GE Mobile Communications
PC Programming

S-825™ Series Control Unit

For
IBM PC/XT
Or True PC Compatible

Programming Guide

PERSONAL COMPUTER PROGRAMMING

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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.

Built in the USA, the GE S825 Control Unit is a rugged control unit that has been designed to give you greater flexibility and ease of use. From the oversized, color-coded, uniquely shaped buttons to the user programmable features of the siren/lights and auxiliary buttons this control unit has an unparalleled level of flexibility and friendliness.

This manual is organized to support you in programming the S825 Control Unit and will discuss:

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

Whether you are a technician experienced in programming other GE control units or a first time user, this manual has been written to give you a clear and concise understanding of the S825 Control Unit.

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 S825 Control Unit 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 PC Programming Software.

Chapter 3 - is a short tutorial that will lead you through the basic operation of the program. 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 a control unit personality. The purpose of each screen/window is discussed in detail and what is required so that your control unit will operate the way you want it to.

Chapter 5 - gives you 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 what function keys you will run across and a definition of what function they will perform.

C. Acceptable Values - The range of values the PC 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 S825 Control Unit 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 control unit 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 control unit 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 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 reverse video when moving the cursor across the screen.

Help - Throughout the Control Unit PC Programmer 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 to refer to information that is stored in the control unit that makes one control unit perform differently from all other

control units. That information can 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 Work Sheet Definition - Work Sheet A in the Work Sheet Folder. This work sheet will assist you in defining the frequency sets for the data base, allowing you to define 12 channels worth of information. Space has been provided for writing in the channel name, frequency information and Channel Guard information.

Mode Work Sheet - Work Sheet B in the Work Sheet Folder. This work sheet is used to assist you in defining mode data. Space has been provided for defining up to four modes.

Control Unit Options Work Sheet - Work Sheet C in the Work Sheet Folder. This work sheet presents the options available for the control unit.

Radio Options Work Sheet - also on Work Sheet C in the Work Sheet Folder. This work sheet presents all of the available options for the associated radio.

Siren/Light Combinations Work Sheet - Work Sheet D in the Work Sheet Folder. The siren/light work sheet will assist you in defining the wail, yelp, and siren/light combinations. Room has been provided to select the siren to use and indicate which combination of lights you desire for the function.

Channel Guard Table Work Sheet - Work Sheet E in the Work Sheet Folder. The Channel Guard work sheet is used in defining the Channel Guard override selection table for the control unit. Space has been provided to enter a three character ID and transmit and receive Channel Guards for each of the 14 entries.

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 the 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 control unit. There are four major categories of data entry screens:

- Current Personalities Screen
- Control Unit Personality Screen

- Currently Defined Frequency Sets Screen
- Frequency Set Definitions Screen

Current Personalities Screen - The Current Personalities Screen lists the file names of all stored control unit 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.

Control Unit Personality Screen - Data defining the control unit personality is entered into the Control Unit Screen which can be accessed from the Current Personalities Screen by pressing function keys **F2 Change** or **F4 New**. Within this screen you can define the operational characteristics of the control unit. This includes channel data, signalling schemes, and control features. There is also a window for storing text you may want to record.

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.

Frequency Set Definition Screen - This screen is used to create/edit frequency sets. A frequency set is a collection of channels all within the same band split that will be assigned to a mode.

USING THE KEYBOARD

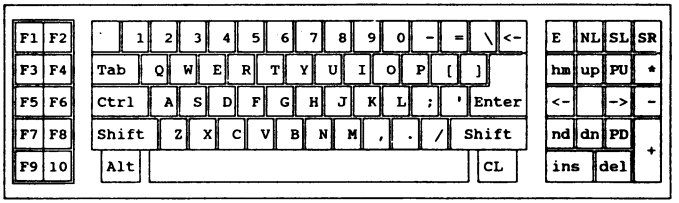


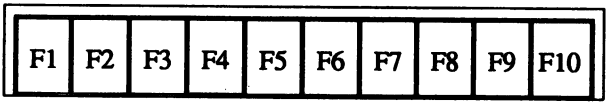
Figure 1-1 - Keyboard

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:

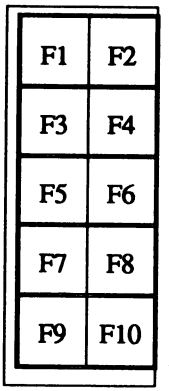
- Function
- Character
- Editing
- Movement
- Special Usage

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 presenting 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 S825 PC Programming Software.

FUNCTION KEY TABLE

	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
A	Setup	Change	Utility	New	Progrm	Read			Help	Exit
B	Switch	Freq	Keypad	Range					Help	Back
C		Change		New	Delete				Help	Back
D		Insert	Remove		Store				Help	Back
E	Yes	No							Help	Back
F	Detail	Insert	Remove	Signal	Progrm		Option	More	Help	Back
G	Detail	Insert	Remove	Scan	Progrm		Option	More	Help	Back
H	Port		Dir		Delete	Print	Ext		Help	Back
I	Siren	CG	Fnc	Signal	Radio	Key			Help	Back
J		Freq		Text				More	Help	Back
K									Help	Back

A - Current Personalities Screen

B - Setup Windows

C - Currently Defined Frequency Sets Screen

D - Frequency Set Definitions Screen

E - Change/Edit File Window
Save File Window
Comm Port Setup Window
Change Directory Window
Delete File Window
Print Personality Window
Change Extension Window
Program Radio Window
Read Radio into File Window

F - Control Unit Personality "Scan" - Window

G - Control Unit Personality "Signal" - Window

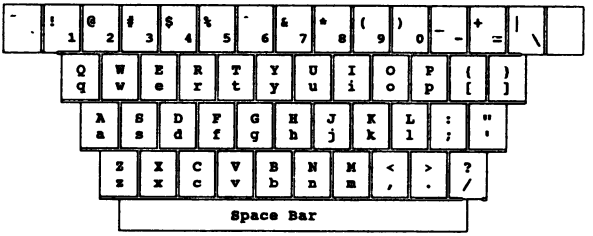
H - Utility Window

I - Control Unit Options Window

J - Control Unit Personality - More Window

K - Siren/Lights Window
Channel Guard Window
Function Button Window
Emergency Signalling Window
Radio Options Window
System Keypad Definition Window
Scan Keypad Definition Window

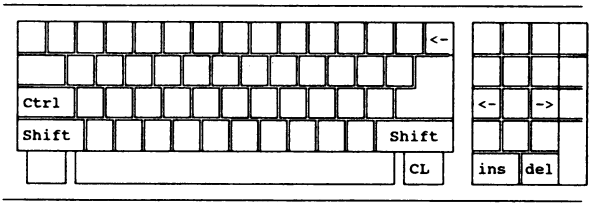
Character Keys



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.

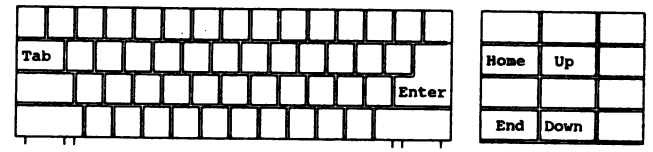
Shift/Caps Lock: Enabled, the Shift or Caps Lock key writes all alphabetic characters in capitalized letters.

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 to the left of the cursor are deleted and then all characters opposing the deletion are moved right or left to fill the space.

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.

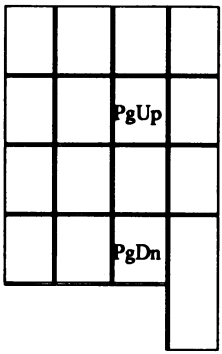
Down Arrow: The data entered into the present field is accepted and the cursor is advanced to the next field.

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.

Special Usage Keys



Two keys are represented in this category: Page Up (**PgUp**): Used to return to the previous page in the Control Unit Personality Screen and the Frequency Set Definitions Screen. The screen will advance one page at a time until the beginning page is presented. Also used in a similar manner in the Help Window.

Page Down (**PgDn**): Used to advance to the following page in the Control Unit Personality Screen and the Frequency Set Definitions Screen. The screen will retreat one page at a time until the last page is reached. Also used in a similar manner in the Help Window.

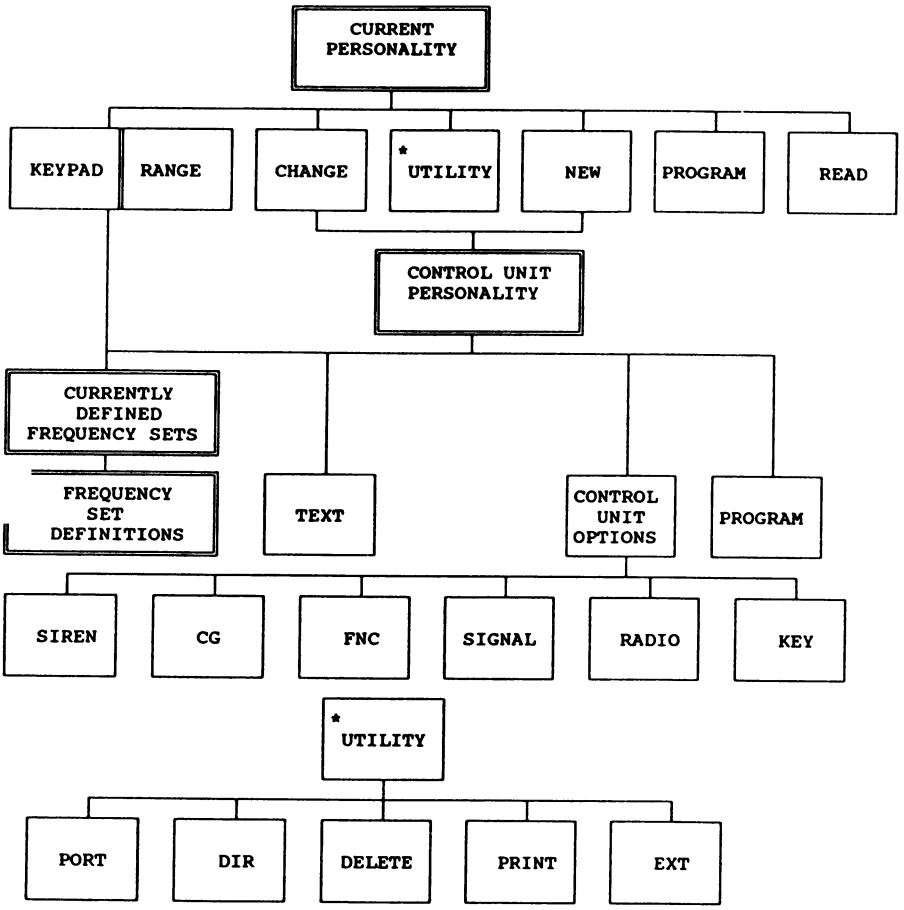


Figure 1-2 - S825 Control Unit PC Programming Flow Chart

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CHAPTER 2
INSTALLATION

UNPACKING

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

Control Unit Programming Software (TQ-3337), to include:
Three double-sided, double-density 5-1/4 inch diskettes.
(Labeled "Program Disk #1", Program Disk #2" and "Program Disk #3".)
Or, a single 3-1/2 inch diskette. (TQ-4337)

PC PROGRAMMING SOFTWARE REQUIREMENTS

The following hardware and software is required to program the S825 Control Unit:

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, either dual flexible (floppy) or a single floppy with fixed (hard) disk drive system.
2. 640K Internal RAM.
3. Serial Port.
4. Parallel Port (recommended) for connection of a printer.

B. Serial Programming Interface Module (19D438367G1), RS-232 Cable (19B235027P1) and Power Supply (19B800850P2). All of these items are part of TQ-3310 package.

C. Control Unit Programming Cable (TQ-3338).

D. S825 Control Unit Programming Software (TQ-3337).

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 three double sided double density 5-1/4 inch diskettes labeled "Program Disk # 1", "Program Disk # 2" and "Program Disk #3". These diskettes are very sensitive and fragile and, therefore, should be handled with care and stored in a secure area.

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 back-ups 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 Figure 2-1 - Programming System Hook-Up, 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 S825 Control Unit PC Programming Software only communicates with the control unit 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.

The other end of the RS-232 cable should now be connected into the computer receptacle on the Serial Interface Programming Module. Check carefully to ensure that plugs are fully seated in the receptacle and, if retaining screws are included, that they are carefully tightened to firmly hold the plug in place. Should the plug not seat correctly to its receptacle, remove the plug and examine the pins to determine if the proper plug was inserted and to determine if pins are aligned and undamaged. Damaged pins and broken connections will cause the PC Programming Software to fail.

Step Two:

Position your S825 Control Unit on your work area in a convenient place. In order to program the unit, you must connect the control unit to a DC power supply. Ensure that power is applied to the control unit prior to attempting programming.

Connect the PC Programming Cable (TQ-3338) as depicted in Figure 2-1. The Programming Cable is inserted into the receptacle on the back of the control unit. Again, you should ensure that the plug is fully seated in its receptacle. The cover must be removed before connecting the cable.

Connect Power Supply (19B800850P2) to the Serial Programming Interface Module as indicated in Figure 2-1. This power supply must be connected while programming the control unit.

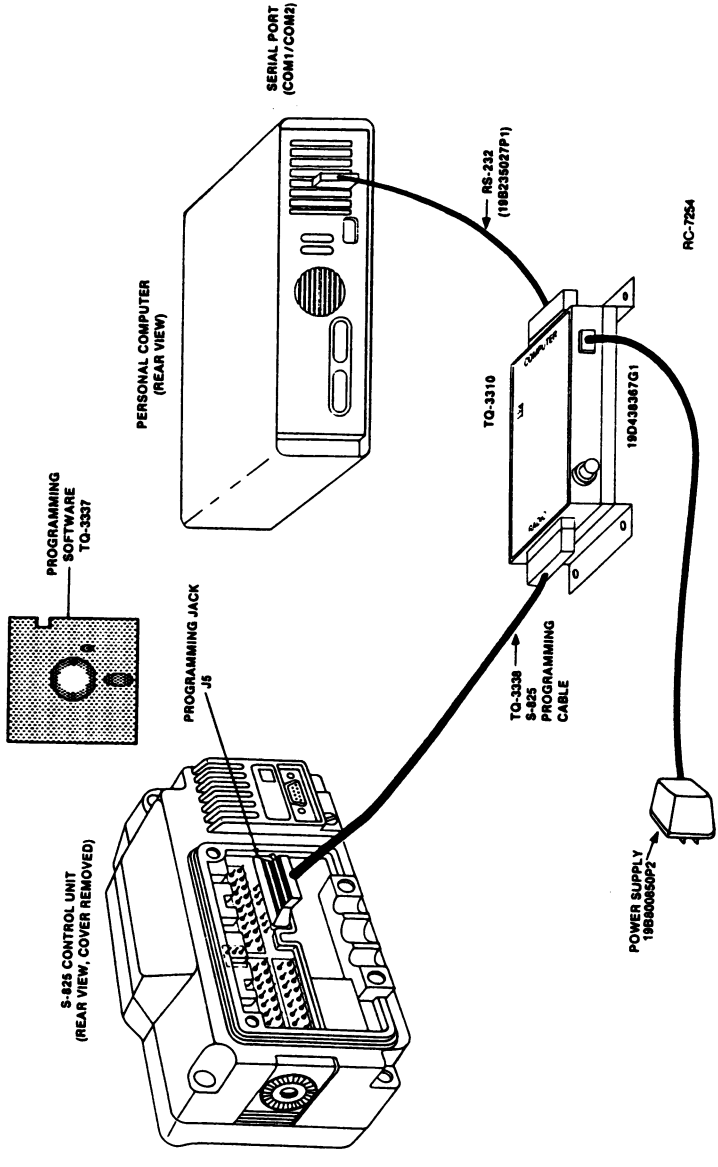


Figure 2-1 - Programming System Hook-Up

LOADING THE SOFTWARE

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

Software Installation

This section is for hard drive users only. If dual floppies are being used, skip this section and go on to "Program Entry".

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 screen in Figure 2-2 - Software Installation Screen, will appear.

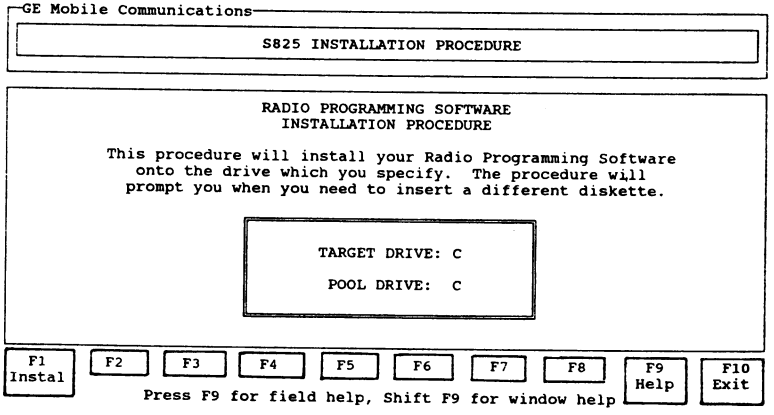


Figure 2-2 - Software Installation Screen

Enter the target drive and press F1. 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 the 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:

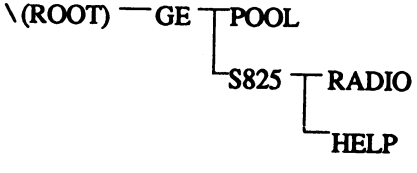
INSTALL <enter>

When the screen in Figure 2-2 appears, enter the target drive and press F1. This will cause the program to copy the files from the distribution diskette to your hard drive.

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 and also applies to floppy disk users.

When the S825 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 S825 software. From the GE directory, two subdirectories are created: Pool and S825. The Pool directory is used to store frequency sets that are created during program operation while the S825 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 S825 Control Unit PC Programming Software:

Type: **C: <enter>**	this step will ensure that the current drive is C:
Type: **cd\GE <enter>**	this step will ensure that the current path is the root directory
Type: **S825 <enter>**	

The S825 PC Programming Software is now loaded into memory and an introductory screen appears identifying the program.

Dual Floppy

When the S825 PC Programming Software is used in a dual floppy configured computer, several additional steps are required before loading the software.

1 Insert the DOS disk in Drive A: and "boot" or turn on the system.

2. Place a blank diskette in Drive B: and format this diskette according to your DOS User's Manual.

NOTE

The formatted disk in Drive B: will become your data disk on which you will store the personality information and data for your control unit.

3. At the prompt, type:

   MD B:\GE <enter>
   MD B:\GE\POOL <enter>
   MD B:\GE\S825 <enter>
   MD B:\GE\S825\RADIO <enter>

4. Replace DOS disk in Drive A: with PC Programming Software disk labelled Program Disk #2.

5. At the prompt, type:

   COPY A:\GE\POOL*.* B:\GE\POOL

   This will transfer the radio pool files from the distribution disk to the data disk.

6. Replace Program Disk #2 in Drive A: with disk labelled Program Disk #1.

7. At the prompt, type:

A:	to ensure that the current drive is A:
cd\GE <enter>	to ensure the current path is the root directory
S825 <enter>	to bring you into the introductory screen (Current Personalities Screen).

When the Current Personalities Screen appears, replace Program Disk# 1 in drive A: with Program Disk # 2.

