ERICSSON

Mobile Communications
PC Programming

TMX™-8825

For
IBM PC/XT
Or True PC Compatible

Programming Guide

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INTRODUCTION

The General Electric Mobile Communications Business welcomes you to the world of mobile communications. We believe there is no equal to GE products and have made a commitment to our customers to ensure that product satisfaction and reliable service is our number one priority.

Quality built and dependable, the TMX 8825 radio is designed with your specific radio needs in mind. We at GE believe you will find an unparalleled level of user friendliness and programmable ease.

This manual is organized to support you in programming the TMX 8825 radio and will cover:

- the steps necessary to install the program,
- the procedures to actually program the personality,
- answers to some of your questions.

If you are a technician experienced in programming radios or a first time radio programmer, this manual has been written to give you a clear and concise understanding of the TMX 8825 radio.

CHAPTER 1
BEFORE YOU BEGIN

ABOUT THIS MANUAL

Specifically, this manual is designed to present you with all the necessary information required to connect the TMX 8825 radio to the computer and run the programming software.

Chapter 1 - provides you with some basic information you will need to know prior to running the software. It explains how to use the work sheets, keyboard layout, commonly used terms and screen/window functionality.

Chapter 2 - contains a list of the contents of this package and instructions for installing the TMX 8825 Radio.

Chapter 3 - is a short tutorial that will lead you through the basic operation of the TMX 8825 programmer. If you are not familiar with programming procedures it is recommended that you take the time to complete the tutorial.

Chapter 4 - will instruct you in the creation of an TMX 8825 Radio personality. The purpose of each screen/window is discussed in detail and what is required so that your radio will operate the way you want it to.

Chapter 5 - supplies file management information such as changing directories, changing file extensions, and deleting files.

Chapter 6 - is devoted to problem solving. It identifies the error messages that you will encounter and provides solutions and alternatives.

Appendices - The Appendices follow Chapter 6 and contain the following reference materials:

A. Terms - Definitions of frequently used words.

B. Function Keys - A listing of function keys you will run across and a definition of what function they will perform.

C. Acceptable Values - The range of values the programmer will accept for a specific field.

D. Primary & Equivalent Digital Codes - A table indicating usable Digital Channel Guard codes.

E. Channel Guard Tone Frequencies - A table indicating standard EIA Channel Guard tone frequencies.

F. Work Sheets - Prepared forms to assist you in organizing your thoughts prior to entering the data in the program.

Screen diagrams are used throughout this manual to help clarify section discussions. Each item being discussed is denoted by a number for easy identification.

Please pay particular attention to NOTES as they contain pertinent information that you should be aware of.

IMPORTANT TERMS

Default Value - The TMX 8825 software provides predetermined (default) values in a majority of the data entry fields within the program. Exceptions to this rule are fields requiring variable names, dates, and serial numbers. The default values assume that the radio will be used without optional features. Before changing these default values, we recommend that you be familiar with the operational implications of adding a particular feature or option to the radio being programmed.

Error Messages - Each time data is entered in the program a validity check is made to ensure that reasonable values were entered. In the event that data does not fall within the acceptable range of values, an error message will be displayed in the center of the screen.

Field - Refers to the area of the screen/window which allows data entry. This area is readily identifiable by a reverse video bar when moving the cursor across the screen.

Help - Throughout the TMX 8825 radio software, Help denotes or refers to on-line assistance. This can be accessed by pressing the **F9 Help** key from any field.

Personality - Used generically, refers to information that is stored in a radio to make it perform differently than other radios. That information can then be created, deleted, or modified and stored on a disk for later reference.

Prompt Line - Assistance text located on the last line of the window. This line provides directions for entering data and changes when moving from field to field.

HOW TO USE WORK SHEETS

Work sheets can be found in Appendix F. They are pre-printed forms to assist you in organizing personality information prior to going to the computer. You are encouraged to make copies of these work sheets and fill them in before programming begins. Doing so can prevent costly and time consuming mistakes and can be used for future reference. Empty blocks in the work sheets are provided for you to fill in the desired values. Blocks with information already typed in represent toggle fields in the program where the appropriate response should be circled.

Frequency Sets - Trunked - Work Sheet A in the Work Sheet Folder. This work sheet will assist you in defining trunked frequency sets for the data base. Space is provided to enter the desired transmit and receive frequencies for each set.

Frequency Sets - Conventional - Work Sheet B in the Work Sheet Folder. This work sheet will assist you when defining conventional frequency sets for the data base. For each set, indicate the radio display name, transmit and receive frequency definitions, Channel Guard definitions, Squelch Tail Elimination and Carrier Control Timer enable or disable.

Frequency Sets - Direct - Work Sheet C in the Work Sheet Folder. This work sheet will assist you in defining direct frequency sets for the data base. Enter the desired display name, direct mode frequency and busy tone type.

Tone Sets - Work Sheet D in the Work Sheet Folder. This work sheet allows you to define a tone set to be programmed into the personality. Enter the desired information in the tone fields and

indicate enabled or disabled for the decode, encode, and external alarm fields.

Personality Data - Work Sheet E in the Work Sheet Folder. This work sheet will assist you in defining the radio personality. You should indicate the area names, decode and encode frequency sets, and tone sets for special call and individual decode when the frequency set is trunked.

Area Group Tone Data - Work Sheet F in the Work Sheet Folder. This work sheet will assist you in defining the display name, tone set name, and multi-group decode enable or disable for a specific area group. This work sheet should be used in conjunction with work sheet B. This work sheet is only applicable to trunked frequency sets.

Area Options - Work Sheet G in the Work Sheet Folder. This work sheet allows you to define specific options for the select area. This work sheet should be used in conjunction with work sheet B. This work sheet is only applicable to trunked frequency sets.

Radio Options - Work Sheet H in the Work Sheet Folder. This work sheet allows you to define radio options affecting the entire TMX 8825 radio.

HOW SCREENS WORK

Each screen is divided into three areas: (1) screen title, (2) screen windows, and (3) active function keys. The title tells you where you are in the program hierarchy. Screen windows provide for input of data to the screen. Active function keys provide access to commands (or actions) available within that screen. The function key commands are labeled along the bottom of the screen. Only the function keys with labels are enabled in a given screen or window.

A window is a section of a screen that displays previously stored information, enables programming alternatives, or accepts data currently being entered. There may be more than one window within a particular screen. Each window is outlined within the screen presentation.

There are two types of windows: active and passive. The active window is available for data entry or revision and can be identified by its highlighted borders. The passive window is displayed but is unavailable for program execution. In the case that windows have overlapping borders, the active window is presented in the foreground.

Like the screen, windows are divided into three distinct sections. They are: (1) window title, (2) work area, and (3) prompt line. The window title describes the function currently being performed. The work area is the space provided for your input to the window. The prompt line is printed information in the lower portion of the window defining in further detail action to be taken in the work area.

This program uses a series of presentation screens to guide you easily through the programming of a radio. There are four major categories of data entry screens:

- Current Personalities Screen
- Personality Screen
- Currently Defined Frequency Sets Screen
- Currently Defined Tone Sets Screen

Current Personalities Screen - The Current Personalities Screen lists the file names of all stored radio personalities presently maintained in this special directory. From this screen you can create a new personality (file) or make changes to existing personalities. You then have the option of initiating one of the actions indicated by the function keys at the bottom of the screen.

Personality Screen - Data defining the radio personality is entered into the Personality Screen which can be accessed from the Current Personalities Screen by pressing **F2 Change** or **F4 New**. From this screen you can define the operational characteristics of the unit.

Currently Defined Frequency Sets Screen - This screen shows the currently defined frequency sets residing in the data base. Immediately below the title is the directory in which the currently defined frequency sets reside. This directory is referred to as the Pool directory. From this screen, you can create, edit, or delete a frequency set.

Currently Defined Tone Sets Screen - This screen shows the currently defined tone sets residing in the data base. Immediately below the title is the directory in which the currently defined tone sets reside. This directory is referred to as the Pool directory. From this screen, you can create, edit, or delete a tone set.

SCREEN/WINDOW LAYOUT

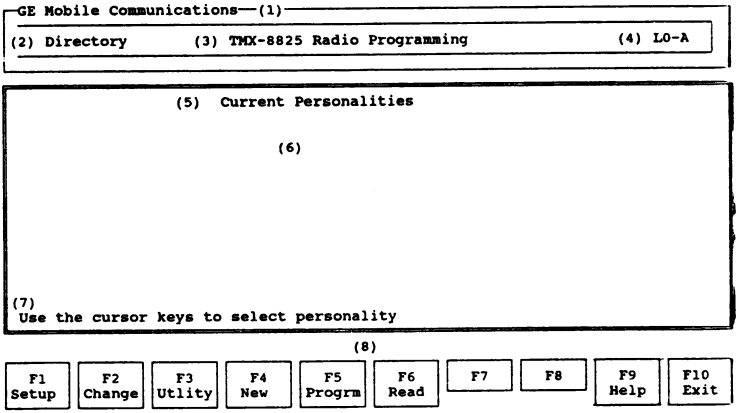


Figure 1-1 - Screen/Window Layout

(1)	Division	- indicates GE manufacturing division
(2)	Function	- indicates current function
(3)	Product Title	- identifies product
(4)	Level Indicator	- screen/window location in software
(5)	Title	- screen/window title
(6)	Work Area	- screen/window field area
(7)	Prompt Line	- current field instruction line
(8)	Function Keys	- supplies programming options

All screens and windows will have some basic fields that are consistent throughout this document. The overall layout will be the same as shown in Figure 1-1.

Division (1) The **General Electric Division** field indicates the TMX 8825 radio manufacturer.

This is a "Display Only" field which is always displayed at the top of the screen.

Function (2) The **Function** field is used to indicate which programming function is active.

This is a "Display Only" field which indicates the particular function of programming of a screen/window.

Product Title (3) The **Product Title** field is used to specify the product name and will identify which radio the programmer is intended to be used with.

This is a "Display Only" field which is always displayed in the screen title.

Level Indicator (4) The **Level Indicator** field is used to indicate the screen/window location in the program.

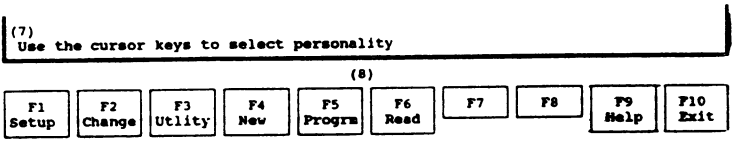
This is a "Display Only" field indicating the particular window level in the program.

Window Title (5) The **Window Title** field is used to indicate the title of a particular screen/window.

This is a "Display Only" field consistently displayed at the top of each window. This field will vary to indicate which window is being displayed.

Work Area (6) The **Work Area** is the area of a screen or window where input fields are defined. Each window is unique in its available fields and each of these fields are identified in the window descriptions.

Entry to these fields will be determined by the purpose and content of each window. In most windows you can move between fields by using the arrowed cursor keys, **Home** and **End** keys, **Tab** and **<enter>** keys. Within a field you can use the arrowed cursor keys, space bar, **Delete**, **Backspace**,



Work Area Cont'd (6) **Control Backspace**, and alphanumeric keyboard keys. Sometimes, the field will be toggle only where the **Tab** key is the only active key in the field and the <enter> key will move you between fields. Usually, normal cursor progression is left to right, top to bottom.

NOTE

Throughout this document, the terms screen and window are used interchangeably.

Prompt Line (7) The **Prompt Line** field is used to instruct you in field definition for specific fields.

This is a "Display Only" field, displayed at the bottom of a window. As you move from field to field, the prompt line will direct you for input in the particular field.

Function Keys (8) The **Function Keys** are is used to provide access to other options pertaining to the screen/window currently being displayed.

Pressing the desired function key will cause the program to perform the indicated function for that particular key. Following each window definition is a brief description of the operational function keys.

Occasionally, a screen or window will have subordinate windows that perform functions relating to them. These windows will be smaller in size and are referred to as "pop-up windows". Figure 1-2 illustrates a "pop-up" window overlaying a main screen. The highlighted border identifies the "pop-up" window as being active and all data

entry/acceptance occurs within this window. Pressing **F10 Back** will always return you to the original window.

Please notice that the "pop-up" window is smaller in size than the regular window. The overall layout is still the same with the title at the top center of the screen and the prompt line at the bottom of the screen (when appropriate). The active function keys will continue to be listed below the window. When the "pop-up" window requests an action that will change the data base on disk, a continue prompt will appear requesting selection of a function key option.

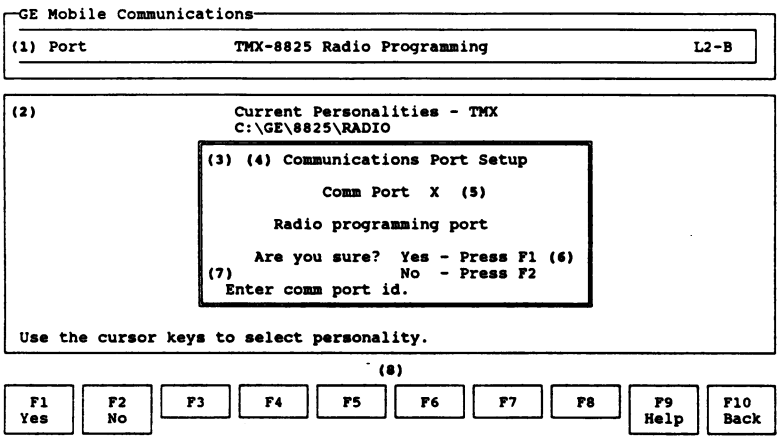


Figure 1-2 - "Pop-up" Window

(1) Function - indicates current function
(2) Main Screen - indicates main screen
(3) "Pop-Up" Window - indicates pop-up window
(4) Title - window title
(5) Work Area - area for specific field(s)
(6) Continue Prompt - continue or abort option
(7) Prompt Line - current field instruction line
(8) Function Keys - supplies programming options

Main Screen/ Window

(2) The **Main Screen/Window** is shown as a backdrop to the preceding "pop-up" window.

To enter this screen, you must press the appropriate function key(s).

"Pop-up" Window

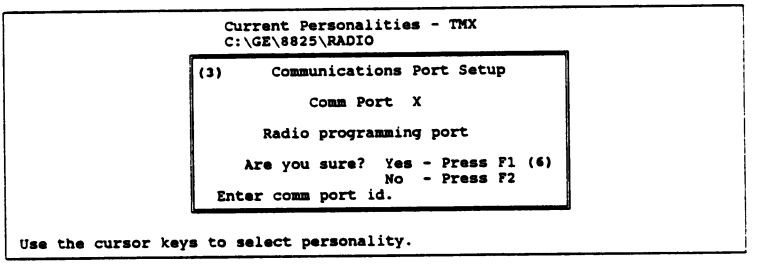
(3) The **"Pop-Up" Window** is shown as the front window. This window is laid out the in the same manner as the main window. The title is displayed at the top, fields are in the center and where appropriate, the prompt line is displayed in the lower left corner.

Access is granted in this window as it is active.

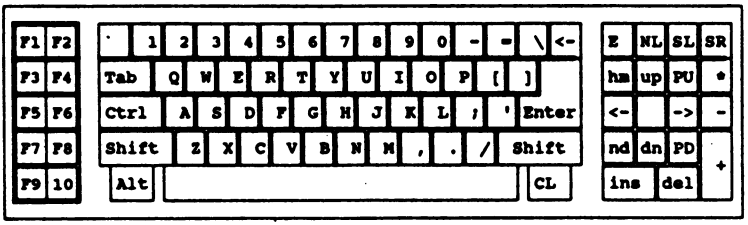
Continue Prompt

(6) The **Continue Prompt** field is used to indicate whether or not you want to continue with the selected field selection.

By pressing **F1 Yes**, the field selection will be confirmed and the programmer will continue with the operation selected. Selecting **F2 No** indicates that the operation should not be performed and will return you to the previous window.



USING THE KEYBOARD

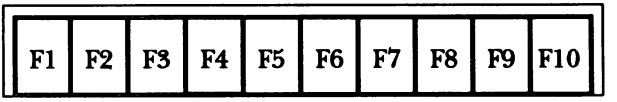


It is important that you be familiar with the keyboard of your computer system. Each keyboard is different in relation to the placement of some of the keys. In the PC Programming Software package there are categories of operational keys:

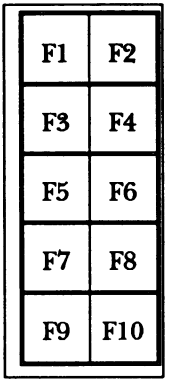
- Function
- Character
- Editing
- Movement
- Special Usage

The following sections give an overview of which keys are included in these categories and their functions. However, in some screens, such as the Current Personalities Screen, only the use of cursor keys is allowed because selection operation is all that is needed.

Function Keys



OR:



The purpose of a particular function key is dependent upon the screen or window that is currently highlighted at any given point in the program. In other words, a function key may be labeled differently from one screen or window to the next. Be sure that you fully understand the purpose for any function key prior to pressing it. The command or action associated with a particular function key is labeled on the lower portion of your screen. There are two types of function keys: Inactive and Active.

Inactive function keys have no operational capabilities during execution of a given screen and are not labeled on the screen.

Active function keys, on the other hand, are labeled. By pressing a specific function, the software executes the action delegated to that particular key.

The function keys are alphanumerically labeled F1 - F10. These keys will perform specific functions, depending upon which screen/window they appear in. The following Function Key Table represents their functionality in the TMX 8825 PC Programming Software.

FUNCTION KEY TABLE

	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
A	Setup	Change	Utilty	New	Progrm	Read			Help	Exit
B	Port		Dir		Delete	Print	Ext		Help	Back
C	Detail	Dial #	Text	Freqs	Tones	Groups	ArOpts	Option	Help	Back
D		Change		New	Delete				Help	Back
E	Detail								Help	Back
F	Yes	No							Help	Back
G									Help	Back
H					Store				Help	Back

A. Current Personalities Screen

B. Utility Window

C. Personality Screen

D. Currently Defined Frequency Sets Screen, Currently Defined Tone Sets Screen

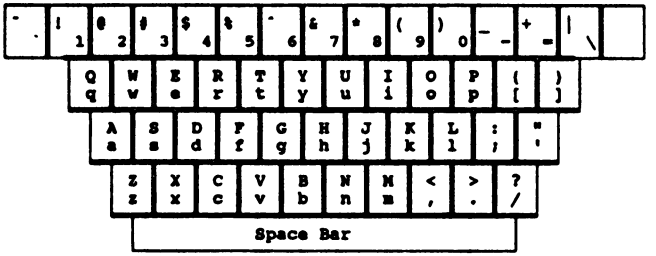
E. Area X Group Tone Data Window

F. Create Trunked/Conventional/Direct Frequency Set Windows, Save Trunked/Conventional/Direct Frequency Set Windows, Change and Delete Frequency Set Windows, Save Tone Set Window, Change and Delete Tone Set Windows, Change File Window, Save Personality Window, Program Radio Window, Read Radio Window, Communications Port Setup Window, Change Directory Window, Delete File Window, Print Personality Windows, and Change Extension Window

G. Trunked/Conventional/Direct Frequency Set Windows, GE-MARC Tone Set Window, Area X Options Window, Options Window, Repertoire Dial Numbers Window, and Text Window

H. Detailing Trunked/Conventional/Direct Frequency Set Windows, and Detailing Tone Set Window

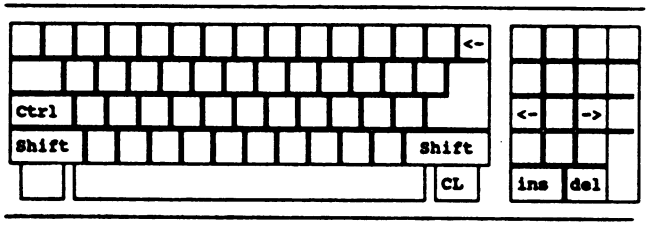
Character Keys



Character keys are used to enter data into a field. When pressed, the software inserts that character in the field position designated by the cursor and then advances to the next available character position. Character keys for the purposes of this PC Programming Software package are:

- Alphabetic: (a - z) and (A - Z)
- Numeric: (0 - 9)
- Special Characters ~ ` ' " , . ? ! ; : @ # $ % ^ & * | - + = < > { } [ ] ( ) \ /
- Space Bar

Editing Keys



Editing keys manipulate the data within a field. These keys are:

Left and Right Arrows: Each time one of these arrows is pressed it moves the cursor one character to the left or right until the left or right most position is reached.

Backspace: As the cursor moves to the left the character immediately to the left of the cursor is deleted.

Insert: This key toggles the insert operation on and off. The insert operation enables you to insert a character or a string of characters without overwriting any previously entered information.

Delete: This key enables you to delete a character or a string of characters.

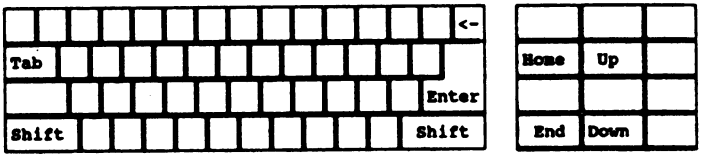
Shift/Caps Lock: Enabled, the Shift and Caps Lock key writes all alphabetic characters in capitalized letters.

Control/Left Arrow: When both keys are simultaneously pressed, the cursor is moved to the left most character in the field.

Control/Right Arrow: When both keys are simultaneously pressed, the cursor is moved to the right most character in the field.

Control Backspace: By simultaneously pressing both keys all characters in the field are deleted and the cursor moves to the first space in the field.

Movement Keys



These keys enable the movement or cursor positioning on the screen. They are also used to indicate an end of input in the current field.

Enter: The data entered into the present field is accepted and the cursor is advanced to the next field.

Up Arrow: The data entered into the present field is accepted and the cursor is returned to the previous field.

Down Arrow: The data entered into the present field is accepted and the cursor is advanced to the next field.

Home: Moves the cursor to the first field in the window.

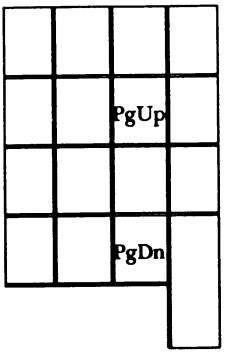
End: Moves the cursor to the final field in the window.

Tab: Toggles a predetermined field between selections such as a Yes or No response. May also move the cursor into the next field.

Shift-Tab: Like the Tab key, the Shift-Tab (or Back-Tab) toggles a predetermined field between selections only in the opposite direction.

Delete: Erases or deletes the character the cursor is presently on.

