Hz to be transmitted for 0.50 seconds.
4	Set the Talk Extend Time (optional).

TONE TIMING

There are two different timing formats for the single tone paging format. These formats are programmable on a per custom page setup in the Console System Database Manager (CSDM).

TABLE A-8 0.5 SECOND SINGLE TONE TIMING TABLE

ACTION	DURATION (seconds)
Pre-Tone Delay	0.80
Tone Duration	0.50

TABLE A-9 1.5 SECOND SINGLE TONE TIMING TABLE

ACTION	DURATION (seconds)
Pre-Tone Delay	0.80
Tone Duration	1.50

TONE FREQUENCIES

The frequency of the transmitted tone depends upon the pager code. The Motorola Single Tone Frequencies Table lists all possible tone frequencies:

TABLE A-10 MOTOROLA SINGLE TONE FREQUENCIES TABLE

PAGER CODE	TONE FREQUENCY (Hz)
0	750
1	900
2	1050
3	1200
4	1350
5	1500
6	1650
7	1800
8	1950
9	2100
A	2250
B	2400

TABLE A-10 Motorola Single Tone Frequencies Table (continued)

PAGER CODE	TONE FREQUENCY (Hz)
C	2550
D	2700
E	2850
F	3000

REACH CODE PLANS

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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.

PROCEDURE A-6 EXAMPLE OF FINDING FREQUENCIES FOR THE REACH CODE PLAN

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 Reach 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.

TABLE A-11 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

TABLE A-11 REACH CODE PLAN TABLE (CONTINUED)

8yx	5/1
9xy	3/5

TABLE A-12 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

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A DTMF (Dual Tone Multi Frequency) pager code can 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.

PROCEDURE A-7 EXAMPLE OF FINDING DTMF FREQUENCIES FOR THE LETTER D

1	The letter D on the DTMF Frequencies 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.

TABLE A-13 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

THE "LABELS" PROGRAM

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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.

Create a label file using the menu command on the **File** menu: **Report > Label**.

The label file used by the label printing program has the file extension ".LBL".

INSTALLING THE LABELS PROGRAM

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The Labels program is automatically installed with the CommandSTAR Lite suite. No additional installation is required.

STARTING THE LABELS PROGRAM

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To start the Labels program:

PROCEDURE B-1 HOW TO START THE LABELS PROGRAM

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1 From the Windows **Start** menu, select **Programs > CommandSTAR-Lite > Labels**.
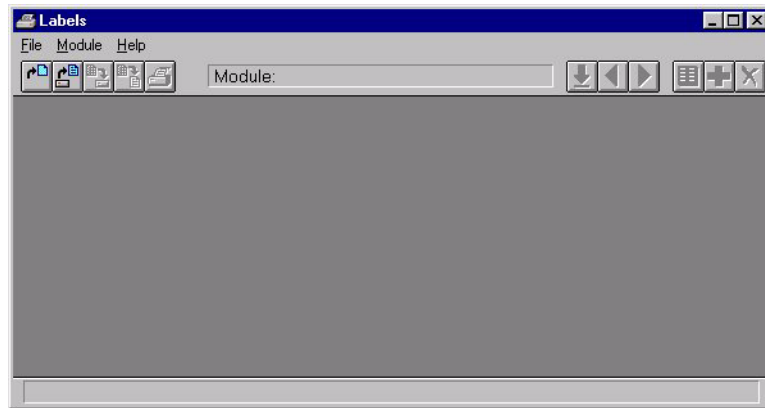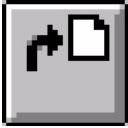
Result: The Labels program opens with a blank workspace.

TOOLBAR

The Labels program has the following toolbar buttons:

TABLE B-1 LABELS PROGRAM TOOLBAR BUTTONS

Button	Function Description
	Allows you to create a new label file.
	Allows you to open an existing label file.
	Allows you to save the current label file.
	Allows you to save the current label file under a new name.
	Allows you to print the labels.
	Allows you to select a module from a list.
	Allows you to select the previous and next module in the list.
	Allows you to edit the labels of the selected module.