NOTE

Program Disk #3 contains the online helps. Anytime you require an online help, ensure that Program Disk #3 is in Drive A:

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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 control unit is set up according to the installation procedures in Chapter 2. Once installation has been completed follow the Program Entry steps (for Hard Disk, or Dual Floppy). After you have typed in **S825** and pressed **<enter>**, the Current Personalities Screen will appear and you are now ready to begin this tutorial.

From the Current Personalities Screen, press **F1 Setup.**

From the Setup Window, press **F2 Freq.**

This will take you into the Currently Defined Frequency Sets Window. Before you can create a personality you will need to create frequency sets. A frequency set is nothing more than a collection of channels. The PC Programmer Software allows you to define these sets and save them on disk. They make personality creation very simple because all you do is specify which frequency set to use for the mode. In the window are two sample frequency sets named SAMPLE1 and SAMPLE2.

Using the right arrow key move cursor over to SAMPLE2 and press **F2 Change.** A Change/Edit File Window will appear, select **F1 Yes.**

This tells the PC Programmer Software to pull up the SAMPLE2 frequency set and allows you to edit it. You will see that two channels have been named and defined in this frequency set.

Using the down arrow key move cursor down until the cursor is on Channel 3. Type **37/50** and press **<enter>.**

That number becomes the alphanumeric display name of the channel on the control unit.

Press **<enter>** to move into the Tx Freq field. Type **37.5** and again press **<enter>.**

You will notice that the Tx Freq number also appears in the Rx Freq field.

Now that you have added your third channel, you want to save it back to disk.

To do so, press **F10 Back.** The Save File Window will appear. Press **F1 Exit with save.** You will get a file overwrite prompt. Press **Y** to continue.

We are now going to create a personality using the frequency set you just defined.

Press **F10 Back** (from the Currently Defined Frequency Sets Window) and then press **F10 Back** again (from the Setup Window). You will now be in the Current Personalities Screen. Select **F4 New** and the Control Unit Personality Screen will appear.

The first step in defining a a personality is to define the mode. A mode consists of an alphanumeric display name and a frequency set.

Type in **MODE 1** as the display name and press **<enter>.** The cursor will move to the frequency set field. To specify the frequency set that you want to use for this mode, type **SAMPLE2** and press **<enter>.**

The program will pull the frequency set SAMPLE2 into this mode. You can view this frequency set from the Detail Window.

Using your left cursor key move cursor over to the frequency set field and press **F1 Detail.**

The Detail Window will display the channels for that set.

Press **F10 Back.**

You have just created a personality!

Press **F10 Back** and the Save Personality Window will appear. Press **Ctrl-Backspace** simultaneously to clear out the file name field. Type **PERS1.**

Your newly created personality has now been named and is ready to be saved to disk.

Press **F1 Exit with save.**

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

The next step is to program the personality into the control unit. 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 control unit. 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 control unit and read the personality out of the control unit 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 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**, and press **F1 Yes.**

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

CHAPTER 4
RUNNING THE PROGRAM

INITIALIZATION

Depending on its manufacturer, your personal computer will have certain unique operating characteristics which makes 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>

S825 <enter>

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

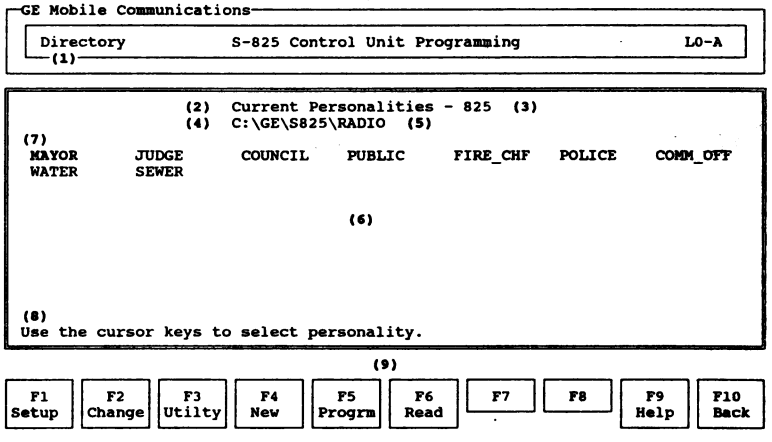


Figure 4-1 - Current Personalities Screen

(1)	Function	- indicates current function
(2)	Screen Title	- identifies screen
(3)	Default Extension	- designated extension
(4)	Current Drive	- designated drive
(5)	Current Directory	- designated directory name
(6)	Personality Fields	- personalities in current directory
(7)	Highlighted Personality	- indicates cursor location
(8)	Prompt Line	- current field instruction line
(9)	Function Keys	- entry to specific program area

The Current Personalities screen, shown in Figure 4-1, is the main screen for the S825 Control Unit PC Programmer Software. From this screen you will be able to create personalities, program personalities into the control unit, and read personalities out of the control unit. To access a personality, move the cursor (a 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.

NOTE

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

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:
Select the default keypad type and frequency range.

F2 Change — Select this option if you want to:
Change/edit an existing personality.

F3 Utility — Select this option if you want to:
Print a personality, delete a personality, change the directory, change the extension, or change the communication port entry.

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

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

F6 Read — Select this option if you want to:
Read the personality out of the unit.

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.

SETTING UP THE PROGRAM

To set up the program you will first need to select the **F1 Setup** key while in the Current Personalities Screen.

The setup portion of this program consists of three distinct windows:

- The System Keypad Definition Window
- The Scan Keypad Definition Window
- The Frequency Ranges Window

The two Keypad Definition Windows give the user the ability to define the keypad defaults used whenever a new personality is created.

The Frequency Ranges Window provides for setting the band split default for a particular personality.

System Keypad Definition

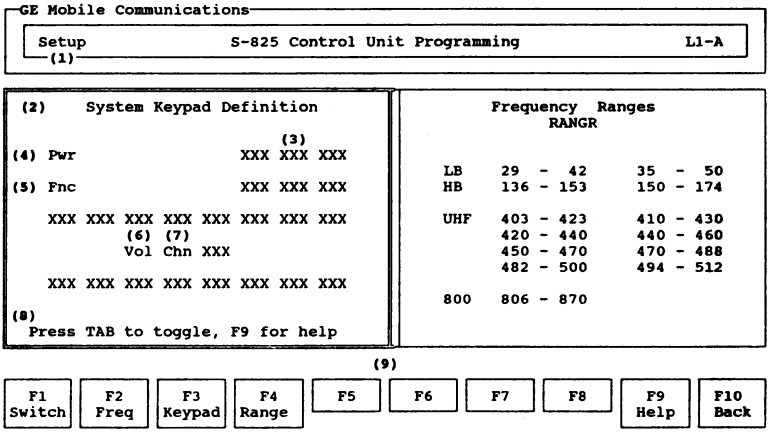


Figure 4-2 - System Keypad Definition Window

(1)	Function	- indicates current functions
(2)	Window Title	- identifies window
(3)	First Input Field	- toggle or type desired data
(4)	Power Field	- keypad reference, "display only"
(5)	Function Field	- keypad reference, "display only"
(6)	Volume Field	- keypad reference, "display only"
(7)	Channel Field	- keypad reference, "display only"
(8)	Prompt Line	- current field instruction line
(9)	Function Keys	- entry to specific program area

The System Keypad Definition Window, shown in Figure 4-2, allows you to select the defaults to be used when creating a new personality. This window can be accessed by selecting **F1 Setup** from the Current Personalities Screen or selecting **F3 Keypad** from the Scan Keypad Definition Window. The layout of this screen is selected to represent the physical layout of the keys on the System model of the S825 Control Unit. Upon entry in this window, the cursor will be located in the first input field of the window. This input field is a toggle field and represents the same key as on the control unit keypad. To define the key, toggle the field (using the Tab key) until the correct selection is displayed or if you know the selection you want you can type it in. Movement between fields in this window is limited to the Enter key, and up and down arrow keys. Inside each field the left and right cursor keys are active as are the alphanumeric keyboard keys to allow you to type in the field definition if preferred.

There are four "Display Only" fields in the System Keypad Definition Window. They are Pwr, Fnc, Vol, and Chn. These fields are for keypad reference and cannot be accessed.

The toggle fields and functionality represented in the System Keypad Definition Window are:

WAI	- Wail (initiates the wail siren)
YLP	- Yelp (initiates the yelp siren)
RST	- Reset (will disable all siren/lights)
S/L1 to S/L8	- Siren/Light Combinations (initiates the programmed combination of sirens and lights)
GE*	- GE-STAR (generates the GE-STAR ID or T90/T99)
VG	- Voice Guard (enters an encrypted speech mode)
VRS	- Vehicular RPT On/Off
EG*	- Emergency GE-STAR

PA	- Speaker Public Address
DSB	- Key Disabled (prevents operation of key)
VLU	- Volume Up
VLD	- Volume Down
CHU	- Channel Up
CHD	- Channel Down
MOD	- Mode Select
HOM	- Home (takes you to the home channel)
SCN	- Scan (on/off)
ADD	- Add (adds channels to scan list)
DEL	- Delete (deletes channels from scan list)
SQL	- Squelch Level (sets the level of squelch)
CG	- Channel Guard Select
SPR	- External Speaker On/Off

After all selections have been made you can now either go to the Frequency Range Window or pull up the Scan Keypad Definition Window.

From the System Keypad Definition Window, your function key options are:

F1 Switch	Select this option if you want to: Change/select the default frequency range.
F2 Freq	Select this option if you want to: Create/delete or modify a frequency set.
F3 Keypad	Select this option if you want to: Define the keypad defaults for the Scan unit.
F4 Range	Select this option if you want to: Toggle the Frequency Ranges Window between RANGR, DELTA-S and DELTA-SX.
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.

Scan Keypad Definition

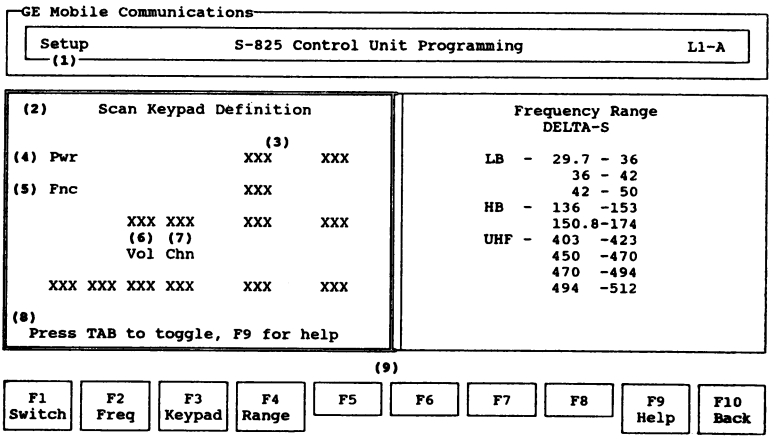


Figure 4-3 - Scan Keypad Definition Window

(1)	Function	- indicates current function
(2)	Window Title	- identifies window
(3)	First Input Field	- toggle or type desired data
(4)	Power Field	- keypad reference, "display only"
(5)	Function Field	- keypad reference, "display only"
(6)	Volume Field	- keypad reference, "display only"
(7)	Channel Field	- keypad reference, "display only"
(8)	Prompt Line	- current field instruction line
(9)	Function Keys	- entry to specific program area

The Scan Keypad Definition Window, shown in Figure 4-3, allows you to select the defaults to be used when creating a new personality. This window can be accessed by selecting **F1 Setup** from the Current Personalities Screen or selecting **F3 Keypad** from the System Keypad Definition Window. The layout of this screen is selected to represent the physical layout of the keys on the Scan model of the S825 Control Unit. Upon entry in this window, the cursor will be located in the first input field of the window. This input field is a toggle field and represents the same key as on the control unit keypad. To define the key, toggle the field (using the Tab key) until the correct selection is displayed or if you know the selection you want you can type it in. Movement between fields in this window is limited to the Enter key and up and down arrow keys. Inside each field the left and right cursor keys are active as are the alphanumeric keyboard keys to allow you to type in the field definition if preferred.

There are four "Display Only" fields in the Scan Keypad Definition Window. They are Pwr, Fnc, Vol, and Chn. These fields are for keypad reference and cannot be accessed.

The toggle fields and functionality represented in the Scan Keypad Definition Window are:

WAI	- Wail (initiates the wail siren)
YLP	- Yelp (initiates the yelp siren)
RST	- Reset (will disable all siren/lights)
S/L1 to S/L8	- Siren/Light Combinations (initiates the programmed combination of sirens and lights)
GE*	- GE-STAR (generates the GE-STAR ID or T90/T99)
VG	- Voice Guard (enters an encrypted speech mode)
VRS	- Vehicular RPT On/Off
EG*	- Emergency GE-STAR
PA	- Speaker Public Address
DSB	- Key Disabled (prevents operation of key)
VLU	- Volume Up
VLD	- Volume Down
CHU	- Channel Up
CHD	- Channel Down
MOD	- Mode Select
HOM	- Home (takes you to the home channel)
SCN	- Scan (on/off)
ADD	- Add (adds channels to scan list)
DEL	- Delete (deletes channels from scan list)
SQL	- Squelch Level (sets the level of squelch)
CG	- Channel Guard Select
SPR	- External Speaker On/Off

After all selections have been made you can now either go to the Frequency Ranges Window or pull up the System Keypad Definition Window.

From the Scan Keypad Definition Window, your function key options are:

F1 Switch Select this option if you want to:
Change/select the default frequency range.

F2 Freq	Select this option if you want to: Create/delete or modify a frequency set.
F3 Keypad	Select this option if you want to: Define the keypad defaults for the System unit.
F4 Range	Select this option if you want to: Toggle the Frequency Ranges Window between RANGR, DELTA-S and DELTA-SX.
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 Ranges Windows

There are three Frequency Ranges Windows which provide for

- RANGR,
- DELTA-S, and
- DELTA-SX.

These windows are used to select the current/desired band split default. Selection is made by moving a highlighted video bar over the selection and leaving the window either through the **F1 Switch** key or the **F10 Back** key.

Frequency Ranges - RANGR

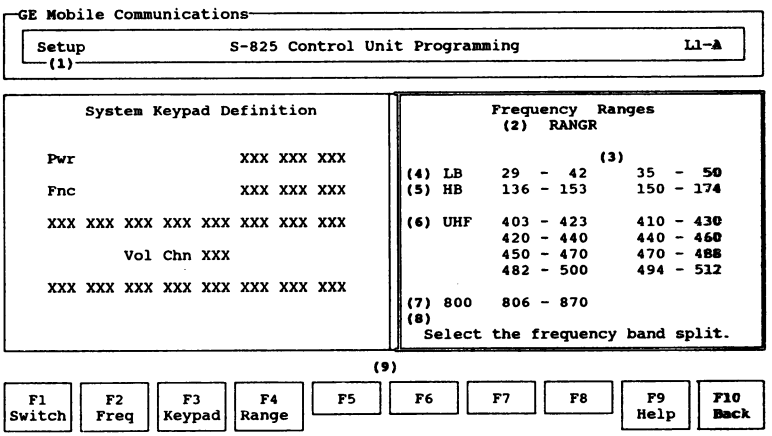


Figure 4-4 - Frequency Ranges "RANGR" Window

(1) Function - indicates current function
(2) Window Title - identifies window
(3) Frequency Fields - select frequency band split
(4) LB Frequency Range - indicates low band splits
(5) HB Frequency Range - indicates high band splits
(6) UHF Frequency Range - indicates UHF band splits
(7) 800 Frequency Range - indicates 800 band splits
(8) Prompt Line - current field instruction line
(9) Function Keys - entry to specific program area

The Frequency Ranges "RANGR" Window, shown in Figure 4-4, is used for selecting the current/desired band split default. Selecting a band split default does two things to the program. First, it tells the program which band split to use when creating new frequency sets. Secondly, it tells the program which band split is going to be used when creating a new personality. This information is critical for control units with download capability to the radio.

By pressing the **F1 Switch** key from one of the Keypad Definition Windows you can access this window. Upon entry, the cursor will be located on the last chosen field of the 14 selectable fields. The arrowed cursor keys, home and end cursor keys, Enter key, and Tab key are the only active movement keys in this window. To select a band split, position the cursor (reverse video bar) over your selection and exit the window by pressing the **F1 Switch** or **F10 Back** keys. The selected split will be saved to disk so that the program will remember it the next time the personality is called up.

From the Frequency Ranges "RANGR" Window, your function key options are:

F1 Switch	Select this option if you want to: Select the Keypad Definition Window.
F2 Freq	Select this option if you want to: Create/delete or modify a frequency set.
F3 Keypad	Select this option if you want to: Toggle the Keypad Definition Window between System and Scan.
F4 Range	Select this option if you want to: Toggle the Frequency Ranges Window between RANGR, DELTA-S and DELTA-SX.
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 Ranges - DELTA-S

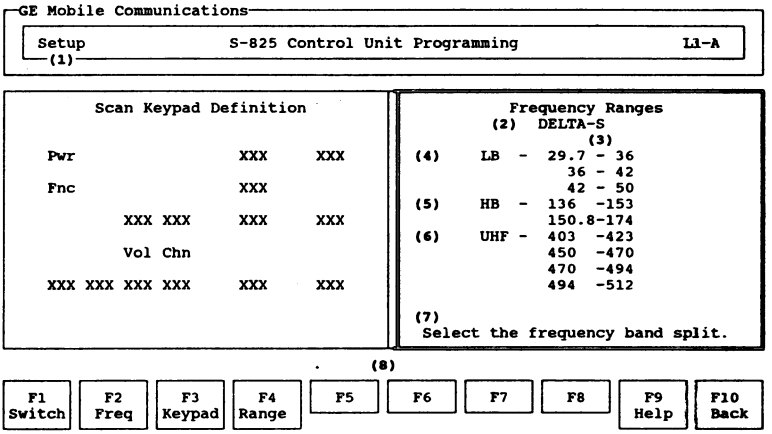


Figure 4-5 - Frequency Ranges "DELTA-SX" Window

(1)	Function	- indicates current function
(2)	Window Title	- identifies window
(3)	Frequency Fields	- select frequency band split
(4)	LB Frequency Range	- indicates low band splits
(5)	HB Frequency Range	- indicates high band splits
(6)	UHF Frequency Range	- indicates UHF band splits
(7)	Prompt Line	- current field instruction line
(8)	Function Keys	- entry to specific program area

The Frequency Ranges "DELTA-S" Window, shown in Figure 4-5, is used for selecting the band split default whenever "New" is selected from the Current Personalities Screen.

By pressing the **F1 Switch** key from one of the Keypad Definition Windows you can access this window or one of the Frequency Ranges Windows. To get to the DELTA-S Window, toggle the **F4 Range** key. Upon entry in this window, the cursor will be located on the last chosen field of the nine selectable fields. The arrowed cursor keys, home and end cursor keys, Enter key and Tab key are the only active movement keys in this window. To select a current/desired band split, position the cursor (reverse video bar) over the appropriate field and exit the window by pressing **F1 Switch** or **F10 Back**. The selected split will be saved to disk so that the program will remember it the next time the personality is called up.