Special Usage Keys



In this category, there are two that are represented:

Page Up (**Pg Up**): Will bring you into the previous page while in the Personality Screen or some of the Help Windows. This key causes the screen/window to advance one page at a time until the beginning page is reached.

Page Down (**Pg Dn**): Will bring you into the following page while in the Personality Screen or some of the Help Windows. This key causes the screen to retreat one page at a time until the ending page is reached.

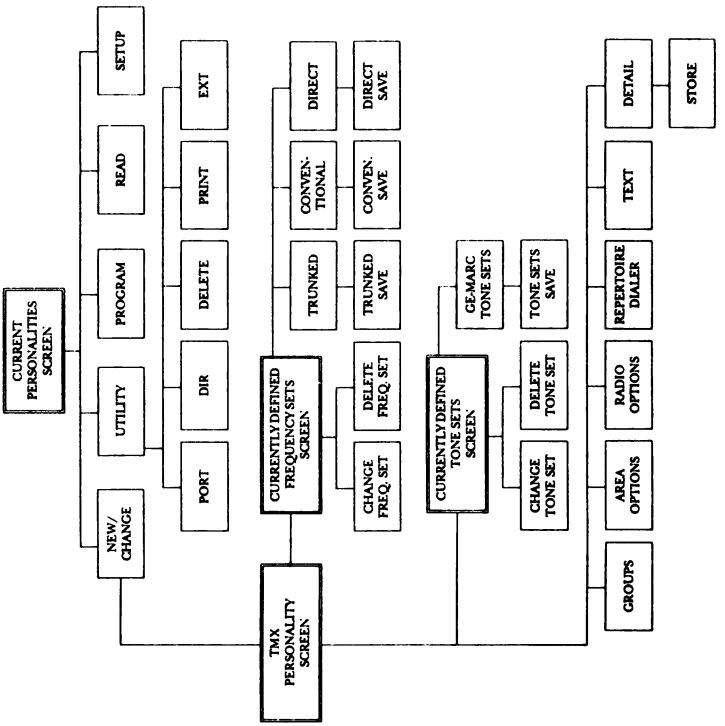


Figure 1-3 - TMX 8825 PC Programming User Interface Flow Chart

CHAPTER 2
INSTALLATION

UNPACKING

Upon unpacking this package you should be sure you have received the following:

- Radio Programming Software (TQ-3344), to include:
- Two double-sided, double-density 5-1/4 inch diskettes, (labeled "Program Disk #1 and Program Disk #2")
- One 3-1/2 inch diskette

PC PROGRAMMING SOFTWARE REQUIREMENTS

The following hardware and software is required to program the TMX 8825 Radio:

A. IBM PC/XT/AT or any true compatible with MS-DOS version 3.0 or later, and having the following minimum configuration:

1. Two Disk Drives, one floppy and one hard drive.

2. 640K Internal RAM.

3. Serial Port.

4. Parallel Port (recommended) for connection of a printer.

B. Serial Programming Interface Module (TQ-3310) and RS-232 Cable (19B235027P1).

C. Radio Programming Cable (TQ-3315).

D. TMX 8825 (TQ-3344) Radio Programming Software.

E. Printer (optional, but recommended).

DISKETTE HANDLING

While working with your diskettes you may want to consider the following handling procedures:

- Always store your diskettes in their envelope.
- Insert diskettes into the drive carefully.
- Use only felt tipped pens to write on diskette labels.
- Store your diskettes at a comfortable room temperature.
- Refrain from touching the recording surface.
- Do not bend the diskettes.
- Do not allow any form of liquid to come in contact with the diskette surface.
- Keep diskettes away from magnetic force fields as found in electronic equipment.

If you follow these simple guidelines you will receive long service from your diskettes.

Making Backups

The PC Programming Software is provided to you on two double-sided double-density 5-1/4 inch diskettes, labeled "Program Disk #1" through "Program Disk #2". These diskettes are very sensitive and fragile and, therefore, should be handled with care and stored in a secure area. A 3-1/2 inch diskette is also provided in this package.

We recommend that, upon receipt of your diskettes, you copy the original PC Programming Software diskettes to other diskettes or a fixed disk and store the originals in a safe place. This ensures the availability of an accurate program should a copy fail during program applications. The copy you have made for your daily programming tasks will be referred to in this manual as the "working copy".

NOTE

It is important to use the Diskcopy command when making backups and not the Copy or Xcopy command. Each diskette contains a volume label that is required for the installation process. Copy and Xcopy do not copy volume labels so please refrain from using these commands.

SYSTEM HOOK-UP

Connect all peripheral equipment to your computer prior to configuring the PC Programming Software items. Remember to refer to the operating manuals of each device for correct installation procedures.

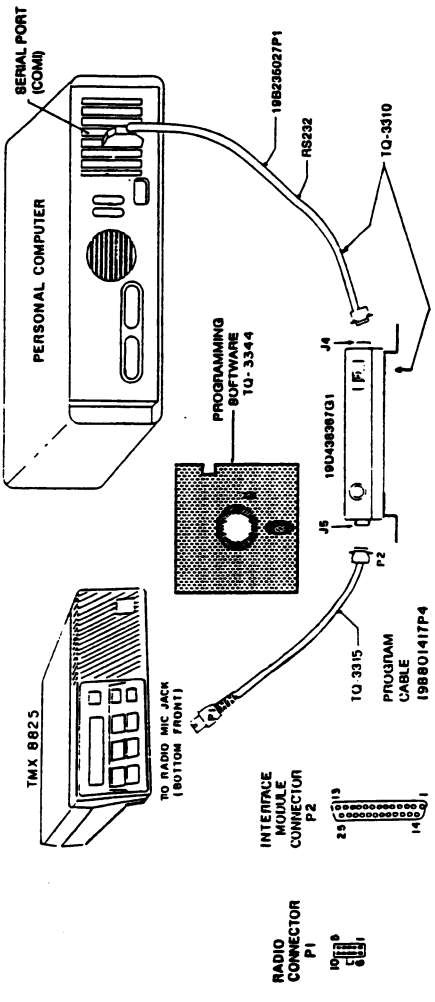
If your system is already established, check to see that you have all the equipment necessary to execute the program. Isolate all cables connecting computer to devices to prevent tangling, interference and damage.

Step One:

Refer to the appropriate system hook up figure and then look at your computer to locate a serial port. This port will usually be located at the rear of the computer. However, since this is dependent upon the design of your computer refer to the computer operator's manual for directions.

The IBM PC/XT/AT systems support up to two serial ports. There are two physical standards for the serial port configurations of personal computers. The most common is the 25 pin RS-232 output that has a DB-25 male connector at the computer. The other standard is a DB-9 male connector at the computer (used on the IBM-AT and many portable lap-top computers). The PC Interface Module, like most data communications equipment, uses a standard RS-232, DB-25, female connector. If your computer uses a DB-9 connector, you will need to purchase a DB-9/DB-25 interface cable from your local computer dealer.

Please note at this point that the TMX 8825 Radio PC Programming Software only communicates with the radio and its interface on the serial port designated as COM1 or COM2. Your computer references will assist you in determining which serial port has been so designated. Once located, examine the keyed plug on the RS-232 cable for the correct keyed end and insert it carefully into the appropriate serial port on the computer.



CONNECTION CHART FOR TQ-3315		
WIRE COLOR	FROM	TO
GREEN/BLACK	P2-11	P1-8
RED/BLACK	P2-12	P1-9
WHITE/BLACK	P2-5	P1-7
BLUE	P2-7	P1-6
ORANGE	P2-6	P1-5
GREEN	P2-10	P1-3
RED	P2-14	P1-2
WHITE	P2-9	P1-1
BLUE	P2-15	P1-12
ORANGE/BLACK	P2-13	P1-10
BLACK	P2-8	P2-13

Figure 2-1 - Programming System Hook-up

Step Two:

Position your TMX 8825 Radio on your work area in a convenient place. Connect the PC Programming Cable (TQ-3315) as shown in Figure 2-1. The Programming Cable is connected to the receptacle on the side of the unit. Again you should ensure that the plug is fully seated in its receptacle.

LOADING THE SOFTWARE

The PC software can be installed on a fixed drive or run from floppy diskettes in a dual floppy drive configuration.

5-1/4 Inch Diskettes:

When using 5-1/4 inch diskettes, the software installation is initiated by inserting Program Disk #1 in floppy drive A: and typing the following:

INSTALL <enter>

The Software Installation Screen, shown in Figure 2-2, will appear.

Enter the target drive and press **F1 Begin.** This will cause the program to copy the files from the distribution diskettes to your hard drive. The program will prompt you to remove Program Disk #1 and insert Program Disk #2 during install routine.

3-1/2 Inch Diskette:

When using the 3-1/2 inch diskette, the software installation is initiated by inserting the Program Disk in drive A: and typing the following:

INSTALL <enter>

When The Software Installation Screen, shown in Figure 2-2, appears, enter the target drive and press **F1 Begin.** This will cause the program to copy the files from the distribution diskette to your hard drive.

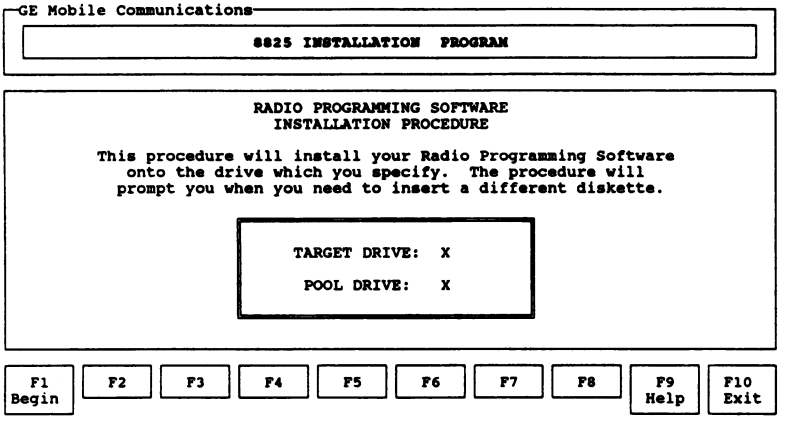
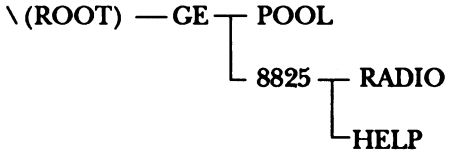


Figure 2-2 - Software Installation Screen

Program Entry

To help you manage your PC programming software, General Electric has created a directory structure, or filing system, for your programs. This filing system is created whenever any PC programming software is installed on your hard disk.

When the TMX 8825 PC Programming Software is installed, a directory structure consisting of five subdirectories is created. This structure is represented graphically as follows:



The first directory created is the GE directory; the main directory under which all GE PC Programming Software will be stored. This directory will contain a batch file that is used to invoke the TMX 8825 software. From the GE directory, two subdirectories are created; Pool and 8825. The Pool directory is used to store frequency and tone sets that are created during program operation while the 8825 subdirectory contains all of the executable programs.

The PC Programming Software is distributed with a number of help files that reside in the Help directory and are used by the program whenever the **F9 Help** key is pressed. These files are only required to support the on-line help facility and may be removed if on-line help is no longer required. The final directory created is the Radio directory. The purpose of this directory is to hold the personalities created during program operation.

Directories can be used very effectively in organizing your programming personalities. It is highly recommended that you familiarize yourself with directories. Refer to your DOS Users Manual for more information.

Hard Disk:

Once you have completed the installation procedure, the following steps may be taken to access the TMX 8825 Radio PC Programming Software:

Type: **C: <enter>**	This step will ensure that the current drive is C. (If you entered a drive other than C in the target drive field during installation, type that drive designator here.)
Type: **cd\GE <enter>**	This step will ensure that the current path is the root directory.
Type: **8825 <enter>**	The TMX 8825 PC Programming Software is now loaded into memory and an introductory screen will appear identifying the program.

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CHAPTER 3
GETTING STARTED

The following brief tutorial is designed to give you an understanding of how the program operates and to also give you some hands on experience before you begin actual programming. We encourage you to explore the program and view all screens and windows during this tutorial. If you need on-line assistance at any point in this program, press **F9 Help** and a help message for the field you are in will appear.

Before you start the tutorial refer to your hardware setup and ensure that the radio has been set up according to the installation procedures in Chapter 2. Once installation has been completed follow the Program Entry steps. After you have typed in 8825 and pressed **<enter>**, the Current Personalities Screen will appear. You are now ready to begin this tutorial.

When programming a radio, it is advised that you first fill out the necessary work sheets (located in Appendix F of this manual). These work sheets will assist you while you are programming the radio and serve as reference material should questions arise during radio operation.

From the Current Personalities Screen, press **F4 New.**

This will take you into the Personality Screen. A personality must be created in steps, the first of which is to create frequency sets and tone sets which are not already in the pool directory.

From the Personality Screen, select **F4 Freqs.**

This will bring you into the Currently Defined Frequency Sets Screen.

Select **F4 New** and, with the **Tab** key, toggle the Type field to TRUNKED if it doesn't already appear. Press **F1 Yes.**

This window allows you to defined a trunked frequency set. A set can have up to 20 channels per set but for the purpose of this tutorial we'll only create two channels.

Your cursor should be on the first Tx Freq field. Type in **816.2625**. Press **<enter>**.

Notice that the receive frequency automatically appears and is 45 MHz greater than the transmit frequency.

For the second channel, type **817.2625** in the Tx Freq field. Press **<enter>**. Select **F10 Back**.

The Save Frequency Set Window will appear so that you can name the frequency set just created.

Type in **TRUNK1**. Press **F1 Yes** to save the set and return you to the Currently Defined Frequency Sets Screen.

Now that we have defined a trunked frequency set we can continue on to define a conventional frequency set.

Select **F4 New**, use the **Tab** key to toggle the Type field until CONVENTIONAL appears. Press **F1 Yes**.

This will bring you into the Conventional Frequency Set Window. A conventional set can have up to nine channels per set, but we'll only define one here.

With your cursor on the first Tx Freq field type in **806.7375** and press **<enter>**.

Like the Trunked Frequency Set transmit field, the receive field is automatically entered at 45 MHz greater than the transmit frequency.

You now need to enter a transmit Channel Guard value.

In the Tx CG field type in **210.7**. Press **<enter>**.

The transmit Channel Guard is automatically copied into the Rx CG field.

Press **<enter>** to confirm that you want both CG fields to be the same.

You want to enable squelch tail elimination for both the transmit and receive Channel Guard. You also want to enable the carrier control timer.

> In the Tx STE field, use the **Tab** key as a toggle switch, and toggle to **Y**. Press **<enter>**. In the Rx STE field, using the **Tab** key as a toggle switch, select **Y**. Press **<enter>**. With the cursor in the CCT field, use the **Tab** key to toggle and select **Y**.

Before returning to the Currently Defined Frequency Sets Screen you must name your conventional set and save it.

> Select **F10 Back** from the Conventional Frequency Set Window. Type **CONV1** and press **F1 Yes**.

The last frequency set to create is the direct frequency set.

> Select **F4 New** while in the Currently Defined Frequency Sets Screen. Use the **Tab** key to toggle the Type field to DIRECT in the Create Frequency Set Window and press **F1 Yes**.

The Direct Frequency Set Window allows you to define a direct channel. First you need to determine the display name that will appear in the right half of the radio display whenever this area is selected. The name automatically defaults to a preselected name unless you tell the program to display something different. This tutorial will keep the preprogrammed name. The second step is to define the direct mode frequency.

> Type in **852.025**. Press **<enter>**.

The transmit and receive frequencies are always the same when defining direct frequency sets.

The last step in defining this frequency set is to tell the program which busy tone type you prefer.

> Using the **Tab** key to toggle, toggle this field to STANDARD. Press **F10 Back**.

The Save Frequency Set Window will appear prompting you for a name for this Direct Frequency Set.

Type in **DIRCT1**. Select **F1 Yes**.

The Currently Defined Frequency Sets Screen should display TRUNK1, CONV1, and DIRCT1. These sets will be used in the Personality Screen when creating the personality. You now need to create tone sets for use with the trunked frequency set just created.

Return to the Personality Screen by selecting **F10 Back** from the Currently Defined Frequency Sets Screen. Then select **F5 Tones**.

The Currently Defined Tone Sets Screen will appear. This screen functions like the Currently Defined Frequency Sets Screen, in that the currently defined tone set names appear here.

From this screen, select **F4 New**.

The GE-MARC Tone Set Window will now appear allowing you to create the tone sets desired.

In the Tone #1 field type **14**.
In the Tone #2 field type **12**.
In the Tone #3 field type **24**
In the Tone #4 field type **16**.

Use the **Tab** key as a toggle switch to select **Yes** in the Enable Decode field. Select **Yes** in the Enable Encode field and select **No** in the Enable External Alarm field.

You now need to save the tone set created.

Press **F10 Back** and the Save Tone Set Window will appear. In the Name field, type **TONE1**. Select **F1 Yes**.

Select **F4 New** again and create a second tone set.

In the Tone #1 field type **22**.
In the Tone #2 field type **5**.
In the Tone #3 field type **10**.
In the Tone #4 field type **16**.

Use the **Tab** key as a toggle switch to select **Yes** in the Enable Decode field. Select **Yes** in the Enable Encode field and select **No** in the Enable External Alarm field.

You now need to save this tone set.

Press **F10 Back** and the Save Tone Set Window will appear. In the Name field, type **TONE2**. Select **F1 Yes**.

TONE1 and TONE2 should appear in the Currently Defined Tone Sets Screen.

Press **F10 Back** to return to the Personality Screen.

You're now ready to create a personality.

In the Decode Frequency Sets AR01 field, type **DIRCT1** and press **<enter>**.

The cursor will go to the Decode Frequency Sets AR02 field because no further information is needed in the AR01 field. All other information necessary to define this frequency was entered in the Direct Frequency Set Window.

Notice also that the Type field automatically entered Direct to indicate which type of frequency set has been defined.

In the Decode Frequency Sets AR02 field, type **TRUNK1** and press **<enter>**.

The name (TRUNK1) will advance to the Encode Frequency Set field as well as the cursor. This field can be cleared or the decode field name can remain.

Press **<enter>** to continue on to the Special Call Tone Set field.

This field specifies the tone set to be used for special call when this area is selected on the radio display.

Type **TONE1** in this field. Press **<enter>**.

The Individual Decode Tone Set field is where the name of the tone set to be used for individual decode is entered. The special call tone set name is automatically copied to this field.

Press **<enter>**.

The cursor should now be in the AR03 Decode Frequency Set field.

Type **CONV1**. Press **<enter>**.

Like DIRCT1, no further information is needed in this screen to define the area.

Now that all the areas have been configured for this personality you can configure area options for the trunked area.

Move your cursor to highlight TRUNK1 in the AR02 field and select **F6 Groups**.

The Area 2 Groups Tone Data Window will appear.

In the Toneset Name field for Group 1, enter **TONE1**. Press **<enter>**.

In the Multi-Group Decode field, use the **Tab** key to toggle to **No**. Press **F10 Back** to return to the Personality Screen.

Select **F8 Option**. (The cursor does not need to be on any special field in the Personality Screen when this key is selected.)

The radio options for the entire radio are defined in the Options Window. These fields are defaulted to the desired settings except for the Carrier Control Timer field.

Cursor down to the Carrier Control Timer field and type **2.5**. Select **F10 Back** to return to the Personality Screen.

Great! You have completed program input for the radio personality.

Press **F10 Back**.

The Save Personality Window will appear. This window is where you name the personality and save it to disk.

Type **PERS1**. Select **F1 Yes**.

The new personality name will appear in the Current Personalities Screen.

The next step is to program the personality into the radio.

NOTE

Do not attempt the next sequence without ensuring that the Serial Programming Interface Module is properly connected. Failure to attach the Serial Programming Interface Module prior to a program or read operation may result in system lock-up. Should this occur, refer to Chapter 6 of this manual.

Select **F5 Progrm** and the Program Radio Window will appear. Select **F1 Yes**, which will cause the Radio Type Window to appear. Press **F1 Yes** from this window.

A message will appear on the screen indicating that the personality is being downloaded into the radio. The program operation is finished when the program window disappears from the screen.

Select **F6 Read** and type **PERS2**. Press **F1 Yes**.

The program will then handshake with the radio and read the personality out of the radio into the file PERS2. When the operation is finished the windows will disappear and the Current Personalities Screen will reappear showing newly created personalities PERS1 and PERS2.

You have now completed the tutorial. You can delete the personalities, frequency sets, and tone sets if you like or keep them in your program for future reference.

To delete a personality move cursor to the personality you want deleted. Select **F3 Utilty**, press **F5 Delete**, press **F1 Yes** and type **Y**.

The selected personality will be deleted from the disk and will no longer appear in the Current Personalities Screen.

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CHAPTER 4
RUNNING THE PROGRAM

INITIALIZATION

Depending on its manufacturer, your personal computer will have certain unique operating characteristics which make it different from other computers of similar capability. For example, file names and file extensions must conform to the requirements of your disk operating system. We, therefore, recommend that you become fully conversant with your computer's disk operating system and its operating manual prior to beginning this program.

When you turn on your personal computer, it begins an initialization routine which every system must go through to prepare for operation. During the initialization of your system, the MS-DOS program is loaded into memory. Remember that MS-DOS is the interpreter between your keyboard actions and the capabilities of the PC Programming Software.

Once the PC is initialized and you have received the DOS prompt, you should type:

cd/GE <enter>

8825 <enter>

After a brief introductory screen the Current Personalities Screen will appear.

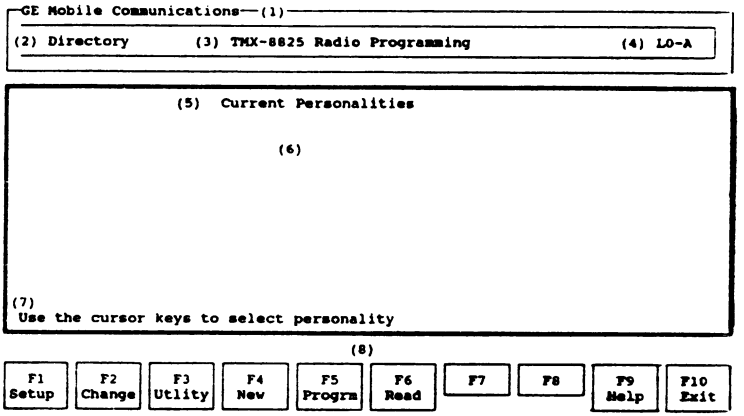


Figure 4-1 - Current Personalities Screen

(1)	Function	- indicates directory function
(2)	Screen Title	- current personalities screen
(3)	Default Extension	- designated extension
(4)	Current Drive	- designated drive
(5)	Current Directory	- designated directory name
(6)	Personality Area	- personalities in current directory
(7)	Prompt Line	- current field instruction line

The Current Personalities Screen, shown in Figure 4-1, is the main screen for the TMX 8825 Radio PC Programmer. From this screen you will be able to create personalities, program personalities into the radio and read personalities out of the radio. To access a personality, move the cursor (reverse video bar) across the screen using the arrowed cursor keys. There is room available for up to 63 personalities on the screen. Once the screen is full additional personalities can be accessed by using the **Pg Dn** and **Pg Up** cursor keys.

