



MOTOROLA INC.

Radio Service Software Manual

for

Radius R100

UHF Repeater

Version R01.09.00

First Edition



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Table of Contents

Part 1 Getting Started	1
Required Equipment.....	1
Configuring the Repeater and Computer	2
How Screens are Organized	3
Software Installation	3
Starting the Radio Software	2
Main Menu	5
IBM COM Port Menu	5
Part 2 Loading and Saving Codeplug Information	6
Recommended Programming Procedure	6
Reading the Repeater Codeplug.....	6
Writing to the Repeater Codeplug	7
Part 3 Changing the Repeater's Codplug Information	8
Edit Menu	8
Channel Selection Menu	8
Coded Squelch Menu.....	8
Time Out Timer Menu.....	6
List Option Key	7
Select Special Function Key	7
Appendix	
A -- Glossary	11
B -- Command Summary	14
C -- Default File Names.....	15
D -- Error Code Explanations	16
E -- PC/MS-DOS Command Summary.....	17
F-- Creating a Multilevel Directory Tree	18
G --Examples of Setting up Archive and Backup Paths	20

List of Figures

Figure

1.1 Computer To Radio Connections.....	1
1.2 Major Screen Organization.....	2
1.3 Introductory Window.....	2
1.4 Main Menu.....	3
1.5 IBM COM Port Menu.....	3
2.1 Codeplug Read Window.....	4
2.2 Codeplug Write Window.....	4
2.3 Codeplug Write Verify Window.....	4
3.1 Frequency Change Window.....	5
3.2 Coded Squelch Menu.....	6
3.3 PL Frequency Window.....	6
3.4 DPL Code Window.....	6
3.5 PL/DPL Warning Window.....	6
3.6 Time-Out Timer Window.....	6
A-1 Hard Disk Drive Archive Directory Tree Example.....	14
A-2 Backup Floppy Disk Directory Tree Example.....	15

Part 1 Getting Started

Introduction

The Radius R100 Radio Service Software provides an easy means for reconfiguring the R100 repeater in the field or shop. The following station parameters are stored in two 128 byte EEPROM codeplugs and are reprogrammable using this Radio Service Software:

Receiver Codeplug:

Receive Frequency
Receive Coded Squelch

Transmitter Codeplug:

Transmit Frequency
Transmit Coded Squelch
Time-Out-Timer

The Field Programmer supports the following repeater models:

Model	Description
H5015	25 Watt, PL squelch
H5016	25 Watt, DPL squelch
H5017	2-10 Watt, PL squelch
H5018	2-10 Watt, DPL squelch

Required Equipment

The following items are required to perform field programming:

1. IBM XT, AT, Convertible, or System/2 Model 30/50™ with 256K RAM, Dual Floppy Disk Drives (Minimum Required System)
2. PCDOS™ 3.0 or MSDOS™ 3.0 or later version
3. Field Program/Test Cable 01-80358A52
4. Radius R100 Radio Service Software
5.25 inch disk HVN9178A
3.50 inch disk HVN9177A

Applicable documentation:

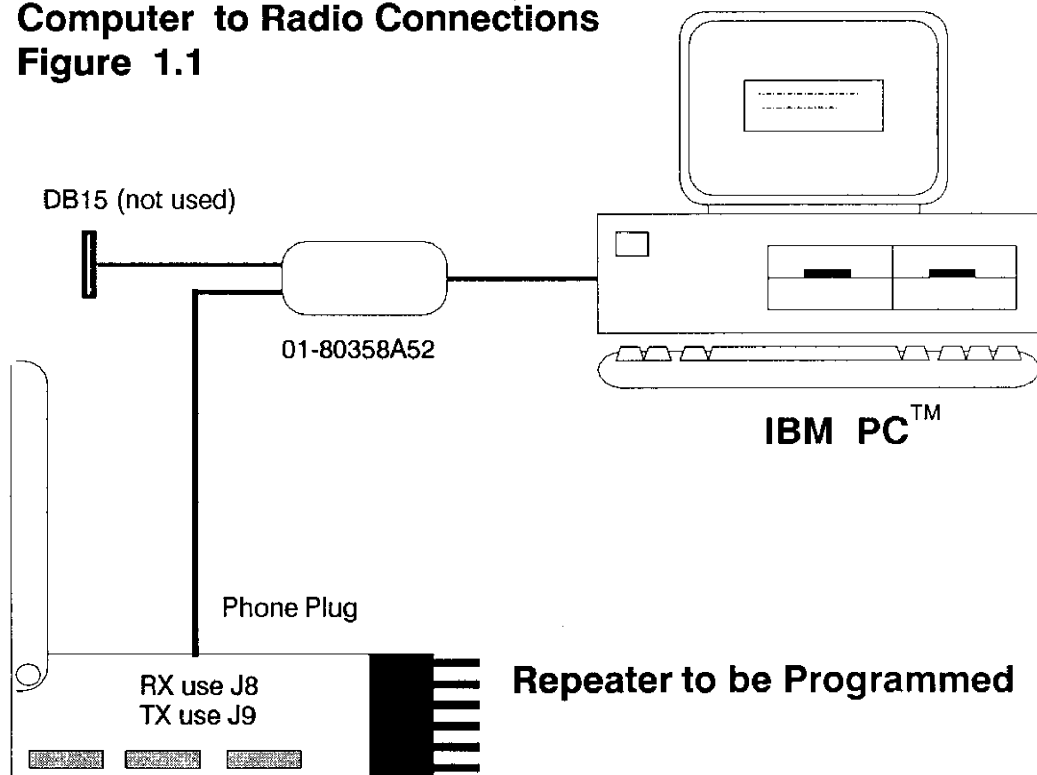
Radius R100 Theory/Maintenance Manual, 68P81071E50