From the Frequency Ranges "DELTA-S" Window, your function key options are:

F1 Switch	Select this option if you want to: Select the Keypad Definition Window.
F2 Freq	Select this option if you want to: Create/delete or modify a frequency set.
F3 Keypad	Select this option if you want to: Toggle the Keypad Definition Window between System and Scan.
F4 Range	Select this option if you want to: Toggle the Frequency Ranges Window between RANGR, DELTA-S and DELTA-SX.
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 Ranges - DELTA-SX

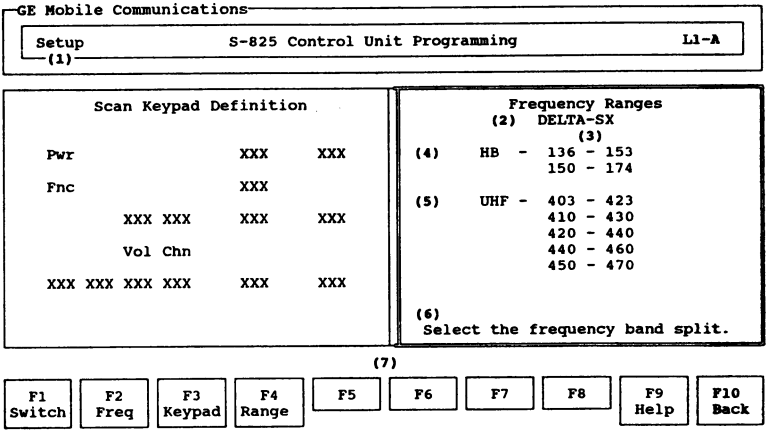


Figure 4-6 - Frequency Ranges "DELTA-SX" Window

(1) Function	- indicates current function
(2) Window Title	- identifies window
(3) Frequency Fields	- select frequency band split
(4) HB Frequency Range	- indicates high band splits
(5) UHF Frequency Range	- indicates UHF band splits
(6) Prompt Line	- current field instruction line
(7) Function Keys	- entry to specific program area

The Frequency Ranges "DELTA-SX" Window, shown in Figure 4-6, is used for selecting the band split default whenever "New" is selected from the Current Personalities Screen.

By pressing the **F1 Switch** key from one of the Keypad Definition Windows you can access this window or one of the Frequency Ranges Windows. To get to the DELTA-SX Window, toggle the **F4 Range** key. Upon entry in this window, the cursor will be located on the last chosen field of the seven selectable fields. The arrowed cursor keys, home and end cursor keys, Enter key, and Tab key are the only active movement keys in this window. To select a current/desired band split, position the cursor (reverse video bar) over the appropriate field and exit the window by pressing **F1 Switch** or **F10 Back.** The selected split will be saved to disk so that the program will remember it the next time the personality is called up.

From the Frequency Ranges "DELTA-SX" Window, your function key options are:

F1 Switch	Select this option if you want to: Select the Keypad Definition Window.
F2 Freq	Select this option if you want to: Create/delete or modify a frequency set.
F3 Keypad	Select this option if you want to: Toggle the Keypad Definition Window between System and Scan.
F4 Range	Select this option if you want to: Toggle the Frequency Ranges Window between RANGR, DELTA-S and DELTA-SX.
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

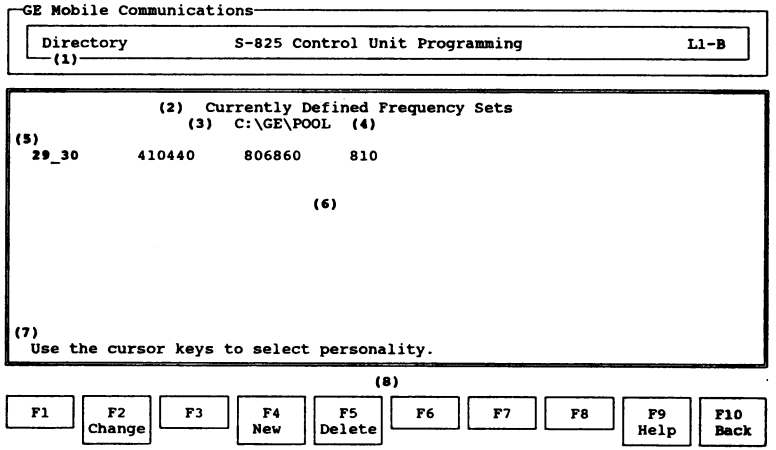


Figure 4-7 - Currently Defined Frequency Sets Screen

(1)	Function	- indicates current function
(2)	Screen Title	- identifies screen
(3)	Current Drive	- designated drive
(4)	Current Directory	- designated directory
(5)	Highlighted Personality	- indicates cursor location
(6)	Personality Fields	- personalities in current directory
(7)	Prompt Line	- current field instruction line
(8)	Function Keys	- entry to specific program area

The Currently Defined Frequency Sets Screen, shown in Figure 4-7, shows the currently defined frequency sets residing in the data base. This screen can be accessed by selecting **F1 Setup** from the Current Personalities Screen and then **F2 Freq** from the Keypad Definition Window. From this screen you will be able to create, modify, and delete 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** keys.

NOTE

Throughout this document the term frequency sets is used to refer to a collection of channel definitions that can be stored to disk for later recall.

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

F2 Change	Select this option if you want to: Change/Edit a 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 a currently defined frequency set.
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 Keypad Definition Window.

NOTE

The Currently Defined Frequency Sets Screen can also be accessed from the Control Unit Personality Screen. Starting at the Current Personalities Screen select **F4 New** and the Control Unit Personality Screen will appear. Select **F8 More** and the function keys change to show other functions available. Select **F2 Freq** and the Currently Defined Frequency Sets Screen will be brought up.

Create/Change a Frequency Set

In order to create/change a frequency set you will need to go to the Frequency Set Definitions Screen. From the Currently Defined Frequency Sets Screen select **F4 New** to create a new frequency set or select **F2 Change** to edit a frequency set. When the F2 Change key is pressed a "pop-up" window, shown in Figure 4-8, will prompt you for the file name to be changed before you enter the Frequency Set Definitions Screen.

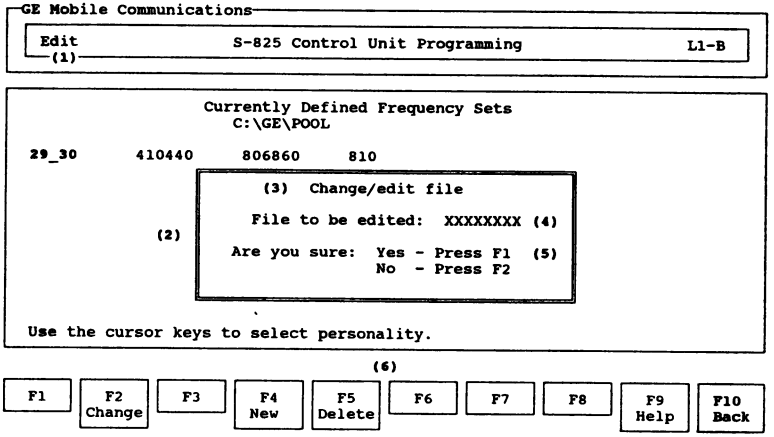


Figure 4-8 - Change/Edit File Window

(1)	Function	- indicates current function
(2)	"Pop-Up" window	- change/edit file window
(3)	Window Title	- identifies window
(4)	Change/Edit Field	- frequency set to be edited
(5)	Continue Prompt	- continue or abort option
(6)	Function Keys	- used to access specific areas

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 Currently Defined Frequency Sets Screen.

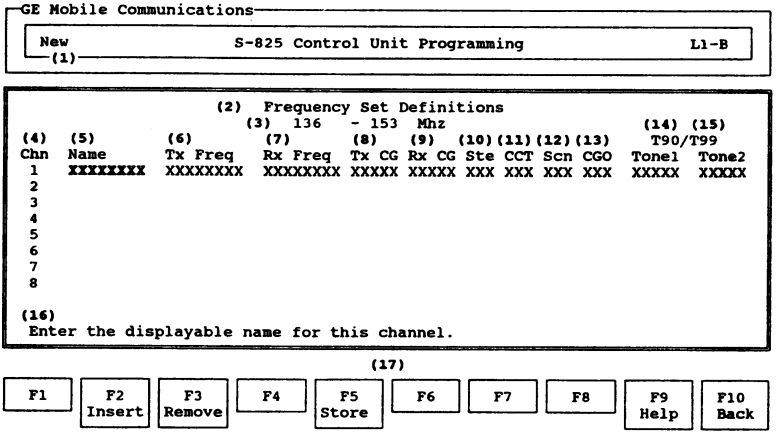


Figure 4-9 - Frequency Set Definitions Screen

(1)	Function	- indicates current function
(2)	Screen Title	- identifies screen
(3)	Band Split	- designated freq set band split
(4)	Channel	- positional channel indicator
(5)	Name	- alphanumeric display name
(6)	Tx Frequency	- transmit frequency
(7)	Rx Frequency	- receive frequency
(8)	TX CG	- transmit Channel Guard
(9)	RX CG	- receive Channel Guard
(10)	Ste	- squelch tail elimination enable
(11)	CCT	- carrier control timer enable
(12)	Scn	- fixed list scan enable
(13)	CGO	- Channel Guard override
(14)	Tone 1	- T90/T99 single tone indicator
(15)	Tone 2	- T99 dual tone indicator
(16)	Prompt Line	- current field instruction line
(17)	Function Keys	- entry to specific program area

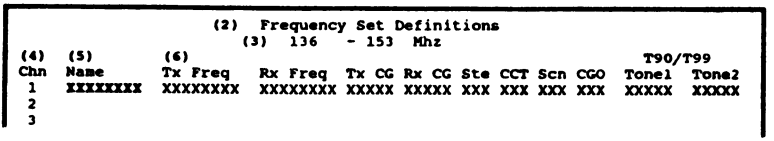
The Frequency Set Definitions Screen, shown in Figure 4-9, allows you to create/edit frequency sets. The frequency set is basically an association of channels all within the same band split that will be assigned to a mode.

Once in the screen, you can move between fields by using the arrowed cursor keys, home and end cursor keys, and enter key. Within the field you can use the arrowed cursor keys, space bar, delete, and alphanumeric keyboard keys (unless the field is toggle only). The tab key is used as a field-to- field key unless in a toggle field and then it will only toggle that particular field. The prompt line at the bottom of the window will help you to know which fields require typed input or the use of the toggle key.

The screen will display up to eight channel definitions (lines of data) at a time. Each channel definition consists of the channel number, channel identifier (name) to be displayed on the control unit, various frequency settings and designated tones. Additional channel definitions can be accessed by the pg dn and pg up cursor keys. These keys are only active if there are more than eight channel definitions. Please note that there are only 32 channel definitions allowed per mode.

You can easily insert or remove channel definitions using the **F2 Insert** and **F3 Remove** keys. To insert a channel definition place your cursor on the line above where you want the new channel definition to appear and press **F2 Insert**. An empty channel definition line will appear shifting all the following lines to the next higher channel number. To delete a channel definition line place your cursor anywhere on the channel definition you want deleted and press **F3 Remove.** The line you are on will disappear and the line that was just below it will now occupy the space of the deleted line. Thus, all lines below the deleted line will become one channel number less than before.

Before inserting data in the program it is recommended that you first fill out the available work sheet in Appendix F of this manual.



Band Split (3) The **Frequency Set Band** Split is selected in one of the Frequency Ranges Windows. These windows are discussed further in the Frequency Ranges Window section.

This field is "display only" and is not accessible from this window.

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

No access to the channel field is necessary. This is a "display only" field.

There are eight channel definitions listed on a screen with a maximum of 32 for each mode.

Name (5) The **Name** field is used to enter a channel alphanumeric identifier that will be displayed on the control unit when the control unit is operating on that channel.

To name a channel definition type in the name you want. You can use up to eight characters in any alphanumeric combination to specify a name. This field is an upper case field, therefore all characters will be converted to upper case even if entered in lower case.

Tx Freq (6) The **Transmit Frequency** field is a numeric field used to identify the channel transmit frequency. The value entered here is used to indicate the frequency the radio should transmit at while tuned to this channel. When defining a new channel, the Tx frequency will be copied over to the Rx frequency as a default

Frequency Set Definitions
136 - 153 Mhz

		(6)	(7)							T90/T99	
Chn	Name	Tx Freq	Rx Freq	Tx CG	Rx CG	Ste	CCT	Scn	CGO	Tone1	Tone2
1	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXX	XXXXX	XXX	XXX	XXX	XXX	XXXXX	XXXXX
2											
3											

Tx Freq Cont'd (6) for the VHF and UHF splits. When working with frequencies in the 806 - 824 Mhz range, 45 Mhz is added to the value before copying it to the Rx frequency side.

Input the frequency that the radio should transmit at while tuned to this channel. Only frequencies within the currently defined band split are acceptable as valid.

- VHF frequencies must be evenly divisible by either 5 or 6.25 Khz.
- UHF frequencies must be evenly divisible by 12.5 Khz.
- 800 band frequencies must be evenly divisible by 12.5 Khz (must be between 806-824 or 851-870).

Rx Freq (7) The **Receive Frequency** field is a numeric field that is used to identify the frequency the control unit will receive while tuned to this channel.

The Tx frequency field should be copied over to this field and will be used as a default for VHF and UHF splits. When working with frequencies in the 806 - 824 Mhz range, 45 Mhz is added to the value before entering it in the Rx frequency field.

- VHF frequencies must be evenly divisible by either 5 or 6.25 Khz.
- UHF frequencies must be evenly divisible by 12.5 Khz.

```
                         Frequency Set Definitions
                           136    - 153  Mhz
                         (7)         (8)    (9)                              T90/T99
Chn  Name       Tx Freq  Rx Freq  Tx CG  Rx CG  Ste  CCT  Scn  CGO  Tone1  Tone2
1    XXXXXXXX   XXXXXXXX XXXXXXXX XXXXX  XXXXX  XXX  XXX  XXX  XXX  XXXXX  XXXXX
2
3
```

Rx Freq Cont'd (7)

- 800 band frequencies must be evenly divisible by 12.5 Khz (must be between 851-870).

All channel definitions must have an Rx frequency to be considered valid.

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 and tone Channel Guard codes. When the transmit Channel Guard is entered, it is automatically copied to the receive Channel Guard.

Enter the desired transmit Channel Guard code for this channel using either tone or Digital Channel Guard codes.

- 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.

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

```
                    Frequency Set Definitions
                       136   - 153  Mhz
                                    (9)  (10)                    T90/T99
Chn  Name      Tx Freq   Rx Freq  Tx CG Rx CG Ste CCT Scn CGO  Tone1  Tone2
 1   XXXXXXXX  XXXXXXXX XXXXXXXX XXXXX XXXXX XXX XXX XXX XXX  XXXXX  XXXXX
 2
 3
```

Rx CG Cont'd

(9) Enter the desired receive Channel Guard code for this channel using either tone or Digital Channel Guard codes.

- 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.

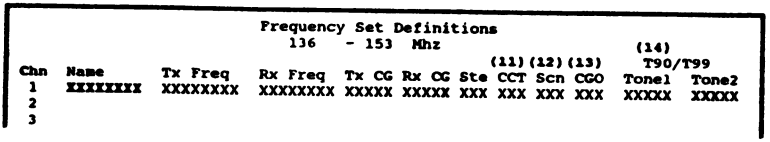
When reading the personality back an equivalent tone or code may appear in place of the actual number issued.

Ste

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

Access to this field is normally denied unless a digital or tone Rx Channel Guard is entered.

- If the receive Channel Guard field is a tone Channel Guard this field will be defaulted to "On" and you are given access. Using the toggle switch you can enter "On" or "Off".
- If the receive Channel Guard is digital this field will also default to "On" but access to the field is denied.
- If the receive Channel Guard field is empty then the field defaults to "Off" and access is again denied.



CCT (11) The **Carrier Control Timer** field is used to indicate whether or not the carrier control timer should be enabled for this channel.

Use the Tab key as a toggle switch to select "On" or "Off". Selecting "On" will have the effect of enabling the carrier control timer for this channel. The timeout period can be defined in the Control Unit Options Window. "Off" indicates there will be no carrier control time.

Scn (12) The **Scan** field is used to determine whether or not the channel will be included in the fixed scan list.

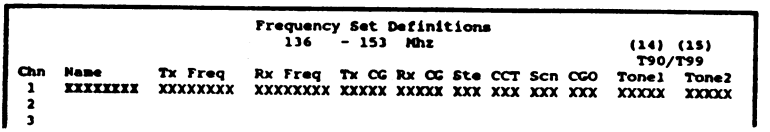
Selection of this field is through toggling the Tab key between "Yes" and "No" values. A "Yes" value indicates the channel will be included in the fixed scan list. In order to define a channel for priority scan a "Yes" value must be selected.

CGO (13) The **Channel Guard Override** field indicates whether or not the Channel Guard override function is available. This is a toggle field with two available options: "Yes" and "No".

Using the Tab key as a toggle switch, select between "Yes" and "No" values. Selection of "Yes" allows you to override the Channel Guards for this channel using the Channel Guard buttons.

This option requires enabling radio download.

Tone 1 (14) The **Tone 1** field is a numeric field that is used to enter the T90 tone or single tone signalling



Tone 1 Cont'd (14) and the first tone of the T99 or dual tone signalling.

Select the T90/T99 tone by entering values in the range of 250 Hz to 3000 Hz.

Only integers are acceptable.

Tone 2 (15) The **Tone 2** field is a numeric field that is used to enter the second tone for T99 tone signalling. There must be data in the Tone 1 field for value acceptance in this field.

Select the second T99 tone value. Only values between 250 Hz and 3000 Hz will be accepted in this field.

Only integers are acceptable.

From the Frequency Set Definitions Screen, your options are:

F2 Insert Select this option if you want to:
Insert a new line for a channel definition.

F3 Remove Select this option if you want to:
Delete a channel definition line.

F5 Store Select this option if you want to:
Save the channel definitions defined.

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 a Frequency Set

In order to delete a frequency set you will need to go to the Currently Defined Frequency Sets Screen and select **F5 Delete** to delete an existing frequency set. When the **F5 Delete** key is pressed a "pop-up" window, shown in Figure 4-10, will prompt you for the file name to be deleted. (The file name will default to the last highlighted frequency set.)

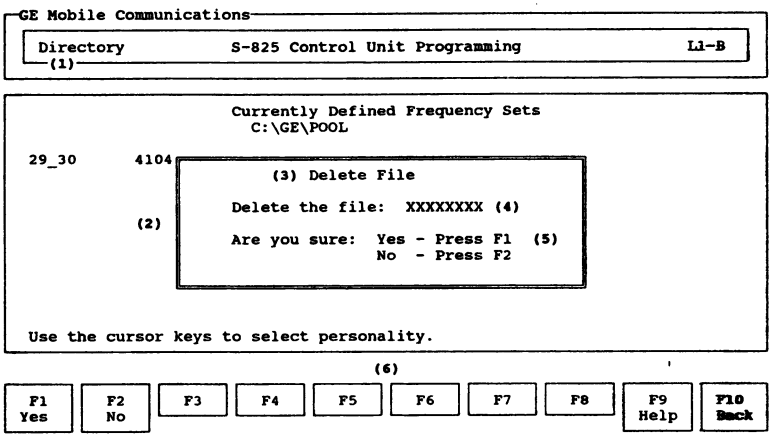


Figure 4-10 - Delete File Window

(1)	Function	- indicates current function
(2)	"Pop-Up" window	- delete file window
(3)	Window Title	- identifies window
(4)	Delete Field	- frequency set to be deleted
(5)	Continue Prompt	- continue or abort option
(6)	Function Keys	- used to access specific areas

From the Delete File 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.