TABLE B-1 LABELS PROGRAM TOOLBAR BUTTONS

Button	Function Description
	Allows you to to add a new module to the list.
	Allows you to delete the selected module from the list.

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 new label file using the labels program:

PROCEDURE B-2 HOW TO CREATE A NEW LABEL FILE USING THE LABELS PROGRAM

1	Select the **New Label** button from the toolbar or from the menu bar select **File > New Label File**. **Result:** The **System Information** dialog box appears.
2	Specify the system name and the system number for your CommandSTAR Lite system and select **OK**. **Result:** The **Save**, **Save As**, and **Add Module** toolbar buttons become available.
3	On the toolbar, add a module to the labels file using the **Add** button or by selecting **Modules > Add** from the menu bar. **Result:** The **Add Modules** dialog box appears.
4	Select an operator module type from the option buttons list and select **OK**. **Result:** The **Module Label** dialog box appears for the selected type of module.
5	Enter descriptions for the labels in the options provided and select **OK**.
6	Repeat steps 3-5 for each module configured on your push-button console.

PROCEDURE B-2 HOW TO CREATE A NEW LABEL FILE USING THE LABELS PROGRAM

7	On the toolbar select the **Save** button or select **File > Save** from the menu bar to save the label file. **Result:** The **Save As** dialog box appears.
8	Enter a name for the file and select **OK**. **Result:** A label file for that module type is saved.

To create a label file using the CSDM Lite:

PROCEDURE B-3 HOW TO CREATE A NEW LABEL FILE USING THE CSDM LITE

1	From the CSDM Lite menu bar, select **File > Report > Label**. **Result:** An HTML and *.lbl file are generated. You can view the HTML label file using a web browser (such as Internet Explorer, for example). **NOTE** If you are using Internet Explorer to view your HTML label file, you must change the view of the browser to properly view the file. On the Explorer menu bar, select **View > Encoding > User Defined**. Other web browsers properly display the label file.

ADDING AND/OR EDITING LABEL TEXT

To add and/or edd label text:

PROCEDURE B-4 HOW TO ADD AND/OR EDIT LABEL TEXT

1	Open the desired labels file by selecting **Open** button from the toolbar or by selecting **File > Open** from the menu bar.
2	On the toolbar select the desired module using the **Previous/Next** button or by selecting **Module > View Next/Previous** from the menu bar.
3	On the toolbar select the **Edit** button or select **Module > Edit** from the menu bar. **Result:** The **Module Label** dialog box appears.

PROCEDURE **B-4** HOW TO ADD AND/OR EDIT LABEL TEXT

4	Enter descriptions for the labels you wish to add or edit in the options provided and select **OK**.
5	On the toolbar select the **Save** button or select **File > Save** from the menu bar to save the label file.

Result: The modifications or additions are saved to the labels file. |

PRINTING LABELS

To print your labels:

PROCEDURE **B-5** HOW TO PRINT YOUR LABELS

1	Open the desired labels file by selecting **Open** button from the toolbar or by selecting **File > Open** from the menu bar.
2	On the toolbar select the **Print** button or select **File > Print** from the menu bar.

Result: The **Print Labels** dialog box appears. |
3	Select the font for the labels by selecting the **Select Font** button.
4	Select the printer by selecting the **Printer Setup** button.
5	Specify whether to print all module labels or one specific module label by selecting the **Modules to print** option.
6	Select the **Print** button.

Result: The module labels are printed to the selected printer. |
| **7** | Use scissors to cut the labels for the modules and insert them into the CommandSTAR Lite module label slots. |

MODULE FEATURE BUTTON DEFINITIONS

The next sections present tables and brief definitions of button features. The following module feature buttons are described:
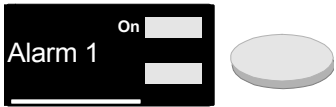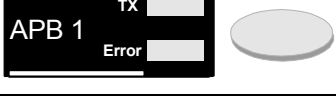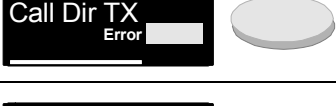
- "ACM Feature" on page C-2
- "CCM Feature Buttons" on page C-7
- "DRCM Feature Buttons" on page C-9

Consult the *CommandSTAR Lite Operator Manual* (6880309J98) for complete information on the different module feature buttons.

