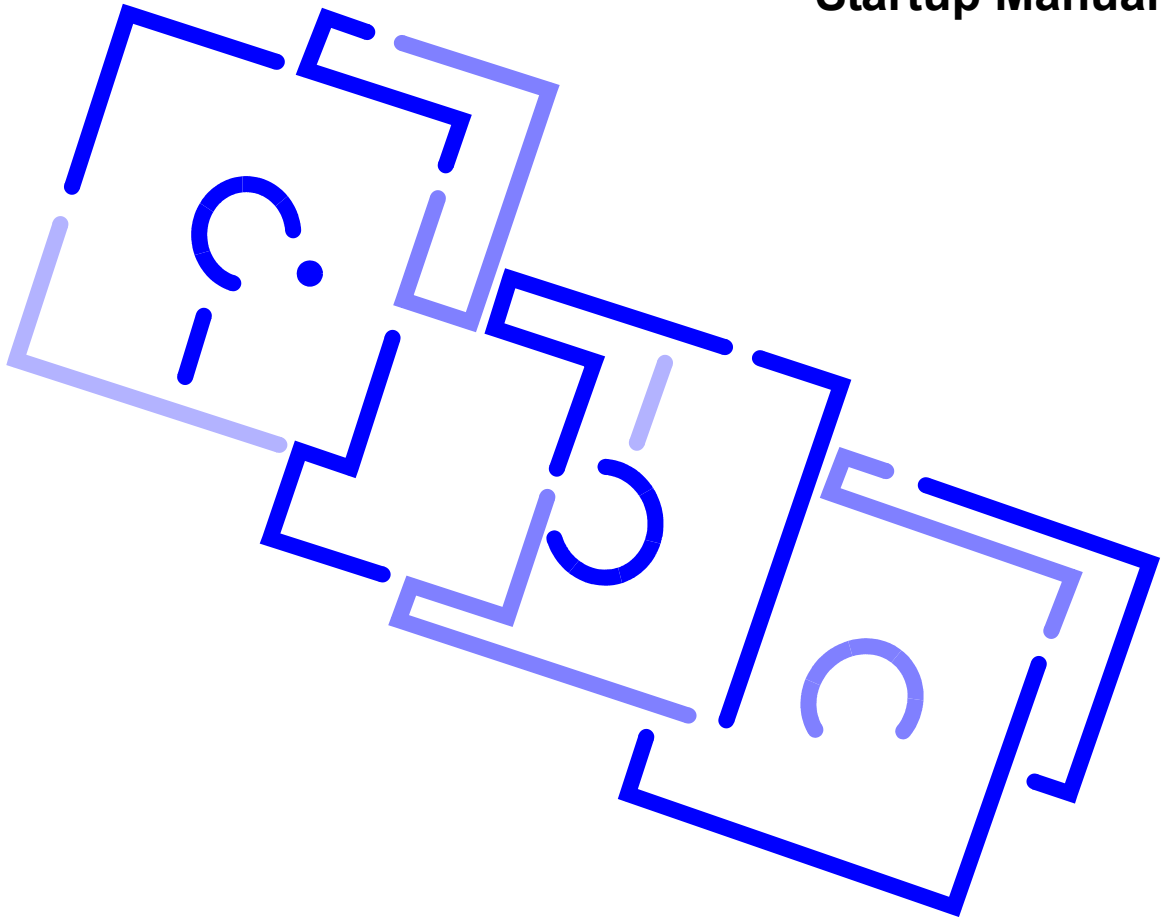




**MOTOROLA**

# MTR2000™

## Radio Service Software Startup Manual



68P81096E15-D


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## Manual Audience

This guide is intended for use by qualified communications technicians and maintenance personnel who are to program, troubleshoot, and align MTR2000 stations.

It is assumed that the user is familiar with general communications equipment operation, alignment and maintenance, and is proficient in the use of alignment and servicing equipment.

It would be helpful, but not necessary, that the user be familiar with the operation of MS-DOS™ and Windows™, and with IBM-PC™ (or 100% compatible) computers.

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## Purpose of Startup Manual

The Radio Service Software (RSS) allows service personnel to optimize operation of a new station and maintain the station.