CREATE/CHANGE A PERSONALITY

In order to create/change a personality you will need to access the Control Unit Personality Screen. This screen can be accessed by selecting **F4 New** or **F2 Change** from the Current Personalities Screen.

When changing a personality there will be a "pop-up" window, shown in Figure 4-11, that will prompt you for the file name to be changed before you enter the Control Unit Personality Screen.

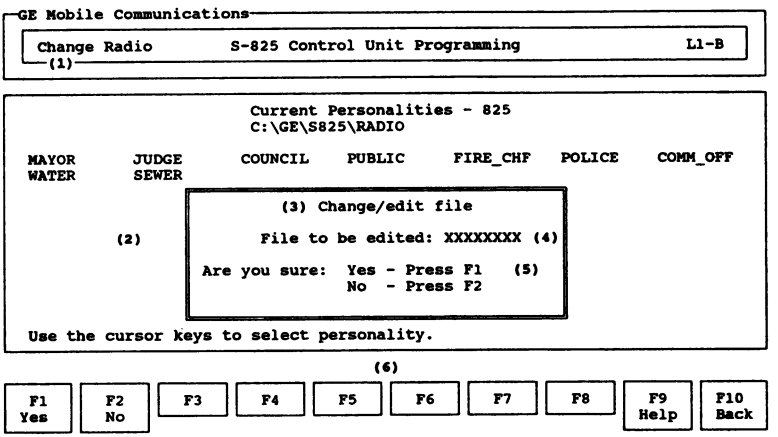


Figure 4-11 - Change/Edit File Window

(1) Function - indicates current function
(2) "Pop-Up" Window - change/edit file window
(3) Window Title - identifies window
(4) Change/Edit Field - personality to be edited
(5) Continue Prompt - continue or abort option
(6) Function Keys - entry to specific program area

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.

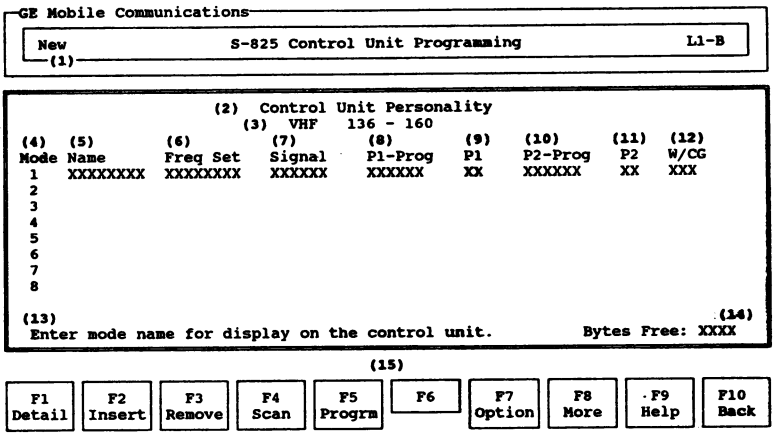


Figure 4-12 - Control Unit Personality "SCAN" Screen

(1) Function - indicates current function
(2) Screen Title - identifies screen
(3) Band Split - designated freq set band split
(4) Mode Number - positional mode indicator
(5) Name - alphanumeric display name
(6) Freq Set - frequency set for mode
(7) Signal - select signal modes
(8) P1Prog - priority 1 programming field
(9) P1 - identifies priority 1 channel
(10) P2 Prog - priority 2 programming field
(11) P2 - identifies priority 2 channel
(12) W/CG - scan with Channel Guard field
(13) Prompt Line - current field instruction line
(14) Bytes Free - identifies remaining bytes available
(15) Function Keys - entry to specific program area

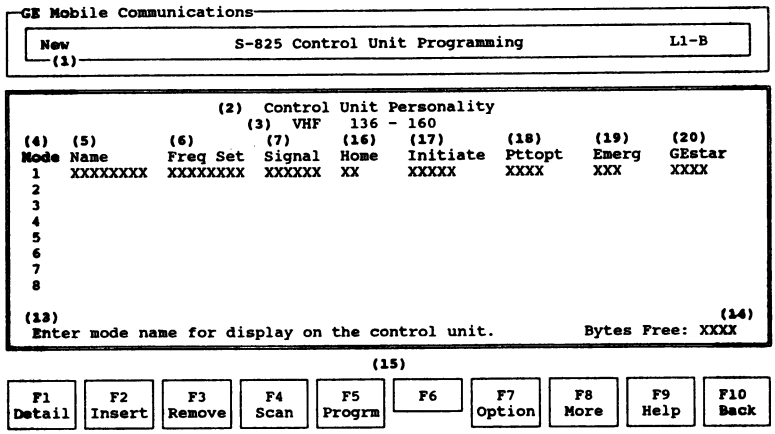


Figure 4-13 - Control Unit Personality "SIGNAL" Screen

(1) Function - indicates current function
(2) Screen Title - identifies screen
(3) Band Split - designated freq set band split
(4) Mode Number - positional mode indicator
(5) Name - alphanumeric display name
(6) Freq Set - frequency set for mode
(7) Signal - select signal mode
(8) - (12) Scan Sets - scan options from Figure 4-12
(13) Prompt Line - current field instruction line
(14) Bytes Free - identifies remaining bytes available
(15) Function Keys - entry to specific program area
(16) Home - identifies home channel for mode
(17) Initiate - indicates emergency/id operation
(18) Pttopt - push-to-talk options field
(19) Emerg - emergency operation enable
(20) GEstar - GE-STAR identification field

The Control Unit Personality Screen is the main screen at the personality level. It gives a brief overview of the control unit personality by identifying the frequency band split, programmed modes and various mode options. The Control Unit Personality Screen has been divided into two sections. The first section is displayed upon access to the screen and controls the personality "scan" listings. The second part, accessed by using the **F4** key as a toggle switch, controls the "signalling" information. The Mode Name and Frequency Set for each mode is always displayed

regardless of which Control Unit Personality Screen area you are in. (Reference Figures 4-12 and 4-13.)

Once in a window, you can move between fields by using the arrowed cursor keys, home and end cursor keys, and Enter key. Within the field you can use the arrowed cursor keys, space bar, delete, and alphanumeric keyboard keys (unless the field is toggle only). The **Tab** key is used as a field-to- field key unless in a toggle field and then it will only toggle that particular field. The prompt line at the bottom of the window will help you to know which fields require typed input or the use of the toggle key. And as mentioned earlier, the F4 function key serves as the toggle key between the scan and signalling windows.

Up to eight modes can be displayed on the screen at one time out of a maximum of 96. If there are nine or more modes the **Pg Dn** and **Pg Up** keys become active allowing you to access other modes.

NOTE

When creating a new personality it is important to remember that no personality name is actually given to the newly created personality until all information has been entered into the Control Unit Personality Screen and you try to exit the screen.

```
                        Control Unit Personality
                      (3)  VHF   136 - 160
(4)
Mode Name      Freq Set   Signal    P1-Prog   P1    P2-Prog   P2   W/CG
 1   XXXXXXXX  XXXXXXXX   XXXXXX    XXXXXX    XX    XXXXXX    XX   XXX
 2
 3
```

Band Split (3) The **Band Split** field is listed in the top center of the Control Unit Personality Screen.

Access to this field is denied as it is a "display only" field. The band split values should be entered in the Frequency Ranges Window before inputting data in this screen.

Mode (4) The **Mode** field is the first field displayed. This field identifies the numerical order of each mode in the control unit.

Access to this field is denied as it is a "display only" field.

```
                              Control Unit Personality
                                VHF   136 - 160
      (5)         (6)         (7)
Mode  Name        Freq Set    Signal    P1-Prog   P1    P2-Prog   P2   W/CG
 1    XXXXXXXX    XXXXXXXX    XXXXXX    XXXXXX    XX    XXXXXX    XX   XXX
 2
 3
```

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

Enter an alphanumeric name you wish to use to identify the mode - up to eight characters. Each character will be displayed in upper case.

Freq Set (6) The **Frequency Set** field is used to associate a predefined frequency set to a mode.

Enter a predefined frequency set in this field. The information for the frequency set field has already been defined in the Frequency Set Definitions Screen.

When you enter a frequency set name, a search will be made of the personality to find a "matching frequency set name". If found, a logical association is made between the mode and the frequency set. If the set is not found, then a search will be made of the pooled directory. You cannot enter a non-defined frequency set. If you want to replace the existing frequency set with a new frequency set, simply replace the name with the name of a new set. If the replaced set is not used with any other mode then it will be deleted from the personality. Once the information is loaded, the F1 Detail key can be used to tailor the data for a particular user.

Signal (7) The **Signal** field is used to define the type of signalling associated with this mode.

Using the Tab key, toggle to the value you wish to use. There are three possible values:

```
                        Control Unit Personality
                           VHF   136 - 160
                          (7)       (8)        (9)
Mode Name       Freq Set  Signal    P1-Prog    P1    P2-Prog    P2    W/CG
 1   XXXXXXXX   XXXXXXXX  XXXXXX    XXXXXX     XX    XXXXXX     XX    XXX
 2
 3
```

Signal Cont'd (7)

- The value "Disable" will disable signalling.
- The value "T90/T99" indicates that a T90 or T99 signalling scheme is requested.
- The value "GE-STAR" indicates GE-STAR signalling is desired.

P1-Prog (8) The **Priority One Programming** field is used to select the type of P1 programming for this mode.

With the Tab key, toggle to the desired indicator. There are three choices:

- "Fixed" indicates that the P1 channel will be entered during programming and cannot be modified through the Add/Del keys on the control unit.
- "User" indicates that the P1 channel will be selected through the use of the Add/Del keys on the control unit.
- "Selchn" indicates that the P1 channel will always be the currently selected channel.

P1 (9) The **Priority One** field is used to identify the priority one channel for a selected mode when fixed P1 programming is selected. It corresponds to a channel within the selected frequency set.

Enter the desired priority one channel. Only numeric data is accepted. This field will not accept a channel outside of the frequency set

```
                              Control Unit Personality
                                VHF   136 - 160
                                                    (9)    (10)       (11)  (12)
Mode Name       Freq Set    Signal      P1-Prog     P1     P2-Prog     P2   W/CG
 1   XXXXXXXX   XXXXXXXX    XXXXXX      XXXXXX      XX     XXXXXX      XX   XXX
 2
 3
```

P1 Cont'd (9) and the channel you do select must have the Scn flag on.

P2-Prog (10) The **Priority Two Programming** field is used to select the type of priority two programming for this mode.

Using the Tab key, toggle to the desired indicator. There are three types of priority two programming.

- -"Fixed" indicates that the P2 channel will be entered during programming and cannot be modified through the Add/Del keys on the control unit.
- -"User" indicates that the P2 channel will be selected through the use of the Add/Del keys on the control unit.
- -"Selchn" indicates that the P2 channel will always be the currently selected channel.

P2 (11) The **Priority Two** field is used to identify the priority two channel for a selected mode when Fixed P2 programming is selected. It corresponds to a channel within the selected frequency set.

Enter the desired priority two channel. Only numeric data is accepted. This field will not accept a channel outside of the frequency set and the channel you do select must have the Scn flag on.

W/CG (12) The **Scan with Channel Guard** field is used to indicate whether or not the control unit

```
                        Control Unit Personality
                           VHF   136 - 160
                                                                  (12)
Mode Name      Freq Set   Signal    P1-Prog   P1    P2-Prog    P2   W/CG
 1   XXXXXXXX  XXXXXXXX   XXXXXX    XXXXXX    XX    XXXXXX     XX   XXX
 2
 3
```

W/CG Cont'd

(12) decodes Channel Guard on the priority scan channels.

Using the Tab key, toggle to the preferred indicator. "Yes" indicates that the control unit will decode Channel Guard on the priority scan channels. "No" indicates that the control unit will not decode Channel Guard on the priority scan channels.

Non-priorty channels are always decoded with Channel Guard.

The second half of the Control Unit Personality Screen is brought up by depressing the **F4 Signal** key. The signal portion of the screen deals primarily with the mode signalling. Once this screen has been selected the F4 key changes its label to "Scan" to indicate pressing F4 will return you to the scan portion of the Control Unit Personality Screen.

```
                        Control Unit Personality
                           VHF   136 - 160
                                 (16)
Mode Name      Freq Set   Signal  Home   Initiate   Pttopt    Emerg    GEstar
 1   XXXXXXXX  XXXXXXXX   XXXXXX  XX     XXXXX      XXXX      XXX      XXXX
 2
 3
```

Home

(16) The **Home** field is used to identify the channel to use as the home channel for this mode. The control unit will go to the home channel immediately upon depression of the home key.

Enter the numeric channel to use as the home channel. The channel must be defined in the channel definition and contain an Rx frequency.

When a channel is entered in this field, a search will be made of the frequency set to ensure that it is a valid channel.

```
                              Control Unit Personality
                                VHF   136 - 160
                                                (17)        (18)      (19)
Mode Name      Freq Set  Signal  Home  Initiate  Pttopt    Emerg     GEstar
 1   XXXXXXXX  XXXXXXXX  XXXXXX  XX    XXXXX     XXXX      XXX       XXXX
 2
 3
```

Initiate (17) The **Initiate** field is used to indicate how the emergency/ID mode operation of the control unit is activated.

Using the Tab key, toggle to the desired selection. There are three choices:

- HKSW (Hookswitch) - emergency/ID declared when the mic is taken off hook.
- PTT (Push to talk) - emergency/ID declared when PTT is depressed.
- Switch - emergency/ID declared by switch on control unit.

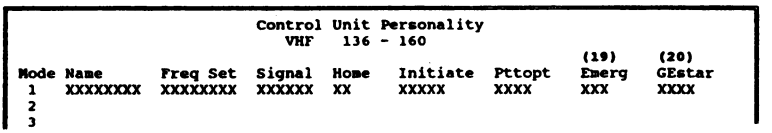
This field does not appear if signalling is disabled for this mode.

Pttopt (18) The **Push-to-Talk Options** field is used to indicate the desired mode of initiating emergency/ID operation from the PTT.

Using the Tab key, toggle to the desired value. "ALL" has the affect of initiating **emergency/ID** operation every time PTT is keyed. "HKSW" indicates that emergency/ID operation is activated only once when the mic is removed from the hookswitch.

This field will not appear if signalling is disabled for this mode and is only active if the value of the initiate field is PTT.

Emerg (19) The **Emergency Operation** field is used to indicate if the control unit will generate an emergency ID or GE-STAR ID while in this mode.



Emerg Cont'd (19) Using the Tab key, toggle to the desired selection. "Yes" indicates the emergency operation is available.

This field does not appear if signalling is disabled for this mode.

GEstar (20) The **GE-STAR ID** field is used for entering the GE-STAR ID.

Enter the valid GE-STAR ID. Range is from 1 to 16383.

This field will only appear if GE-STAR is selected in the signal field.

From the Control Unit Personality Screen, your options are:

F1 Detail Select this option if you want to:
Get a detailed summary of the frequency set.

F2 Insert Select this option if you want to:
Insert a new mode.

F3 Remove Select this option if you want to:
Remove a mode.

F4 Signal or Scan Select this option if you want to:
Reveal the additional mode options.

F5 Program Select this option if you want to:
Program a control unit with the currently displayed personality.

F7 Option Select this option if you want to:
Define the control unit options.

F8 More	Select this option if you want to: Create/edit frequency sets and define personality text.
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: Exit this window. When pressing **F10 Back** a "pop-up" window will appear prompting you for more information before you can exit.

Insert/Remove a Mode

A mode is a collection of channels in which the control unit/radio will operate and a set of options for the mode.

You can easily insert or remove modes using the **F2 Insert** and **F3 Remove** keys.

To insert a mode, place your cursor on the line where you want the new mode to appear and press **F2 Insert.** An empty mode line will appear shifting all the following lines to the next higher channel number.

To delete a mode place your cursor anywhere on the mode you want deleted and press **F3 Remove.** The line you are on will disappear and the line just below it will now occupy the space of the deleted line. Thus, all lines below the deleted line will become one mode number less than before.

Options

The Control Unit Options Window, shown in Figure 4-14, is used to define some of the operational parameters of the control unit and can be accessed by pressing **F7 Option** from the Control Unit Personality Screen. All control unit options can be defined from this window.

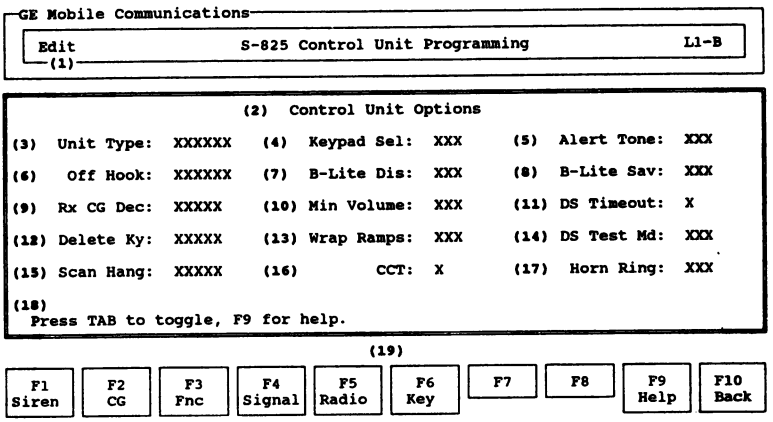
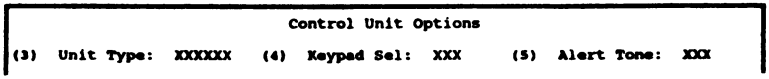


Figure 4-14 - Control Unit Options Window

(1) Function - indicates current function
(2) Window Title - identifies window
(3) Unit Type - indicates type of control unit
(4) Keypad Select - enables keypad entry of modes
(5) Alert Tone - indicates alert tone enabled
(6) Off Hook - enables scanning with mic off-hook
(7) Backlight Display - allows LCD backlighting turned off
(8) Backlight Save - saves backlight level with power off
(9) Rx Channel Guard Decode - receive Channel Guard decode option
(10) Minimum Volume - sets minimum volume level
(11) Display Timeout - determines seconds display stays on
(12) Delete Key - allows channel deletions from scan
(13) Wrap Ramps - determines ramp wrap around
(14) Display Test Mode - indicates display test enabled
(15) Hang Time - enables two second scan hang time
(16) Carrier Control Timer - time before transmission drops
(17) Horn Ring - indicates horn control polarity
(18) Prompt Line - current field instruction line
(19) Function Keys - entry to specific program area



Unit Type (3) The **Unit Type** field is used to indicate the type of control unit, System or Scan, that will be the target for this personality.

Using the Tab key, toggle to the keypad type you have. "System" for the System model control unit and "Scan" for the Scan model.

If the wrong keypad designation is defined, programming of the control unit will be incorrect and cause the keypad to malfunction.

Keypad Sel (4) The **Keypad Select** field is used to enable or disable the keypad on the System model of the control unit for direct mode entry.

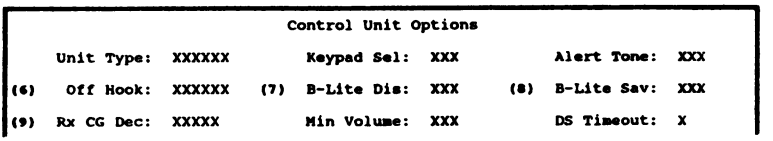
If your control unit is the "System" model, use the tab key to toggle to the desired setting. "Ena" will enable the keypad for direct mode entry. "Dis" will disable direct mode entry.