NOTES

1) Throughout this document the term personality is used. Personality is used generically to refer to the information stored in one radio causing it to operate differently from another radio.

2) Whenever the program is initiated, the extension will default to the extension used when the program was last run. Only personalities with the extension identified are listed in this screen.

From the Current Personalities Screen, your options are:

F1 - Setup Select this option if you want to:
Change the trunked area option defaults.

F2 - Change Select this option if you want to:
Change or edit an existing personality.

F3 - Utilty Select this option if you want to:
Change the communication port entry, change the directory, delete a personality, print a personality, or change the extension.

F4 - New Select this option if you want to:
Create a new personality.

F5 - Progrm Select this option if you want to:
Program a radio with the personality selected.

F6 - Read Select this option if you want to:
Read the personality out of the radio.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Exit Select this option if you want to:
Terminate the program and return to the control of DOS.

CREATING THE PERSONALITY

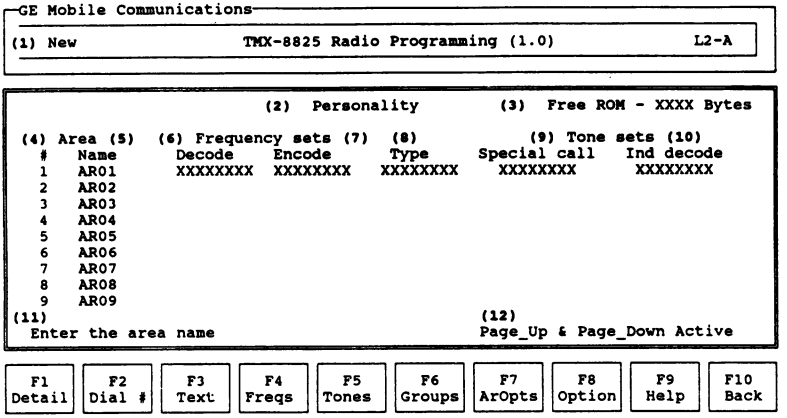


Figure 4-2 - Personality Screen

(1) Function - indicates new function
(2) Screen Title - personality screen
(3) Free ROM Field - indicates remaining ROM space
(4) Area Number - indicates area number sequencing
(5) Area Name - four character area display name
(6) Decode Freq Set - specifies area decode frequency set
(7) Encode Freq Set - specifies area encode frequency set
(8) Area Type - indicates current freq set type
(9) Special Call Tone Set - name of tone set for special calls
(10) Individual Decode Tone - name of tone set for individual calls
(11) Prompt Line - current field instruction line
(12) Page Prompt - indicates access to other pages

The Personality Screen, shown in Figure 4-2, is accessed by selecting **F4 New** while in the Current Personalities Screen. This screen is the main window of the program and allows you to define up to 36 area data fields.

The following steps should be followed when creating a personality:

1. Create all desired trunked, conventional and direct frequency sets that are not already in the pool directory.

2. Create all desired tone sets that are not already in the pool directory.

3. Configure all areas with the desired conventional or trunked frequency sets and tone sets (if trunked).

4. Configure all trunked areas with the desired area options.

5. Configure the radio with the desired radio options.

6. Program any desired pre-programmed phone numbers.

7. Then exit to program the radio with the personality.

Free ROM (3) The **Free ROM** field reflects the remaining area data available for programming trunked, conventional and tone sets.

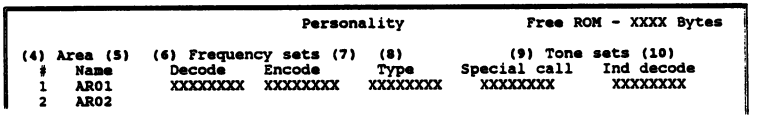
This field is "Display Only" and is updated as you create information in the personality.

Area Number (4) The **Area Number** field identifies the numerical order of each area name in the personality.

This field is "Display Only" showing nine areas per screen. Additional areas are displayed when **Pg Up** or **Pg Dn** is selected. There are a total of 36 areas per personality which are divided into four banks of nine areas each (e.g., 1-9, 10-18, 19-27, and 28-36).

Area Name (5) The **Area Name** field is used to identify what name you want to display on the radio during operation.

Enter a four character alphanumeric name you wish to have appear in the left half of the radio display. The name entered here must only contain numbers,



Area Name Cont'd (5) upper case letters, or the following punctuation: ', (,), *, +, -, /, \, <, >, =, @, or a space.

Decode Frequency Set (6) The **Decode Frequency Set** field is used to specify the frequency set to be used for decoding calls for this area. The area is then defined by the type of frequency set specified.

Enter the frequency set name to be used in this area. To be valid, the frequency set name specified here must be in the pool directory.

- When the frequency set specified is trunked, area programming continues requesting an encode frequency set, special call and individual decode tone sets, as well as groups and trunked area options.
- When the frequency set specified here is conventional or direct, no further information needs to be entered in this screen for the current area.

Encode Frequency Set (7) The **Encode Frequency Set** field specifies the frequency set used for encoding calls if not the same as the one scanned for incoming calls.

Enter the name of the frequency set to be used for encoding calls if different than the one scanned for incoming calls. A name entered in this field must be the name of a trunked frequency set in the pool directory. This field does not have to

Encode Frequency Set Cont'd

(7) be specified so you can clear the data copied to the field if you wish. Once the field displays the desired selection, select <enter> to continue.

* Applies only to trunked frequency sets.

Area Type

(8) The **Area Type** field is used to reflect the multi-mode frequency set operation that has been selected for this area on the radio.

This field is "Display Only" and is updated to indicate either Trunked, Conventional, or Direct depending upon the selection made in the Decode Frequency Set field.

Special Call Tone Set

(9) The **Special Call Tone Set** field prompts you for a tone set name to be used for a special call when this area is selected in the display.

Enter the tone set name to be used in this field. To be valid, the tone set name specified here must be in the pool directory.

NOTE

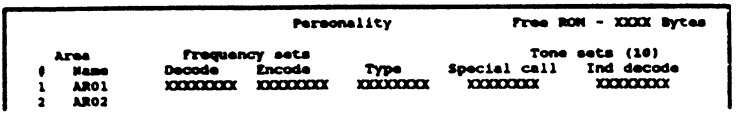
Special Call is an encode only function and is encoded only when SPC is selected.

* Applies only to trunked frequency sets.

Individual Decode Tone Set

(10) The **Individual Decode Tone Set** field prompts you for a tone set name to be used for individual decode.

Enter the tone set name to be used in this field. To be valid, the tone set name specified here must be in the pool directory. Leave the field blank to disable it.



Individual (10) Decode Tone Set Cont'd

NOTE

The individual decode tone set is always decoded with the selected group and groups 1, 2, and 3 if the multigroup decode feature is allowed.

* Applies only to trunked frequency sets.

From the Personality Screen, your options are:

F1 - Detail Select this option if you want to:
View a tone set or frequency set and change it in the personality.

F2 - Dial # Select this option if you want to:
Enter numbers for the ten repertoire dial locations in the radio.

F3 - Text Select this option if you want to:
Enter textual information pertaining to the personality.

F4 - Freqs Select this option if you want to:
Create/edit frequency sets in the pool directory.

F5 - Tones Select this option if you want to:
Create/edit tone sets in the pool directory.

F6 - Groups Select this option if you want to:
Program the group tone sets for the trunked area highlighted.

F7 - ArOpts Select this option if you want to:
Change the area options of the trunked area highlighted.

F8 - Option Select this option if you want to:
Change the radio options..

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Current Personalities Screen.

Frequency Sets

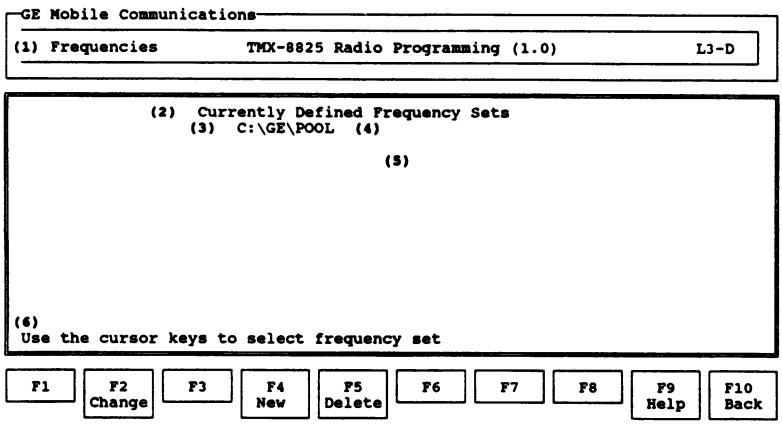


Figure 4-3 - Currently Defined Frequency Sets Screen

(1) Function - indicates frequencies function
(2) Screen Title - currently defined frequency sets
(3) Current Drive - designated drive
(4) Current Directory - designated directory
(5) Personality Area - frequency sets in current directory
(6) Prompt Line - current field instruction line

The Currently Defined Frequency Sets Screen, shown in Figure 4-3, is accessed by selecting **F4 Freqs** while in the Personality Screen. This screen shows the currently defined frequency sets residing in the pool directory.

From this screen you will be able to create, delete, or modify frequency sets. To access a frequency set, move the cursor (reverse video bar) across the screen using the arrowed cursor keys. There is room available for up to 63 frequency sets on the screen. Once the screen is full, additional frequency sets can be accessed by using the **Pg Dn** and **Pg Up** cursor keys.

From the Currently Defined Frequency Sets Screen, your function key options are:

F2 - Change Select this option if you want to:
Change or edit an existing frequency set.

F4 - New Select this option if you want to:
Create a new frequency set.

F5 - Delete Select this option if you want to:
Delete or remove a frequency set from the data base.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Personality Screen.

Creating Trunked Sets

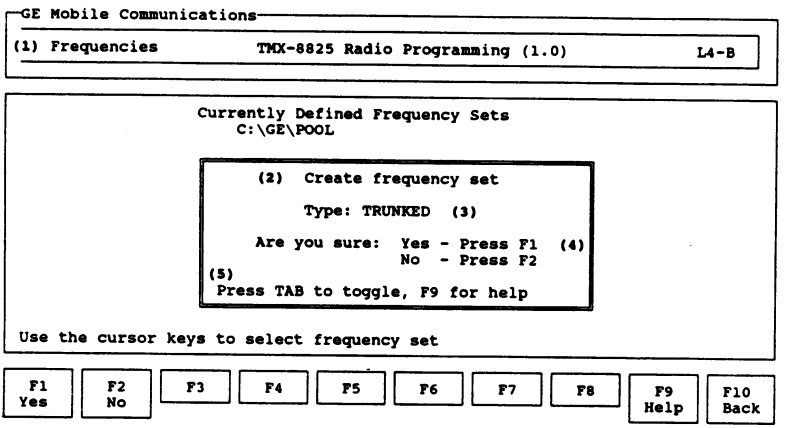


Figure 4-4 - Create Frequency Set Window

(1)	Function	- indicates frequencies function
(2)	Window Title	- create frequency set window
(3)	Type	- indicates frequency set type
(4)	Continue Prompt	- continue or abort option
(5)	Prompt Line	- current field instruction line

The Create Frequency Set Window, shown in Figure 4-4, can be accessed by selecting **F4 New** from the Currently Defined Frequency Sets Screen. This window allows you to select the type of frequency set to create.

Type (3) The **Type** field is used to indicate which type of frequency set you want to create. Selection is between Trunked, Conventional, and Direct Frequency Set types.

Using the **Tab** key as a toggle switch, select "Trunked" to indicate that you wish to create a Trunked Frequency Set. Press **F1 Yes** and the Trunked Frequency Set Window will appear.

From the Create Frequency Set Window, your options are:

F1 - Yes	Select this option if you want to: Create a frequency set.
F2 - No	Select this option if you want to: Discontinue with this procedure.
F9 - Help	Select this option if you want to: Receive further information pertaining to a field area.
F10 - Back	Select this option if you want to: Return to the Currently Defined Frequency Sets Screen.

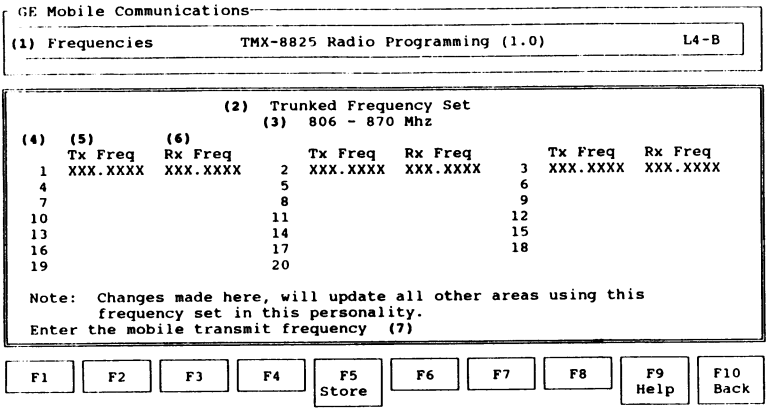


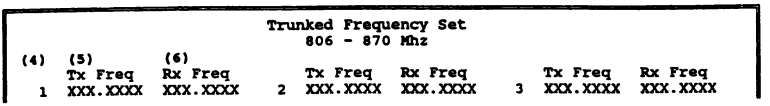
Figure 4-5 - Trunked Frequency Set Window

(1)	Function	- indicates frequencies function
(2)	Window Title	- trunked frequency set window
(3)	Band Split	- indicates current band split
(4)	Channel	- positional channel indicator
(5)	Tx Frequency	- defines transmit frequency
(6)	Rx Frequency	- defines receive frequency
(7)	Prompt Line	- current field instruction line

The Trunked Frequency Set Window, shown in Figure 4-5, is accessed by selecting **F4 New** while in the Currently Defined Frequency Sets Screen, toggling the Type field to "Trunked" in the Create Frequency Set Window and pressing **F1 Yes**. This window is used to define a trunked frequency set. A TMX 8825 personality can have up to 36 trunked frequency sets with up to 20 channels per set.

Band Split (3) The **Frequency Set Band Split** field indicates the trunked frequency set band split range when defining transmit and receive frequencies.

This is a "Display Only" field and cannot be accessed.



Channel (4) The **Channel Number** field is used as a positional channel indicator in the Trunked Frequency Set Window. The channel number indicates which channel is being defined on the line.

This is a "Display Only" field and cannot be accessed.

Tx Freq (5) The **Transmit Frequency** field is used to specify the mobile transmit frequency of the desired RF channel. This value indicates the frequency that the radio will transmit at while tuned to this channel.

Enter the transmit frequency. This field must be in the range of 806.0125 to 824.9875 in 12.5 KHz increments. Once the desired frequency has been entered, press **<enter>**. The mobile receive frequency is always understood to be 45 MHz above the transmit frequency and will be copied into that field as such.

Rx Freq (6) The **Receive Frequency** field displays the transmit frequency + 45 MHZ.

This field is a "Display Only" field. When the mobile transmit frequency is entered, this field is automatically entered at 45 MHz greater than the transmit field.

From the Trunked Frequency Set Window, your options are:

F5 - Store Select this option if you want to:
Save the frequency set to a Pool Filename.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Currently Defined Frequency Sets Screen.

Save Trunked Sets

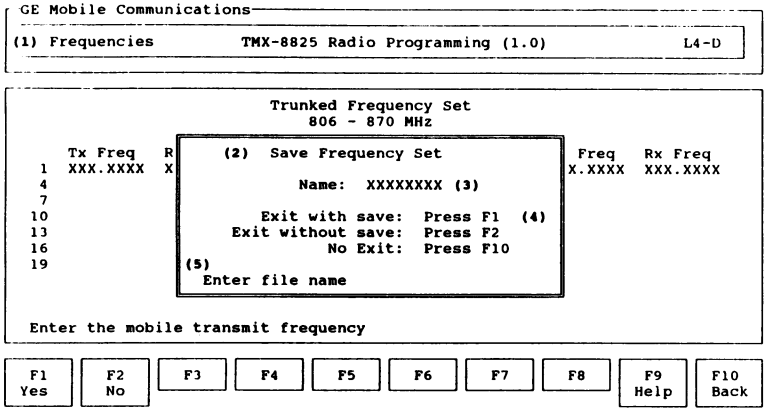
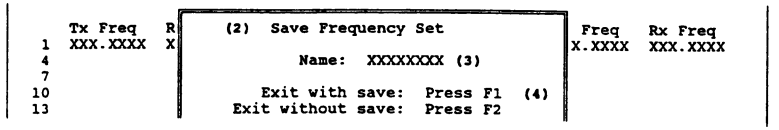


Figure 4-6 - Save Frequency Set Window

(1) Function - indicates frequencies function
(2) Window Title - save frequency set window
(3) Name - name of frequency set to save
(4) Continue Prompt - continue or abort option
(5) Prompt Line - current field instruction line

The Save Frequency Set Window, shown in Figure 4-6, is accessed whenever you try to exit the Trunked Frequency Set Window. The purpose for this window is to let you specify the name where the frequency set is to be saved.



Name (3) The **Frequency Set Name** field is used to specify the name under which the frequency set is to be saved.

Enter the destination file name. This field will accept up to eight characters in any alphanumeric combination. Alphabetic characters will automatically be converted to upper case. This field will not accept file names that are not acceptable to DOS.

From the Save Frequency Set Window, your options are:

F1 - Yes Select this option if you want to:
Save the frequency set to disk under the file name specified.

F2 - No Select this option if you want to:
Abort the file saving operation.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Trunked Frequency Set Window.

Creating Conventional Sets

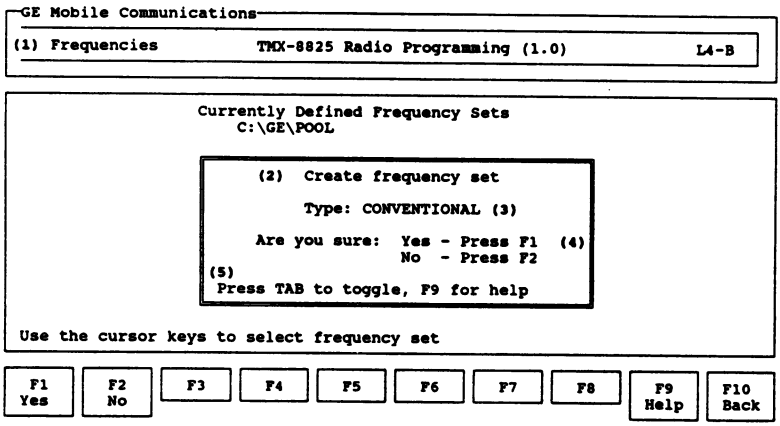


Figure 4-7 - Create Frequency Set Window

(1) Function - indicates frequencies function
(2) Window Title - create frequency set window
(3) Type - indicates frequency set type
(4) Continue Prompt - continue or abort option
(5) Prompt Line - current field instruction line

The Create Frequency Set Window, shown in Figure 4-7, can be accessed by selecting **F4 New** from the Currently Defined Frequency Sets Screen. This window allows you to select the type of frequency set to create.

Type (3) The **Type** field is used to indicate which type of frequency set you want to create. Selection is between Trunked, Conventional, and Direct Frequency Set types.

Using the **Tab** key as a toggle switch, select "Conventional" to indicate that you wish to create a Conventional Frequency Set. Press **F1 Yes** and the Conventional Frequency Set Window will appear.

From the Create Frequency Set Window, your options are:

F1 - Yes	Select this option if you want to: Create a frequency set.
F2 - No	Select this option if you want to: Discontinue with this procedure.
F9 - Help	Select this option if you want to: Receive further information pertaining to a field area.
F10 - Back	Select this option if you want to: Return to the Currently Defined Frequency Sets Screen.

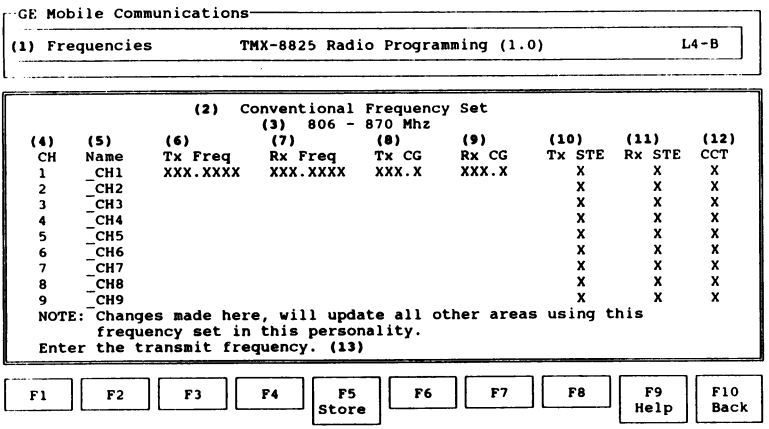
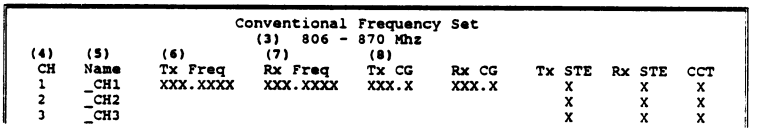


Figure 4-8 - Conventional Frequency Set Window

(1) Function - indicates frequencies function
(2) Window Title - conventional frequency set window
(3) Band Split - indicates current band split
(4) Channel - positional channel indicator
(5) Name - alphanumeric display name
(6) Tx Frequency - defines channel transmit frequency
(7) Rx Frequency - defines channel receive frequency
(8) Tx CG - transmit Channel Guard for channel
(9) Rx CG - receive Channel Guard for channel
(10) Tx STE - transmit squelch tail elimination
(11) Rx STE - receive squelch tail elimination
(12) CCT - enables carrier control timer
(13) Prompt Line - current field instruction line

The Conventional Frequency Set Window, shown in Figure 4-8, is accessed by selecting **F4 New** while in the Currently Defined Frequency Sets Screen, toggling the Type field to "Conventional" in the Create Frequency Set Window and pressing **F1 Yes**. This window is used to define a conventional frequency set. A TMX 8825 personality can have up to ten conventional frequency sets with up to nine channels per set.



```
                    Conventional Frequency Set
                      (3)  806 - 870 Mhz
(4)   (5)      (6)          (7)          (8)
 CH   Name     Tx Freq      Rx Freq      Tx CG      Rx CG      Tx STE   Rx STE   CCT
 1    _CH1     XXX.XXXX     XXX.XXXX     XXX.X      XXX.X        X        X      X
 2    _CH2                                                      X        X      X
 3    _CH3                                                      X        X      X
```

Band Split (3) The **Frequency Set Band Split** field indicates the conventional frequency set band split range for defining transmit and receive frequencies.