### Startup Manual



This Startup manual is an introduction to the RSS application; it provides information which enables the user to:

- get the computer set up (see Part 2),
- get the station connected to the computer (see Part 2),
- get ready to program and maintain the station (see Part 3),
- become familiar with the structure and capabilities of the RSS application (see Part 3), and
- become familiar with the structure and capabilities of the Online Help system (see Part 4).

### Online Help System



Besides containing an online copy of the Startup manual information, the Online Help system provides RSS application details which enable the user to:

- optimize a station through programming,
- maintain the station through the service features

---

## Documentation Conventions

Documentation conventions are used in this manual to highlight certain information.

The area to the left of the text column contains key words and graphic symbols which allow the reader to quickly identify desired information.

The following text highlight symbols are used:



**The caution symbol indicates a potential problem, unless the proper actions are taken. A caution also explains how to avoid the problem.**



The note symbol indicates important information that helps improve the described function.

The help symbol indicates a reference to further information in the Online Help. Specific references are made to the Online Help topics; topics are headings in the Help document. For example, to find Online Help information on a desired screen element through the **Help** menu **Contents** command, the following note is provided:



Information is available in the Online Help under: **Help** menu → **Contents** → **How To Use the RSS Application** → **Screen Elements**.

For information on using Online Help, refer to Part 4, How to Use Online Help.

The following conventions have been used to highlight words within the text:

<Angled  
brackets>

Angled brackets are used to highlight key presses. For example, **<F1>** and **<enter>**.

If two keys are pressed at the same time, the keys are connected by a dash. For example, **<Shift>-<F1>**.

**Bold Text**

Bold text is used to highlight screen text. For example, the **Help** button, or the **Search** menu.

*Italics*

Italicized text is used to highlight referenced sections. For example, see subsection *Toolbar buttons*.

---

## Technical Support

For technical support for this RSS product, contact:

Motorola System Support Center

1311 E. Algonquin Rd.

Schaumburg, IL, 60196

1-800-221-7144, from within the U.S. or Canada

(847) 576-7300, from outside the U.S. or Canada

FAX; (847) 576-2171

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# MTR2000™

# RSS Startup Manual

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# 1

## *Introduction*

---

Through the Radio Service Software (RSS), a service technician can customize, align, and troubleshoot any MTR2000™ station.

The RSS application:

- is run on a suitable IBM™ PC (or 100% compatible) computer.
- is run under Windows™ 3.1, 95, 98, or 2000.
- provides a user interface which is similar to other Windows applications.
- is supported by a built-in Online help system.



The MTR2000 RSS is provided in Motorola kit RVN4148. This kit includes the application software on two 3.5 inch diskettes and on CD, and a hard copy of this Startup manual. The CD also contains an electronic copy of the startup manual.

## 1.1 Purpose of the Radio Service Software

The major tasks performed with the RSS are:

- Optimizing a new installation
- Running Diagnostics and Checking Station Status
- Performing Post-Repair Alignment

Optimizing a new  
installation

The tasks associated with Optimizing a New Installation are:

- Reading the station codeplug
- Verifying station configuration data
- Programming the station codeplug
- Programming the Wireline Configuration data
- Programming the Channel Information data
- Programming the TRC Commands data
- Programming the RF Configuration data
- Performing alignment

Running  
Diagnostics and  
Checking Station  
Status

The tasks associated with Running Diagnostics and Checking Station Status are:

- Running Diagnostics
- Interpreting Station Status
- Using the Station Operation Controls
- Using Digital Metering

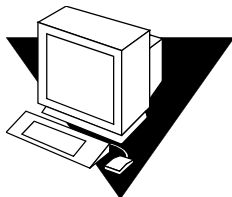
Performing Post-  
Repair Alignment

The tasks associated with performing post-repair alignment are:

- Performing Post-Repair Alignment procedures

---

## 1.2 Summary of Equipment and Software Requirements



The RSS application runs on certain models of IBM-PC or PC-compatible computers, including laptop models.

The computer must be configured with specific hardware and software configurations in order to support RSS operation.

The Windows PC must:

- Be running Windows 3.1, 95, 98, or 2000.
- Have Com1/Com2 RS232 Serial Connection.
- Have 3.5 inch floppy drive and/or a CD ROM reader.

+ Additional  
Hardware

- A cable for connecting the station to a PC serial port. This cable, part # 3082056X02, has a DB9 connector at one end, and an RJ45 connector at the other end.