Configuring the Repeater and Computer

Configure the Repeater to the IBM PC as Follows (Figure 1.1):

1. Connect the 01-80358A52 Interface Cable to the computer COM1 port (male DB-25). Use COM2 if COM1 is not available.

Computer to Radio Connections
Figure 1.1



2. Connect the RJ-11C (telco) connector of the 01-80358A52 Interface Cable to the appropriate connector on the Radius R100 repeater:

Desired Codeplug	R100 Jack
Receiver	J8 - RX PROG
Transmitter	J9 - TX PROG

3. Apply AC power to the Repeater.

How the Screens are Organized

The Radius R100 Radio Service Software is a user friendly menu-driven program. The structure of the menu tree is shown in Figure 1.2.

A branch in the diagram is represented by a menu choice in the program. Each box represents a menu. You may "walk through" this menu tree by entering special characters. To progress down through the tree, a numeric digit or <Enter> key is used. The next higher level menu is reached by pressing the <ESC> key.

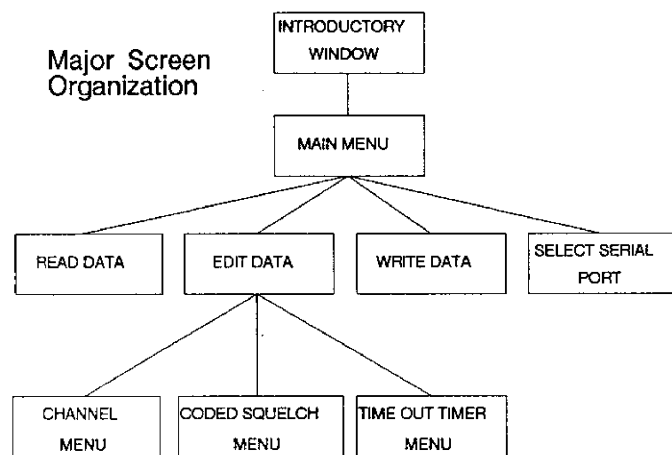


Figure 1.2

Software Installation

In order to use the Radio Service Software it first must be installed on your IBM PC.

If you have only floppy disk drives first load PCDOS or MSDOS into the computer. If you are not familiar with this procedure please refer to your DOS manual. Next, you want to make a working copy of the Radio Service Software. Insert a blank formatted disk in drive A: and the supplied copy of the Radio Service Software in drive B:. Then you should type:

COPY B:*. * A: <- ("<-" Represents the Enter Key)

to transfer the Radio Service Software to your working disk. Remove the supplied copy of the Radio Service Software and keep it in a safe place. This will insure that you will always have an uncorrupted copy available should anything

happen to your working disk.

If you have a hard disk drive, you may first want to create a sub-directory for your Radio Service Software. If you are not familiar with using sub-directories please refer to your DOS manual and Appendix F of this manual.

Put the supplied copy of the Radio Service Software in drive A:. Log onto drive C: by typing:

C: <-

Select the desired sub-directory by typing:

CD <path> <-

An example of the "CD" command with a path would be:

CD \MRSS\R100

This would put you in the sub-directory "R100".

To copy the Radio Service Software to hard disk drive now type:

COPY A:*. * <-

Remove the supplied copy of the Radio Service Software and keep it in a safe place. This will insure that you will always have an uncorrupted copy available should anything happen to your hard disk drive.

Starting the Radio Service Software

After setting up the station and computer as described in "Configuring the Repeater and Computer", type in the program name, R100, followed by the <Enter> key. The introductory window should be displayed (Figure 1.3):

NOTE:

The Num Lock and Caps Lock keys must be activated for the program to operate properly. The program does not recognize the cursor arrows on the numeric pad, but does interpret the number on the arrow key as that arrow (i.e. an 8 is interpreted as a cursor up- arrow key).

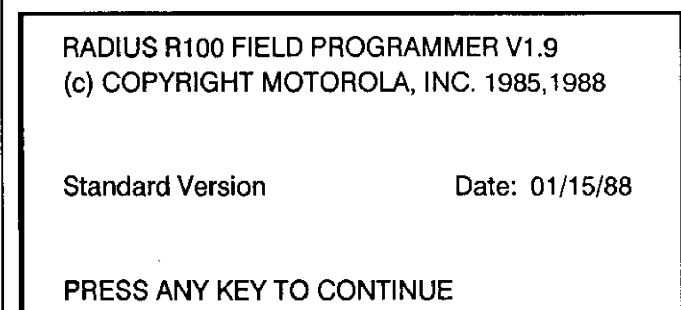


Figure 1.3

This window provides title and copyright information. The software version number and date of last change are also displayed. Press any key to proceed to the Main Menu.