This is a "Display Only" field and cannot be accessed.

Channel (4) The **Channel Number** field is used as a positional channel indicator in the Conventional Frequency Set Window. The channel number indicates which channel is being defined on the line.

This is a "Display Only" field and cannot be accessed.

Name (5) The **Channel Name** field is used to identify the name to be displayed on the radio when you select this channel.

Although this field is defaulted, you can clear the field by pressing **Ctrl Backspace**. Once the field is cleared enter the desired four character alphanumeric name you wish to have appear in the right half of the radio display. You must enter a name in this field or the program will not allow you to exit.

The name entered in this field must only contain numbers, upper case letters, or the following punctuation: ', (,), *, +, -, /, \, <, >, =, @, or a space.

Tx Freq (6) The **Transmit Frequency** field is used to specify the transmit frequency for each channel. This value indicates the frequen-

Tx Freq Cont'd

(6) cy that the radio will transmit at while tuned to this channel.

Enter the transmit frequency. The value entered here must be either within the transmit band (806.0125 to 809.7375) or within the talkaround band (851.0125 to 854.7375) and be divisible by .0125 MHz. Once the desired frequency has been entered, press **<enter>**. The receive frequency is always understood to be 45 MHz above the transmit frequency and will be copied into that field as such. However, if a talkaround frequency is entered in the Transmit Frequency field, the same frequency will be copied into the Receive Frequency field.

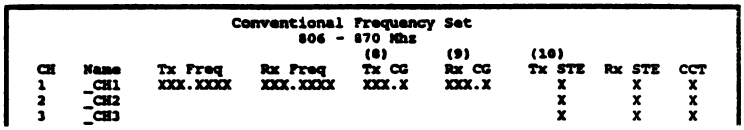
Rx Freq

(7) The **Receive Frequency** field is used to specify the receive frequency for each channel. This value indicates the frequency that the radio will receive at while tuned to this channel.

When the transmit frequency is entered and **<enter>** is pressed, this field is automatically entered. When the transmit frequency is 806.0125 to 809.7375 the receive frequency field will be entered at 45 MHz greater than the transmit field. When the Transmit Frequency field is 851.0125 to 854.7375 (within the talkaround band), that frequency will be copied identically into this field.

Tx CG

(8) The **Transmit Channel Guard** field is a numeric field used to enter the transmit Channel Guard for this channel. This field accepts Digital, inverted Digital, and tone Channel Guard codes. When the transmit Channel Guard is entered, it is automatically copied to the receive Channel Guard providing it is blank.



Conventional Frequency Set
806 - 870 Mhz

CH	Name	Tx Freq	Rx Freq	Tx CG (8)	Rx CG (9)	Tx STE (10)	Rx STE	CCT
1	_CH1	XXX.XXXX	XXX.XXXX	XXX.X	XXX.X	X	X	X
2	_CH2					X	X	X
3	_CH3					X	X	X

Tx CG Cont'd

(8) Enter the desired transmit Channel Guard code for this channel using either tone, Digital, or inverted Digital Channel Guard codes. To specify no Channel Guard, enter an "N", "0", or leave the field blank.

- Tone Channel Guards are identified by the placement of a decimal point within the field. For example: 67.0 identifies a tone Channel Guard of 67 Hz. Valid tone Channel Guards are in the range of 67.0 to 210.7 Hz.

- Digital Channel Guards do not have a decimal point within the field. For example: 023, 047, 315, etc. When using a Digital Channel Guard, it must be included in the Digital Channel Guard Table shown in Appendix D.

- Inverted Digital Channel Guards do not have a decimal point and are preceded by an 'I'. For example: I023, I047, I315, etc. When using an inverted Digital Channel Guard, it must be included in the Inverted Digital Channel Guard Table shown in Appendix D.

Rx CG

(9) The **Receive Channel Guard** field is used to enter the receive Channel Guard for this channel. This field accepts tone, Digital, and inverted Digital Channel Guard codes. When the transmit Channel Guard is entered, it is automatically copied to the receive Channel Guard providing it is blank.

Rx CG Cont'd

(9) Enter the desired receive Channel Guard code for this channel using either tone, Digital, or inverted Digital Channel Guard codes. To specify no Channel Guard, enter an "N", "0", or leave the field blank.

- Tone Channel Guards are identified by the placement of a decimal point within the field. For example: 67.0 identifies a tone Channel Guard of 67 Hz. Valid tone Channel Guards are in the range of 67.0 to 210.7 Hz.

- Digital Channel Guards do not have a decimal point within the field. For example: 023, 047, 315, etc. When using a Digital Channel Guard, it must be included in the Digital Channel Guard Table shown in Appendix D.

- Inverted Digital Channel Guards do not have a decimal point and are preceded by an 'I'. For example: I023, I047, I315, etc. When using an inverted Digital Channel Guard, it must be included in the Inverted Digital Channel Guard Table shown in Appendix D.

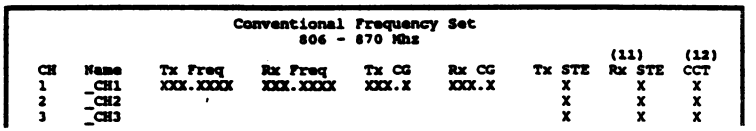
Tx STE

(10) The **Transmit Squelch Tail Elimination** field is used to indicate whether or not squelch tail elimination is to be enabled when transmitting on this channel.

Selection of this field is through toggling the **Tab** key between "Y" and "N" values. "Y" indicates that squelch tail elimination is enabled. "N" indicates squelch tail elimination is disabled on this channel.

NOTE

Transmit Channel Guard must be programmed on this channel in order for squelch tail elimination to function.



Conventional Frequency Set
806 - 870 Mhz

CH	Name	Tx Freq	Rx Freq	Tx CG	Rx CG	Tx STE	(11) Rx STE	(12) CCT
1	_CH1	XXX.XXXX	XXX.XXXX	XXX.X	XXX.X	X	X	X
2	_CH2					X	X	X
3	_CH3					X	X	X

Rx STE (11) The **Receive Squelch Tail Elimination** field is used to indicate whether or not squelch tail elimination is to be enabled when receiving on this channel.

Selection of this field is through toggling the **Tab** key between "Y" and "N" values. "Y" indicates that squelch tail elimination is enabled. "N" indicates squelch tail elimination is disabled on this channel.

NOTE

Receive Channel Guard must be programmed on this channel in order for squelch tail elimination to function.

CCT (12) The **Carrier Control Timer** field is used to indicate whether or not the carrier control timer should be enabled for this channel.

Using the **Tab** key as a toggle switch, select "Y" or "N". Selecting "Y" enables the carrier control timer for this channel. The time-out period can be defined in the appropriate radio options window. "N" indicates there will be no carrier control timer.

From the Conventional Frequency Set Window, your options are:

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Currently Defined Frequency Sets Screen.

Save Conventional Sets

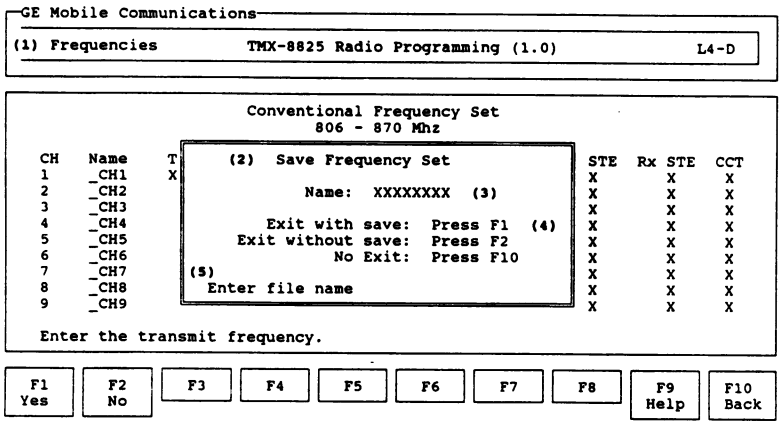


Figure 4-9 - Save Frequency Set Window

(1) Function - indicates frequencies function
(2) Window Title - save frequency set window
(3) Name - name of frequency set to save
(4) Continue Prompt - continue or abort option
(5) Prompt Line - current field instruction line

The Save Conventional Frequency Set Window, shown in Figure 4-9, is accessed whenever you try to exit the Conventional Frequency Set Window. The purpose for this window is to let you specify the name where the frequency set is to be saved.

Name (3) The **Frequency Set Name** field is used to specify the name under which the frequency set is to be saved.

Enter the destination file name. This field will accept up to eight characters in any alphanumeric combination. Alphabetic characters will automatically be converted to upper case. This field will not accept file names that are not acceptable to DOS.

From the Save Frequency Set Window, your options are:

F1 - Yes	Select this option if you want to: Save the frequency set to disk under the file name specified.
F2 - No	Select this option if you want to: Abort the file saving operation.
F9 - Help	Select this option if you want to: Receive further information pertaining to a field area.
F10 - Back	Select this option if you want to: Return to the Conventional Frequency Set Window.

Creating Direct Sets

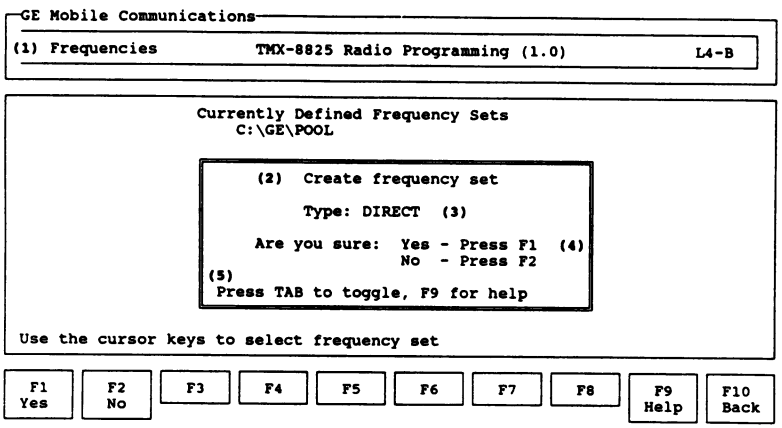


Figure 4-10 - Create Frequency Set Window

(1) Function - indicates frequencies function
(2) Window Title - create frequency set window
(3) Type - indicates frequency set type
(4) Continue Prompt - continue or abort option
(5) Prompt Line - current field instruction line

The Create Frequency Set Window, shown in Figure 4-10, can be accessed by selecting **F4 New** from the Currently Defined Frequency Sets Screen. This window allows you to select the type of frequency set to create.

Type (3) The **Type** field is used to indicate which type of frequency set you want to create. Selection is between Trunked, Conventional, and Direct Frequency Set types.

Using the **Tab** key as a toggle switch, select "Direct" to indicate that you wish to create a Direct Frequency Set. Press **F1 Yes** and the Direct Frequency Set Window will appear.

From the Create Frequency Set Window, your options are:

F1 - Yes	Select this option if you want to: Create a frequency set.
F2 - No	Select this option if you want to: Discontinue with this procedure.
F9 - Help	Select this option if you want to: Receive further information pertaining to a field area.
F10 - Back	Select this option if you want to: Return to the Currently Defined Frequency Sets Screen.

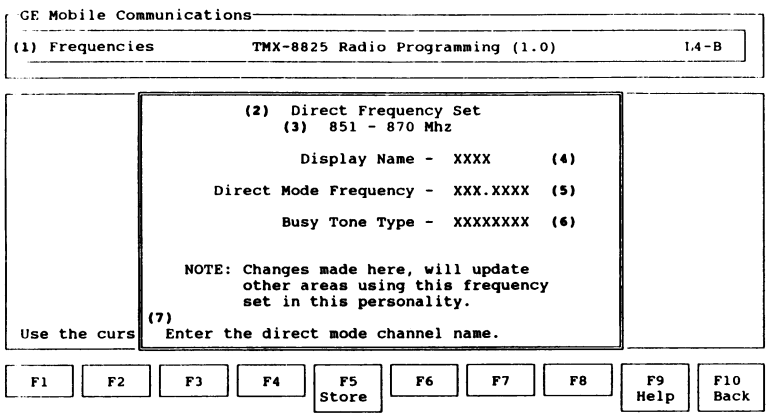


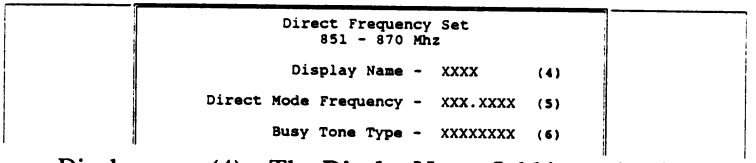
Figure 4-11 - Direct Frequency Set Window

(1) Function - indicates frequencies function
(2) Window Title - direct frequency set window
(3) Band Split - indicates current band split
(4) Display Name - alphanumeric display name
(5) Direct Mode Frequency - identifies mobile transmit frequency
(6) Busy Tone Type - indicates type of busy tone
(7) Prompt Line - current field instruction line

The Direct Frequency Set Window, shown in Figure 4-11, is accessed by selecting **F4 New** while in the Currently Defined Frequency Set Screen, toggling the Type field to "Direct" in the Create Frequency Set Window and pressing **F1 Yes**. This window is used to define a direct frequency set.

Band Split (3) The **Frequency Set Band Split** field indicates the direct frequency set band split range when defining transmit and receive frequencies.

This is a "Display Only" field and cannot be accessed.



Display Name

(4) The **Display Name** field is used to identify the name to be displayed on the radio when the area with this direct frequency is selected.

Enter the four character alphanumeric name you wish to have appear in the right half of the radio display. The name entered here must only contain numbers, upper case letters, or the following punctuation: ', (,), *, +, -, /, \, <, >, =, @, or a space.

Direct Mode Frequency

(5) The **Direct Mode Frequency** field is used to enter the transmit frequency when this area is selected in the display.

Enter the transmit frequency. The value entered here must be within the talkaround band 851.0125 to 854.7375 and be divisible by .0125 MHz. The receive frequency will be the same as the transmit frequency.

Busy Tone Type

(6) The **Busy Tone Type** field is used identify which busy tone type will be used when this direct mode frequency is selected for use in an area. This determines the decode and encode busy type when the radio is used in this area.

Selection of this field is through toggling the **Tab** key between "Standard" and "Alternate" values. "Standard" indicates the busy tone type will operate at 3051.6 Hz and "Alternate" indicates that the busy tone type will operate at 2918.7 Hz when the radio is used in this area.

From the Direct Frequency Set Window, your options are:

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Currently Defined Frequency Sets Screen.

Save Direct Sets

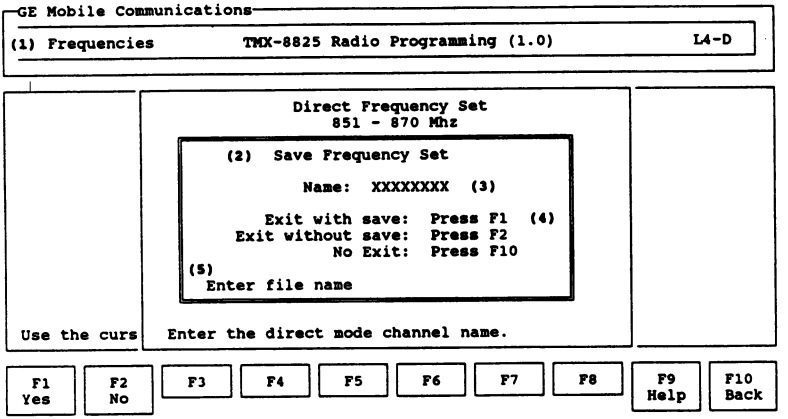


Figure 4-12 - Save Frequency Set Window

(1)	Function	- indicates frequencies function
(2)	Window Title	- save frequency set window
(3)	Name	- name of frequency set to save
(4)	Continue Prompt	- continue or abort option
(5)	Prompt Line	- current field instruction line

The Save Frequency Set Window, shown in Figure 4-12, is accessed whenever you try to exit the Direct Frequency Set Window. The purpose for this window is to let you specify the name where the frequency set is to be saved.

Name (3) The **Frequency Set Name** field is used to specify the name under which the frequency set is to be saved.

Enter the destination file name. This field will accept up to eight characters in any alphanumeric combination. Alphabetic characters will automatically be converted to upper case. This field will not accept file names that are not acceptable to DOS.

From the Save Frequency Set Window, your options are:

F1 - Yes	Select this option if you want to: Save the frequency set to disk under the file name specified.
F2 - No	Select this option if you want to: Abort the file saving operation.
F9 - Help	Select this option if you want to: Receive further information pertaining to a field area.
F10- Back	Select this option if you want to: Return to the Direct Frequency Set Window.

Change Frequency Sets

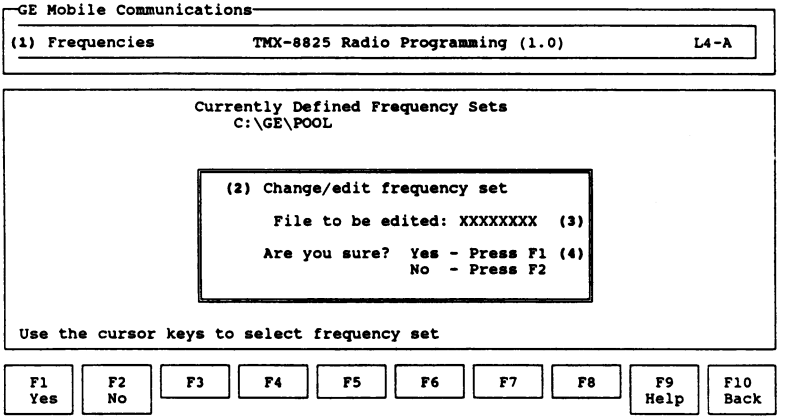


Figure 4-13 - Change/Edit Frequency Set Window

(1) Function - indicates frequencies function
(2) Window Title - change/edit frequency set window
(3) File to be edited - frequency set to be edited
(4) Continue Prompt - continue or abort option

The Change/Edit Frequency Set Window, shown in Figure 4-13, is accessed by selecting **F2 Change** while in the Currently Defined Frequency Sets Screen. This window is used to change/edit a frequency set residing in the pool directory.

File to be edited (3) The **Frequency Set to be Edited** field is used to solicit the frequency set name to be edited.

Enter the desired file name. To be valid, this set must be a currently defined frequency set. You can use up to eight valid characters in any alphanumeric combination. This field is an upper case field, therefore all characters will be converted to upper case even if entered in lower case. This field will not accept file names that are not acceptable to DOS.

From the Change/edit Frequency Set Window, your options are:

F1 - Yes	Select this option if you want to: Change the frequency set selected.
F2 - No	Select this option if you want to: Discontinue with this procedure.
F9 - Help	Select this option if you want to: Receive further information pertaining to a field area.
F10 - Back	Select this option if you want to: Return to the Currently Defined Frequency Sets Screen.

Delete Frequency Sets

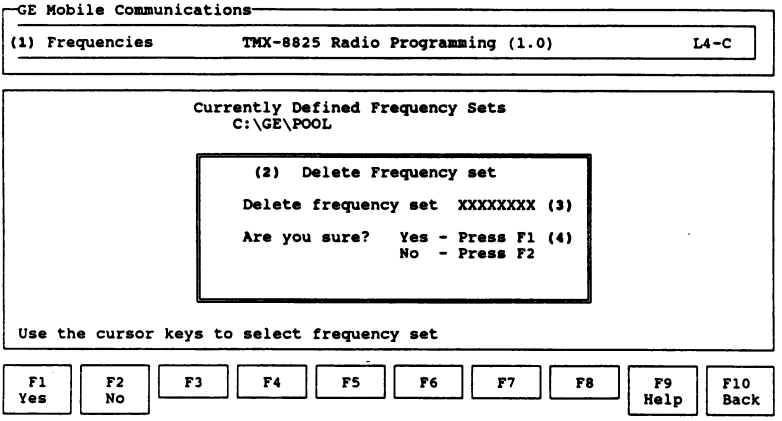


Figure 4-14 - Delete Frequency Set Window

(1) Function - indicates frequencies function
(2) Window Title - delete frequency set window
(3) Delete Frequency Set - frequency set to be deleted
(4) Continue Prompt - continue or abort option

The Delete Frequency Set Window, shown in Figure 4-14, is accessed by selecting **F5 Delete** while in the Currently Defined Frequency Sets Screen. This window is used to delete a frequency set from the disk.

Delete Frequency Set (3) The **Delete Frequency Set** field is used to indicate the name of the frequency set you want to delete. (The file name will default to the last highlighted frequency set.)

Enter the desired file name. To be valid, this set must be a currently defined frequency set. This field will accept up to eight characters in any alphanumeric combination. Alphabetic characters will automatically be converted to upper case. This field will not accept file names that are not acceptable to DOS.

NOTE

This operation will permanently remove the file.

From the Delete Frequency Set Window, your options are:

F1 - Yes Select this option if you want to:
Delete the frequency set selected.

F2 - No Select this option if you want to:
Discontinue with this procedure.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Currently Defined Frequency Sets Screen.

Tone Sets

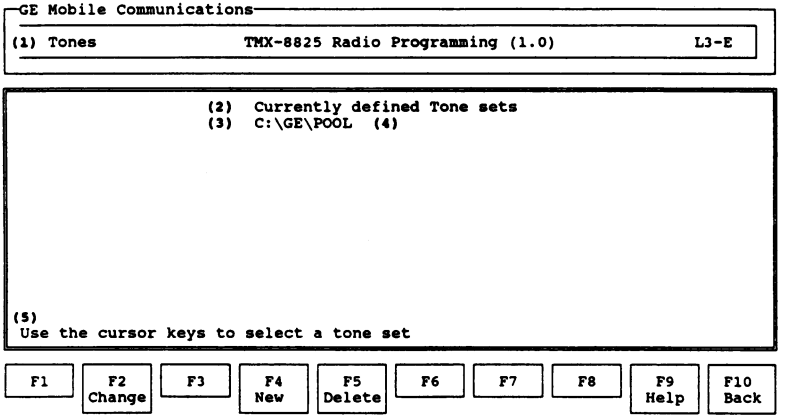


Figure 4-15 - Currently Defined Tone Sets Screen

(1) Function - indicates tones function
(2) Screen Title - currently defined tone sets screen
(3) Current Drive - designated drive
(4) Current Directory - designated directory
(5) Personality Area - tone sets in current directory
(6) Prompt Line - current field instruction line

The Currently Defined Tone Sets Screen, shown in Figure 4-15, is accessed by selecting **F5 Tones** while in the Personality Screen. This screen identifies the currently defined tone sets residing in the data base.