When "Scan" is selected in the "Unit Type" field the "Keypad Select" field disappears.

Alert Tone (5) The **Alert Tone** field is used to indicate whether or not alert tones should be enabled on the control unit.

Using the Tab key to toggle, select one of the three possible selections for this field:

- None - disables alert tones on all keys of the control unit keypad,
- Ramp - enables alert tones only when ramp keys are depressed, and
- All - enables alert tones for all keys.



Off Hook (6) The **Off-Hook Scan** field is used to indicate whether or not the control unit will scan with the mic off-hook.

Using the Tab key to toggle, select "Scan" if you want the control unit to perform scanning functions when the mic is off-hook or "NoScn" to disable scan when the mic is lifted.

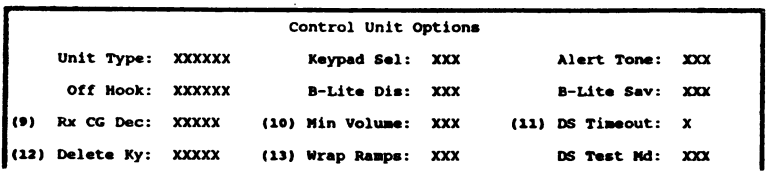
B-Lite Dis (7) The **Backlight Disable** field is used to prevent the user from turning off backlighting on the control unit.

Using the Tab key, toggle to an "Off" or "On" value. Select "Off" to indicate that the user should be allowed to turn backlighting off. Selecting "On" will have the effect of preventing the user from turning the backlighting off.

B-Lite Sav (8) The **Backlight Save** field is used to indicate if the control unit will save the backlight level when power is removed.

Using the Tab key, toggle to a "Yes" or "No" value. Provided the backlight level has been enabled: selecting "Yes" will turn on the backlight at the same level it was on when the control unit was previously used. Selecting "No" will cause the backlight to come on at a defaulted level determined during control unit manufacture.

Rx CG Dec (9) The **Receive Channel Guard Decode** field is used to indicate whether or not the control unit should decode the received Channel Guards.



Rx CG Dec Cont'd (9) Use the Tab key to toggle to "S825" causing the control unit to perform Channel Guard decoding or "Radio" causing the radio to perform Channel Guard decoding (tone Channel Guard only).

Min Volume (10) The **Minimum Volume** field is used to prevent the user from disabling audio on the control unit.

Using the Tab key as a toggle switch, select "Set" indicating the volume cannot be ramped so low that audio is off, or "Off" allowing the user to ramp volume to its off position.

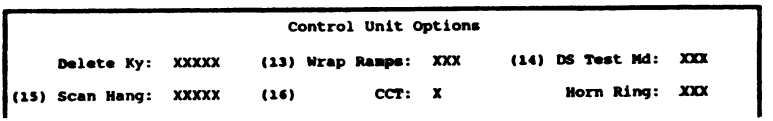
DS Timeout (11) The **Display Timeout** field is used to set the number of seconds before the display(s) times out in one second intervals.

In this field, enter the display timeout you prefer. The range is 1 to 5 seconds.

Delete Key (12) The **Delete Key** field is used to indicate how the control unit should handle channel deletions from the fixed scan list.

Use the Tab key to toggle to the appropriate value. "Store" indicates that the control unit channel deletions from the fixed scan list are not allowed. "Temp" indicates the control unit channel deletions will be temporary. The channel is restored when power is recycled or the mode is changed.

Wrap Ramps (13) The **Wrap Ramps** field is used to indicate whether or not the ramp keys on the control unit should stop when the end is reached, or wrap around to the beginning.



Wrap Ramps (13) Cont'd

Using the Tab key to toggle, you can select "Yes" to cause the control unit to wrap around on the ramping function or "No" to disable the wrap function on the ramp keys.

DS Test Mode (14) The **Display Test Mode** field is used to indicate if the control unit will permit you to perform a display/keypad test from the front panel.

Use the Tab key to toggle. Selection of "Ena" allows you to perform a test of the LEDs, LCD and keypad on the control unit. Selection of "Dis" prevents the display/keypad test.

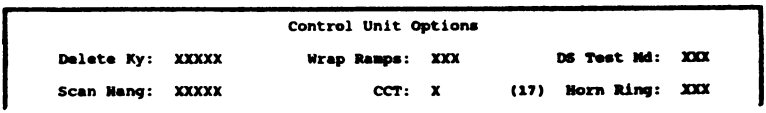
Scan Hang (15) The **Hang Time** field is used to indicate if a hang time before scan resumes should be applied to this channel.

Using the Tab key as a toggle switch, select an "On" or "Off" value. "On" indicates that a hang time will be applied before resuming scan after receiving a transmission. "Off" indicates that scan will resume immediately.

CCT (16) The **Carrier Control Timer** field is used to indicate the amount of time before the carrier control timer will drop the transmission.

This is a numeric field indicating minutes. You can select either 1 (default value) or 2.

If the carrier control timer is not activated for all channels this field will have no effect on the control unit. However, if one or more channels have CCT enabled in the Frequency Sets Definitions Screen then the value entered here becomes the carrier control timer value for those channels.



Horn Ring (17) The **Horn Ring** field is used to provide the horn control polarity to the control unit.

Using the Tab key to toggle, select "Pos" to indicate that the horn control voltage is positive. Or select "Neg" to indicate horn control voltage is negative. The horn ring, when active, will:

1. Toggle a wail siren to yelp and the yelp siren to wail or,
2. Change a hi-lo siren function to air horn on a momentary basis, or,
3. Initate the manual (peak and hold) siren on a momentary basis.

From the Control Head Options Window, your options are:

F1 Siren Select this option if you want to:
Define the siren/light combinations.

F2 CG Select this option if you want to:
Define the Channel Guard table.

F3 Fnc Select this option if you want to:
Define the function key control.

F4 Signal Select this option if you want to:
Define the emergency signalling parameters.

F5 Radio Select this option if you want to:
Define some operational characteristic of the radio.

F6 Key Select this option if you want to:
Define the keypad definitions.

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 Control Unit Personality Screen.

Sirens

The Siren/Lights Window, shown in Figure 4-15, is accessed by pressing the **F1 Siren** key from the Control Unit Options Window and is used to define specific siren/light combinations for the S825 Control Unit.

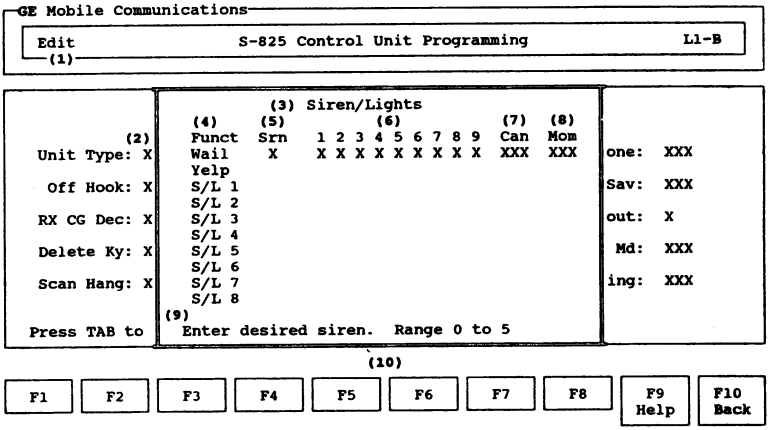
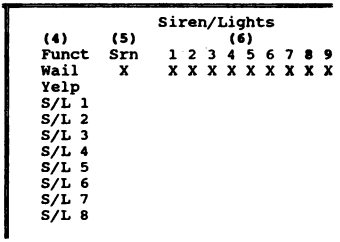


Figure 4-15 - Siren/Lights Window

(1) Function - indicates current function
(2) "Pop-Up" Window - change/edit file window
(3) Window Title - identifies window
(4) Definition - defines row
(5) Siren - siren key field
(6) Lights - lights selection field
(7) Cancel - stops previous siren/light activity
(8) Momentary - momentary siren/light activity
(9) Prompt Line - current field instruction line
(10) Function Keys - entry to specific program area

Funct (4):



The Function field is used as a positional indicator to identify which function is being defined on the line.

This is a "display only" field and is inaccessible.

The Siren/Light Window is used to define only the siren/light combinations for Wail, Yelp and S/L 1 through S/L 8.

Srn (5) The **Siren** field is used to identify which siren to use with this key.

Enter a number between 0 and 5 corresponding to the siren desired.

0 - no siren , light only
1 - wail (oscillating)
2 - yelp
3 - manual (peak and hold wail)
4 - hi lo
5 - air horn

If no entry is made in this field the default value will be 1 for the Wail field, 2 for the Yelp field, and 0 for the S/L1-S/L8 fields.

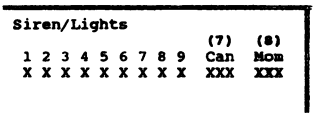
1 - 9 (6) The **1-9 Light** field is used to indicate which light(s) are to be enabled.

Using the Tab key as a toggle switch, toggle between a blank space ( ) or a star (*). When you want lights to be activated toggle to the star (*); leave a blank space ( ) where you prefer the light(s) to be off.

Using the star as the only visible symbol in this field makes it readily apparent which lights you have activated.

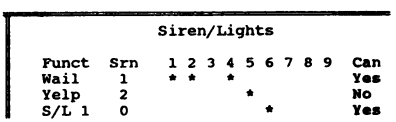
Can (7):

The **Cancel** field is used to indicate that the siren/light combination cancels a previously activated siren/light combination.



Using the Tab key as a toggle switch, select "Yes" to indicate that you want the previous siren/light combination(s) suppressed, or select "No" to include the active siren/light combination(s).

For Example: Selection of "yes" is made in the Cancel column for Wail and S/L 1, and a selection of "no" is made in the Cancel column for Yelp. Pressing the Wail key will cause the wail siren/light combination to be initiated.



By then pressing the Yelp key (where Cancel is "no"), the Yelp siren and the lights associated with the Wail and Yelp buttons are added together and activated simultaneously. Should the S/L 1 key (where Cancel is "yes") then be pressed, the Wail and Yelp siren light combinations will go off and only the S/L 1 siren light combination will be operational.

Mom (8) The **Momentary** field is used to indicate whether or not activation of this siren/light combination is momentary or not.

Using the Tab key as a toggle switch, select "Yes" to indicate that this combination will only be active while the key is depressed and will cancel once the key is released. Or, select "No" to indicate that once the key is pressed the siren/light combination will remain active until cancelled.

Your function key options from the Siren/Lights Window 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 Control Unit Options Window.

Channel Guard

The Channel Guard Window, shown in Figure 4-16, is accessed by pressing the **F2 CG** key from the Control Unit Options Window and is implemented to give you the ability to define up to fourteen Channel Guards.

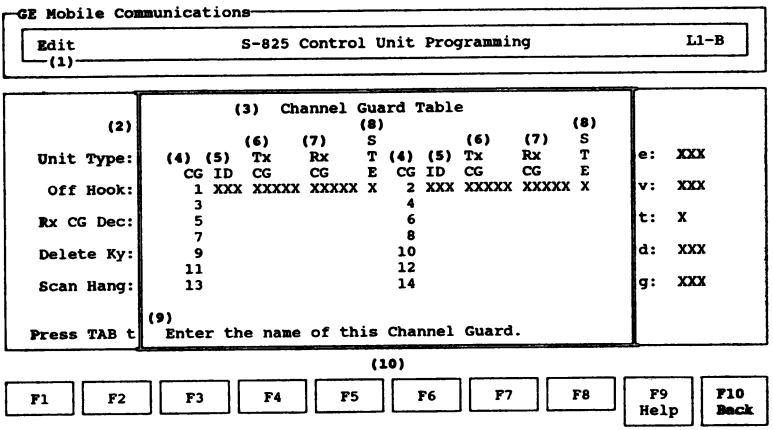
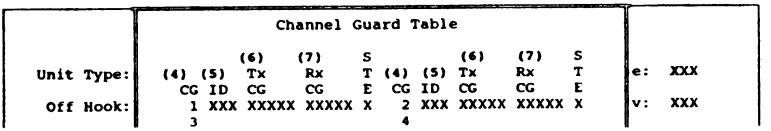


Figure 4-16 - Channel Guard Table Window

(1) Function - indicates current function
(2) "Pop-Up" Window - Channel Guard table window
(3) Window Title - identifies window
(4) Channel Guard - Channel Guard being modified
(5) Identification - identifies name of Channel Guard
(6) Transmit Channel Guard - Channel Guard transmit field
(7) Receive Channel Guard - Channel Guard receive field
(8) Squelch Tail Elimination - activates squelch tail elimination
(9) Prompt Line - current field instruction line
(10) Function Keys - entry to specific program area



CG (4) The **Channel Guard** field is used to indicate which of the fourteen Channel Guards you are modifying.

This is a "display only" field and is inaccessible.

ID (5) The **Identification** field is used to name the Channel Guard.

Enter three alphanumeric characters.

This field will convert any lower case characters to upper case and will not allow @[]V.-+*'&$%#"!?=;:.

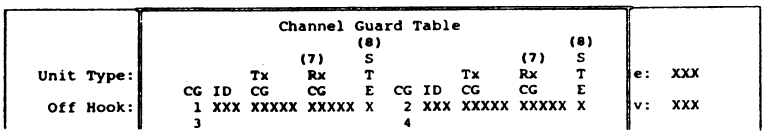
Tx CG (6) The **Transmit Channel Guard** field is used to enter the transmit Channel Guard for this entry.

Enter the desired transmit Channel Guard code using either tone or Digital Channel Guard codes.

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.

Rx CG (7) The **Receive Channel Guard** field is used to enter the receive Channel Guard for this entry.



Rx CG Cont'd

(7) Enter the desired receive Channel Guard code using either tone or Digital Channel Guard codes.

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.

Ste

(8) The **Squelch Tail Elimination** field is used to indicate whether or not squelch tail elimination is to be enabled for this channel.

Access to this field is normally denied unless a Digital or tone receive Channel Guard is entered.

If the receive Channel Guard field is a tone Channel Guard this field will be defaulted to "On" and you are given access. Using the toggle switch you can enter "On" or "Off".

If the receive Channel Guard is digital this field will also default to "On" but access to the field is denied.

If the receive Channel Guard field is empty then the field defaults to "Off" and access is again denied.

Your function key options from the Channel Guard Table Window 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 Control Unit Options Window.

Fnc

The Function Control Button Window, shown in Figure 4-17, is accessed by pressing the **F3 Fnc** key from the Control Unit Options Window and is used to define the primary and secondary functions of the function keys.

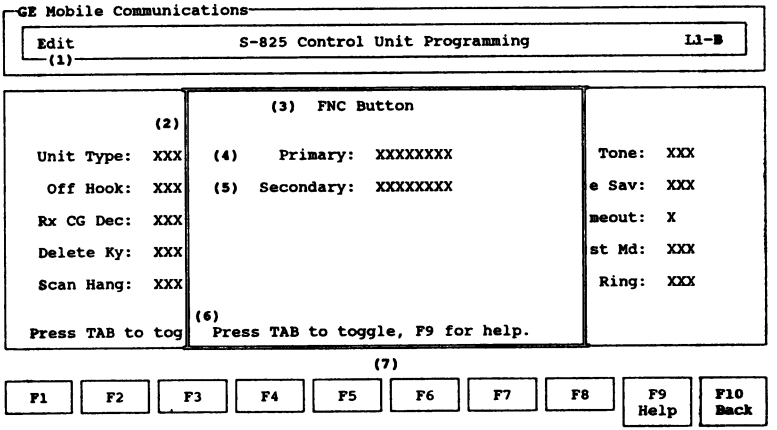
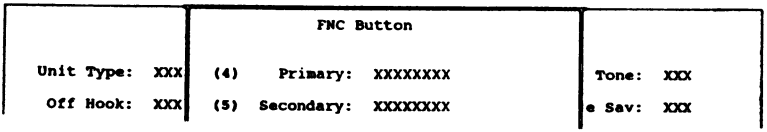


Figure 4-17 - Function Control Button Window

(1) Function - indicates current function
(2) "Pop-Up" Window - function key definitions window
(3) Window Title - identifies window
(4) Primary - function keys primary functions
(5) Secondary - function keys secondary functions
(6) Prompt Line - current field instruction line
(7) Function Keys - entry to specific program area



Primary (4) The **Primary** field is used to indicate the primary function of the 10 function keys.

Use the Tab key to toggle and indicate one of the three key functions you desire.

Your choices in the Primary field are:

"Siren" - indicates the primary function of the keys are to enable the siren.
"DTMF" - indicates the control unit will generate DTMF when the keys are depressed.
"Disable" - disables the level of the FNC key. (If the secondary function is disabled, the FNC key is also disabled except for changing back-light.)

Secondary (5) The **Secondary** field is used to indicate the secondary function of the function keys.

Using the Tab key as a toggle switch, indicate which of the three possible key functions you desire.

Your choices in the Secondary field are:

"Siren" - which indicates the secondary function of the keys are to enable the siren.
"DTMF" - is used to indicate the control unit will generate DTMF when the function keys are depressed.
"Disable" - will disable the level of the FNC key.

Your function key options from the Function Control Button Window 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 Control Unit Options Window.

Emergency Signalling

The Emergency Signalling Window, shown in Figure 4-18, is accessed by pressing the **F4 Signal** key from the Control Unit Options Window and is used to define the variables associated with emergency signalling.

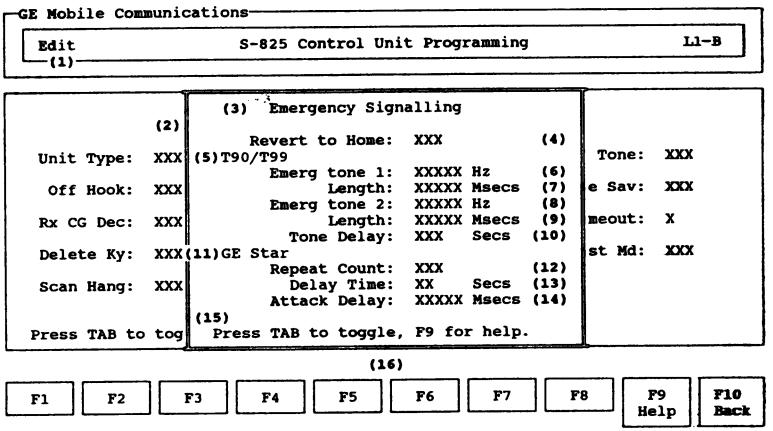
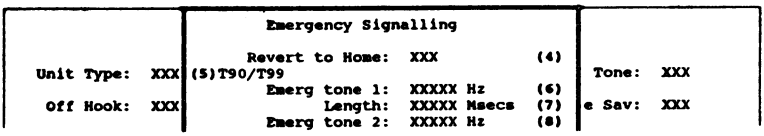


Figure 4-18 - Emergency Signalling Window

(1) Function - indicates current function
(2) "Pop-Up" Window - change/edit file window
(3) Window Title - identifies window
(4) Revert to Home - enables transmission on home channel
(5) T90/T99 - designates T90/T99 fields follow
(6) Emergency Tone 1 - defines T90/T99 1st emergency tone
(7) Length - indicates length of emergency tone 1
(8) Emergency Tone 2 - defines T99 second emergency tone
(9) Length - indicates length of emergency tone 2
(10) Tone Delay - time delay between T99 tones
(11) GE Star - designates GE-STAR fields follow

(12) Repeat Count - activates GE* ID in emergency mode
(13) Delay Time - Emergency GE* ID transmit delay time
(14) Attack Delay - specifies transmit attack delay
(15) Prompt Line - current field instruction line
(16) Function Keys - entry to specific program area



Revert Home (4) The **Revert to Home** field is used to indicate whether or not GE-STAR or T90/T99 transmissions occur on the home channel or on the selected channel.