ACM FEATURE

Below is a quick reference table containing brief descriptions of assignable feature buttons for the ACM module.

TABLE C-1 ACM QUICK REFERENCE

Name	Descriptions	Buttons
Alarm 1 Alarm 2 Alarm 3 Alarm 4	Informs the operator of an alarm state.	Alarm 1 — On
Alert 1 Alert 2 Alert 3	Transmits an alert tone over the keyed radio channels.	Alert 1 — On
Alias Page	Allows the operator to select a pre-programmed page code, with no digit entry.	Alias Page — On
All Mute	Mutes all unselected channels.	All Mute — Mute
All Points Bulletin (APB)	Transmits over channels stored in memory.	APB 1 — TX / Error
Call Alert	Allows the operator to send a Stat-Alert message to a unit, causing it to provide a visual and audible indication to the called radio.	Call Alert — On
Call Dir TX	Transmits to a call director when the headset is not used.	Call Dir TX — TX / Error
Call Director	Allows patching a call director.	Call Dir — Call / Patch
Clear	Used to correct, remove, or erase an entry, a function, a display or memory.	Clear

TABLE C-1 ACM QUICK REFERENCE
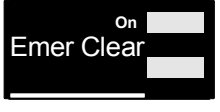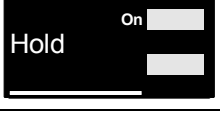
Name	Descriptions	Buttons
Digital Takeover	Allows a supervisor to take over the channel to communicate with the radio by blocking all other consoles.	Takeover — On
Emergency Alarm	Acknowledges an incoming emergency call, and stops the emergency alarm at the answering console.	Emer Alarm — Reset
Emergency Clear	Cancels the alarm associated with an incoming emergency call at all consoles connected to the channel.	Emer Clear — On
Enter RAC	This function allows the operator to enter a RAC on a per channel basis.	Enter RAC — On
Flash	Performs a hook flash on a telephone line.	Flash — On
Frequency	Provides a way to select the operating frequency on multiple-frequency channels for which no dedicated frequency buttons are configured.	Frequency — Sel
Hold	Puts active telephone or intercom call on hold.	Hold — On
I/O #	Controls an external output and monitors an external input.	I/O 1 — On / Off
Intercom	Establishes communication with maintenance personnel located at a base station or to the parallel units (other console using the channels).	Intercom — Call
Line 1 or 2	Provides direct access to telephone line 1 or 2.	Line 1 — Call / Patch
Manual RAC	Allows the operator to send a RAC manually on a per channel basis.	Manual RAC — On

TABLE C-1 ACM QUICK REFERENCE
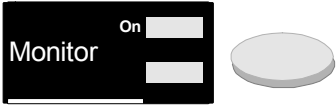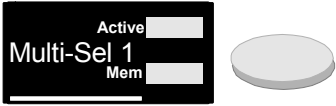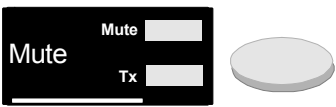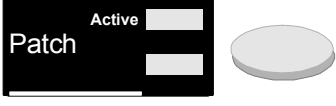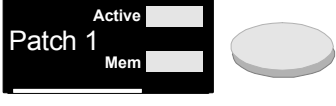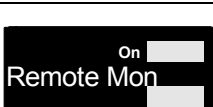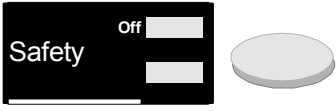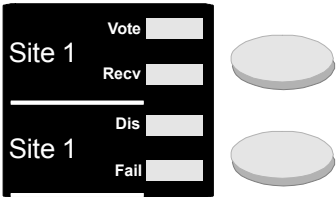
Name	Descriptions	Buttons
Marker	Enables or disables a priority marker tone on a selected channel. The tone indicates that the channel is reserved for emergency use.	Marker — On
Monitor	Controls CTCSS channel monitoring.	Monitor — On
Multi Sel	Allows selection of multiple radio channels.	Multi-Sel — Active
Multi-Sel with Memory	Allows selection of multiple radio channels. Stores selection in memory.	Multi-Sel 1 — Active / Mem
Mute	Enables the operator to mute the audio from a radio channel controlled from an ACM. Functions in conjunction with the **Receive** button.	Mute — Mute / Tx
Page	Allows manual entry of page code sequence on the Keypad module before paging transmission over the selected radio channel.	Page 1 — On
Page Tx	Starts transmission of page codes.	Page TX — TX / Error
Patch	Patches radios/telephone circuits.	Patch — Active
Patch with Memory	Patches radio/telephone circuits.	Patch 1 — Active / Mem
Patch with Memory TX	Transmits over patched radio/telephone circuits.	Patch 1 TX — TX / Error
Phone Assist	Overrides patch VOX operation and provides the PTT to the phone line	Phone Assist — On / Error