From this screen you will be able to create, delete, or modify tone sets. To access a tone set, move the cursor (reverse video bar) across the screen using the arrowed cursor keys. There is room available for up to 63 tone sets on the screen. Once the screen is full, additional tone sets can be accessed by using the **Pg Dn** and **Pg Up** cursor keys.

From the Currently Defined Tone Sets Screen, your function key options are:

F2 - Change Select this option if you want to:
Change or edit an existing tone set.

F4 - New Select this option if you want to:
Create a new tone set.

F5 - Delete Select this option if you want to:
Delete or remove a tone set from the data base.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Personality Screen.

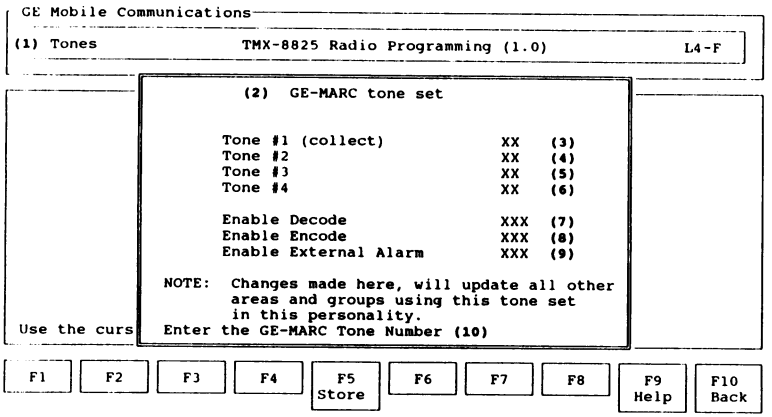


Figure 4-16 - GE-MARC Tone Set Window

(1) Function - indicates tones function
(2) Window Title - GE-MARC tone set window
(3) Tone #1 - indicates desired tone for position 1
(4) Tone #2 - indicates desired tone for position 2
(5) Tone #3 - indicates desired tone for position 3
(6) Tone #4 - indicates desired tone for position 4
(7) Enable Decode - allows for tone set exclusion
(8) Enable Encode - allows for tone set exclusion
(9) Enable External Alarm - enables external alarm circuitry
(10) Prompt Line - current field instruction line

The GE-MARC Tone Set Window, shown in Figure 4-16, is accessed by selecting **F4 New** while in the Currently Defined Tone Sets Screen. This window is used to define a tone set to be programmed in this personality.

Tone #1 (3)
Tone #2 (4)
Tone #3 (5)
Tone #4 (6)

The **Tone Number** fields are used to specify the specific tone desired for the position in the set.

Enter the desired GE-MARC tone number in the selected tone number fields. Only tones from 1 to 34 are allowed. Only two-tone and four-tone signalling combinations are possible.

Enable Decode

(7) The **Enable Decode** field allows you to selectively disable a particular tone set from being decoded in the area it is used in.

Using the **Tab** key as a toggle switch, select between "Yes" and "No" values. A "Yes" value indicates that the radio will decode this tone set when used as a dispatch group. "No" prevents the radio from decoding this tone set. If the tone set is used as an individual decode tone set, this option is ignored.

Enable Encode

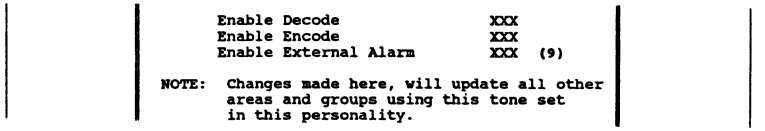
(8) The **Enable Encode** field allows you to selectively disable a particular tone set from placing calls with it when it is selected in the display.

Using the **Tab** key as a toggle switch, select between "Yes" and "No" values. A "Yes" value indicates that the radio will place a dispatch call using this tone set as the selected group. "No" prevents the radio from encoding this tone set. If this set is used as a special call tone set, the option is ignored.

Enable External Alarm

(9) The **Enable External Alarm** field is used by the radio to enable the external alarm circuitry when this particular tone set is decoded.

Using the **Tab** key as a toggle switch, select between "Yes" and "No" values. A "Yes" value allows a two-seconds on/four-seconds off pulsed external relay closure to alert the user outside the vehicle of a decoded call. When decoding individual calls, this option is ignored because the individual tone set has its own alarm enable option. A "No" value prevents the



Enable External Alarm Cont'd

(9) radio from triggering the external alarm when the tone set is decoded.

NOTE

The external alarm feature must be turned on from the frontcap in addition to enabling it per tone set.

From the GE-MARC Tone Set Window, your options are:

F5 - Store Select this option if you want to:
Save the Tone Set to a Pool Filename.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Currently Defined Tone Sets Screen.

Save Tone Sets

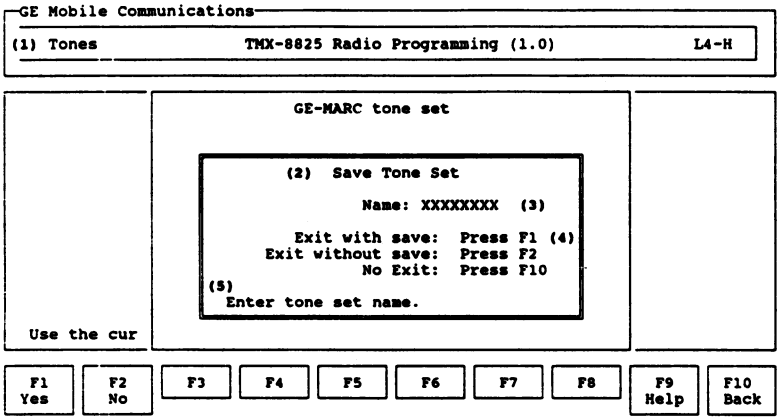


Figure 4-17 - Save Tone Set Window

(1)	Function	- indicates tones function
(2)	Window Title	- save tone set window
(3)	Name	- name of tone set to save
(4)	Continue Prompt	- continue or abort option
(5)	Prompt Line	- current field instruction line

The Save Tone Set Window, shown in Figure 4-17, is accessed whenever you try to exit the GE-MARC Tone Set Window. The purpose for this window is to let you specify the name where the tone set is to be saved.

Name (3) The **Tone Set Name** field is used to specify the name under which the tone set is to be saved.

Enter the destination file name. This field will accept up to eight characters in any alphanumeric combination. Alphabetic characters will automatically be converted to upper case. This field will not accept file names that are not acceptable to DOS.

From the Save Tone Set Window, your options are:

F1 - Yes Select this option if you want to:
Save the tone set to disk under the file name specified.

F2 - No Select this option if you want to:
Abort the file saving operation.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the GE-MARC Tone Set Window.

Change Tone Sets

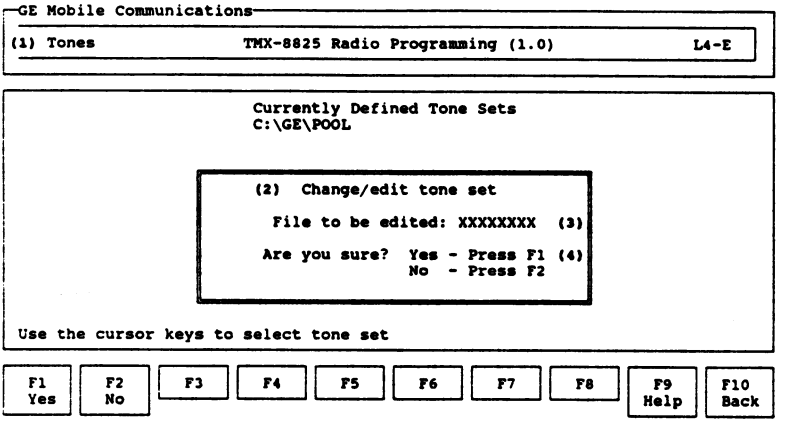


Figure 4-18 - Change/Edit Tone Set Window

(1) Function - indicates tones function
(2) Window Title - change/edit tone set window
(3) File to be edited - tone set to be edited
(4) Continue Prompt - continue or abort option

The Change/edit Tone Set Window, shown in Figure 4-18, is accessed by selecting **F2 Change** while in the Currently Defined Tone Sets Screen. This window is used to change/edit a tone set residing in the pool directory.

File to be edited (3) The **Tone Set to be Edited** field is used to solicit the tone set name to be edited.

Enter the desired file name. To be valid, this set must be a currently defined tone set. You can use up to eight valid characters in any alphanumeric combination. This field is an upper case field, therefore all characters will be converted to upper case even if entered in lower case. This field will not accept file names that are not acceptable to DOS.

From the Change/edit Tone Set Window, your options are:

F1 - Yes Select this option if you want to:
Change the tone set selected.

F2 - No Select this option if you want to:
Discontinue with this procedure.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Currently Defined Tone Sets Screen.

Delete Tone Sets

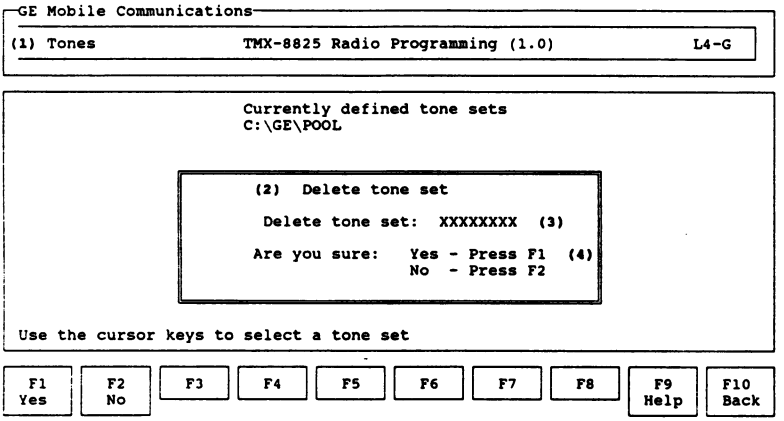


Figure 4-19 - Delete Tone Set Window

(1) Function - indicates tones function
(2) Window Title - delete tone set window
(3) Delete Tone Set - tone set to be deleted
(4) Continue Prompt - continue or abort option

The Delete Tone Set Window, shown in Figure 4-19, is accessed by selecting **F5 Delete** while in the Currently Defined Tone Sets Screen. This window is used to delete a tone set from the disk.

Delete Tone Set

(3) The **Delete Tone Set** field is used to indicate the name of the tone set you want to delete. (The file name will default to the last highlighted tone set.)

Enter the desired file name. To be valid, this set must be a currently defined tone set. This field will accept up to eight characters in any alphanumeric combination. Alphabetic characters will automatically be converted to upper case. This field will not accept file names that are not acceptable to DOS.

NOTE

This operation will permanently remove the file.

From the Delete Tone Set Window, your options are:

F1 - Yes Select this option if you want to:
Delete the tone set selected.

F2 - No Select this option if you want to:
Discontinue with this procedure.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Currently Defined Tone Sets Screen.

Detailing Frequency Sets and Tone Sets

While working in the Personality Screen, you may want to view frequency set or tone set information. To do so, position your cursor on either a frequency set field or a tone set field and select **F1 Detail**.

The Trunked Frequency Set Window will appear when you select **F1 Detail** with the cursor highlighting a trunked frequency set.

The Conventional Frequency Set Window will appear when you select **F1 Detail** with the cursor highlighting a conventional frequency set.

The Direct Frequency Set Window will appear when you select **F1 Detail** with the cursor highlighting a direct frequency set.

The GE-MARC Tone Set Window will appear when you select **F1 Detail** with the cursor highlighting a tone set field.

Selecting **F1 Detail** with the cursor highlighting the Area Name field will cause an error message to appear. You can only view a frequency

set window or tone set window with the cursor highlighting that particular field.

NOTE

F1 Detail allows you to modify an existing tone set or frequency set in the personality. To save the modified set to the pool directory, press **F5 Store.**

Groups

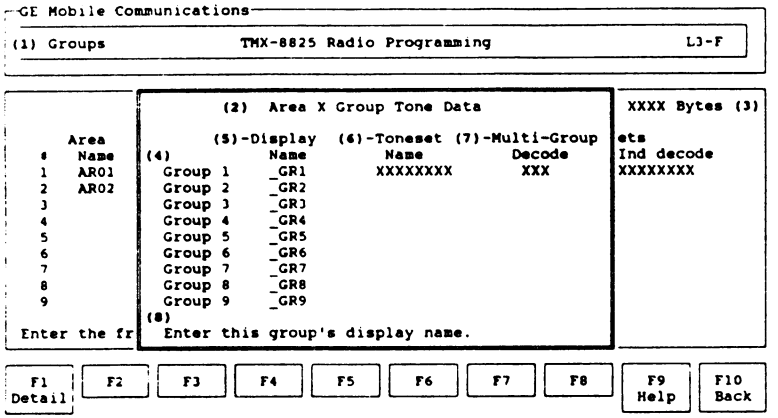


Figure 4-20 - Area X Group Tone Data Window

(1)	Function	- indicates groups function
(2)	Window Title	- area X group tone data window
(3)	Free ROM	- continues to indicate remaining bytes
(4)	Group Number	- positional group indicator
(5)	Display Name	- alphanumeric group display name
(6)	Toneset Name	- alphanumeric tone set name
(7)	Multi-Group Decode	- enables decoding of specific groups
(8)	Prompt Line	- current field instruction line

The Area X Group Tone Data Window, shown in Figure 4-20, is accessed by selecting **F6 Groups** while in the Personality Screen. This window is used to add, delete, or change groups for the highlighted area in the Personality Screen.

NOTE

This window is only accessible from a trunked area in the Personality Screen.

Window Title

(2) The **Window Title** indicates the window name and also identifies which trunked area is to have groups added, changed, or deleted.

While in the Personality Screen, move your cursor over the Area Name that you want to select group tone data for and press **F6 Groups**.

Free ROM

(3) The **Free ROM** field, located in the upper right corner of the Personality Screen, will continue to be updated to reflect the amount of remaining area data available.

This is a "Display Only" field. If the tone set specified is already in the personalty, the Free ROM will decrease by 5 bytes when a group is added. If the tone set is not in the personality, the Free ROM will decrease by 9 bytes.

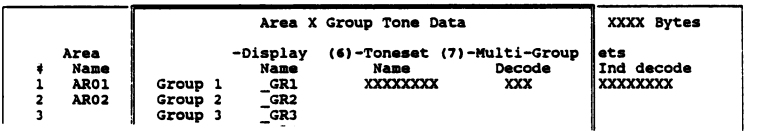
Group Number

(4) The **Group Number** field identifies the numerical order of each group name in this window

This is a "Display Only" field. Each trunked area can have up to nine groups programmed in it. The groups must be programmed in ascending order.

Display Name

(5) The **Display Name** field is used to identify the name to be displayed on the radio when you select this group.



Display Name Cont'd (5) Enter a four character alphanumeric name you wish to have appear in the right half of the radio display. The name entered here must only contain numbers, upper case letters, or the following punctuation: ', (,), *, +, -, /, \, <, >, =, @, or a space.

Toneset Name (6) The **Toneset Name** field is used to enter the name of the tone set to be used for encoding and decoding when this group is selected in the display.

Enter the name of the tone set to be used for this group's identification. The name entered here must be the name of a programmed tone set in the pool directory.

Multi-Group Decode (7) The **Multi-Group Decode** field allows the radio to decode groups 1, 2,and 3 even if they are not selected in the display. The radio can decode up to 5 different ID's. They are the individual decode, selected group, and groups 1, 2, and 3 if the multi-group decode feature is enabled for them.

Using the **Tab** key as a toggle switch, select between "Yes" and "No" values. A "Yes" value allows that group to be decoded if it is not the selected group. A "No" value will only allow the group to be decoded if it is the selected group. This assumes that the decode enable option is answered "Yes" for the tone set specified.

From the Area X Group Tone Data Window, your options are:

F1 - Detail	Select this option if you want to: View the data of the tone set highlighted.
F9 - Help	Select this option if you want to: Receive further information pertaining to a field area.
F10 - Back	Select this option if you want to: Return to the Personality Screen.

Detailing from the Groups Window

You may want to view the GE-MARC Tone Set Window while entering data in the Area X Group Tone Data Window. To do so, position your cursor on the tone set field and select **F1 Detail**. Selecting **F1 Detail** with the cursor highlighting any other field will cause an error message to appear. Only the details of the particular tone set highlighted will be displayed.

NOTE

F1 Detail allows you to modify an existing tone set in the personality. To save that modified tone set to the Pool directory, press **F5 Store**.

Area Options

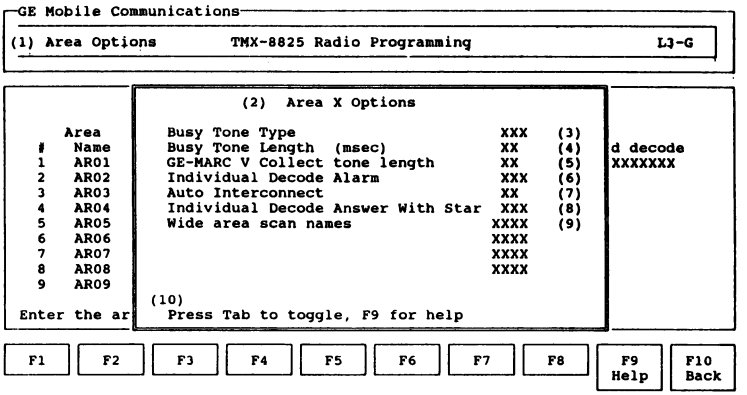


Figure 4-21 - Area X Options Window

(1) Function - indicates area options function
(2) Window Title - area X options window
(3) Busy Tone Type - indicates type of busy tone
(4) Busy Tone Length - transmit time for busy tone
(5) GE-MARC V Tone Length - period of time collect tone is sent
(6) Individual Decode Alarm - activates indiv decode tone set alarm
(7) Auto Interconnect - enables radio to send * in spec call
(8) Individual Decode Answer With Star - enables radio to answer individual calls with *
(9) Wide Area Scan Names - specifies areas for radio to scan
(10) Prompt Line - current field instruction line

The Area X Options Window, shown in Figure 4-21, is accessed by selecting **F7 ArOpts** while in the Personality Screen. This window is used to change area option data for the selected trunked area.

NOTE

This window is only accessible from a trunked area in the Personality Screen.

Window Title (2) The **Window Title** indicates the window name and also identifies which trunked area is to have area option data defined.

While in the Personality Screen, move your cursor over the Area Name that you want to select option data for and press **F7 Groups.**

Busy Tone Type (3) The **Busy Tone Type** field is used identify the busy tone type to be used when this area is selected

Selection of this field is through toggling the **Tab** key between "STD" and "ALT" values. "STD" indicates the busy tone type will operate at 3051.6 Hz and "ALT" indicates that the busy tone type will operate at 2918.7 Hz when the radio is used in this area.

Busy Tone Length (4) The **Busy Tone Length** field is used to specify how long the busy tone will be transmitted when the mobile tries to acquire a channel.

Using the **Tab** key as a toggle switch, select between "90", "180", "270", and "360" msecs. This determines the length of time that a busy tone will be sent when acquiring a channel. It is variable to allow voting receivers time to vote on the quality of the incoming signals.

GE-MARC V Collect Tone Length (5) The **GE-MARC V Collect Tone Length** field is used to specify the period of time that the collect tone will be sent for when encoding any 2-tone call in this area.

Enter the desired length of the collect tone to be used for encoding 2-tone calls. The minimum that can be entered is 5 and the maximum is 20. The default is 20.

1	AR01	GE-MARC V Collect tone length	XX	(5)	XXXXXX
2	AR02	Individual Decode Alarm	XXX	(6)	
3	AR03	Auto Interconnect	XX	(7)	
4	AR04	Individual Decode Answer With Star	XXX	(8)	
5	AR05	Wide area scan names	XXXX	(9)	
6	AR06		XXXX		
7	AR07		XXXX		
8	AR08		XXXX		
9	AR09				

GE MARC V Collect Tone Length Cont'd (5) This is only used by the radio to determine the length of the collect tone when acquiring a channel with a 2-tone tone set.

Individual Decode Alarm (6) The **Individual Decode Alarm** field is used to determine whether or not the individual decode tone set will trigger the alarm when it is decoded.

Using the **Tab** key as a toggle switch, select between "Yes" and "No" values. A "Yes" value allows a two-second on/four-second off relay closure to turn on the vehicles horn lights, etc. "No" prevents the user from being alerted externally when this area's individual tone set is decoded. This feature must also be turned on from the frontcap.

Auto Interconnect (7) The **Auto Interconnect** field determines if the radio will send a star (*) when it is in special call and a call is placed.

Using the **Tab** key as a toggle switch, select between "Yes" and "No" values. A "Yes" value causes the radio to not send a star (*) before dialing an interconnect number in special call. "No" forces the radio to send a star (*) before dialing an interconnect number in special call.

Individual Decode Answer (8) The **Individual Decode Answer With Star** field allows you to specify by area whether the radio should answer individual calls (i.e. interconnect) with a DTMF (*). This is necessary in GE-MARC V systems.

Wide Area Scan Names	(9)	The **Wide Area Scan Names** field allows you to specify other areas to be scanned by the radio for incoming calls when the highlighted area is selected in the display. Enter the names of the other areas to be scanned for incoming calls making sure that the total number of channels scanned does not exceed 20. Since the window can only be pulled up when a trunked area is highlighted, the display area will always be trunked. The names entered must also be trunked areas. Conventional and direct areas cannot be scanned when in a trunked mode.

From the Area X Options Window, your options are:

F9 - Help	Select this option if you want to: Receive further information pertaining to a field area.
F10 - Back	Select this option if you want to: Return to the Personality Screen.