Using the Tab key as a toggle switch, select "Yes" to indicate the GE-STAR and T90/T99 transmissions will occur on the home channel, or "No" to indicate the GE-STAR and T90/T99 transmissions will occur on the selected channel.

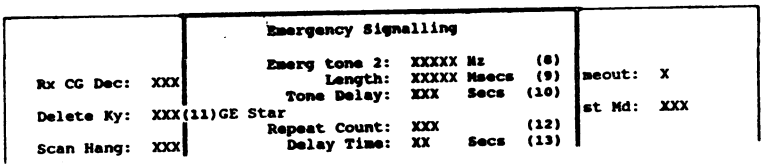
Emerg tone 1 (6) The **Emergency Tone 1** field is used to define the T90 emergency tone or the first tone of the emergency T99 tone set. This tone will be generated when the user keys an emergency on the control unit in a mode that has T90/T99 selected as the signalling desired.

Enter a valid tone in the range of 250 to 3000 Hz.

Length (7) The **Length** field is used to declare the length of the T90/T99 Emergency Tone 1. The value entered here determines the length of time the control unit will generate the above tone.

Enter a valid tone length in the range of 0 to 3000 Msecs in 20 Msecs increments.

Emerg tone 2 (8) The **Emergency Tone 2** field is used to define the second tone of the emergency T99 tone set.



Emerg tone 2 Cont'd (8) This tone will be generated when the user keys an emergency on the control unit in a mode that has T90/T99 selected as the signalling desired.

Enter a valid tone in the range of 250 to 3000 Hz.

Length (9) The **Length** field is used to declare the length of the T90/T99 Emergency Tone 2. The value entered here determines the length of time the control unit will generate the above tone.

Enter a valid tone length in the range of 0 to 3000 Msecs in 20 Msecs increments.

Tone Delay (10) The **Tone Delay** field is used to indicate the amount of time the control unit should delay between generation of the T99 tones.

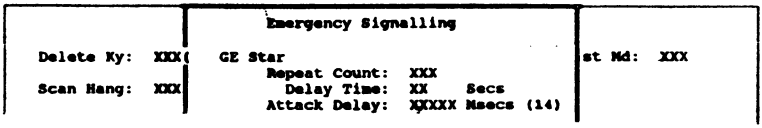
Enter a value in the range of 0 to 3000 Msecs in 20 Msec increments.

Repeat Count (12) The **Repeat Count** field is used to indicate the number of times the control unit is to generate a GE-STAR ID once the emergency mode of operation has been activated.

Enter a value in the range of 1 and 255.

Delay Time (13) The **Delay Time** field is used to indicate the delay between transmissions of the emergency GE-STAR ID when the emergency mode of operation has been activated.

Enter a valid value in the range of 1 to 60 secs in one second increments.



Attack Delay (14) The **Attack Delay** field is used to specify the transmit attack delay prior to sending the GE-STAR ID.

Enter a value in the range of 50 and 5000 Msecs.

Your function key options from the Emergency Signalling Window 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 Control Unit Options Window.

Radio

The Radio Options Window, shown in Figure 4-19, is accessed by pressing the **F5 Radio** key from the Control Unit Options Window and is used to define some of the options and characteristics of the radio attached to the control unit. These options will affect control unit/radio interfacing.

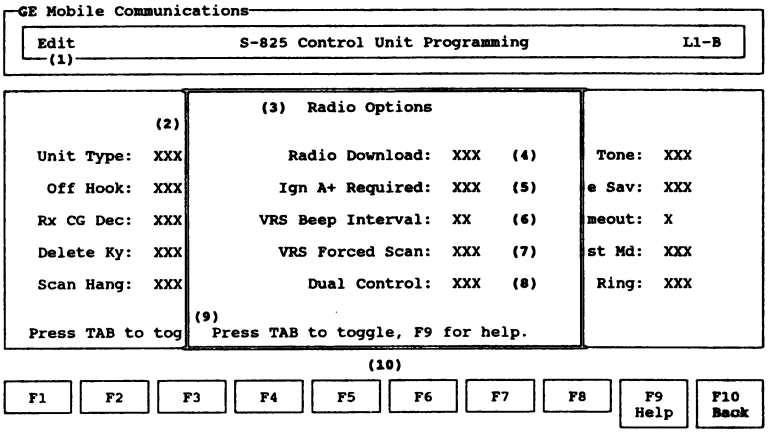
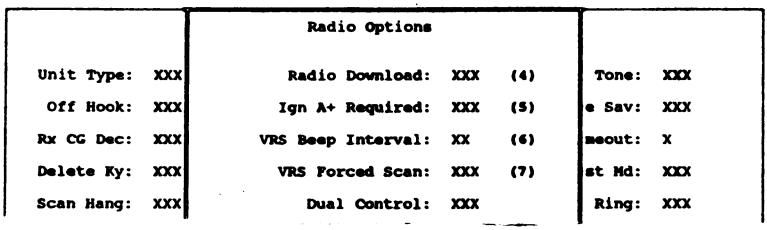


Figure 4-19 - Radio Options Window

(1) Function - indicates current function
(2) "Pop-Up" Window - radio options window
(3) Window Title - identifies window
(4) Radio Download - channel downloading support field
(5) Ign A+ Required - prevents Tx when ignition is off
(6) VRS Beep Interval - seconds delay between VRS beeps
(7) VRS Forced Scan - indicates if VRS is forced to scan
(8) Dual Control - indicates if dual control equipped
(9) Prompt Line - current field instruction line
(10) Function Keys - entry to specific program area



Radio (4) **The Radio Download field is used to indicate whether or not the control unit should download data to the radio.**

Using the Tab key as a toggle switch, select "Ena" to enable the control unit to download data to the radio or "Dis" to disable the control unit from downloading data to the radio.

Ign A+ (5) The **Ignition A+ Required** field is used to prevent transmission when the automobile ignition is off.

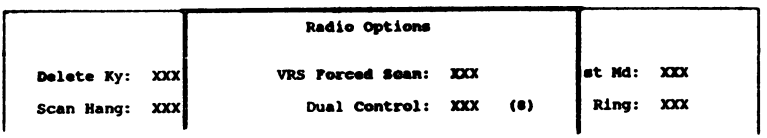
Using the Tab key as a toggle switch, select "Yes" to indicate that the control unit is to prevent all transmissions while the automobile ignition is off. Select "No" to indicate that transmission can occur at any time power is applied to the control unit.

VRS Beep (6) The **VRS Beep Interval** field is used to indicate the number of seconds the control unit should delay between VRS beeps. The control unit will beep at a periodic rate to audibly inform you that the VRS is on.

Enter a value between 1 and 15 seconds.

VRS Forced (7) The **VRS Forced Scan** field is used to indicate whether or not the S825 control unit is forced to scan when the VRS is enabled.

Using the Tab key as a toggle switch, select "Yes" if you want the S825 control unit to disable channel scan when the VRS is active.



Dual Control (8) The **Dual Control** field is used to indicate whether or not this control unit is equipped for dual control.

Using the Tab key as a toggle switch, select "Yes" if the radio system is equipped for dual control.

Your function key options from the Radio Options Window 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 Control Unit Options Window.

Key

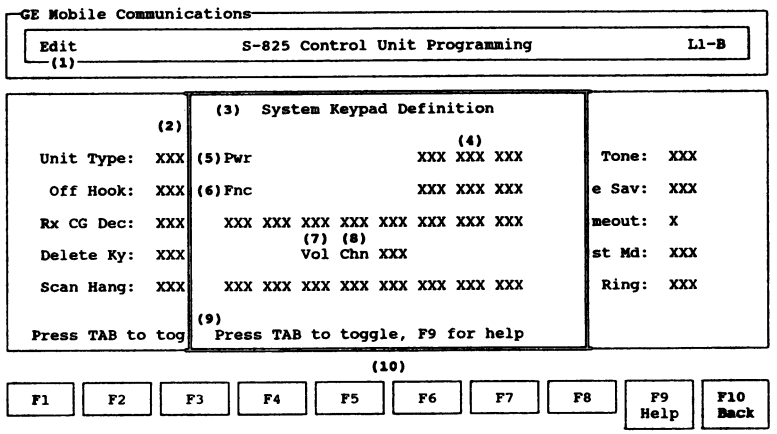


Figure 4-20 - System Keypad Definition Window

(1) Function - indicates current function
(2) "Pop-Up" Window - system keypad definition window
(3) Window Title - identifies window
(4) Input Fields - toggle or type desired data

(5) Power Field - keypad reference, "display only"
(6) Function Field - keypad reference, "display only"
(7) Volume Field - keypad reference, "display only"
(8) Channel Field - keypad reference, "display only"
(9) Prompt Line - current field instruction line
(10) Function Keys - entry to specific program area

The System Keypad Definition Window, shown in Figure 4-20, allows you to select the defaults to be used when creating a personality. The layout of this screen is selected to represent the physical layout of the keys on the System model of the S825 series Control Unit. Upon entry in this window, the cursor will be located in the first input field of the window. This input field is a toggle field and represents the same key as on the control unit keypad. To define the key, toggle the field (using the Tab key) until the correct selection is displayed or if you know the selection you want you can type it in. Movement between fields in this window is limited to the Enter key, and up and down arrows. Inside each field the left and right cursor keys are active as are the alphanumeric keyboard keys to allow you to type in the field definition if preferred.

There are four "Display Only" fields in the System Keypad Definition Window. They are; Pwr, Fnc, Vol, and Chn. These fields are for keypad reference and cannot be accessed.

The toggle fields and functionality represented in the System Keypad Definition Window are:

WAI - Wail (initiates the wail siren)
YLP - Yelp (initiates the yelp siren)
RST - Reset (will disable all siren/lights)
S/L1 to S/L8 - Siren/Light Combinations (initiates the programmed combination of sirens and lights)
GE* - GE-STAR (generates the GE-STAR ID or T90/T99)
VG - Voice Guard (enters encrypted speech mode)
VRS - Vehicular RPT On/Off
EG* - Emergency GE-STAR ID or T90/99
PA - Speaker Public Address
DSB - Key Disabled (prevents operation of key)
VLU - Volume Up
VLD - Volume Down

CHU	- Channel Up
CHD	- Channel Down
MOD	- Mode Select
HOM	- Home (takes you to the home channel)
SCN	- Scan (on/off)
ADD	- Add (adds channels to scan list)
DEL	- Delete (deletes channels from scan list)
SQL	- Squelch Level (sets the level of squelch)
CG	- Channel Guard Select
SPR	- External Speaker On/Off

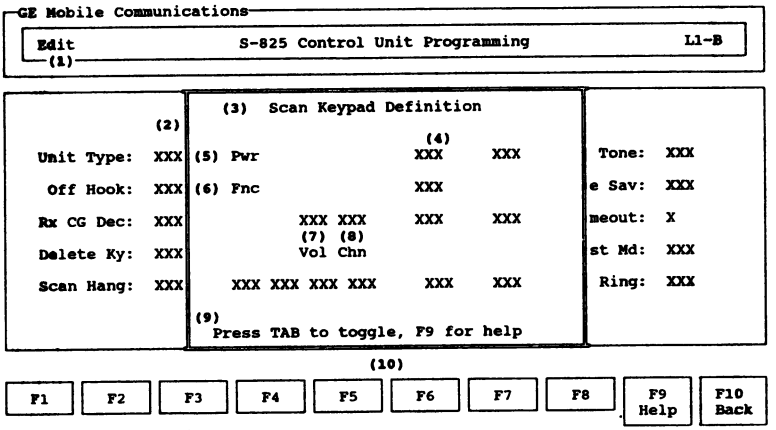


Figure 4-21 - Scan Keypad Definition Window

(1)	Function	- indicates current function
(2)	"Pop-Up" Window	- scan keypad definition window
(3)	Window Title	- identifies window
(4)	Input Fields	- toggle or type desired data
(5)	Power Field	- keypad reference, "display only"
(6)	Function Field	- keypad reference, "display only"
(7)	Volume Field	- keypad reference, "display only"
(8)	Channel Field	- keypad reference, "display only"
(9)	Prompt Line	- current field instruction line
(10)	Function Keys	- entry to specific program area

The Scan Keypad Definition Window, shown in Figure 4-21, allows you to select the defaults to be used when creating a personality. The layout of this screen is selected to represent the physical layout of the keys on

the Scan model of the S825 series Control Unit. Upon entry in this window, the cursor will be located in the first input field of the window. This input field is a toggle field and represents the same key as on the control unit keypad. To define the key, toggle the field (using the Tab key) until the correct selection is displayed or if you know the selection you want you can type it in. Movement between fields in this window is limited to the Enter key and up and down arrows. Inside each field the left and right cursor keys are active as are the alphanumeric keyboard keys to allow you to type in the field definition if preferred.

There are four "display only" fields in the Scan Keypad Definition Window. They are; Pwr, Fnc, Vol, and Chn. These fields are for keypad reference and cannot be accessed.

The toggle fields and functionality represented in the Scan Keypad Definition Window are:

WAI	- Wail (initiates the wail siren)
YLP	- Yelp (initiates the yelp siren)
RST	- Reset (will disable all siren/lights)
S/L1 to S/L8	- Siren/Light Combinations (initiates the programmed combination of sirens and lights)
GE*	- GE-STAR (generates the GE-STAR ID or T90/T99)
VG	- Voice Guard (enters encrypted speech mode)
VRS	- Vehicular RPT On/Off
EG*	- Emergency GE-STAR ID or T90/99
PA	- Speaker Public Address
DSB	- Key Disabled (prevents operation of key)
VLU	- Volume Up
VLD	- Volume Down
CHU	- Channel Up
CHD	- Channel Down
MOD	- Mode Select
HOM	- Home (takes you to the home channel)
SCN	- Scan (on/off)
ADD	- Add (adds channels to scan list)
DEL	- Delete (deletes channels from scan list)
SQL	- Squelch Level (sets the level of squelch)
CG	- Channel Guard Select
SPR	- External Speaker On/Off

Your function key options for the System and Scan Keypad Definition Windows 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 Control Unit Options Window.

SAVING A PERSONALITY

To save a personality to disk, press the **F10 Back** key from the Control Unit Personality Screen. You will be prompted to save the file as shown in Figure 4-22.

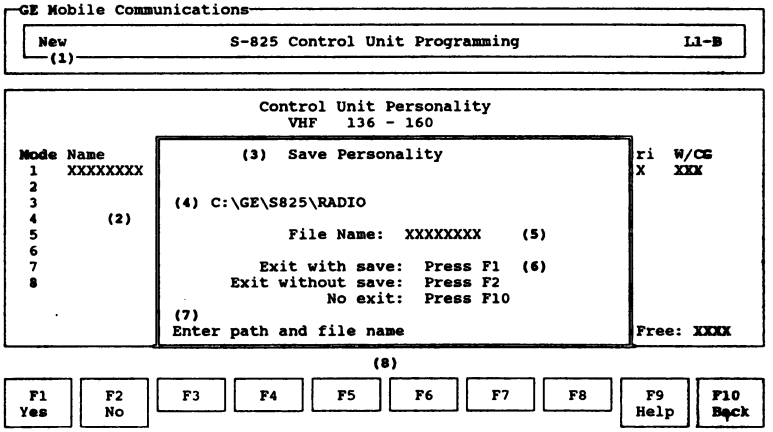


Figure 4-22 - Save File Window

(1) Function - indicates current function
(2) "Pop-Up" Window - save personality window
(3) Window Title - identifies window
(4) Path Field - path source field
(5) File Name - destination file name field
(6) Continue Prompt - save or no save option
(7) Prompt Line - current field instruction line
(8) Function Keys - entry to specific program area

This window will ask where you want the previously entered personality to be saved. The path field allows you to change or select a destination directory where the current personality will be stored. It defaults to the current drive and directory. To modify the path, press the up arrow key from the file name field. The file name field indicates the name under which the personality will be stored.

By pressing the **F1 Exit with save** key, the personality will be saved to the specified location. By pressing **F2 Exit without save,** the personality will not be saved and you will be returned to the Current Personalities Screen. Pressing **F10 No exit** will take you into the Control Unit Personality Screen again.

From the Save File Window, your options are:

F1 Yes	Select this option if you want to: Save data to disk and exit to the Current Personalities Screen.
F2 No	Select this option if you want to: Exit to the Current Personalities Screen without saving data.
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 Control Unit Personality Screen.

PROGRAMMING THE PERSONALITY INTO THE CONTROL UNIT

To program the personality into the control unit press the **F5 Progrm** key while in the Current Personalities Screen. A "pop-up" window will appear, as shown in Figure 4-23.

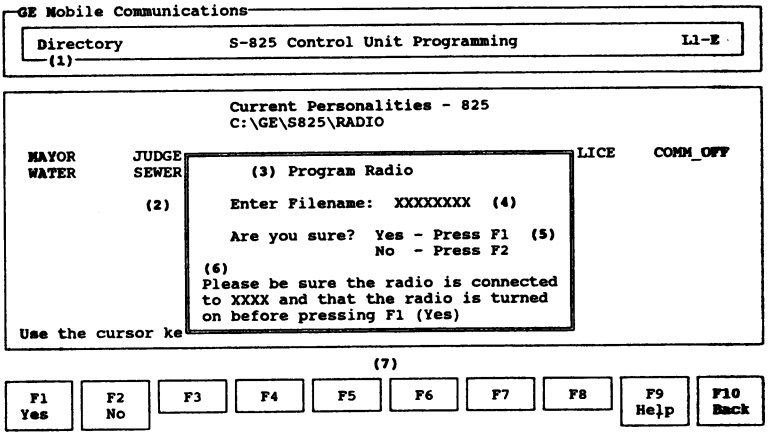


Figure 4-23 - Program Radio Window

(1)	Function	- indicates current function
(2)	"Pop-Up" Window	- program radio window
(3)	Window Title	- identifies window
(4)	Filename Field	- personality name to program
(5)	Continue Prompt	- continue or abort option
(6)	Prompt Line	- current field instruction line
(7)	Function Keys	- entry to specific program area

The Program Radio Window provides for entering the name of the personality to be used for programming the personality.

Enter the name of the personality you want to use for the program operation.

From the Program Radio Window your available options are:

F1 Yes Select this option if you want to:
Program the radio with the personality specified.

F2 No Select this option if you want to:
Abort this 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 Current Personalities Screen.