Main Menu

The first line of the Main Menu (Figure 1.4) identifies the field programmer and software version number. This example shows software version 1.9. The diagram above also outlines two other fields. The "Data-type Window" shows the current status of the codeplug data stored in the programmer's buffer. There are three possible data-type messages:

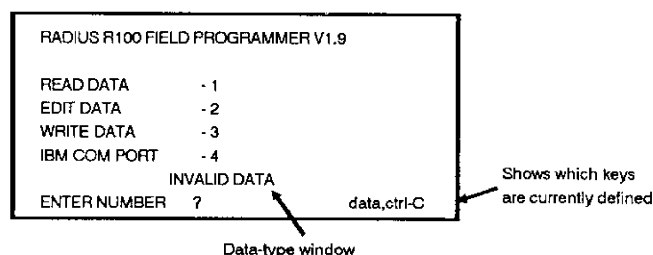


Figure 1.4

INVALID DATA -- The codeplug data read by the programmer is either invalid or no data was read (read attempt failed). Normally appears when the Field Programmer is first invoked.

RECEIVER -- The codeplug data in the programmer is a valid receiver codeplug image.

TRANSMITTER -- The codeplug data in the programmer is a valid transmitter codeplug image.

The second area of the main menu display is located in the lower-right corner. This window is present in all menu and submenu displays. Here, the functional keys are defined for the current menu. In this example, only "data" keys (data means numeric data, or digits 1- 4) and the CTRL-C key combination are defined in the main menu. To select a function (READ DATA, EDIT DATA, WRITE DATA, or IBM

COM PORT), enter the corresponding number (1- 4). To exit the Field Programmer and return to DOS, press the "C" key while holding down the CTRL key.

IBM COM Port Menu

This menu is used to select the serial port the programmer will use to interface to the repeater. To enter this menu from the Main Menu, press the "4" key. The IBM COM Port Menu will be displayed (Figure 1.5).

The highlighted selection indicates which serial port is currently selected. The two available choices are COM1 and COM2. The default selection is COM1. To change the serial port selection, enter "1" for COM1 or "2" for COM2. To return to the Main Menu without changing the serial port selection, press the key. This menu need not be entered unless COM2 is used for codeplug programming.

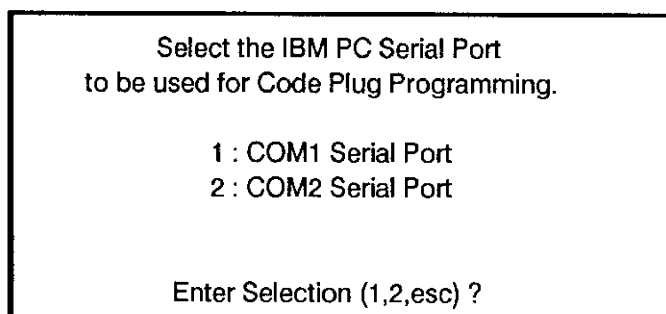


Figure 1.5

Part 2 Loading and Saving Codeplug Information

Recommended Programming Procedure

When reprogramming the R100 Repeater, the following procedure is recommended:

1. Install the interface cable at TX PROG jack (J9) on the R100 repeater.
2. READ the codeplug from the repeater.
3. EDIT the codeplug stored in the programmer buffer.
4. WRITE the programmer buffer back to the codeplug.
5. Move the interface cable to the RX PROG jack (J8) and repeat steps 2-4.

NOTE:

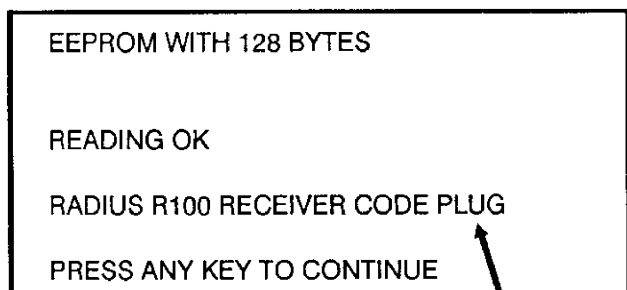
If the interface cable is connected to COM2 of the computer, select IBM COM PORT (selection 4) on the Main Menu and change the setting to COM 2 serial port.

It is not necessary to program the transmitter codeplug before programming the receiver codeplug.

Reading the Repeater Codeplug

Power up the repeater and connect the programmer interface cable as described in Part 1.

While at the Main Menu level, press "1" to transfer the codeplug from the repeater to the programmer. After a successful codeplug transfer, the display shows the "Codeplug type identification" field indicating which codeplug was just read in. In the Figure 2.1, a receiver codeplug was successfully read into the programmer. If no error occurs, then two beeps will be sounded. Refer to Appendix D for a listing of error messages and their meaning.



Codeplug type identification

Figure 2.1

WRITING RECORD 2

Figure 2.2

Writing to the Repeater Codeplug

Press "3" while in the Main Menu to program the repeater codeplug from the codeplug image stored in the programmer's internal buffer. This menu can not be invoked unless a valid codeplug has already been read (i.e. the data type window on the Main Menu must not show "INVALID DATA"). During programming, the display will be as in Figure 2.2. The Record number is the number of the 64-byte record currently being transferred to the repeater. After each record is transferred, it is read back again to verify proper programming. After successful programming, the display will be as in Figure 2.3. For a listing of possible error messages, see Appendix D.