TABLE C-1 ACM QUICK REFERENCE

Name	Descriptions	Buttons
Phone Tx	Transmits to telephone circuits when a headset is not used.	**Talk** Phone Tx **Error**
Queue	Allows the operator to examine the ID queue for both selected and unselected channels.	**On** Queue
Radio Assist	Overrides patch VOX operation and provides the PTT to the radio channel.	**On** Radio Assist **Error**
Radio Check	Allows the operator to verify whether a unit is operational regardless of whether someone is able or willing to answer a voice call.	**On** Radio Check
Radio Disable	Provides radio inhibit capability, where a operator can remotely render a radio inoperational, for instance if the radio was stolen.	**On** Radio Disable
Radio Enable	Provides radio enable capability, where a operator can remotely enable a radio that was made inoperational, for instance if the radio was stolen.	**On** Radio Enable
Receive	Enables the operator to select a radio channel controlled from an ACM. Functions in conjunction with the **Mute** button. Usually labelled with the channel name (e.g. **Security 1** for the button on the right).	**Sel** Security 1 **Call**
Release	Releases active call.	**Active** Release
Remote Monitor	Provides remote monitor capability, where a operator can remotely request a unit to transmit for a certain length of time.	**On** Remote Mon
Repeater Enable	Allows the operator to enable Stat-Alert repeater operation manually on a per channel basis.	**On** Rep. Enable
Repeater Disable	Allows the operator to disable Stat-Alert repeater operation manually on a per channel basis.	**On** Rep. Disable

TABLE C-1 ACM QUICK REFERENCE

Name	Descriptions	Buttons
Ring	Mutes incoming call ring.	Ring / Mute
Safety	Safety button to prevent operating errors on auxiliary switches.	Safety / Off
Site Control	Votes or disables a receiver connected to a voting comparator.	Site 1 / Vote / Recv; Site 1 / Dis / Fail
Speed Page	Queues a pre-programmed page code.	Speed Page 1 / On
Status Request	Allows units to send status messages to the dispatch center to indicate, for instance, that they are on-site or out to lunch. Three types of status messages exist: User Status, Vehicle Status and User Message.	Status Req / On
Voice Alert	Allows the operator to press a manual page button configured for voice alert and enter a 4-digit Stat-Alert ID to reach another unit.	Voice Alert / On

Consult the *CommandSTAR Lite Operator Manual* (6880309J98) for complete information on the different ACM feature buttons.

CCM FEATURE BUTTONS

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Below is a quick reference table containing brief descriptions of assignable feature buttons for the CCM module.