READING THE PERSONALITY OF THE RADIO

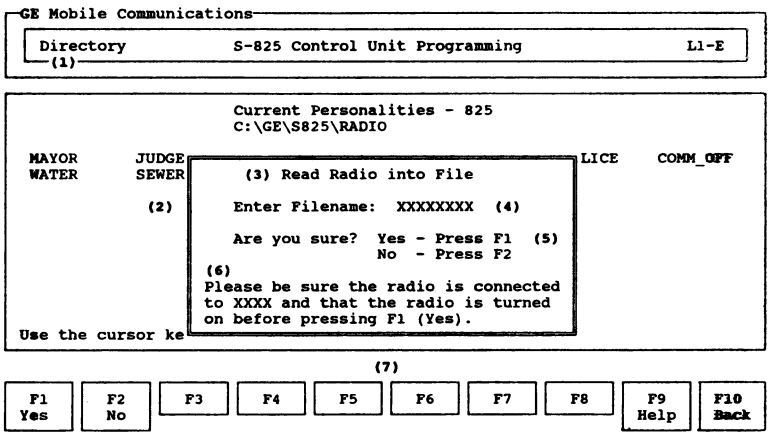


Figure 4-24 - Read Radio Into File Window

To confirm the read operation selection, press **F6 Read** while in the Current Personalities Screen. A "pop-up" window will appear, as shown in Figure 4-24.

(1) Function - indicates current function
(2) "Pop-Up" Window - read radio into file window
(3) Window Title - identifies window
(4) Filename Field - personality name to read
(5) Continue Prompt - continue or abort option
(6) Prompt Line - current field instruction line
(7) Function Keys - entry to specific program area

The Read Radio into File Window is used to confirm the read operation selection.

Enter the name of the personality you want to use for the read operation.

From this window your available options are:

F1 Yes	Select this option if you want to: Read the control unit into the personality specified.
F2 No	Select this option if you want to: Abort this 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 Current Personalities Screen.

CHAPTER 5
USING THE UTILITIES

UTILITY WINDOW

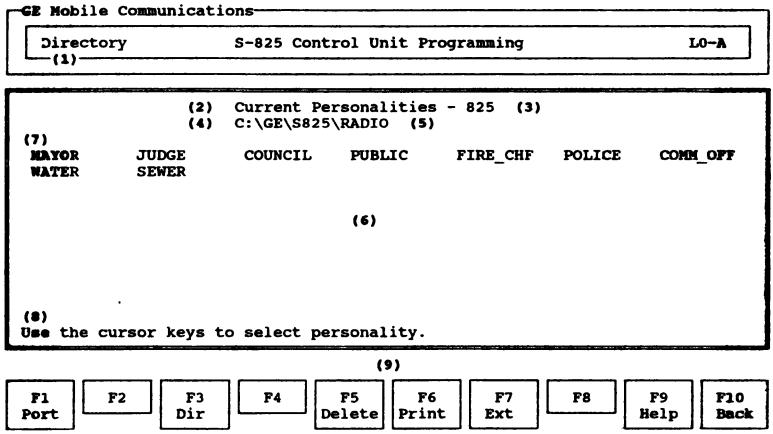


Figure 5-1 - Utility Window

(1)	Function	- indicates current function
(2)	Screen Title	- identifies screen
(3)	Default Extension	- designated extension
(4)	Current Drive	- designated drive
(5)	Current Directory	- designated directory name
(6)	Personality Fields	- personalities in current directory
(7)	Highlighted Personality	- indicates cursor location
(8)	Prompt Line	- current field instruction line
(9)	Function Keys	- entry to specific program area

The Utility Window allows access to infrequently used functions which have little relationship to the actual programming of a control unit. When the **F3 Utility** key is pressed from the Current Personalities Screen, the personality listing screen changes to the function "Utility" Window with new function keys listed as shown in Figure 5-1.

From the Utility Window, your options are:

F1 Port	Select this option if you want to: Change the port to use for programming the control unit.
F3 Dir	Select this option if you want to: Change your current directory.
F5 Delete	Select this option if you want to: Erase 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.

Print Personality

Pressing the **F6 Print** key while in the Utility Window causes a "pop-up" window to be displayed and enables the **F1 Yes, F2 No, F9 Help** and **F10 Back** function keys.

Print To Screen Option

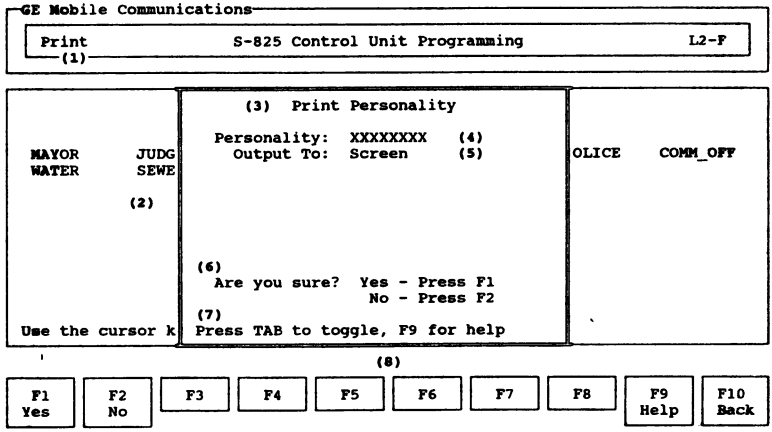


Figure 5-2 - Print Personality "Screen" Window

(1)	Function	- indicates current function
(2)	"Pop-Up" Window	- print personality window
(3)	Window Title	- identifies window
(4)	Personality Field	- personality to print
(5)	Output To Field	- personality will print to screen
(6)	Print Que	- que to print option
(7)	Prompt Line	- current field instruction line
(8)	Function Keys	- entry to specific program area

The Print Personality "Screen" Window, shown in Figure 5-2, is brought up by toggling the "Output To" field from any of the Print Personality Windows. Once you have typed in the personality you want to print, press the **F1 Yes** key to generate the printout and the personality data will appear on the screen allowing you to page through it.

The active function keys for this window 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 Printer Option

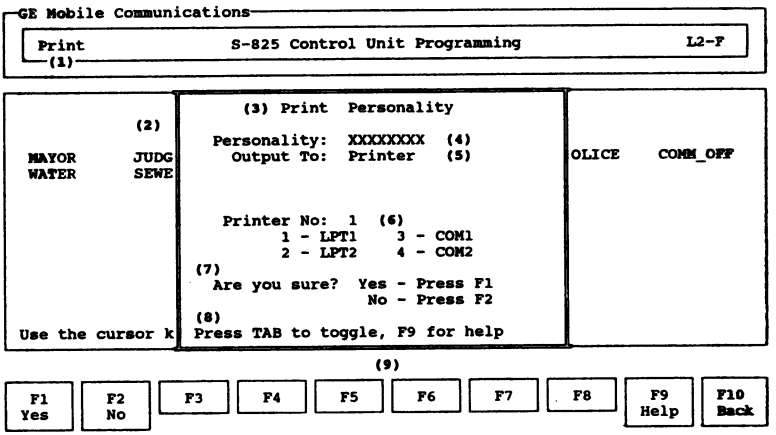


Figure 5-3 - Print Personality "Printer" Window

(1) Function - indicates current function
(2) "Pop-Up" Window - print personality window
(3) Window Title - identifies window
(4) Personality Field - personality to print
(5) Output To Field - personality will print to printer
(6) Printer Number Field - identify printer selection
(7) Print Que - que to print option
(8) Prompt Line - current field instruction line
(9) Function Keys - entry to specific program area

The Print Personality "Printer" Window, shown in Figure 5-3, is brought up by toggling the "Output To" field from any of the Print Personality Windows. Once you have typed in the personality you want to print, press the **F1 Yes** key to generate a hard copy printout.

The active function keys for this window 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 File Option

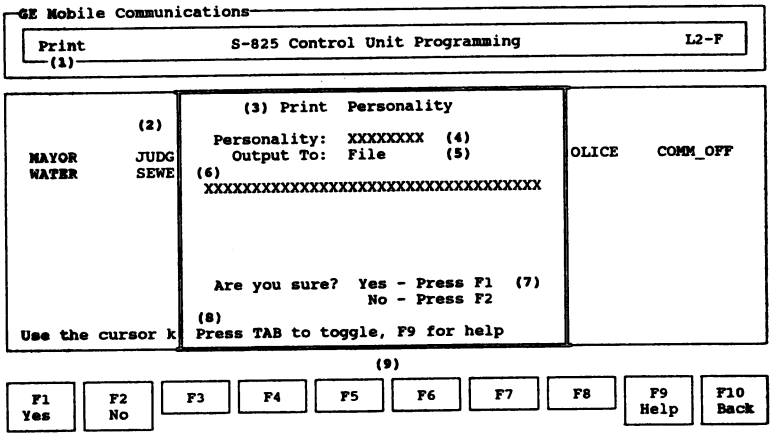


Figure 5-4 - Print Personality "File" Window

(1)	Function	- indicates current function
(2)	"Pop-Up" Window	- print personality window
(3)	Window Title	- identifies window
(4)	Personality Field	- personality to print
(5)	Output To Field	- personality will print to file
(6)	Path/File Name	- path/file name to print to
(7)	Print Que	- que to print option
(8)	Prompt Line	- current field instruction line
(9)	Function Keys	- entry to specific program area

The Print Personality File Window, shown in Figure 5-4, is brought up by toggling the "Output To" field from any of the Print Personality Windows. Once the personality you want to use has been selected, type in the path/file name the printed output should go to. You can use up to 35 characters in this field. Pressing the **F1 Yes** key will cause the printout to be generated to the specified file for printout at a later time.

The active function keys for this window 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 Print Personality Window.

Delete Personality

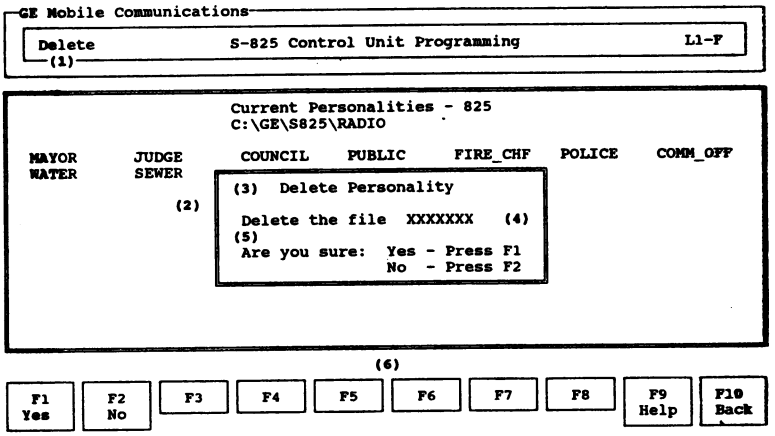


Figure 5-5 - Delete Personality Window

(1)	Function	- indicates current function
(2)	"Pop-Up" Window	- delete personality window
(3)	Window Title	- identifies window
(4)	Personality Field	- personality to be deleted
(5)	Continue Prompt	- continue or abort option
(6)	Function Keys	- entry to specific program area

Personality files can be deleted without leaving the Utility Window. It is important to note, however, that deleting a personality will remove it permanently from the directory. To access the Delete Personality Window, shown in Figure 5-5, press **F5 Delete.**

The active function keys for this window 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.**

Change Directories

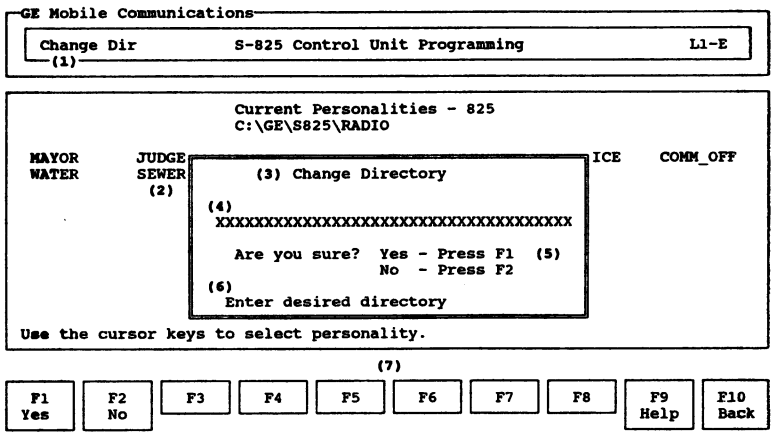


Figure 5-6 - Change Directory Window

(1)	Function	- indicates current function
(2)	"Pop-Up" Window	- change directory window
(3)	Window Title	- identifies window
(4)	Path Field	- identify path to be changed
(5)	Continue Prompt	- continue or abort option
(6)	Prompt Line	- current field instruction line
(7)	Function Keys	- entry to specific program area

The Change Directory Window, shown in Figure 5-6, lets you change directories without leaving the program. This window can be accessed by pressing the **F3 Dir** key. Once this window is opened, enter a valid path name for the directory you plan to change in the directory field. You can use up to 32 characters.

The active function keys for this window 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 — 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.

Change Extensions

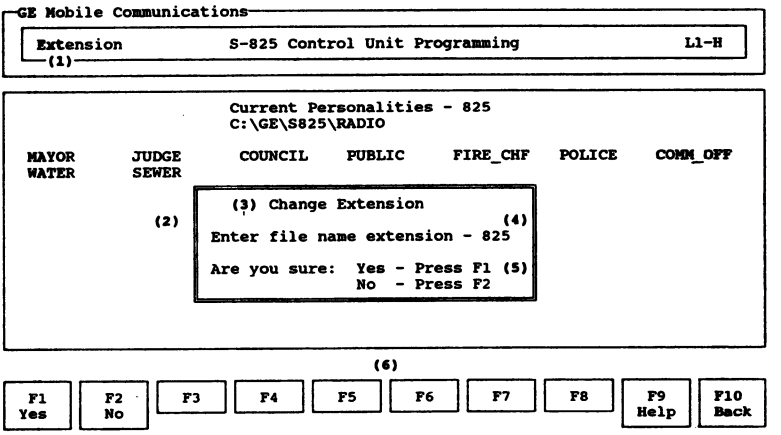


Figure 5-7 - Change Extension Window

(1) Function - indicates current function
(2) "Pop-Up" Window - change extension window
(3) Window Title - identifies window
(4) Extension Field - identify extension

(5) Continue Prompt - continue or abort option
(6) Function Keys - entry to specific program area

The Change Extension Window, shown in Figure 5-7, allows you to select the default extension displayed at the top of the Current Personalities Screen. This extension is used as a selector in which personalities are displayed on the screen. To change an extension select the **F7 Ext** key from the Utility Window. Once this window is opened enter the desired extension in the "Enter File Name Extension" field. This field will accept three alphanumeric characters.

The active function keys for this window 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

Even though this control unit extension is S825 the extension shown in the default on the Current Personalities Screen is 825 because only three characters are allowed. Anytime you change the extension, that extension will then become the default and will be used whenever files are saved unless another extension is explicitly specified.

CHANGING THE COMMUNICATIONS PORT

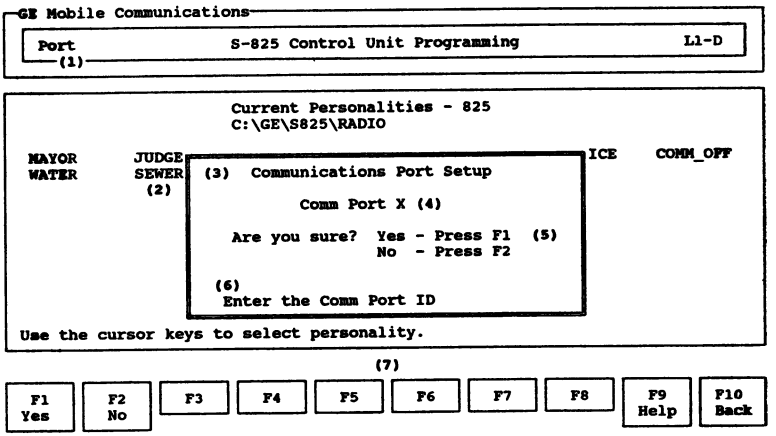


Figure 5-8 - Communications Port Setup Window

(1)	Function	- indicates current function
(2)	"Pop-Up" Window	- comm port setup window
(3)	Window Title	- identifies window
(4)	Comm Port Field	- communications port indicator
(5)	Continue Prompt	- continue or abort option
(6)	Prompt Line	- current field instruction line
(7)	Function Keys	- entry to specific program area

The Communications Port Setup Window, shown in Figure 5-8, allows you to select the communications port you want to use in programming the control unit. To define the communications port you want to use, press the **F1 Port** key while in the Utility Window. At the "Comm Port" field select the port you wish to use. There are only two ports available for this purpose: COM1 and COM2. To select COM1 enter a 1 or to select COM2 enter a 2.

The active function keys for this window 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.

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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 control unit. However, should your program lock up and no error message appear, it is best to reboot the system by pressing Ctrl-Alt-Del simultaneously. What you have previously programmed will probably be lost so don't do this unless the keyboard keys no longer function.

Problem: "Cannot write personality, size too large."

The S825 contains a variable length personality that is dependent upon the number of modes, channels and options. It is possible to create a personality that is too large to store in the control unit.

Solution: You will need to remove either modes, channels or options from the personality before attempting another write. Edit the personality keeping close track of the bytes free indicator at the bottom. As long as this indicator is greater than 0, the personality can be stored in the control unit.

Problem: "Cannot execute read - disk full."

This message is an indication that your disk is running out of storage space. You cannot execute the read 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: "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, (i.e., the last channel definition is displayed or the last mode) 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 your window display data.

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 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.

Problem: "Directory does not exist."

This is an indication that the directory you tried to change to does not exist.

Solution: Only specify a valid path/directory when attempting to change directories.

Problem: "DS Timeout must be in the range 1 to 5."

Appears when a value greater than 5 or less than 1 is entered in the DS Timeout field.

Solution: Enter a number between 1 and 5.

Problem: "File does not exist."

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: "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 invalid, do not specify 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 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 sets must have at least one channel."

An attempt was made to leave the Frequency Set Detail Window or save a frequency set definition without any channels defined.

Solution: The program will not allow you to continue without adding a channel. Ensure that at least 1 valid channel definition is in the frequency set before continuing.

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: "Invalid scan keypad option."

An attempt was made to specify a keypad option that does not exist.

Solution: Use the Tab key to toggle this field until your desired option is displayed.

Problem: "Invalid (P1/P2) channel in mode _, must have scan on."

An attempt was made to specify a channel that does not have Scn enabled for either a P1 or P2 channel.

Solution: In order to specify a channel as a P1 or P2 channel, it must have its Scn flag set to "On". To do so, cursor over to the frequency set field and detail. Go to the desired channel and ensure that Scn is set to "On".

Problem: "Invalid (P1/P2/HOME) channel in mode _, channel not in set."

An attempt was made to specify a channel that is not currently defined in the frequency set as either a priority scan channel or a home channel.

Solution: Specify a channel that is currently defined in the frequency set.

Problem: "Invalid beep interval, valid range is 1 - 15 secs."

An attempt was made to specify a beep interval that is outside of its prescribed range.

Solution: Enter a number between 1 and 15.

Problem: "Invalid Channel Guard entered."

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

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

Problem: "Invalid channel spacing."

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

Solution: If the band split you are working in falls within the VHF range, enter a frequency that is evenly divisible by .005 or .00625. If you are working within the UHF frequencies, enter a frequency that is evenly divisible by .0125. For channels in the 800 Mhz range, the correct channel spacing is .0125.

Problem: "Invalid character entered in field."

An attempt was made to enter an invalid character in either of the T90/T99 tone fields.

Solution: Enter only numeric data without any special characters or decimal points.