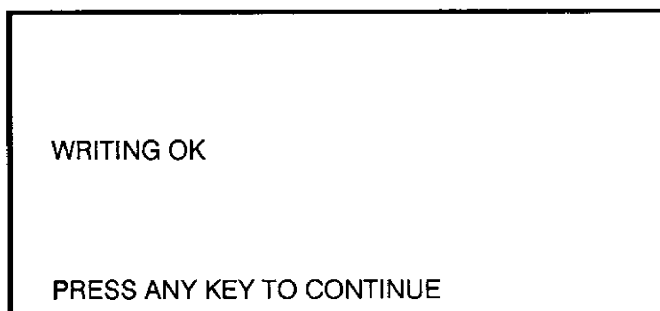


Figure 2.3

Part 3 Changing the Repeater's Codeplug Information

Edit Menu

While in the Main Menu, the Edit Menu is entered by pressing "2". In the Edit Menu, all programmable station parameters may be viewed and/or edited. The Edit Menu can only be entered if the codeplug has been successfully read into the programmer's buffer. To exit the Edit Mode and return to the Main Menu, simply press the <ESC> key.

As in the Main Menu, the lower right corner of the display shows which keys/inputs are defined in this menu. The valid keys for the Edit Menu are as follows:

Key	Function
<ESC>	Return to the Main Menu.
4 (left arrow)	Scroll Edit Menu backward.
6 (right arrow)	Scroll Edit Menu forward.
8 (up arrow)	Move cursor symbol up within menu block.
2 (down arrow)	Move cursor symbol down within menu block.
<Enter>	Select option next to cursor symbol or terminate data entry.
L	List all programmed options to the display or printer.
F	Select special function.

The edit menu is divided into three major submenus of related options: 1) Channel Selection Menu, 2) Coded Squelch Menu, and, 3) Time-Out-Timer Menu. Upon selecting the Edit Menu, the Channel Selection Menu is entered. To move from submenu to submenu, press the left or right arrow keys ("4" for left, "6" for right). For each submenu, all options within that submenu are listed, one per line. The highlighted option is the option that is currently programmed in the codeplug. To change options, use the up or down arrow keys ("8" for up, "2" for down) to position the cursor symbol "< >" next to the desired option. Then press <Enter>. Each submenu will be described in detail in the following paragraphs.

NOTE:

Make sure that the Num Lock and Caps Lock keys are activated. Convertible users should use the numbers across the top of the keyboard for arrow keys.

Channel Selection Menu

In this menu, only one option is available: "1 CHANNEL RADIO". To review or change the frequency, press the <Enter> key. The Channel Selection Screen will appear (Figure 3.1).

This example shows a transmitter codeplug programmed for

455.00000MHz. Note that only frequencies between 450.00000 and 470.00000 may be entered. Also, the frequency must be an integer multiple of 5.0 KHz or 6.25KHz. One exception is that a frequency of 0.0 may be entered to disable the transmitter or receiver.

To return to the Channel Selection Menu without changing the frequency, press the <Enter> key.

To change the frequency, type in the new frequency (in MHz) and press the key. If an invalid frequency is entered, the programmer will beep and then restore the original frequency to the display. If the entered frequency is valid, the programmer buffer is updated, and the display returns to the Channel Selection Menu

NOTE:

If the receive frequency is changed, then the receiver filters must be retuned. Additionally, if external duplex filtering is used and either the transmit or receive frequency is changed, then the duplexer must be re-aligned. Check the Radius R100 instruction manual for details.

Coded Squelch Menu

The Coded Squelch Menu will appear when selected from the Edit Menu (Figure 3.2). In this menu, five options are listed. As described earlier, the highlighted option is the option currently programmed in the programmer buffer. In the above example, the codeplug is programmed for PL Decode only. Not all options are applicable to both codeplugs. The "Decode Only" options may only be selected for a receiver codeplug, and the "Encode Only" options may only be selected for a transmitter codeplug. The "Omit Coded Squelch" option may be selected for either codeplug. To select an option, use the up/down arrows to move the cursor symbol ("< >") next to the desired option. Then press the <Enter> key. If an incompatible option is selected, the programmer will beep, and no action will be taken.

TYPE IN RX/TX FREQUENCY
RANGE: (450-470) MHz DISABLE = 0

TX FREQUENCY: 455.00000

Figure 3.1

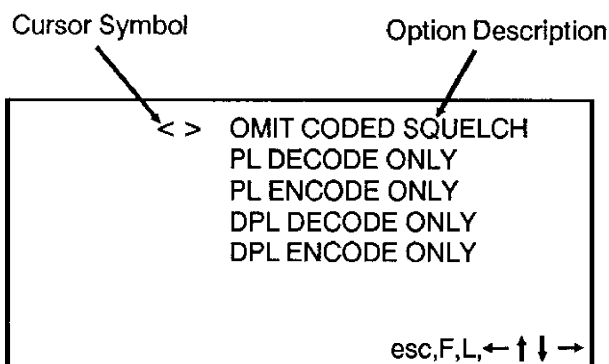


Figure 3.2

If any PL or DPL option is selected, the programmed PL or DPL code will be displayed for review or edit. To return to the Coded Squelch Menu without modifying the PL/DPL code, press the <Enter> key. Otherwise, type in the desired PL frequency or DPL code and press the <Enter> key. If the entered code is invalid, the programmer will beep and restore the original code to the display. The Coded Squelch Menu can not be re-entered until a valid PL/DPL code is entered. Note that entering a PL or DPL code of 0 is equivalent to selecting the "OMIT CODED SQUELCH" option. The display in Figure 3.3 appears when the "PL ENCODE ONLY" option is selected:

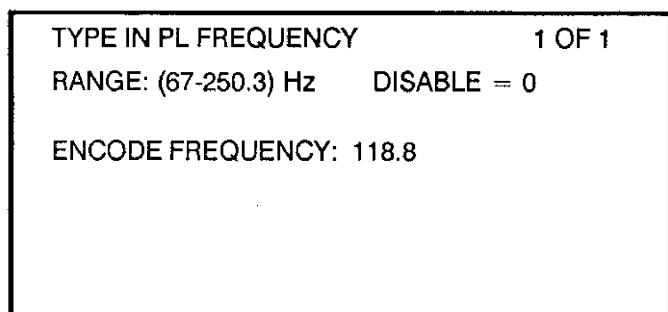


Figure 3.3

In this example, the codeplug is programmed for a transmit PL code of 118.8 Hz (PL 2B). When entering PL frequencies, if the entered frequency is within 1 Hz of a valid PL code, then the valid code is displayed. Note that the PL

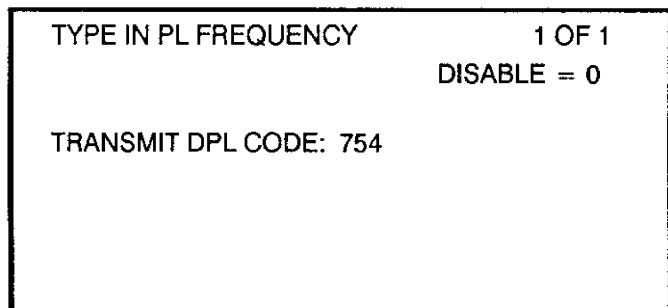


Figure 3.4

FREQUENCY, not ALPHANUMERIC CODE, must be entered.

The display in Figure 3.4 appears when selecting the "DPL ENCODE ONLY" option.

A DPL code of "999" is displayed when the data stored in the codeplug does not represent a valid DPL code. If this situation occurs (i.e. when changing from PL to DPL), enter a valid DPL code followed by the <Enter> key.

NOTE:

An R100 repeater can not be changed from PL to DPL coded squelch (or vice-versa) by simply reprogramming the codeplugs. Command board hardware changes are also required. If a PL/DPL squelch transition is attempted, the message in Figure 3.5 will be displayed:

If you want to proceed, contact Motorola Product Services (see page 12) for further information regarding Command Board changes.

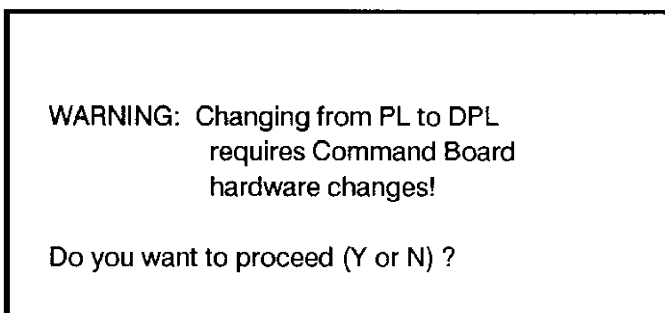


Figure 3.5

Time-Out-Timer Menu

Three time-out-timer options are available as shown in the Time-Out-Timer menu display (Figure 3.6).

As with the other Edit submenus, the highlighted option represents the one currently programmed. To select a different option, use the up/down arrows to move the "< >" cursor to the desired time-out function and press the <Enter> key. Since no time-out-timer is associated with the receiver, the

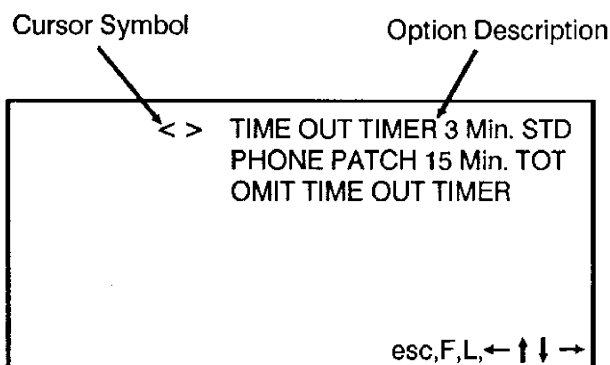


Figure 3.6

3 minute and 15 minute time-out-timer options are incompatible with the receiver codeplug.

NOTE:

If an optional phone patch (TDN7406 and L719) is present, a time-out value of 15 minutes (or L75, Omit Time-Out-Timer) is recommended. This choice will allow the phone patch to time-out before the station does.

After completion of editing the codeplug information is complete return to the Main Menu by using the <ESC> key. Then Write the new information into the Repeater's Codeplug.

List Option Key

The "L" key may be used to display or print the current codeplug parameters. This function may be invoked from any of the Edit submenus by pressing the "L" key. Then enter "D" to output the codeplug parameters to the display, or press "P" to output the listing to a printer attached to the LPT1: parallel port.