TABLE C-2 CCM QUICK REFERENCE
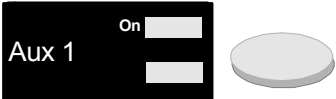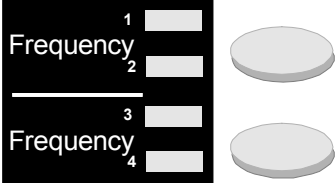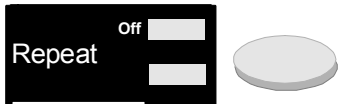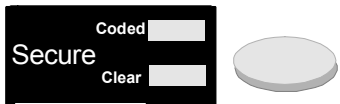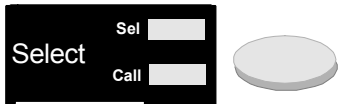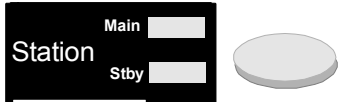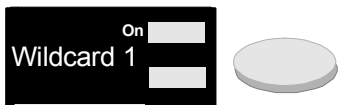
Name	Descriptions	Buttons
Auxiliary Output 1 and 2	Used to control an external output device. such as a security camera or a magnetized door. The button can be latching or non-latching.	On / Aux 1
Busy (indicator)	Lights when a operator from another console is transmitting over the channel.	
Call (indicator)	Blinks when an incoming call is received over the channel.	
Display	Two line by eight character alphanumeric display that shows the name of the channel. Can also display the radio caller ID.	
Emer (indicator)	Informs the operator of an incoming emergency call.	
F 1/2 Auxiliary	Controls the output relay on frequency 1 and toggles the transmit/receive frequency between frequency 1 and frequency 2.	1 / F1/2 Aux / 2
Frequency	The CCM provides for the control of up to six base station frequencies by pressing the **Frequency** buttons. Each toggles between two frequencies.	1 / Frequency 2 / 3 / Frequency 4
Instant Transmit	Allows immediate access to a radio channel without using a common PTT.	TX / Transmit Busy
Mute (indicator)	Lights when the channel is muted.	
Mute	Used to mute the audio coming from a channel.	**Mute**
Mute R2	Used to mute a second receiver using tone remote control.	On / MuR2

TABLE C-2 CCM QUICK REFERENCE

Name	Descriptions	Buttons
Patch (indicator)	Lights when the operator patches the channel.	
PL (Private Line)	Used to control up to six private line stations for access to specific units.	PL A B
Repeat	Causes incoming audio on the channel to be retransmitted through the console.	Repeat Off
Secure	Enables or disables the external voice secure interface.	Secure Coded Clear
Sel (indicator)	Lights when the module is selected (**Select** button is pressed). The receive audio for the channel is heard through the Select speaker.	
Select	Used to select the channel. Upon selection, the incoming radio audio is routed to the Select speaker or headset. If the channel is not selected, the received audio associated with the CCM is heard through the Unselect speaker.	Select Sel Call
Station Main/ Stby	Toggles the radio channel audio, through relays, between the main and the standby base station.	Station Main Stby
Takeover	Can be used for parallel operation or as backup units to take over when a radio console fails to transmit or receive radio messages.	Takeover On
TX (indicator)	Lights when transmission is in progress over the channel.	
Volume	Used to adjust the incoming audio level through a range of eight adjustments in steps of 3 dB.	
Wildcard	Used to control various radio ancillary equipment.	Wildcard 1 On

Consult the *CommandSTAR Lite Operator Manual* (6880309J98) for complete information on the different CCM feature buttons.

DRCM FEATURE BUTTONS

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Below is a quick reference table containing brief descriptions of feature buttons for the DRCM module.

TABLE C-3 DRCM STANDARD BUTTONS AND INDICATORS QUICK REFERENCE

Name	Description
Emergency (indicator)	Informs the operator of an incoming emergency call.
Mute (indicator)	Lights when the digital remote control radio is muted.
Patch (indicator)	Lights when the operator patches the digital remote control radio.
Volume	Used to adjust the incoming audio level.
Mute	Used to mute the audio coming from a digital remote control radio.
Select	Used to select the digital remote control radio.
Instant Transmit	Allows immediate access to the digital remote control radio without using a PTT.
Monitor (indicator) (MCS/iDEN only)	Indicates that the operator is monitoring the digital remote control radio.
Secure (indicator) (MCS/iDEN only)	Indicates that a voice encryption system is enabled on the digital remote control radio.
Scanning (indicator) (MCS/iDEN only)	Indicates that the digital remote control radio scanning feature is activated.
Talkaround (indicator) (MCS/iDEN only)	Indicates that the digital remote control radio is communicating directly with another radio, without using a repeater.
Shift	Used to access a function button's upper feature.
Mode Up (On Keypad when DRCM is selected)	Used to scroll up through a list of digital remote control radio modes, channels or functions that appear on the DRCM display.
Mode Down (On Keypad when DRCM is selected)	Used to scroll down through a list of digital remote control radio modes, channels or functions that appear on the DRCM display.
Sel (On Keypad when DRCM is selected)	Used to select a digital remote control radio function appearing on the DRCM display.
Menu/Home (On Keypad when DRCM is selected)	Used to enter and exit from the function selection menu on a digital remote control radio.
Digit Keys (On Keypad when DRCM is selected)	Emulate the digit keys on a digital remote control radio Keypad.