Problem: "Invalid system keypad option."

An attempt was made to specify a keypad option that does not exist.

Solution: Use the Tab key to toggle this field until your desired option is displayed.

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 frequency set."

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

Solution: Use the **F2 Freq** key to ensure that the frequency set specified actually exists in the Currently Defined Frequency Sets Window. ..

Problem: "Invalid GE-STAR ID, valid range is 1 - 16383."

An attempt was made to specify a GE-STAR ID that falls outside of the acceptable range of IDs.

Solution: Enter an ID that falls within the range of 1 and 16383.

Problem: "Invalid Home channel in mode _, must have a Tx frequency."

An attempt was made to specify a home channel that does not have a transmit frequency specified. All home channels must have a transmit frequency.

Solution: Enter a channel that has both a Tx and Rx frequency specified.

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.

Problem: "Invalid tone, valid range is 250 - 3000."

An attempt was made to enter a T90/T99 tone that falls outside the range of acceptable values.

Solution: Enter a tone frequency between 250 and 3000 Hz.

Problem: "Invalid, must be in 100 Msecs increments."

An attempt was made to enter an attack delay that did not fall in a 100 Msec interval.

Solution: Enter a value that is evenly divisible by 100. For example: 100, 200, 300, ... 1100, 1200, etc.

Problem: "Invalid, must be in 20 Msecs increments."

An attempt was made to specify a tone length or tone delay that was not specified in a 20 Msec interval.

Solution: Enter a value evenly divisible by 20. For example: 20, 40, 60, ... 120, 140, etc.

Problem: "Invalid, valid range is 0 - 3000 Msecs."

An attempt was made to enter a tone length or tone delay length that falls outside the range of acceptable values.

Solution: Specify a value that falls between 1 and 3000.

Problem: "Invalid, valid range is 1 - 255."

An attempt was made to specify a repeat count that falls outside the range of acceptable values.

Solution: Specify a repeat count that falls within 1 and 255.

Problem: "Invalid, valid range is 1 - 60."

An attempt was made to specify a delay time that falls outside the range of acceptable values.

Solution: Specify a delay time that falls within 1 and 60.

Problem: "Invalid, valid range is 50 - 5000 Msecs."

An attempt was made to specify an attack delay that falls outside of the acceptable range of values.

Solution: Enter an attack delay that falls between 50 and 5000 Msecs.

Problem: "Invalid, valid tone range 250 - 3000 Hz."

An attempt was made to enter a T90/T99 tone that falls outside the range of acceptable values.

Solution: Enter a tone frequency between 250 and 3000 Hz.

Problem: "Maximum number of channels exceeded."

An attempt was made to include a frequency set that would cause the personality to exceed the channel capacity.

Solution: You will not be allowed to include another frequency set that will cause the personality to exceed its limits. If you must include the set you are attempting to add you must remove other frequency sets to create room for the new set. Use the **F3 Remove** key to remove modes and/or channels.

Problem: "Mode # _ is invalid, it must contain a frequency set."

An attempt was made to either save the personality or program it into a control unit with a mode that does not contain a frequency set.

Solution: Either remove the mode in question or ensure that it has a frequency set assigned.

Problem: "Mode # _ is invalid, it must contain a valid GEstar ID."

An attempt was made to either save the personality or program it into a control unit with a mode that does not contain a valid GE-STAR ID.

Solution: Either remove the mode in question, disable the signal field, or ensure that the mode has a valid GE-STAR ID.

Problem: "Must be on a frequency set field."

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

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

Problem: "Must enter a frequency set name."

An attempt was made to change/delete or save a frequency set when no set name was specified.

Solution: Enter the correct frequency set name.

Problem: "Must enter at least 2 characters."

An attempt was made to specify a keypad definition that consisted of only one character.

Solution: All keypad definitions consist of either two or three characters. Either specify a correct keypad definition or use the Tab key to toggle this field to the correct selection.

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 command to fail. There is not enough memory available, the print executable is not in the right directory, 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 S8PRINT.EXE file resides in the same directory as the S825.EXE file. If the S8PRINT.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 control unit and the main program could not execute the read task. There are three common reasons for the read command to fail. There is not enough memory available, the read executable is not in the

right directory, 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 S8READ.EXE file resides in the same directory as the S825.EXE file. If the S8READ.EXE 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 spawn the write task. There are three common reasons for the write command to fail. First, there is not enough memory available, the write executable is not in the right directory or you are using a version of DOS earlier than version 3.0 or higher.

Solution: First, check to ensure that you're 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 S8WRITE.EXE file resides in the same directory as the S825.EXE file. If the S8WRITE.EXE 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.

Problem: "Read failed. Check connection."

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

Solution: The first step is to try and isolate the cause of the problem. Is the control unit malfunctioning? Replace the control unit with a known good control unit and attempt a read. If the message reappears, then the problem is not with the control 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 in your computer for functionality.

Problem: "Siren range is 0 to 5."

An attempt was made to specify a siren that falls outside the range of acceptable values.

Solution: Enter a value between 0 and 5.

Problem: "This field will only accept a 1 or 2."

An attempt was made to specify a carrier control timer that was outside the range of acceptable values for the carrier control timer.

Solution: Enter either a 1 or a 2.

Problem: "Tone 2 is not valid without a tone 1."

An attempt was made to specify a Type 99 tone 2 in the channel window without a Type 99 tone 1 defined. The program will not accept a tone 2 without tone 1 being defined first.

Solution: Enter a tone 1 prior to attempting to add a tone 2.

Problem: "Valid personalities must have at least one mode."

An attempt was made to save the personality or program the personality into the control unit without a mode defined. The program will not save a personality without at least one valid mode nor will it allow it to be programmed into the control unit.

Solution: You will need to define a mode before making further attempts.

Problem: "Warning, S825 cannot decode digital codes."

The S825 Control Unit cannot decode Digital Channel Guards. If Rx CG Dec is set to S825 in the Control Unit Options Screen, the CG table should not contain Digital Channel Guard codes. If the CG table does contain Digital Channel Guard codes and the Rx CG Dec is set to S825, this warning will appear when attempting to leave the CG Table Window.

Solution: If the S825 is going to perform the receive Channel Guard decoding then all digital codes must be removed from the CG Table Window.

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APPENDIX A

TERMS

Cursor Keys - Those 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 S825 Control Unit PC Programmer 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 control unit 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 control unit 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 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 reverse video when moving the cursor across the screen.

Frequency Set - Is used throughout this document to refer to a collection of channels that can be saved to disks. 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 Control Unit PC Programmer Software, Help denotes or refers to on-line assistance. This can be accessed by pressing the **F9 Help** Key from any field.

Mode - A set of channels unique to a specific location or activity.

PC Programmer Software - This term is used to identify the programming software for the S825 Control Unit.

Personality - Used generically to refer to information that is stored in the control unit that makes one control unit perform differently from all other control units. That information can 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.

Ramp - Refers to rapid channel or volume advancement while depressing key and holding.

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.

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.

APPENDIX B

FUNCTION KEYS

F1

F1 Setup - Allows the user to select personality defaults by defining System and Scan keypad definitions and entering frequency ranges.

F1 Switch - From the Setup Window, this key is used to activate the Frequency Ranges Window from the Keypad Definition Window, or the Keypad Definition Window from the Frequency Ranges Window.

F1 Yes - The selected operation will be executed. At numerous times during programming of the control unit, the program may ask you if you wish to complete an operation. When you press the function key labeled Yes, the selected operation will be completed.

F1 Port - From the Utility Window, this key allows you to select which port on your personal computer will be used for communications with the control unit.

F1 Detail - From the Control Unit Personality Screen this key provides access to the "details" of the frequency set in the current mode.

F1 Siren - Used to access the Siren/Light Definition Window from the Control Unit Options Window.

F2

F2 Change - From the Current Personality Screen this function key allows you to change an existing personality. This key, along with the **F4 New** key, provides access to the Control Unit Personality Screen. From the Currently Defined Frequency Sets Screen this key allows you to change a currently defined frequency set.

F2 No - Pressing this function key terminates the selected operation. At numerous times during the operation of the PC Programmer Software, the

program will ask you if you wish to complete an operation. When you press the function key labeled No, the selected operation will not be executed.

F1 Insert - Used in the Control Unit Personality Screen to insert a mode. Used in the Frequency Set Definitions Screen to insert a channel definition.

F1 CG - Used to access the Channel Guard table from the Control Unit Options Window.

F1 Freq - Used to bring up the Currently Defined Frequency Sets Screen from the Keypad Definition Window or the Frequency Ranges Window.

F3

F3 Keypad - Used to toggle the Keypad Definition Window between the System and Scan keypad definitions.

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

F3 Dir - This command is enabled within the Utility Window and allows you to change directories without having to exit the PC program.

F3 Remove - Used in the Control Unit Personality Screen to remove a mode definition. Also used in the Frequency Set Definitions Screen to remove a channel definition.

F3 Fnc - Provides access to the FNC Button Window from the Control Unit Options Window. Lets you define the functionality of the function key.

F4

F4 New - This function key, accessed from the Current Personalities Screen, allows you to create a new radio personality. This key, along with

the **F2 Change** key provides access to the Control Unit Personality Screen.

F4 Range - From the Setup window, this key is used to toggle the Frequency Ranges Window between RANGR, DELTA-S and DELTA-SX.

F4 Signal - From the Control Unit Options Window this key is used to access the Emergency Signalling Window. From the Control Unit Personality Screen, this key toggles to the signal options.

F4 Scan - Used to toggle the Control Unit Personality Screen to the scan options.

F4 Text - This key enables use of the "Text" window within the Control Unit Personality Screen. This window will automatically provide the software revision number and software revision date of the S825 Control Unit last programmed. This window also accepts additional information (in text format) which you may wish to include about a particular radio personality.

F5

F5 Progrm - This key is enabled in both the Current Personalities Screen and the Control Unit Personality Screen. In the Current Personalities Screen, this function writes a personality stored in memory to the radio. In the Control Unit Personality Screen, this key writes the latest changes made in the selected personality to the radio.

F5 Delete - Used to delete a personality or frequency set.

F5 Store - Used to store the frequency set being edited to disk.

F5 Radio - Used to pull up the Radio Options window.

F6

F6 Read - From the Current Personalities Screen, this key provides the capability to read a specific radio personality into a file.

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 Key - Used to pull up the keypad definition from the Control Unit Options Window.

F7

F7 Ext - From the Utility Window, this key allows you to specify which files are to be displayed in the Current Personalities Screen. This function also permits the definition of a new three letter default extension.

F7 Option - This key provides the capability to create or modify radio options within the Control Unit Personality Screen.

F8

F8 More - Used to toggle the function keys within the Control Unit Personality Screen.

F9

F9 Help - Select F9 whenever you have questions about the execution of an operation. F9 will always provide assistance from any screen or window.

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 describe the purpose of the data presented in the window.

F10

F10 Back - This key is pressed whenever you wish to return to a previous window, thus 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).

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APPENDIX C
ACCEPTABLE VALUES TABLE

Field Name	Acceptable Values	Default Value
PERSONALITY SCREEN (SCAN):		
Mode	8 Alphanumeric Characters	Blank
Freq Set	Any Defined Frequency	Blank
Signal	Disabl, T90, T99, Gestar	Disabl
P1-Prog	User, Selchn, Fixed	User
P1	Any channel in set with Scn = Yes	Blank
P2-Prog	User, Selchn, Fixed	User
P2	Any channel in set with Scn = Yes	Blank
W/CG	Yes or No	Yes
PERSONALITY SCREEN (SYSTEM):		
Mode	8 Alphanumeric Characters	Blank
Freq Set	Any Defined Frequency Set Name	Blank

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Field Name	Acceptable Values	Default Value
Signal	Disabl, T90, T99, GEstar	Disabl
Home	Any channel in set	Blank
Initiate	Switch, Hksw, Ptt	Switch
Pttopt	All, Hksw	All
Emerg	Yes or No	Yes
GEstar	1 to 16383	Blank
FREQUENCY SET DEFINITION:		
Name	8 Alphanumeric Characters	Blank
Tx Freq	VHF-In Bandwidth 5Khz/6.25Khz Separation UHF-In Bandwidth 12.5Khz Separation 800-In Bandwidth 12.5Khz Separation	Blank
Rx Freq	VHF-In Bandwidth 5Khz/6.25Khz Separation UHF-In Bandwidth 12.5Khz. Separation 800-In Bandwidth 12.5Khz. Separation	VHF/UHF-Tx Freq 806-824Tx + 45 851-870Tx
Tx CG	Tone-67.0 to 210.7 Digital - See Appendix D	Blank

Rx CG	Tone - 67.0 to 210.7 Digital - SeeAppendix D	Tx CG
Ste	On or Off	Value of Rx CG Digital - On Tone - Off
CCT	On or Off	On
Scn	Yes or No	No
CGO	Yes or No	Yes
Tone 1 and Tone 2	250Hz to 3000Hz(No tenths)	Blank

CONTROL UNIT OPTIONS:

Unit Type	System or Scan	To select keypad definition screen from setup
Keypad Sel	Ena or Dis	Ena
Alert Tone	All, None, or Ramp	All
Off Hook	Scan or NoScn	NoScn
B-Lite Dis	On or Off	On
B-Lite Sav	Yes or No	No
Rx CG Dec	Radio or S825	Radio
Min Volume	Set or Off	Off
DS Timeout	1 to 5	3
Delete Key	Store or Temp	Store
Wrap Ramps	Yes or No	Yes
DS Test Md	Ena or Dis	Dis

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Field Name	Acceptable Values	Default Value
Scan Hang	On or Off	On
CCT	1 or 2	1
Horn Ring	Pos or Neg	Pos
Field Name	**Acceptable Values**	**Default Value**
SIREN LIGHTS:		
Sm	1 to 5	Function Dependent
Lights (1 - 8)	Function Dependent	Enable (*) Disable ( )
Can	Yes or No	Yes
Mon	Yes or No	No
CG:		
ID	3 Alphanumeric Characters	Blank
Tx CG	Tone - 67.0 to 210.7 Digital - See Appendix D	Blank
Rx CG	Tone - 67.0 to 210.7 Digital - See Appendix D	Tx CG
Ste	On or Off	Value of Rx CG Digital - On Tone - Off
FNC:		
Primary	Siren, DTMF, Disable	Siren
Secondary	Siren, DTMF, Disable	DTMF

Field Name	Acceptable Values	Default Value
EMERGENCY SIGNALLING:		
Revert to Home	Yes or No	No
Emerg Tone 1	250 Hz to 3000 Hz	Blank
Length	0 to 3000 Msec- 20 Msec Intervals	1000 Msec
Emerg Tone 2	250 Hz to 3000 Hz	Blank
Length	0 to 3000 Msec- 20 Msec Intervals	3000 Msec
Tone Delay	0 to 3000 Msec- 20 Msec Intervals	1000 Msec
Repeat Count	1 to 255	1
Delay Time	1 Sec to 60 Sec	1 Sec
Attack Delay	50 to 5000 Msec - 100 Msec Interval	50 Msec
RADIO OPTIONS:		
Radio Download	Ena or Dis	Ena
Max Chn/Mode	16 or 32	16
VRS Beep Interval	1 to 15 Sec	1 Sec
VRS Forced Scan	Yes or No	No
Dual Control	Yes or No	No

Field Name	Acceptable Values	Default Value
KEYPAD DEFINITIONS:		
System	WAI YLP RST LSI-SL8 GE*VG VRS EG* PA DSB VLU VLD CHU CHD MOD HOM SCN ADD DEL SQL CG SPR	Key Dependent
Scan	WAI YLP RST LSI-SL8 GE*VG VRS EG* PA DSB VLU VLD CHU CHD MOD HOM SCN ADD DEL SQL CG SPR	Key Dependent

APPENDIX D

PRIMARY & EQUIVALENT DIGITAL CODES

PRIMARY CODE	EQUIVALENT CODE	PRIMARY CODE	EQUIVALENT CODE	PRIMARY 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		

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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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Work Sheet B
Control Unit Personality - Mode Definitions

Mode No:__________ Name:______________ Freq Set:________

Signal	P1-Prog	P1	P2-Prog	P2	W/CG	Home	Initiate	Pttopt	Emer
Disable	User		User		Yes		Switch	All	Yes
T90/T99	Fixed		Fixed		No		Hksw	Hksw	No
GE-STAR	Selchn		Selchn				PTT		

Mode No:__________ Name:______________ Freq Set:________

Signal	P1-Prog	P1	P2-Prog	P2	W/CG	Home	Initiate	Pttopt	Emer
Disable	User		User		Yes		Switch	All	Yes
T90/T99	Fixed		Fixed		No		Hksw	Hksw	No
GE-STAR	Selchn		Selchn				PTT		

Mode No:__________ Name:______________ Freq Set:________

Signal	P1-Prog	P1	P2-Prog	P2	W/CG	Home	Initiate	Pttopt	Emer
Disable	User		User		Yes		Switch	All	Yes
T90/T99	Fixed		Fixed		No		Hksw	Hksw	No
GE-STAR	Selchn		Selchn				PTT		

Mode No:__________ Name:______________ Freq Set:________

Signal	P1-Prog	P1	P2-Prog	P2	W/CG	Home	Initiate	Pttopt	Emer
Disable	User		User		Yes		Switch	All	Yes
T90/T99	Fixed		Fixed		No		Hksw	Hksw	No
GE-STAR	Selchn		Selchn				PTT		

Mode No:__________ Name:______________ Freq Set:________

Signal	P1-Prog	P1	P2-Prog	P2	W/CG	Home	Initiate	Pttopt	Emer
Disable	User		User		Yes		Switch	All	Yes
T90/T99	Fixed		Fixed		No		Hksw	Hksw	No
GE-STAR	Selchn		Selchn				PTT		

Work Sheet C
Control Unit Options

Serial Number:_____				Date:_____	
Unit Type	**Keypad Sel**	**Alert Tone**	**Off Hook**	**B-Lite Dis**	**B-**
System Scan	Ena Dis	None Ramp All	Scan NoScn	On Off	
Rx CG Dec	**Min Volume**	**DS Time out**	**Delete Key**	**Wrap Ramps**	**DS**
Radio S825	Set Off		Store Temp	Yes No	
Scan Hang	**CTT**	**Horn Ring**			
On Off	1 2	Pos Neg			

Radio Options

Radio Options				
Download	**Ign A+ Req'd**	**VRS Beep In**	**VRS Scan**	**Dual Cntrl**
Ena Dis	Yes No		Yes No	Yes No

Work Sheet D
Siren/Light Combinations

		Lights									Options	
Function	Siren	1	2	3	4	5	6	7	8	9	Can	Mom
Wail											Yes No	Yes No
Yelp											Yes No	Yes No
S/L 1											Yes No	Yes No
S/L 2											Yes No	Yes No
S/L 3											Yes No	Yes No
S/L 4											Yes No	Yes No
S/L 5											Yes No	Yes No
S/L 6											Yes No	Yes No
S/L 7											Yes No	Yes No
S/L 8											Yes No	Yes No

Work Sheet E
Channel Guard Table

CHANNEL GUARD TABLE				
Num	**Id**	**Tx CG**	**Rx CG**	**STE**
1				On Off
2				On Off
3				On Off
4				On Off
5				On Off
6				On Off
7				On Off
8				On Off
9				On Off
10				On Off
11				On Off
12				On Off
13				On Off
14				On Off