Select Special Function Key

As with the "L" function key, the "F" function key is also defined in all Edit submenus. To invoke a special function, press "F". Then enter one of the command letters defined as follows:

- S: Duplicate the current codeplug data to an internal auxiliary buffer. The current buffer remains unchanged.
- X: Exchange the current buffer with the auxiliary buffer. An exchange will only take place if the auxiliary buffer was previously loaded with valid data using the "S" special function key.
- V: Verify the current codeplug data against the data stored in the auxiliary buffer. Any differences are reported.
- M: Enter a hex monitor to examine/modify individual codeplug locations. **WARNING:** Do not use this function without a thorough knowledge of the codeplug format.

The "S", "X", & "V" special functions can be used to compare two different codeplugs by reading the first one into the programmer, "S"toring it, reading in the second codeplug, and "V"erifying the current and auxiliary buffers.

Appendix A

Glossary

Adjustment	A means of tuning the radio to a specified value.
Arrow Keys	The keyboard keys that control the cursor and adjustment functions of the software.
Blank Frequency	A channel that is not assigned a receive or transmit frequency.
Blank PL Code	A channel that is not assigned a receive or transmit PL code.
Carrier Squelch	The mode that a radio is in when the loud-speaker is unmuted when a transmitted signal is detected by the radio.
Channel	A pair of receive and transmit frequencies.
Codeplug	The area of non-volatile radio memory that stores the radio configuration and calibration data.
COM 1 & COM 2	The logical names of the two serial ports available on IBM PC computers.
CSQ	Symbol for "Carrier Squelch".
Cursor	Flashing underline or block which shows the display location of the next character to be typed from the keyboard.
Data	Numerical information which tells the radio what to do.
Defaults	Standard settings the Service Software uses for I/O port locations, files locations, and display settings.
Disk Drives	Magnetic media that the computer uses to store files.
Display	The CRT terminal that the computer displays information on.
DOS	The computer disk operating system.
DPL	Digital Private Line Coded Squelch.
EEPROM	Electrically Erasable Read Only Memory. Used by the radio microcomputing system to store the radio's codeplug data.
Floppy Disk Drive	A disk drive that uses removable magnetic disks. Service Software, Archive and Backup files are stored on these disks.
Hard Disk Drive	A disk drive that uses a solid non-removable magnetic disk. Service Software, Archive and Backup files are stored on these disks.
Menu	A list of functions that are accessed.
Microcomputer	The central processing unit that controls the functions of the radio.
MSDOS	MicroSoft Disk Operating System The operating system used by IBM compatible computers
Path	<p>The description of the relationship of a sub-directory to the ROOT directory of the disk. For example take the path</p> <p>C:\MRSS\MAXTRAX\ARCHIVE</p> <p>This path states that a program operating out of the ROOT directory C: must look through the sub-directories MRSS and MAXTRAX to find a file in the sub-directory ARCHIVE.</p>
PCDOS	IBM's Disk Operating System.
Personality	The data in the Codeplug that is customer specific.
PL	Private Line Coded Squelch

Port	A hardware interface that the computer uses to communicate with other devices.
RAM	Random Access Memory. Used by the computer to store the program it is executing.
Screen	A computer generated display which is shown on the computer's display.
Sub-directories	A list of computer file names that are located under a unique directory label.
Synthesizer	The frequency generating unit of a radio.
TELCO	Telephone Modular Connector. Used on the interface cable to connect the Repeater to the computer's serial port.
TPL	Tone Private Line Squelch. The Private Line Squelch that uses sub-audible tones to unmute the receiver.
Tree	A way to describe the organization of the Service Software. The MAIN Menu is considered the trunk and the functions listed on the menu are considered branches.

Appendix B

Command Summary

Key	Function
<ESC>	Return to the Main Menu.
4 (left arrow)	Scroll Edit Menu backward.
6 (right arrow)	Scroll Edit Menu forward.
8 (up arrow)	Move cursor symbol up within menu block.
2 (down arrow)	Move cursor symbol down within menu block.
<Enter>	Select option next to cursor symbol or terminate data entry.
L	List all programmed options to the display or printer.
F	Select special function.

Appendix C

Default File Names

The following list are the files names found on the Root Directory of the supplied copy of the Radio Service Software.

File Name	Description
R100 .COM	Radio Service Software Main Program

Appendix D Error Codes Explanations

ERROR CODE	DESCRIPTION	ACTION
CHECKSUM INVALID	<p>The recalculated checksum on the received data does not match the checksum stored in the codeplug.</p> <p>NOTE:</p> <p>If this error occurs after writing to the codeplug (during an automatic verify sequence) do not try to READ the codeplug again. You might lose the capability to Edit Data or Write Data to the unit because the incorrect checksum will inhibit those functions!</p>	Codeplug is faulty, or data transfer error. Try to READ/WRITE again.
DEVICE NOT READY	The unit is not powered up or the programmer is not connected to the unit.	Check AC power and interface cable connections. Also make sure that the cable is connected to the serial port displayed in Main Menu, "IBM COM PORT".
SERIAL LINK FAIL, PARITY, FRAMING	Errors during data transfer.	Try to READ/WRITE again.
UNIT NOT IDENTIFIED	Invalid Codeplug - reference divider data is corrupted.	Obtain new codeplug.
UNITS EXCHANGED	Attempt to write Codeplug data to a different Codeplug than read from.	Connect interface cable to original Repeater.
VERIFY FAIL	The data has not been correctly written back to the Codeplug.	Try writing again or obtain new Codeplug.
SOFTWARE ISSUE NUMBER	The programmer version number is incompatible with the Codeplug version number.	Contact Product Services to obtain new Radius R100 Radio Service Software.
INVALID TYPE	Incorrect response received from corrupted Codeplug.	Obtain new Codeplug.
RX/TX CODEPLUG MISMATCH	An attempt was made to program TX data into an RX Codeplug or vice versa.	Make sure interface cable is installed in the correct Telco jack. Read in the Codeplug, edit, and then write again.