Consult the *CommandSTAR Lite Operator Manual* (6880309J98) for complete information on the different DRCM feature buttons.

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GLOSSARY

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ABS — Acrylonitrile-Butadiene-Styrene, a durable, fire-resistant plastic.

AC — See *Alternating current*.

ACO — Alarm cut off.

AGC — Automatic gain control.

AGP — Accelerated graphics port.

APB — All points bulletin.

Alternating current — Electrical current that flows in alternately in one direction then the other, such as supplied by most electrical power grids for public consumption.

CD — Call Director (local telephone); also compact disc.

Channel — The radio's channel communication is one of the following:

- transmit frequency only-for one-way communication

- receive frequency only-for one-way communication

- simplex frequency-using one frequency for two-way communication, one-way at a time

- half-duplex or two frequency simplex-using a separate transmit and receive frequency for two-way communication, one-way at a time

- full-duplex frequencies-using a separate transmit and receive frequency for two-way simultaneous communication

CO — Central office; applied to the facilities of a telephone service provider.

CO line — A normal telephone line.

COM, Com — Usually "communications" as in the COM port on a PC, a serial communications port; also "common ground" as in the Com port on an I/O module.

CommandSTAR Lite System Database Manager (CSDM Lite) — A powerful configuration and maintenance tool for CommandSTAR Lite console. The CSDM Lite is used to configure an CommandSTAR Lite push-button console, to monitor the system, and to troubleshoot console problems.

CPU — Central processing unit

CRC — See *Cyclical redundancy check (CRC)*.

CRC error — The occurrence of a received CRC code that is not identical to the corresponding locally calculated CRC code.

CSDM Lite — See *CommandSTAR Lite System Database Manager (CSDM Lite)*.

CTCSS — Continuous tone carrier squelch system.

Cyclical redundancy check (CRC) — An error-detection system in which parity bits are generated by polynomial encoding and decoding algorithms to detect errors generated during transmission.

D — Disable.

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.

DC — See *Direct current*.

Deskmic — Desktop microphone

DIP — Dual in-line package. See *DIP switch*.

DIP switch — A series of tiny on/off toggle switches built into a housing and commonly connected to a circuit board. The switches typically control the conditions under which the circuit board operates. A DIP switch usually has a black or gray housing with four to eight red switches.

Direct current — Electrical current that flows in one direction only, such as supplied by a battery

DSP — Digital signal processor.

DTMF — Dual tone multiple frequency.

Emerg — Emergency.

EMI — Electromagnetic interference.

ESD — Feedback — The return of some of the output of a system to the input of the same system. In the case of audio systems, feedback can cause speakers to emit a high-pitched squeal or an echo that severely impairs sound quality from the speakers.

Frequency Coupled — The radio channel has a fixed transmit and receive frequency pair for simplex or duplex operation. For more information, see *Radio channel*.

FV — Force vote

Hangover delay — The hangover delay is a period of time after incoming audio has stopped that the system will consider that the channel is still in use.

Hz — A measure of frequency equal to the number of cycles per second.

I/F — Interface.

I/O — Input/output.

IPM — Iterations per minute.

k — Kilo (1,000)

kHz — Kilohertz; that is, one thousand Hertz (1,000 cycles per second)

LED — Light emitting diode

mA — Milli-Amperes.