Radio Options

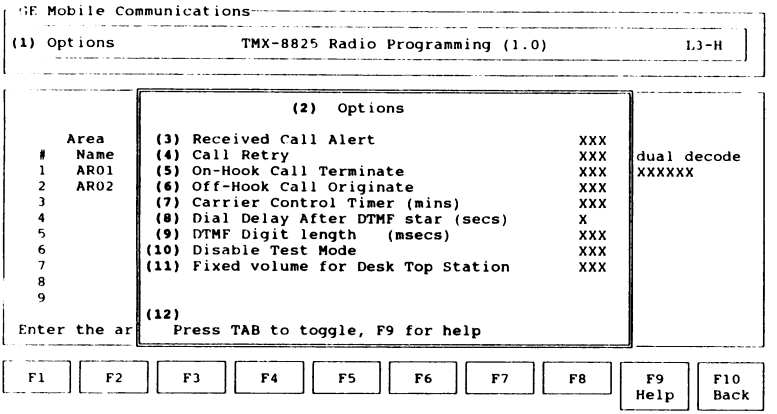


Figure 4-22 - Options Window

(1) Function - indicates options function
(2) Window Title - options window
(3) Received Call Alert - controls radio decode feature
(4) Call Retry - allows radio to retry channel access
(5) On-Hook Call Terminate - call terminates when mic replaced
(6) Off-Hook Call Originate - call originates when mic removed
(7) Carrier Control Timer - indicates time transmitter is keyed
(8) Dial Delay DTMF Star - determines pause length after * sent
(9) DTMF Digit Length - digit length used by the radio
(10) Disable Test Mode - determines user access to test mode
(11) Fixed Volume - disables the volume control in the radio
(12) Prompt Line - current field instruction line

The Options Window, shown in Figure 4-22, is accessed by selecting **F8 Option** while in the Personality Screen. This window is used to change radio option data for the entire radio.

Received Call Alert (3) The **Received Call Alert** field is used to indicate whether or not the radio will alert a decode call with external tones or if the audio just unmutes when a call is decoded. Using the **Tab** key as a toggle switch, select between "Yes" or "No" values. A "Yes" value causes the radio to respond with an alert tone(s) when calls are decoded. "No" disables alert tone(s) when a call is decoded.

Call Retry (4) The **Call Retry** field enables the radio to try to acquire a channel in the event of a system busy.

Using the **Tab** key as a toggle switch, select between "Yes" and "No" values. A "Yes" value causes the radio to retry to place an outbound call if the system was busy when you tried to place the call. "No" forces you to re-initiate a call in the event of a system busy condition.

On-Hook Call Terminate (5) The **On-Hook Call Terminate** field is used to specify if an in-progress call is to be terminated when the microphone is replaced on the hookswitch bracket.

Use the **Tab** key to toggle to "Yes" or "No". Selecting "Yes" will cause the radio to terminate the in-progress call when the microphone is returned to the hookswitch bracket. It will also send a DTMF pound (#) if the radio had an interconnect call in-progress. "No" allows the call to continue even if the microphone is returned to the hookswitch bracket. The CLR/MON key must be pushed to terminate the call when "No" is selected in this field.

Off-Hook Call Originate (6) The **Off-Hook Call Originate** field is used to determine whether the radio will automatically originate a call when the microphone is removed from the hookswitch bracket.

Use the **Tab** key to toggle to "Yes" or "No". Selecting "Yes" will cause the radio to automatically place an outbound call using the displayed group when the microphone is removed from the hookswitch bracket. "No" causes no action to be taken by the radio when the microphone is removed. PTT must be pressed to originate a call.

```
AR01          On-Hook Call Terminate                    XXX  XXXXXX
AR02          Off-Hook Call Originate                   XXX
         (7)  Carrier Control Timer (mins)              XXX
         (8)  Dial Delay After DTMF star (secs)         X
         (9)  DTMF Digit length    (msecs)              XXX
        (10)  Disable Test Mode                         XXX
        (11)  Fixed volume for Desk Top Station         XXX
```

Carrier Control Timer

(7) The **Carrier Control Timer** field is used to specify the maximum length of time that the transmitter can be keyed while in trunked or conventional operation.

Enter a value here in the range of 0.5 to 7.5 minutes in half minute increments. To disable the timer completely, enter "dis". The transmitter will shut-off with a series of warning beeps if it is keyed longer than the timer value specified.

> **NOTE**
>
> This field is used for trunked and conventional operation only.

Dial Delay DTMF Star

(8) The **Dial Delay DTMF Star** field is used to indicate the amount of time the radio will delay after sending the DTMF star (*) and before dialing a number.

Using the **Tab** key as a toggle switch, scroll through "0", "1", "2", "3", "4", "5", "6", and "7" seconds. When the desired choice appears, press **<enter>**. This delay is invoked after dialing the DTMF star (*) and before sending the dialed number.

DTMF Digit Length

(9) The **DTMF Digit Length** field is used to specify the length of time that the radio will use for dialing DTMF digits.

Using the **Tab** key as a toggle switch, scroll through "100", "150", "200", "250", "300", "350", "400", and "450" milliseconds. When the desired choice appears, press **<enter>**. The DTMF star (*) and pound (#) are always dialed for 450 msecs.

Disable Test Mode (10) The **Disable Test Mode** field is used to disable the test mode selection from the frontcap.

Using the **Tab** key as a toggle switch, select between "Yes" and "No" values. "Yes" prevents selection of test mode from the frontcap. "No" allows selection of the test mode key sequence from the frontcap and takes the radio out of the normal mode of operation.

Fixed Volume for Desk Top Station (11) Selecting "Yes" for this option will disable the volume control in the radio. The option must be used when the radio is incorporated into a desk top station with the remote volume control option.

From the Options Window, your options are:

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Personality Screen.

Repertoire Dialer

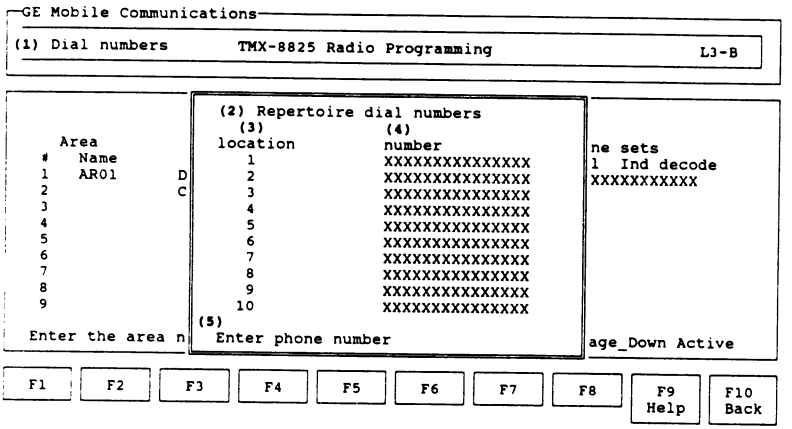


Figure 4-23 - Repertoire Dial Numbers Window

(1) Function - indicates dial numbers function
(2) Window Title - repertoire dial numbers window
(3) Location - positional number indicator
(4) Number - identifies programmed phone numbers
(5) Prompt Line - current field instruction line

The Repertoire Dial Window, shown in Figure 4-23, is accessed by selecting **F2 Dial** while in the Personality Screen. This window is used to enter preprogrammed phone numbers in the radio.

Location (3) The **Location** field is used as a positional indicator which indicates the number location of a pre-programmed phone number in the radio.

This is a "Display Only" field and cannot be accessed.

Number (4) The **Number** field is used to enter the repertoire dial numbers for the radio.

Enter up to 15 characters for each field. To be valid, characters must be 0 through 9, #, *, or a P (for one second pause).

From the Repertoire Dial Numbers Window, your options are:

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Personality Screen.

Text Window

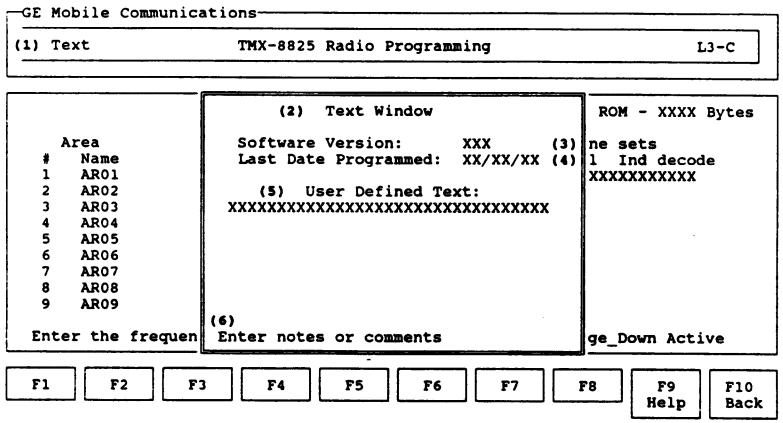
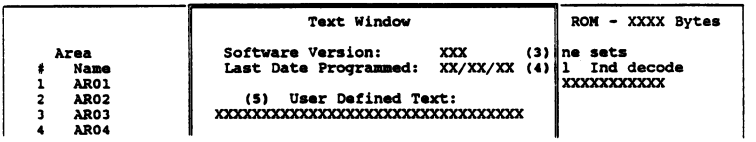


Figure 4-24- Text Window

(1) Function - indicates text function
(2) Window Title - text window
(3) Software Version - current radio software version
(4) Last Date Programmed - date personality was last written
(5) User Defined Text - allows user defined text entry
(6) Prompt Line - current field instruction line

The Text Window, shown in Figure 4-24, is accessed by selecting **F3 Text** while in the Personality Screen. This window is used to enter notes pertaining to the personality.

Software Version (3) The **Software Version** field is used to indicate the current radio software version. This field is established during the programming process.



Software Version Cont'd (3) This is a "Display Only" field and cannot be accessed. It is automatically updated when the personality is programmed from the Current Personalities Screen and the write is successful.

Last Date Programmed (4) The **Last Date Programmed** field is used to indicate the last date that the personality was written to the radio. When a personality is programmed from the Current Personalities Screen, the programmer will capture the system date and store that date in this field.

This is a "Display Only" field and cannot be accessed. It is automatically updated when the personality is programmed from the Current Personalities Screen and the write is successful.

User Defined Text (5) The User Defined Text field is used to enter up to eight lines of user defined text that will be stored with the personality on disk.

Enter desired text in any alphanumeric character combination. The text you enter will be saved to the file.

From the Text Window, your options are:

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Personality Screen.

Saving a Personality

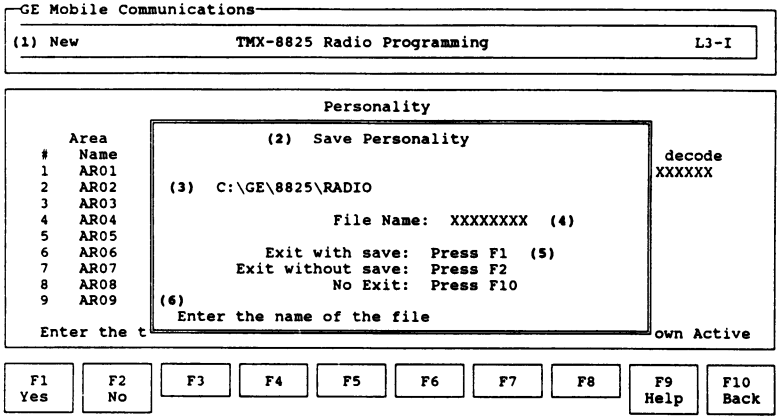


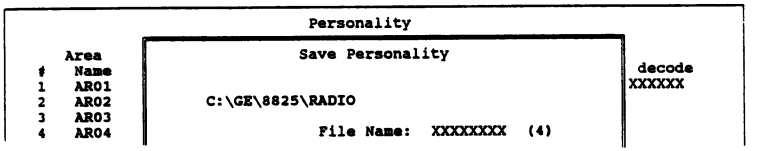
Figure 4-25 - Save Personality Window

(1) Function - indicates new function
(2) Window Title - save personality window
(3) Path - current personality destination path
(4) File Name - current personality name to be saved
(5) Continue Prompt - continue or abort option
(6) Prompt Line - current field instruction line

The Save Personality Window, shown in Figure 4-25, is accessed whenever you try to exit the Personality Screen. This window is used to select a personality name for identification when saving a personality. The name specified in this window will appear in the Currently Personalities Screen.

Path (3) The **Path** field is used to specify a new or target path under which the current personality will be stored.

To change the path, you must cursor up from the file name field. Enter the desired target path, if different from the default path.



File Name (4) The **File Name** field is used to specify the name under which the current personality is to be saved.

Enter the destination file name. This field will accept up to eight characters in any alphanumeric combination. Alphabetic characters will automatically be converted to upper case. This field will not accept file names that are not acceptable to DOS.

From the Save Personality Window, your options are:

F1 - Yes Select this option if you want to:
Exit the Personality Screen and save the personality as specified to disk.

F2 - No Select this option if you want to:
Discontinue with this procedure.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Personality Screen.

CHANGE/EDIT THE PERSONALITY

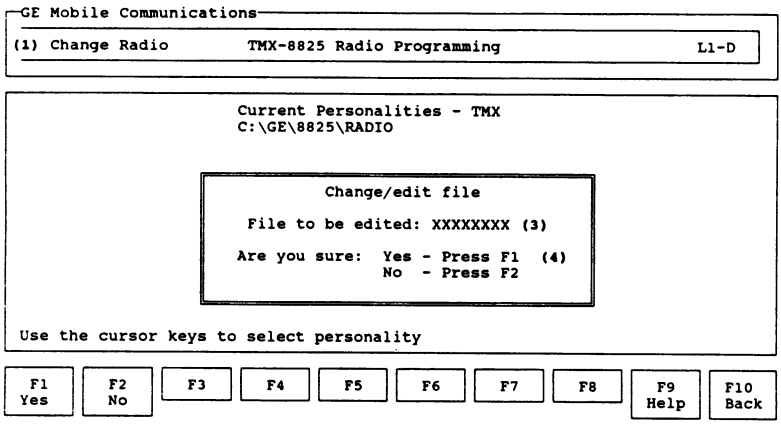


Figure 4-26 - Change/Edit File Window

(1) Function - indicates change radio function
(2) Window Title - change/edit file window
(3) File to be Edited - personality name to be edited
(4) Continue Prompt - continue or abort option

The Change/Edit File Window, shown in Figure 4-26, is accessed by selecting **F2 Change** while in the Current Personalities Screen. This window is used select a personality residing in the current directory that you wish to change or edit.

File to be Edited

(3) The **File to be Edited** field is used to specify the file name of the set to be edited.

Enter the desired file name. You can use up to eight valid characters in any alphanumeric combination. This field is an upper case field, therefore all characters will be converted to upper case even if entered in lower case. This field will not accept file names that are not acceptable to DOS.

From the Change/Edit File Window, your options are:

F1 - Yes	Select this option if you want to: Change the personality selected.
F2 - No	Select this option if you want to: Discontinue with this procedure.
F9 - Help	Select this option if you want to: Receive further information pertaining to a field area.
F10 - Back	Select this option if you want to: Return to the Current Personalities Screen.

PROGRAMMING THE PERSONALITY INTO THE RADIO

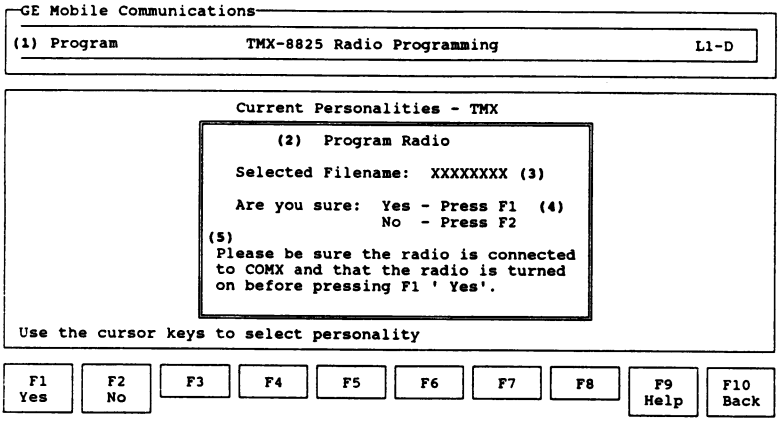


Figure 4-27 - Program Radio Window

(1) Function - indicates program function
(2) Window Title - program radio window
(3) Selected Filename - program operation personality name
(4) Continue Prompt - continue or abort option
(5) Note Line - denotes steps necessary to continue

The Program Radio Window, shown in Figure 4-27, is accessed by selecting **F5 Program** while in the Current Personalities Screen. This window is used to enter the name of the personality to be used for programming the radio.

Selected Filename

(3) The **Selected Filename** field is used to specify the name of the personality to use for programming the radio.

Enter the name of the personality you want to use for the program operation. This field will accept up to eight characters in any alphanumeric combination. Alphabetic characters will automatically be converted to upper case. To be valid, the name must correspond to a currently defined personality.

From the Program Radio Window, your options are:

F1 - Yes	Select this option if you want to: Program the personality into the radio.
F2 - No	Select this option if you want to: Discontinue with this procedure.
F9 - Help	Select this option if you want to: Receive further information pertaining to a field area.
F10 - Back	Select this option if you want to: Return to the Current Personalities Screen.

READING THE PERSONALITY OUT OF THE RADIO

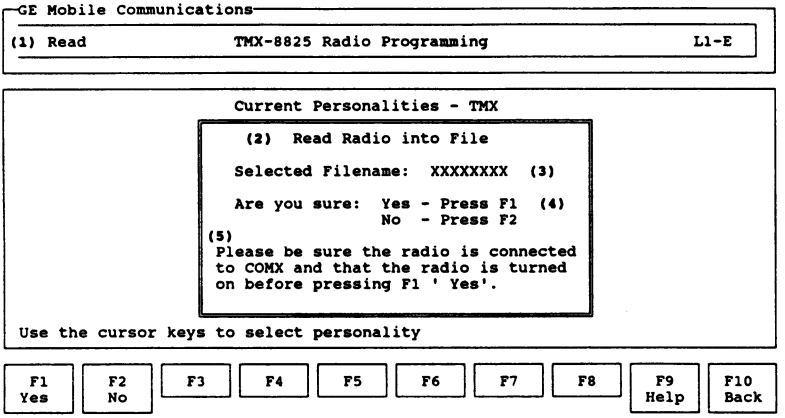


Figure 4-28 - Read Radio Into File Window

(1) Function - indicates read function
(2) Window Title - read radio into file window
(3) Selected Filename - read operation personality name
(4) Continue Prompt - continue or abort option
(5) Note Line - denotes steps necessary to continue

The Read Radio Into File Window, shown in Figure 4-28, is accessed by selecting **F6 Read** while in the Current Personalities Screen. This window is used to confirm the read operation selection.

Enter Filename

(3) The **Enter Filename** field is used to specify the name of the personality to use for the read operation.

Enter the name of the personality you want to use for the read operation. This field will accept up to eight characters in any alphanumeric combination. Alphabetic characters will automatically be converted to upper case. To be valid, the name must correspond to a currently defined personality.

From the Read Radio Into File Window, your options are:

F1 - Yes Select this option if you want to:
Read the radio personality and save under the name selected.

F2 - No Select this option if you want to:
Discontinue with this procedure.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Current Personalities Screen.

CHAPTER 5
USING THE UTILITIES

UTILITY WINDOW

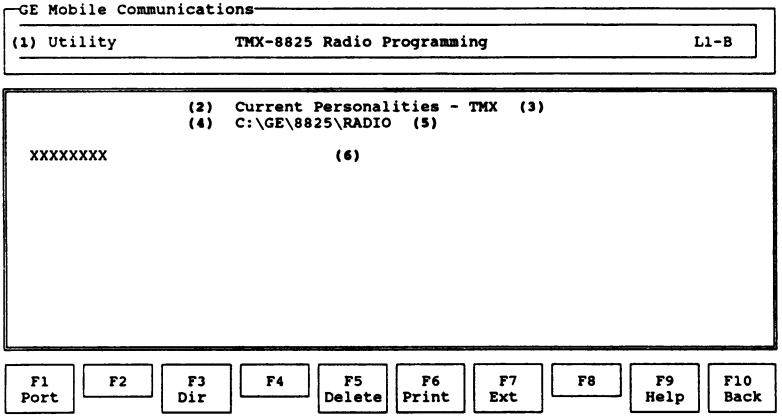


Figure 5-1 - Utility Window

(1)	Function	- indicates utility function
(2)	Window Title	- utility window
(3)	Default Extension	- designated default extension
(4)	Current Drive	- designated drive
(5)	Current Directory	- designated directory name
(6)	Personality Area	- personalities in current directory

The Utility Window, shown in Figure 5-1, is accessed by pressing **F3 Utilty** while in the Current Personalities Screen. This window allows access to infrequently used functions which have little relationship to the actual programming of a radio. This window and its fields are much like the Current Personalities Screen. Note, however, the Function field changes to "Utility" and the Function Key options also change.

From the Utility Window, your options are:

F1 - Port Select this option if you want to:
Change the port to use for programming radios.

F3 - Dir Select this option if you want to:
Change your current directory.

F5 - Delete Select this option if you want to:
Delete a personality from the disk.

F6 - Print Select this option if you want to:
Print out the personality to the printer, screen, or file.

F7 - Ext Select this option if you want to:
Change the current extension.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Current Personalities Screen.

Changing the Communications Port

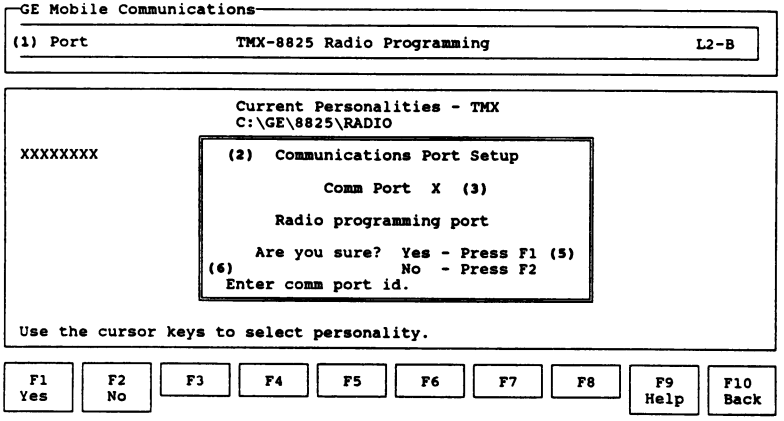


Figure 5-2 - Communications Port Setup Window

(1) Function - indicates port function
(2) Window Title - communications port setup window
(3) Comm Port Field - communications port indicator
(4) Continue prompt - continue or abort options
(5) Prompt Line - current field instruction line

The Communications Port Setup Window, shown in Figure 5-2, is accessed by selecting **F1 Port** while in the Utility Window. This window allows you to select the communications port you want to use in programming the radio.