For any other error code please contact Radius Product Services at 800-356-1520

Appendix E

PC/MS-DOS Command Summary

Command	Description
A:	Go to drive "A".
B:	Go to drive "B".
C:	Go to drive "C".
CD\	Return to the Root Directory.
CD 'dirname'	Change directory to 'dirname', max 8 characters.
COPY B:*. * A: /V	Copy files in "B" drive to the "A" drive with the verify option.
DEL *.*	Delete all files in current directory. !!! WARNING FILES CANNOT BE RECOVERED AFTER EXECUTING THIS COMMAND WITHOUT BACKUPS LOCATED IN A DIFFERENT DIRECTORY !!!
FORMAT A: /V	Format an unused or old disk in drive "A" of the computer with the name-volume option.
MD 'dirname'	Make a directory called 'dirname' of 8 characters or less.
PROMPT \$P \$G	Change the prompt to include the current directory path.
PATH	Check and change the search path rule (change i.e. path c:\mrss\maxtrac\archive). This tells the computer to search this directory when a command is entered.
RMDIR 'dirname'	Remove a directory called dirname. Removal of a directory requires that the directory be empty. Files can be deleted by the DOS DEL command.
VER	Check the version of DOS installed on this computer.

For further information on these commands consult your DOS users manual.

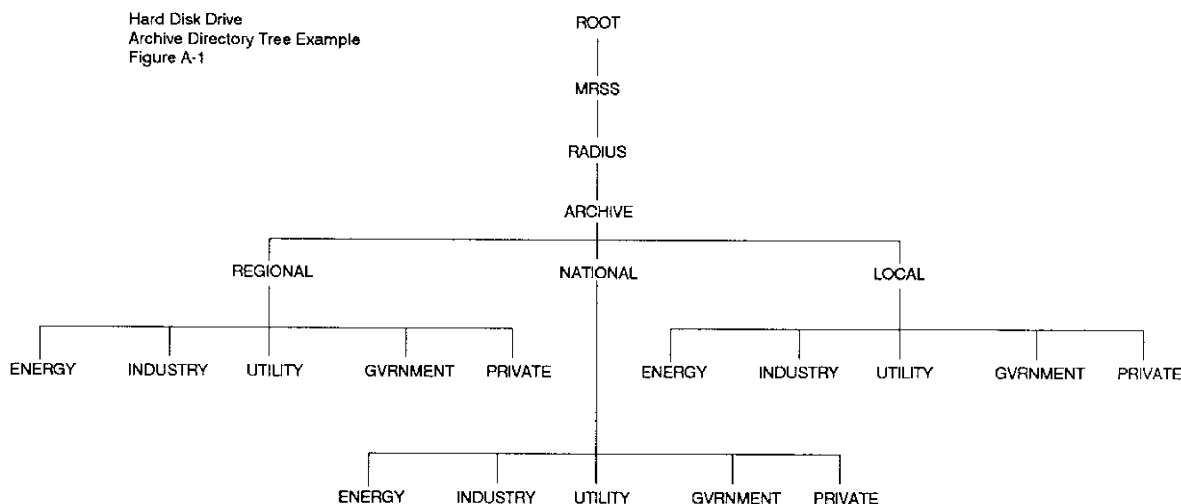
Appendix F Creating a Multilevel Directory Tree

If you are working with a hard disk it may have several archive files from different customers, radios or projects, or files that you may be using for repair logging, inventory etc.. The number of files can become large and unwieldy. You may want to organize your files into convenient groups, just as you would in a file cabinet. In DOS terms these are called sub-directories. Files are grouped under sub-directory names. The first level directory is always call the ROOT directory. All other directories are created by you or by programs.

The directory structure shown in Figure A-1 can be established for a hard disk by entering the commands shown below.

< - represents "ENTER"

Step	Command	Description of Action
1	C: <-	Set machine to drive C.
2	CD\ <-	Set tree path to top directory.
3	CD C:\mrss\maxtrac\archive <-	Set the current directory to sub-directory "archive".
4	MD regional <-	Make a directory called "regional".
5	MD national <-	Make a directory called "national".
6	MD local <-	Make a directory called "local".
7	DIR <-	List the elements in the directory.
8	MD regional\energy <-	Make a subdirectory called "energy".
9	MD regional\industry <-	Make a subdirectory called "industry".
10	MD regional\utility <-	Make a subdirectory called "utility".
11	MD regional\gvrnment <-	Make a subdirectory called "gvrnment".
12	MD regional\private <-	Make a subdirectory called "private".
13	Repeat steps 8 through 12 except substitute "national" for "regional" to create	



sub-directories "energy", "industry", "utility", "gvrnment", and "private" under the sub-directory "national".