Mbps — Megabits (millions of bits) per second.

MDC — Mobile data communications.

MIC — Microphone.

ms — Millisecond (1/1000 of a second).

Multi-Sel — Multiple selection.

P/A — Public address.

PC — See *Personal computer (PC)*.

PCB — Printed circuit board.

PCM — See *Pulse code modulation (PCM)*.

Personal computer (PC) — An IBM-compatible single-user computer.

Prog — Program.

PS/2 port — A port available on most PCs that can be used to plug in a mouse or keyboard. It has a socket for a 6-pin mini-DIN plug. The PS/2 port is sometimes called the mouse port.

PSTN — See *Public switched telephone network (PSTN)*.

PTT — See *Push-to-talk (PTT)*.

Public switched telephone network (PSTN) — Commercial land-based telecommunications.

Pulse code modulation (PCM) — A data stream format; usually, 64 Kbit/second; a coding scheme for converting analog voice signals into a digital bit stream; a digitizing technique, PCM is the basis for digital communications in North America.

Push-to-talk (PTT) — The way a subscriber initiates a call. When the PTT switch on a radio is pressed (also known as keying up), this indicates that a call is being initiated by a user. Also known as press-to-talk.

Radio frequency (RF) — General term for the range of frequencies at which used in radio communication systems.

RAC — Repeater access code.

Radio channel — In radio technology, the radio's channel communication is one of the following:

- transmit frequency only—for one-way communication
- receive frequency only—for one-way communication
- simplex frequency—using one frequency for two-way communication, one-way at a time
- half-duplex or two frequency simplex—using a separate transmit and receive frequency for two-way communication, one-way at a time

- full-duplex frequencies—using a separate transmit and receive frequency for two-way simultaneous communication

RCU — Remote control unit

Resources — A general term for network infrastructure and radio channels. Also buttons that executes features related to network infrastructure and radio channels.

REN — See *Ringer equivalency number (REN)*.

RF — See *Radio frequency (RF)*.

RFI — Radio frequency interference.

Ringer equivalency number (REN) — A number determined in accordance with the Code of Federal Regulations, Title 47, Part 68, which number represents the ringer loading effect on a line. A ringer equivalency number of 1 represents the loading effect of a single traditional telephone set ringing circuit.

RMS — Root mean square.

RX, Rx — Receive/received/receiving.

SIP — See *Standard Interface Panel (SIP)*.

Standard Interface Panel (SIP) — A panel to provide interfaces between devices that use different types of standard connectors (for example, 50-pin CHAMP to RJ45).

SVGA — Super video graphics array.

Talkdown — A time interval following the transmission of paging or alert tones during which the channels are kept open for the dispatcher. The dispatcher must use the common PTT button or footswitch during that interval to make an announcement on the channels that were paged. After the paging announcement the PTT button and footswitch resume normal operations.

TIMS — See *Transmission impairment measuring set (TIMS)*.

TMGB — Terminal Main ground bus.

TMS — See *Translation matrix for signals (TMS)*.

Translation matrix for signals (TMS) — A digital signal processor.

Transmission impairment measuring set (TIMS) — A test set that performs measurements for level, frequency, circuit noise, noise-with-tone, signal-to-noise ratio, 3 level impulse, etc.

TX, Tx — Transmit/transmitted/transmitting.

TXAP — Transmitting to an associate processor. In the Motorola CommandSTAR Lite™, a COP is an associate processor. See *TXPP*.

TXPP — Transmitting to a peripheral processor. In the CommandSTAR Lite™, a DAP is a peripheral processor. See *TXAP*.

UPS — Uninterruptable power supply.

VDC — DC volts.

VIN — Input voltage.

Voice annotation delay — The time that the radio channel is held open (keyed) for the dispatcher to send a voice message; also called "voice message delay".

Voice message delay — The time that the radio channel is held open (keyed) for the dispatcher to send a voice message; also called "voice annotation delay".

VOL — Volume.

VOX — voice operated switch.

VU — Volume Unit; a volume meter that visually indicates the volume over time, usually by means of green, red, and amber rectangles that form a bar graph.

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