Comm Port

(3) The **Communications Port Identification** field is used to identify the communications port to use for programming the radio. There are only two ports available for this purpose: COM1 and COM2.

Enter the desired port by selecting a "1" to indicate COM1 or a "2" to indicate COM2. No other numbers will be accepted in this field. After selection has been made, press **F1 Yes** to perform the change.

From the Communications Port Setup Window, your options are:

F1 - Yes Select this option if you want to:
Continue with this change.

F2 - No Select this option if you want to:
Cancel this procedure.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Utility Window.

NOTE

Once the **F1 Yes** key is selected, the setup file is updated to reflect the new selection and that selection will become the default until a new selection is made.

Change Directories

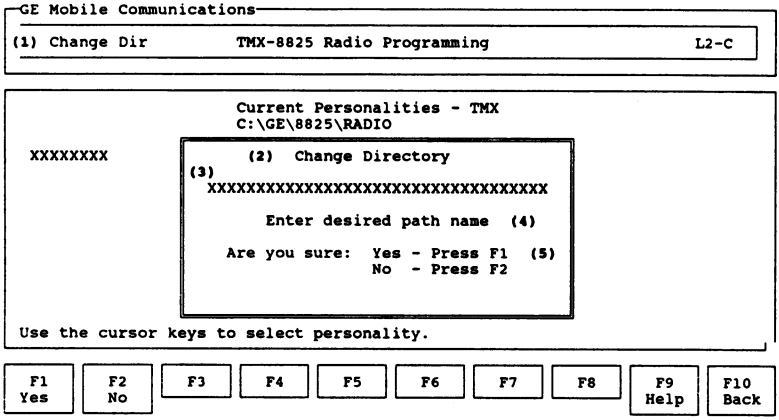


Figure 5-3 - Change Directory Window

(1)	Function	- indicates change dir function
(2)	Window Title	- change directory window
(3)	Path Field	- identify path to be changed
(4)	Prompt Line	- current field instruction line
(5)	Continue Prompt	- continue or abort option

The Change Directory Window, shown in Figure 5-3, is accessed by selecting **F3 Dir** while in the Utility Window. This window allows you to change directories without leaving the program.

Path (3) The **Path** field is used to specify the new path.

Enter the desired path. Any valid DOS path identifier with no more than 32 characters will be accepted. To perform the actual change, press **F1 Yes**.

From the Change Directory Window, your options are:

F1 - Yes Select this option if you want to:
Continue with this change.

F2 - No Select this option if you want to:
Cancel this procedure.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Utility Window.

NOTE

Pressing **F1 Yes** will return you to the Utility Window under the specified directory.

Delete Personality

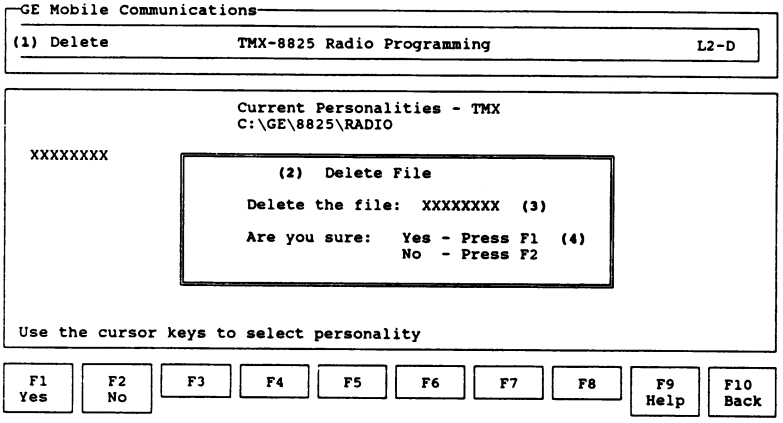


Figure 5-4 - Delete File Window

(1) Function - indicates delete function
(2) Window Title - delete file window
(3) Delete the File - personality to be deleted
(4) Continue Prompt - continue or abort option

The Delete File Window, shown in Figure 5-4, is accessed by selecting **F5 Delete** while in the Utility Window. This window allows you to delete a personality without leaving the program.

Delete the File

(3) The **Delete the File** field is used to indicate the name of the personality to be deleted.

Enter the name of the existing personality you want to delete and press **F1 Yes**. The program will display a confirmation prompt before deletion occurs.

NOTE

Deletion of a personality will remove it permanently.

From the Delete File Window, your options are:

F1 - Yes Select this option if you want to:
Continue with this change.

F2 - No Select this option if you want to:
Cancel this procedure.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Utility Window.

NOTE

If **F1 Yes** is selected the personality named will be PERMANENTLY deleted. If you do not wish to delete the personality, select **F2 No.**

Print Personality

Print to Printer Option

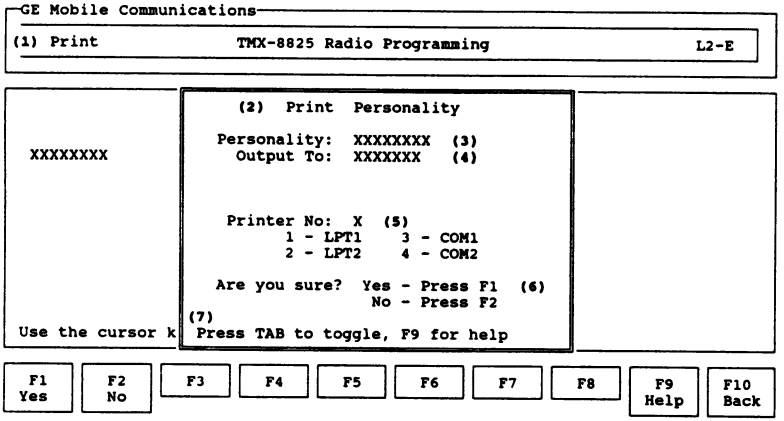


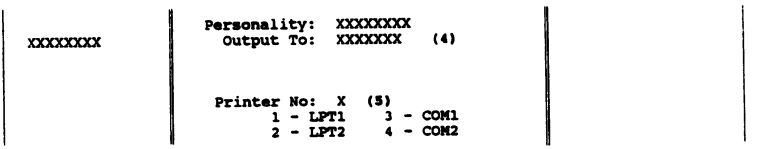
Figure 5-5 - Print Personality "Printer" Window

(1)	Function	- indicates print function
(2)	Window Title	- print personality "printer" window
(3)	Personality Field	- identifies personality to print
(4)	Output To Field	- personality will print to printer
(5)	Printer Number Field	- identify printer selection
(6)	Continue Prompt	- continue or abort option
(7)	Prompt Line	- current field instruction line

The Print Personality "Printer" Window, shown in Figure 5-5, is accessed by selecting **F6 Print** while in the Utility Window and toggling to "Printer" while in the Output To field. This window allows you to generate a hard copy printout.

Personality (3) The **Personality** field is used to identify the personality you wish to print. The default personality will be the current personality.

This field automatically defaults to the current personality. To change the file name simply cursor into the field and type in the desired personality.



Output To (4) The **Output To** field is used to identify where you will print the personality.

Using the **Tab** key as a toggle switch, specify "Printer" as the printout destination.

Printer No (5) The **Printer Number** field is used to identify which printer port you will be printing to.

Using the **Tab** key as a toggle switch, select the printer port for your printer:

- 1: LPT1 printer port
- 2: LPT2 printer port
- 3: COM1 printer port
- 4: COM2 printer port

After selecting the appropriate printer port, press **F1 Yes** to generate a hard copy printout.

From the Print Personality "Printer" Window, your options are:

F1 - Yes Select this option if you want to:
Print to the printer.

F2 - No Select this option if you want to:
Cancel the print que and return to the window.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Utility Window.

NOTE

If you select **F1 Yes**, the PC Programming Software will perform a final edit check notifying you if your printer is not on-line. If the printer is on-line the information will then print.

Print to Screen Option

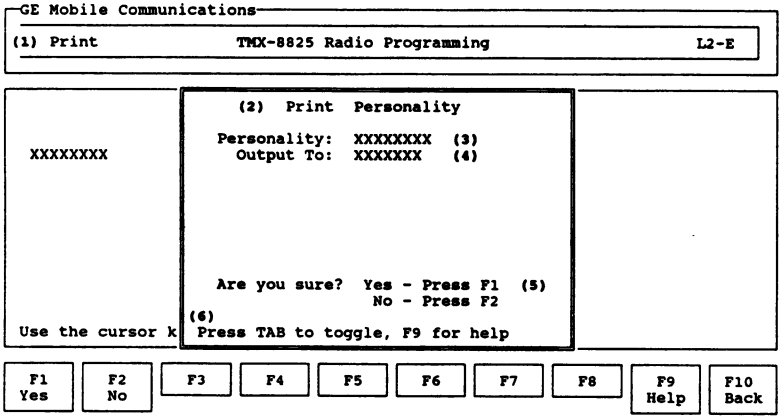
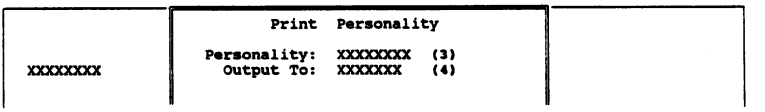


Figure 5-6 - Print Personality "Screen" Window

(1) Function - indicates print function
(2) Window Title - print personality "screen" window
(3) Personality Field - identifies personality to print
(4) Output To Field - personality will print to screen
(5) Continue Prompt - continue or abort option
(6) Prompt Line - current field instruction line

The Print Personality "Screen" Window, shown in Figure 5-6, is accessed by selecting **F6 Print** while in the Utility Window and toggling to "Screen" while in the Output To field. From this window you can generate a printout of the personality data to the screen allowing you to page through it.



Personality (3) The **Personality** field is used to identify the personality you wish to print. The default personality will be the current personality.

This field automatically defaults to the current personality. To change the file name simply cursor into the field and type in the desired personality.

Output To (4) The **Output To** field is used to identify where you will print the personality.

Using the **Tab** key as a toggle switch, specify "Screen" as the printout destination.

Pressing **F1 Yes** will generate the printout and the personality data will appear on the screen allowing you to page through it.

From the Print Personality "Screen" Window, your options are:

F1 - Yes Select this option if you want to:
Print to the screen.

F2 - No Select this option if you want to:
Cancel the print que and return to the window.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Utility Window.

Print to File Option

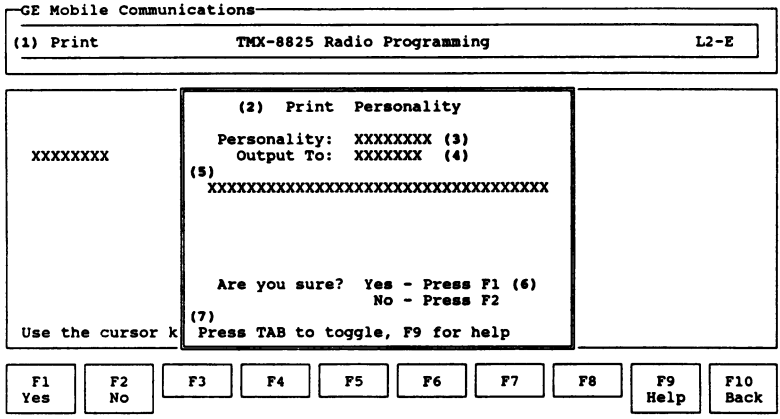


Figure 5-7 - Print Personality "File" Window

(1)	Function	- indicates print function
(2)	Window Title	- print personality "file" window
(3)	Personality Field	- identifies personality to print
(4)	Output To Field	- personality will print to file
(5)	Destination	- identify printer selection
(6)	Continue Prompt	- continue or abort option
(7)	Prompt Line	- current field instruction line

The Print Personality "File" Window, shown in Figure 5-7, is accessed by selecting **F6 Print** while in the Utility Window and toggling to "File" while in the Output To field. This window allows you to cause the printout to be generated to the specified file for printout at a later time.

Personality (3) The **Personality** field is used to identify the personality you wish to print. The default personality will be the current personality.

This field automatically defaults to the current personality. To change the file name simply cursor into the field and type in the desired personality.

Output To (4) The **Output To** field is used to identify where you will print the personality.

Using the **Tab** key as a toggle switch, specify "File" as the printout destination.

Destination (5) The **Destination** field is used to enter the path/file name for the printed output.

Enter a valid path/file name. You can use up to 35 characters in this field.

Pressing **F1 Yes** causes the printout to be generated to the specified file for printout at a later time.

From the Print Personality "File" Window, your options are:

F1 - Yes Select this option if you want to:
Print to the file.

F2 - No Select this option if you want to:
Cancel the print que and return to the window.

F9 - Help Select this option if you want to:
Receive further information pertaining to a field area.

F10 - Back Select this option if you want to:
Return to the Utility Window.

NOTE

When **F1 Yes** is selected, the PC Programming Software will perform a final edit check to see that you are not overwriting a file with information already stored on it. If you are, a warning will appear to let you know. If no file is being overwritten, a message will indicate that the printout is being generated and return you to the Utility Window.

Change Extension

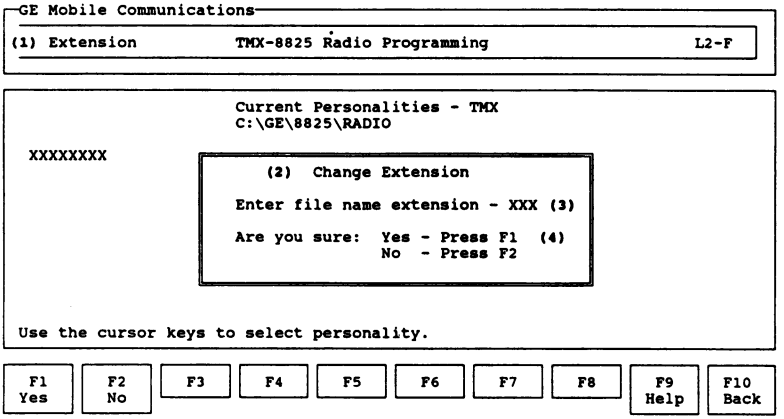


Figure 5-8 - Change Extension Window

(1) Function - indicates extension function
(2) Window Title - change extension window
(3) Enter File Name Ext - identifies extension
(4) Continue Prompt - continue or abort option

The Change Extension Window, shown in Figure 5-8, is accessed by selecting **F7 Ext** while in the Utility Window. This window allows you to select the extension in which personalities are displayed on the screen.

Enter File Name Extension

(3) The **Enter File Name Extension** field is used to enter the new file extension to use as the default. This extension will be displayed at the top of the Current Personalities Screen.

Enter three alphanumeric characters as valid file extensions. After specifying the extension, press **F1 Yes** to perform the change.

From the Change Extension Window, your options are:

F1 - Yes	Select this option if you want to: Continue with this change.
F2 - No	Select this option if you want to: Cancel this procedure.
F9 - Help	Select this option if you want to: Receive further information pertaining to a field area.
F10 - Back	Select this option if you want to: Return to the Utility Window.

CHAPTER 6
WHEN PROBLEMS ARISE

This chapter is devoted exclusively to explaining the error messages you might encounter and how to rectify the situation while programming the unit. However, should your program lock up and no error message appear, it is best to reboot the system by pressing **Cntrl-Alt-Del** simultaneously. What you have previously programmed will probably be lost so don't do this unless the keyboard keys no longer function.

NOTICE TO USERS

Some TSR's (Terminate and Stay Resident Programs) cause an undesired interaction with the PC programmer causing it to act strangely or lock the machine up. If you experience strange behavior with the PC programmer, please remove all memory resident programs and TSR's.

A

Problem: "All Groups must have a valid group number."

An attempt was made to define a group without a group number.

Solution: Enter a valid group number for the group entered.

C

Problem: "Cannot page down."

This is an indication that you can no longer page down through your display data on the window either because you have reached the physical end of your data or the window is not complete.

Solution: If you are at the end of your data, you can do nothing more than page up. Otherwise check to ensure that your current window is completely filled in.

Problem: "Cannot page up."

This is an indication that you are at the very beginning of a data display window.

Solution: Discontinue paging up.

Problem: "Cannot save file - disk full."

This message is an indication that your disk is running out of storage space. You will not be able to save the personality unless you have enough disk space in which to store a personality.

Solution: You will need to create disk space on your disk or get a new data disk. Refer to your DOS User's Guide for help in deleting files.

Problem: "Could not delete file."

An attempt was made to delete either a personality or a frequency set that could not be deleted because the file doesn't exist, the drive is write protected, or there is a problem with the diskette.

Solution: Ensure that the personality or frequency set you are trying to delete actually exists. Next check to ensure that the diskette is not write protected.

Problem: "Could not open file."

This message is an indication that the program could not read one of the temporary files it created.

Solution: Please contact GE Mobile Communications if you receive this message.

Problem: "Could not open port."

An attempt was made to print a personality to a communications port that was not installed or was non-functional.

Solution: Ensure that the port specified is correctly installed in your machine and is operational. Refer to your Technical Reference Manual for more information on communications ports.

Problem: "Could not open temporary file."

At various times, the PC Programmer creates temporary files for storage. This message is an indication that the program could not read one of the temporary files it created.

Solution: Please contact GE Mobile Communications if you receive this message.

D

Problem: "Device not present."

An attempt was made to print the personality to a printer that was either not installed or was non-functional.

Solution: Ensure that the printer specified is correctly installed and operational before attempting further prints. Most printers are installed on LPT1.

Problem: "Directory does not exist."

This is an indication that the directory you tried to change to does not exist. The programmer will ask if it should create the directory.

Solution: Only specify a valid path/directory when attempting to change directories, or specify that the programmer should create it.

F

Problem: "File does not exist."

An attempt was made to change/delete or print a personality that does not exist.

Solution: Correct the file name entry before further attempts are made.

Problem: "File exists. Press 'Y' to overwrite, "N" to quit."

An attempt was made to save a personality, frequency set, or tone set to disk while a file with the same name exists.

Solution: Select 'Y' to overwrite the existing file, or select 'N' in order to rename the file.

Problem: "File is not correct type."

An attempt was made to change either a personality or frequency set and the file selected was not of the correct type.

Solution: Remove or do not use the questionable file.

Problem: "File name may not contain an extension."

An attempt was made to specify a file extension from the change/edit or delete window.

Solution: These windows do not require the addition of a file extension when the file name is specified. Remove the file extension before further attempts are made.

Problem: "File not found."

An attempt was made to change/delete or print a personality or frequency set that does not exist.

Solution: Correct the file name entry before further attempts are made.

Problem: "Frequency out of range."

An attempt was made to enter a frequency that does not fall within the band split selected.

Solution: Ensure that the frequency specified falls within the band split indicated at the top of the window.

Problem: "Frequency set does not exist."

An attempt was made to specify a frequency set that does not exist in the Pool directory.

Solution: Ensure that the frequency set specified actually exists in the Currently Defined Frequency sets window by pressing **F4 Freqs**.

G

Problem: "Group numbers must be in ascending order."

An attempt was made to enter a group number that was not in ascending order.

Solution: Enter a group number that is in ascending order.

Problem: "Group sets must contain at least one group."

An attempt was made to save a group set to disk without a group defined. This is a condition not allowed by the programmer.

Solution: Define a group before attempt to save.

I

Problem: "Incorrect file size/type."

An attempt was made to change either a personality or frequency set and the file selected was not of the correct type.

Solution: Remove or do not use the questionable file.

Problem: "Insufficient Space on Specified Drive."

An attempt was made to save a personality to disk when the disk was full.

Solution: Change the path specified to redirect the personality to another drive. After saving the personality, exit the programmer and remove old/unused files. Refer to your DOS User's Guide for more information on deleting files.

Problem: "Invalid area name."

This message indicates that some of the characters entered are not valid for the area name.

Solution: Refer to the Acceptable Values Appendix (Appendix C) in the back of this manual for valid characters for radio display. Re-enter the name using valid displayable characters.

Problem: "Invalid CCT Value."

An attempt was made to enter a value outside the range of 0.5 to 7.5 or to enter a value that was not divisible by 0.5.

Solution: Enter a valid carrier control timer value.

Problem: "Invalid Channel Guard entered."

An attempt was made to enter an invalid tone Channel Guard, Digital Channel Guard or a inverted Digital Channel Guard that is outside of the acceptable range.

Solution: Enter a tone Channel Guard within the range of 67.0 to 210.7 or refer to Appendix D for a valid Digital and inverted Digital Channel Guard codes.

Problem: Invalid channel name."

This message indicates that some of the characters entered are not valid for the channel name.

Solution: Refer to the Acceptable Values Appendix (Appendix C) in the back of this manual for valid characters for radio display. Re-enter the channel name using valid displayable characters.

Problem: "Invalid channel spacing."

An attempt was made to enter a frequency that has an incorrect channel spacing for this particular split.

Solution: Enter a frequency that is evenly divisible by .0125.

Problem: "Invalid Drive Specification."

An attempt was made to save the personality to a drive that does not exist.

Solution: Enter only a valid drive specification.

Problem: "Invalid extension specified."

An attempt was made to specify an extension (from the Change Extension Window) that does not meet the conditions for a valid extension.

Solution: Ensure that the extension specified consists of only alphanumeric characters.

Problem: "Invalid file name."

An attempt was made to enter a file name that is not acceptable to DOS or the programmer.

Solution: Correct the file name entry before further attempts are made. Refer to your DOS User's Guide for more information on file naming convention.

Problem: Invalid group name."
This message indicates that some of the characters entered are not valid for the group name.

Solution: Refer to the Acceptable Values Appendix (Appendix C) in the back of this manual for valid characters for radio display. Re-enter the group name using valid displayable characters.

Problem: "Invalid phone number."
An attempt was made to enter a number containing characters not acceptable to the PC programmer.

Solution: Enter only the digits 0 - 9, #, *, or P when defining a phone number.

Problem: "Invalid port entered."

An attempt was made to specify a communications port other than COM1 or COM2. The PC Programmer Software only supports COM1 or COM2.

Solution: Use either COM1 or COM2 for programming.

M

Problem: "Max prom size has been exceeded, some data must be deleted."

An attempt was made to enter more information than the personality can hold.

Solution: Return to a personality field and delete some of the data.

Problem: "Must be on Frequency Set or Tone Set field."

The **F1 Detail** key was pressed while the cursor was on a field other than the frequency set or tone set field. The detail key will only work when the cursor is on the frequency or tone set you wish to detail.