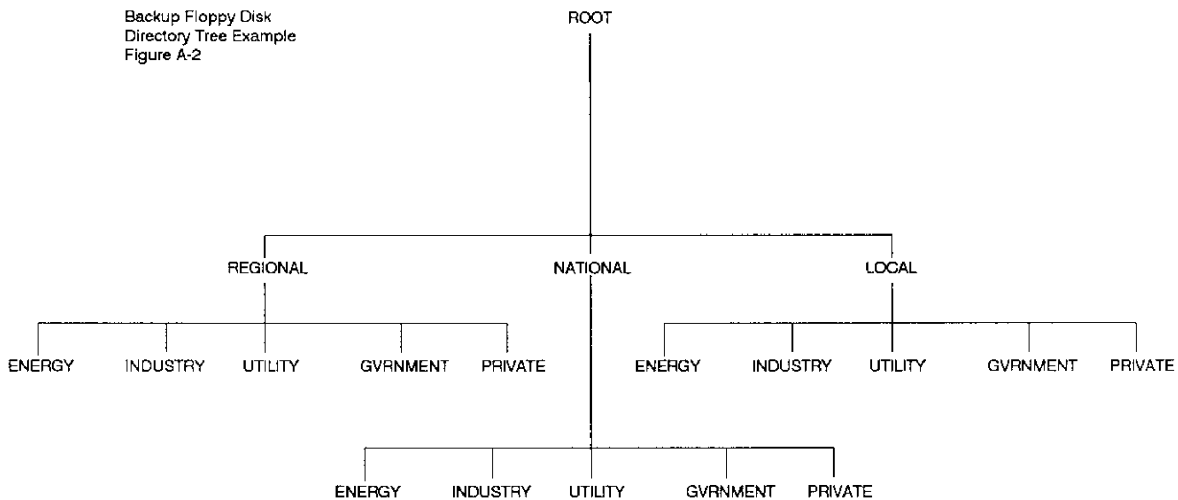
14

Repeat steps 8 through 12 again for the sub-directory "local".

The directory structure shown in Figure A-2 can be established for a floppy disk by entering the commands shown below. This will generate a directory tree similar to the HARD DISK directory tree above. The "B" floppy disk drive will be used to create the directory on the floppy disk. "A" can be substituted for "B" in the following procedure if your system has a hard disk and only one floppy disk. The floppy disk must be formatted before creating this directory.

Step	Command	Description of Action
1	CD\ < -	Set the PC to the root directory.
2		Enter an unused disk into drive "B" of your computer.
3	FORMAT B: /V < -	Format the disk in drive "B".
4		Take a disk label and create a volume name for this old or unused disk. Write the name on the label. Make the label meaningful to a file structure.
5		Type the volume name of 11 or less characters into computer.
6		Remove the disk from drive "B" of the computer and locate an area of the disk jacket to which the label can be attached without covering exposed areas of the disk.
7		Replace the disk in the "B" drive of the computer.
8	B: < -	Set machine to drive B.
9	CD\ < -	Set tree path to top directory.

Repeat steps 4 through 14 in the hard disk steps above.



Appendix G

Examples of Setting up Archive and Backup Paths

Below is a procedure to setup directory paths in the CONFIGURE COMPUTER screen. The examples shown come from the directory tree created in Appendix G.

- | Step | Action | | | | | | | | | | | | |
|----------------|---|----------------|----------------|----------|--------|----------|----------|-------|---------|--|----------|--|---------|
| 1 | Proceed to the CONFIGURE COMPUTER screen by pressing F9 at the MAIN MENU then F3. | | | | | | | | | | | | |
| 2 | Now select the Archive field for entering the archive path.
Definitions: "[]" select one from indicated table | | | | | | | | | | | | |
| 3 | c:\mrss\maxtrac\archive\[table 1]\[table 2]
(i.e. c:\mrss\maxtrac\archive\regional\energy) | | | | | | | | | | | | |
| 4 | Press function key F8 to save this pathname
<table border="0" style="margin-left: 40px;"><thead><tr><th style="text-align: left;"><u>Table 1</u></th><th style="text-align: left;"><u>Table 2</u></th></tr></thead><tbody><tr><td>regional</td><td>energy</td></tr><tr><td>national</td><td>industry</td></tr><tr><td>local</td><td>utility</td></tr><tr><td></td><td>gvrnment</td></tr><tr><td></td><td>private</td></tr></tbody></table> | <u>Table 1</u> | <u>Table 2</u> | regional | energy | national | industry | local | utility | | gvrnment | | private |
| <u>Table 1</u> | <u>Table 2</u> | | | | | | | | | | | | |
| regional | energy | | | | | | | | | | | | |
| national | industry | | | | | | | | | | | | |
| local | utility | | | | | | | | | | | | |
| | gvrnment | | | | | | | | | | | | |
| | private | | | | | | | | | | | | |
| 5 | Now select the Backup entry field to enter the pathname for the backup files. | | | | | | | | | | | | |
| 6 | b:\[table 1]\[table 2]
(i.e. b:\regional\energy) | | | | | | | | | | | | |
| 7 | Press function key F8 to save the pathname | | | | | | | | | | | | |

The GET/SAVE screens have archive and backup fields which allow alteration of the pathnames. These can be changed in the same manner as the CONFIGURE screen.