Solution: Move the cursor to the frequency set or tone set field before attempting to perform the detail operation.

Problem: "Must specify file name."

An attempt was made to change/edit a personality, frequency set, or tone set without specifying a file name.

Solution: Enter a valid file name.

O

Problem: "Out of paper."

An attempt was made to print to a printer where there was not paper.

Solution: Insert paper in the printer and re-initiate the print function.

P

Problem: "Printer busy."

An attempt was made to print to a printer where other information was already being printed.

Solution: Either designate another printer to print to or wait until the present printer is no longer busy.

Problem: "Printer error - printer not on line."
"Printer not on line."
"Printer off line."

An attempt was made to print to a printer that is either not powered up or is off line.

Solution: Ensure that power is applied to the printer in that the on line indicator is illuminated.

Problem: "Problem with Print."

An attempt was made to print a personality and the main program could not initiate the print task. There are three common reasons for the print initiate to fail. There is not enough memory available, the print executable is not in the right directory for the initiate, or you are using a version of DOS earlier than version 3.0 or higher.

Solution: First, check to ensure that you are running the right version of DOS. Exit the program and at the DOS prompt, type **VER <enter>**. Typing this command will cause the DOS version to appear on the window. If this number is 1.XX or 2.XX you will need to upgrade to DOS 3.0 or higher. Next, check to ensure that 8825PRT.EXE file resides in the same directory as the 8825.EXE file. If the 8825PRT.EXE file is not there, copy it from the distribution diskettes. However, if the print is there then you must be running out of memory. If you have any memory resident programs installed then remove them before continuing.

Problem: "Problem with Read."

An attempt was made to read the unit and the main program could not initiate the read task. There are three common reasons for the read initiate to fail. There is not enough memory available, the read executable is not in the right directory for the initiate, or you are using a version of DOS earlier than version 3.0 or higher.

Solution: First, check to ensure that you are running the right version of DOS. Exit the program and at the DOS prompt, type **VER <enter>**. Typing this command will cause the DOS version to appear on the window. If this number is 1.XX or 2.XX you will need to upgrade to DOS 3.0 or higher. Next, check to ensure that the correct read file resides in the same directory as the 8825.EXE file. If the read file is not there, copy it from the distribution diskettes. However, if the read is there then you must be running out of memory. If you have any memory resident programs installed then remove them before continuing.

Problem: "Problem with Write"

An attempt was made to write a personality and the main program could not initiate the write task. There are three common reasons for the write initiate to fail. First, there is not enough memory available, the write executable is not in the right directory for the initiate or you are using a version of DOS earlier than version 3.0 or higher.

Solution: First, check to ensure that you are running the right version of DOS. Exit the program and at the DOS prompt, type **VER <enter>**. Typing this command will cause the DOS version to appear on the window. If this number is 1.XX or 2.XX you will need to upgrade to DOS 3.0 or higher. Next, check to ensure that correct write file resides in the same directory as the 8825.EXE file. If the write file is not there, copy it from the distribution diskettes. However, if the write is there then you must be running out of memory. If you have any memory resident programs installed then remove them before continuing.

R

Problem: "Read failed. Check connection."

This message will appear whenever handshaking with the unit fails. There are several reasons for the program being unable to handshake with the unit: power is not applied to the unit, cabling is not properly seated or connected, incorrect communications port has been specified, or the unit is turned off or malfunctioning.

Solution: The first step is to try and isolate the cause of the problem. Is the unit malfunctioning? Replace the unit with a known good unit and attempt a read. If the message reappears, then the problem is not with the unit. Is your cabling connected and seated correctly? Refer to the hardware configuration in Chapter 2 for help in making this determination. Lastly, do you have the right port specified? Go into the Utility Window and change the port setup. If the problem still appears you should check your asynchronous card for functionality.

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APPENDIX A

TERMS

Cursor Keys - The keys on the right hand side of the keyboard marked with arrows (Up Arrow, Right Arrow, Down Arrow and Left Arrow keys). They are used to control the direction of the cursor.

Default Value - The 8825 radio software provides predetermined (default) values in a majority of the data entry fields within the program. Exceptions to this rule are fields requiring variable names, dates, and serial numbers. The default values assume that the radio will be used without optional features. Before changing these default values, we recommend that you be familiar with the operational implications of adding a particular feature or option to the radio being programmed.

Detail - Allows you to view a particular frequency set from the Personality Screen, or a tone set window from the Personality Screen or the Area X Group Tone Data Window.

Error Messages - Each time data is entered in the program, a validity check is made to ensure that reasonable values were entered. In the event that the data does not fall within the acceptable range of values, an error message will be displayed in the center of the screen indicating non acceptance.

Field - Refers to the area of the screen/window which allows data entry. This area is readily identifiable by a reverse video bar when moving the cursor across the screen.

Frequency Set - Refers to a collection of channel definitions that can be stored to disk for later recall. These channels must fall within a particular band split.

Function Keys - Function keys are the keys, often found on the left-hand portion of your PC's keyboard, which begin with the prefix F. The function keys are used in the PC Programmer Software to execute a particular command.

Help - Throughout the 8825 radio software, Help denotes or refers to on-line assistance. This can be accessed by pressing the **F9 Help** key from any field.

PC Programmer Software - This term is used to identify the programming software for the 8825 radio.

Personality - Used generically to refer to information that is stored in the radio that makes one radio perform differently from all other radios. That information can be created, deleted or modified and stored on a disk for later reference.

Pool - Refers to a directory in the data base where frequency sets and tone sets are stored.

Prompt Line - Assistance text located on the last line of the window. This line provides directions for entering data and changes when moving from field to field.

Screen - Refers to a major or parent data entry process and is used to show position within the program. Each screen is divided into three distinct areas: (1) screen title, (2) screen windows, and (3) active function keys. The title tells you where you are in the program hierarchy. The screen windows are provided for input of data to the screen. The active function keys provide access to the commands (or actions) available within that screen. The function key commands are labeled along the bottom of the screen. Only the function keys with labels are enabled in a given screen or window.

Squelch Tail Elimination - Refers to inverting the phase of the Channel Guard tone in order to mute the audio of the receiving radio while the carrier is diminishing after transmit ends.

Window - A window is a section of a screen that displays previously stored information, enables programming alternatives, or accepts data currently being entered. There may be more than one window within a particular screen. Each window is outlined within the screen presentation.

There are two types of windows: active and passive. The active window is available for data entry or revision and can be identified by its highlighted borders. The passive window is displayed but is unavailable for program execution. In the case that windows have

overlapping borders, the active window is presented in the foreground.

Like the screen, windows are divided into three distinct sections. They are: (1) window title, (2) work area, and (3) prompt line. The window title describes the function currently being performed. The work area is the space provided for your input to the window. The prompt line is printed information in the lower portion of the window defining in further detail the action to be taken in the work area.

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APPENDIX B
FUNCTION KEYS

F1

F1 Setup -From the Current Persoanlity Screen this key allows the user to program his area option defaults that will be used when creating any new personalities.

F1 Detail - From the frequency set field in the Personality Screen this key provides access to view or modify frequency set definitions in the personality only. From the tone set fields in the Personality Screen and also the Area Group Tone Data Window, tone sets can be viewed or modified in the personality. To save these modifications to the "POOL" Directory, the **F5 Store** key must be pressed.

F1 Port - From the Utility Window the Communications Port Setup key allows you to select a port on your personal computer to be used for communicating with the radio.

F1 Yes - The selected operation will be executed. At numerous times during programming of the radio, the program may ask you if you want to complete an operation. When you press this key the selected operation will be completed.

F2

F2 Change - From the Current Personalities Screen this function key allows you to change or edit an existing personality. This key, along with the **F4 New** key, provides access to the Personality Screen. From the Currently Defined Frequency Sets Screen this key allows you to change or edit an existing frequency set. From the Currently Defined Tone Sets Screen this key allows you to change or edit an existing tone set.

F2 Dial # - Used to store preprogrammed phone numbers for the 8825 radio in the repertoire dialer.

F2 No - The selected operation will be canceled. At numerous times during programming of the radio, the program will ask if you wish to complete an operation. When you press this key the selected operation will <u>not</u> be executed.

F3

F3 Dir - The Change Directory Function Key command is enabled within the Utility Window and allows you to change directories without having to exit the program.

F3 Text - The Text Select Function Key enables use of the "Text" window within the Personality Screen. This window will automatically provide the software revision number and software revision date for the TMX 8825 radio when last programmed. This window also accepts additional information (in text format) which you may wish to include about a particular radio personality.

F3 Utilty - The Utility Function Key provides access to the Utility Window from the Current Personalities Screen. The Utility Window allows you to change the communications port, change file directories, delete a personality, print a personality, or change file extensions without exiting the program.

F4

F4 Freqs - The Frequency Sets Function Key is used to create, delete, or modify frequency sets.

F4 New - From the Current Personalities Screen, this key allows you to create new personalities. From the Currently Defined Frequency Sets Screen, this key allows you to create a new frequency set. From the Currently Defined Tone Sets Screen this key allows you to create a new tone set.

F5

F5 Delete - Used to delete or remove a personality, tone set, or frequency set from the data base.

F5 Progrm - The Program Function Key is enabled in the Current Personalities Screen. This function writes a personality stored on disk to the radio.

F5 Store - Used to save modified frequency and tone sets to "Pool" directory.

F5 Tones - The Tone Sets Function Key is used to create, delete, or modify tone sets.

F6

F6 Groups - The Groups Function Key allows you to program group tone sets for a trunked frequency set.

F6 Print - This function allows you to obtain a hard (paper) copy of the personality data stored in memory. This key is enabled in the Utility Window and also provides the capability to print personality data to a file or to the window.

F6 Read - The Read Select Function Key is accessed from the Current Personalities Screen. This key provides the capability to read a specific radio personality into a file.

F7

F7 ArOpts - The Area Options Function Key allows you to define tone combinations for a trunked area in the Personality Screen.

F7 Ext - The Extension Select Function Key is accessed in the Utility Window, and allows you to define a new three letter default extension.

F8

F8 Option - The Radio Options Function Key provides the capability to create or modify radio option data affecting the entire radio.

F9

F9 Help - Is used to provide assistance from any screen or window. Whenever you have a question about the execution of an operation, select this key. There are two levels of help messages:

Field Level Help messages are provided from any screen or any window by simply pressing the **F9 Help** key and provides additional information on the field in question.

Window Level Help messages are provided by pressing the **Shift F9 Help** key and describes the purpose of the data presented in the window.

F10

F10 Back - When this key is pressed you will return to a previous window, making it active again for further revisions or data entry. In some cases, it will return control of the program to the Current Personalities Screen.

F10 Exit - When selected from the Current Personalities Screen, the program is terminated and you are returned to the control of your disk operating system (DOS).

APPENDIX C

ACCEPTABLE VALUES

Input Field	Acceptable Values	Default Value
Valid Radio		
Display Characters	A-Z, 0-9, +, -, <, >, =, ', *, /, \, (,),	blank
Radio Personality		
Area Name	valid display characters	ARxx where xx is the number of the area
Decode Frequency Sets	name of a frequency set stored in the pool directory	blank
Encode Frequency Sets	name of a trunked frequency set stored in the pool directory	name of decode frequency set copied to the field
Special Call Tone Set	name of a tone set rogrammed in the pool directory	blank
Individual Tone Set	name of a tone set programmed in the pool directory	name of the special call copied to the tone set field
Trunked Freq Sets		
Transmit Frequency	806.0125 to 824.9875 divisible by 12.5 KHz	blank
Receive Frequency	851.0125 to 869.9875 divisible by 12.5 KHz	Tx frequency plus 45 MHz

Input Field	Acceptable Values	Default Value
Conventional Freq Sets		
Channel Name	4 Display Characters	_CHX where _ is a space and X is the channel number 1-9
Transmit Frequency	806.0125 to 809.7375 divisible by .0125 MHz, OR 851.0125 to 854.7375 divisible by .0125 MHz.	blank
Receive Frequency	851.0125 to 854.7375 divisible by .0125 MHz	Tx frequency if Tx is between 851 & 854. Tx frequency + 45 MHz if Tx is between 806 & 809
Transmit Channel Guard	Tone Channel Guard range 67.0 - 210.7. Inverted Digital Channel Guard range - see CG Table (Appendix D). Digital Channel Guard range - see CG Table (Appendix D). No CG - N, 0 or leave the field blank If CNTRL-E is selected, range is 50 - 255.	blank
Receive Channel Guard	Tone Channel Guard range 67.0 - 210.7. Inverted Digital Channel Guard range - see CG Table (Appendix D). Digital Channel Guard range - see CG Table (Appendix D). No CG - N, 0 or leave the field blank If CNTRL-E is selected, range is 50 - 255.	Tx CG

Input Field	Acceptable Values	Default Value
Conventional Freq Sets (Cont.)		
Transmit STE	Y or N	N
Receive STE	Y or N	N
Carrier Control Timer	Y or N	N
Direct Frequency Set		
Display Name	4 display characters	_DIR, where _ is a space
Direct Frequency Mode	frequency range of 851.0125 to 854.7375 divisible by .0125 MHz.	blank
Busy Tone Type	Standard or Alternate	Standard
GE-MARC Tone Set		
Tone #1, #2, #3, #4	1 to 34 (inclusive) 2 and 4 tone combinations	blank
Enable Decode	Yes or No	Yes
Enable Encode	Yes or No	Yes
Enable External Alarm	Yes or No	No
Area X Group Tone Set		
Name	4 display characters	_GRX, where _ is a space and X is the group number 1-9

Input Field	Acceptable Values	Default Value
Area X Group Tone Set (Cont.)		
Tone Set Name	name of a tone set programmed in the pool directory	blank
Multi-Group Decode	Yes or No	Yes
Area X Options		
Busy Tone Type	STD or ALT	STD
Busy Tone Length	90, 180, 270, 360	90
GE-MARC V Collect Tone Length	5 to 20	20
Individual Decode Alarm	Yes or No	No
Auto Interconnect	Yes or No	No
Wide Area Scan Names	list names of areas to be scanned for incoming calls not exceeding 20 channels	blank
Options		
Received Call Alert	Yes or No	Yes
Call Retry	Yes or No	No
On-Hook Call Terminate	Yes or No	Yes

Input Field	Acceptable Values	Default Value
Options (Cont.)		
Off-Hook Call Originate	Yes or No	Yes
Carrier Control Timer	0.5 to 7.5 divisible by 0.5, or DIS	2.0
Dial Delay after DTMF *	0, 1, 2, 3, 4, 5, 6,7	2
DTMF Digit Length	100, 150, 200, 250, 300, 350, 400, 450	200
Disable Test Mode	Yes or No	Yes
Repertoire Dial Numbers		
Phone Number	up to 15 characters limited to and including 0 through 9, #, *, and P	blank
Text Window		
User Defined Text	User Defined Text Any line of text, using valid characters, user wishes to enter.	blank
Program Radio		
Enter Filename	Any eight character alphabetic valid DOS file name that corresponds to a currently defined personality.	The highlighted name in the current personalities screen.
Read Radio into File		
File Name	Valid DOS file name	blank

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APPENDIX D

PRIMARY & EQUIVALENT DIGITAL CODES

PRIM. CODE	EQUIVALENT CODE	PRIM. CODE	EQUIVALENT CODE	PRIM. CODE	EQUIVALENT CODE
023	340,766	132	605,634,714	237	464,642,772
025		133	413,620	243	267,342
026	566	134	273	245	370,554
031	374,643	135	205,610	246	542,653
032		136	502,712	252	661
036	137	142	174,270	254	314,612,706
037	560,627	143	333	255	425
043	355	144	466,666	262	316,431,730
047	375,707	145	525	266	655
051	520,771	147	303,306,761	271	427,510,762
053		150	256,703	274	652
054	405,675	152	366,415	276	326,432
056	465,656	153	606,630	307	362,565
057	172	155	233,660	311	330,456,561
060	116,737	156	517,741	312	515,663,743
065	301	157	322,503	315	321,673
066	734	161	345,532	317	546,614,751
067	516,720	162	416	324	343,570
071	603,717,746	163	460,607,654	325	550,626
072	470,701	164	207,732	331	372,507
073	640	165	354	332	433,552
074	360,721	171	265,426	344	471,664,715
075	501,624	176	244,417	346	616,635,724
076	203,754	212	253	351	353,435
104	226,557	213	263,736	356	521
107	365	217	371,453,530	363	436,443,444,662
114	327,615	222	445,457,575	446	467,511,672
115	534,674	223	350,475,750	447	473,474,731,744
117	411,756	224	313,506,574	452	524,765
122	535	225	536	454	513,545,564
123	632,657	227	261,567	455	533,551
125	173	231	504,631,636,745	462	472,623,725
127	412,441,711	234	423,563,621,713	523	647,726
130	364,641	235	611,671,723	526	562,645
131	572,702	236	251,704,742		

APPENDIX D

PRIMARY & INVERTED DIGITAL CODES

PRIMARY CODE	INVERTED CODE	PRIMARY CODE	INVERTED CODE	PRIMARY CODE	INVERTED CODE
023	47	132	317	237	26
025	176	133	54	243	351
026	237	134	223	245	72
031	37	135	213	246	523
032	51	136	114	252	462
036	57	142	74	254	346
037	31	143	127	255	446
043	222	144	363	262	235
047	23	145	274	266	454
051	32	147	71	271	65
053	452	150	307	274	145
054	133	152	115	276	67
056	331	153	231	307	150
057	36	155	447	311	344
060	76	156	171	312	163
065	271	157	162	315	234
066	217	161	324	317	132
067	276	162	157	324	161
071	147	163	312	325	526
072	245	164	227	331	56
073	224	165	236	332	455
074	142	171	156	344	311
075	123	176	25	346	254
076	60	212	356	351	243
104	117	213	135	356	212
107	125	217	66	363	144
114	-136	222	43	446	255
115	152	223	134	447	155
117	104	224	73	452	53
122	225	225	122	454	266
123	75	227	164	455	332
125	107	231	153	462	252
127	143	234	315	523	246
130	131	235	262	526	325
131	130	236	165		

APPENDIX E

CHANNEL GUARD TONE FREQUENCIES

STANDARD TONE FREQUENCIES (Hz)				
67.0	88.5	107.2	131.8	167.9
71.9	91.5	110.9	136.5	173.8
74.4	94.8	114.8	141.3	179.9
77.0	97.4	118.8	146.2	186.2
79.7	100.0	123.0	151.4	192.8
82.5	103.5	127.3	156.7	203.5
85.4			162.2	210.7

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APPENDIX F
WORK SHEET FOLDER
TMX 8825
Work Sheet A
Frequency Sets
Trunked

CH	FREQUENCIES	
	TRANSMIT	RECEIVE
01		
02		
03		
04		
05		
06		
07		
08		
09		
10		

CH	FREQUENCIES	
	TRANSMIT	RECEIVE
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

APPENDIX F
WORK SHEET FOLDER
TMX 8825
Work Sheet C
Frequency Sets
Direct

DISPLAY NAME	DIRECT MODE FREQ. (within 851.0125 - 854.7375)	BUSY TONE TYPE
_____	_____	STANDARD (3051.6 Hz) ALTERNATE (2918.7 Hz)

APPENDIX F
WORK SHEET FOLDER
TMX 8825
Work Sheet D
Tone Sets

TONE #1	TONE #2	TONE #3	TONE #4	ENABLE DECODE	ENABLE DECODE	ENABLE DECODE
_____	_____	_____	_____	YES NO	YES NO	YES NO

APPENDIX F
WORK SHEET FOLDER
TMX 8825
Work Sheet E
Personality
page 1 of 4

#	NAME	FREQUENCY SETS		TONE SETS	
		DECODE	ENCODE	SPECIAL CALL	IND DECODE
1	AR01				
2	AR02				
3	AR03				
4	AR04				
5	AR05				
6	AR06				
7	AR07				
8	AR08				
9	AR09				

APPENDIX F
WORK SHEET FOLDER
TMX 8825
Work Sheet E
Personality
page 2 of 4

#	NAME	FREQUENCY SETS		TONE SETS	
		DECODE	ENCODE	SPECIAL CALL	IND DECODE
10	AR10				
11	AR11				
12	AR12				
13	AR13				
14	AR14				
15	AR15				
16	AR16				
17	AR17				
18	AR18				

APPENDIX F
WORK SHEET FOLDER
TMX 8825
Work Sheet E
Personality
page 3 of 4

#	NAME	FREQUENCY SETS		TONE SETS	
		DECODE	ENCODE	SPECIAL CALL	IND DECODE
19	AR19				
20	AR20				
21	AR21				
22	AR22				
23	AR23				
24	AR24				
25	AR25				
26	AR26				
27	AR27				

APPENDIX F
WORK SHEET FOLDER
TMX 8825
Work Sheet E
Personality
page 4 of 4

#	NAME	FREQUENCY SETS		TONE SETS	
		DECODE	ENCODE	SPECIAL CALL	IND DECODE
28	AR28				
29	AR29				
30	AR30				
31	AR31				
32	AR32				
33	AR33				
34	AR34				
35	AR35				
36	AR36				

APPENDIX F
WORK SHEET FOLDER
TMX 8825

Work Sheet F
Area Group Tone Data

AREA _____

GROUP	DISPLAY NAME	TONESET NAME	MULTI-GROUP DECODE	
GROUP 1			YES	NO
GROUP 2			YES	NO
GROUP 3			YES	NO
GROUP 4				
GROUP 5				
GROUP 6				
GROUP 7				
GROUP 8				
GROUP 9				

APPENDIX F
WORK SHEET FOLDER
TMX 8825
Work Sheet G
Area Options

AREA _____

BUSY TONE TYPE	BUSY TONE LENGTH (msecs)	GE-MARC V COLLECT TONE LENGTH (5 - 20)
ALT (2918.7 Hz) STD (3051.6 Hz)	90 180 270 360	

INDIVIDUAL DECODE ALARM	AUTO INTERCONNECT	WIDE AREA SCAN NAMES
YES	YES	_____ _____
NO	NO	_____ _____

APPENDIX F
WORK SHEET FOLDER
TMX 8825
Work Sheet H
Radio Options

RECEIVED CALL ALERT	CALL RETRY	ON-HOOK CALL TERMINATE	OFF-HOOK CALL ORIGINATE
YES NO	YES NO	YES NO	YES NO
CARRIER CONTROL TIMER (mins)	DIAL DELAY AFTER DTMF STAR (secs)	DTMF DIGIT LENGTH (msecs)	DISABLE TEST MODE
_____	0 1 2 3 4 5 6 7	100 150 200 250 300 350 400 450	YES NO