The computer must be running MS Word or another word processing application capable of reading **.rtf** (rich text format) files, in order to print entire sections of the Online Help.








You can also print out individual topics directly from the Online Help.



## 1.3 Definition of Operational Terms

### Terms Describing General Screen and Point Control (e.g., mouse) Operations

Click	A click is performed by quickly pressing and releasing the left mouse button once.
Click- and-Hold	A click-and-hold is performed by pressing the left mouse button and holding it down. The mouse button is held down for the desired amount of time and then released.
Double-click	A double-click is performed by quickly pressing and releasing the left mouse button twice in quick succession.
Select	Move pointer (arrow or hand) to desired item and click the mouse button. For example the item could be a jump (where the pointer appears as a hand) or a menu item (where the pointer appears as an arrow).
Drag	Dragging is performed by moving the pointer over a displayed object (e.g., icon) or screen element (e.g., title bar of a window), pressing and holding the mouse button down, and moving the pointer in the desired direction to “drag” the chosen item. Dragging is quit by releasing the mouse button.
Pointer – 	The pointer is usually in the shape of an arrow; its position is controlled by the mouse.
Pointer – 	The pointer becomes an arrow–question mark when the context-sensitive help is active.
Pointer – 	The pointer shape becomes a hand when the pointer is over a jump.
Pointer – 	The pointer shape becomes an hourglass when the computer is busy.
Pointer – 	The pointer shape becomes a stroked-through circle when the pointer is over a data field that cannot be changed (that is, the data field is read-only).

## Terms Describing Windows and Online Help Screen Elements

Application Window	Each RSS application window contains a group of related fields. These windows are accessible by choosing appropriate commands from the <b>File</b> , <b>Personality</b> , <b>Preferences</b> , and <b>Service</b> command menus.
Online Help Window	The Help window contains information from the Online Help system.
Title bar	This bar contains the title of the Help system.
Menu bar	The Menu bar contains the menus for selecting commands.
Toolbar	This bar contains buttons for quickly accessing Help commands.
Topic	A topic is the basic unit of information in a Windows Help system, just as a page is the basic unit of information in a book. A Windows Help system consists of a series of topics.
Jumps	Jumps are used to move from one Help topic to another. A hypertext jump usually appears as green underlined text. The reader can also jump from a graphic to a help topic; this is called a hypergraphic jump.
Bookmarks	Bookmarks let readers mark places in the Help information. The reader can then use the Bookmark menu command to quickly return to a topic of interest.
Annotation	Annotations allow the user to add text information to a Help file.
Glossary	The glossary provides a definition of terms used in the RSS. Each glossary term is a hypertext jump to the desired information. When the user activates a glossary jump, the corresponding topic appears in a popup window. A popup window is closed as soon as the user clicks anywhere within the Help window. The glossary terms and phrases appear as green text, with a dotted green underline.
Index	The Index displays an alphabetical listing of words. Each index word is a hypertext jump to the desired information. When the reader activates an index jump, the corresponding topic appears. The index words appears as underlined green text.

Context-  
Sensitive Help

This is help information which can be accessed directly from an active RSS application window.

## *How to Set Up the Computer for Programming and Service*

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This part describes:

- How to set up the computer as an RSS programming and maintenance tool.
- How to connect the station to the computer.



See Online  
Help...

Information is available in the Online Help under: **Help** menu → **Contents** → **How To Get Started**.

Setting up the computer involves the following tasks:



Copy the RSS application diskette(s), so that a backup of the RSS application software is available.

1. Configure the computer to run the RSS application.
2. Load the RSS application and RSS Online Help system.

## 2.1 Backing Up the RSS Application 3.5 inch Diskette(s)

The user installs the RSS application and Online Help onto the computer hard disk from the 3.5 inch diskette(s) or the CD.

Before installing the application software, it is recommended that the original set of diskettes be copied onto another set of diskettes. Diskettes are copied through the Windows File Manager or Window Explorer in Windows 95 or later.

The copied set of diskettes is used as the working copy, and the original set serves as a backup copy. Store the backup copy in a safe place (away from magnetic fields, moisture, and heat). If the working copy becomes damaged, retrieve the stored backup diskettes and make another backup copy. Figure 2-1 illustrates this procedure.

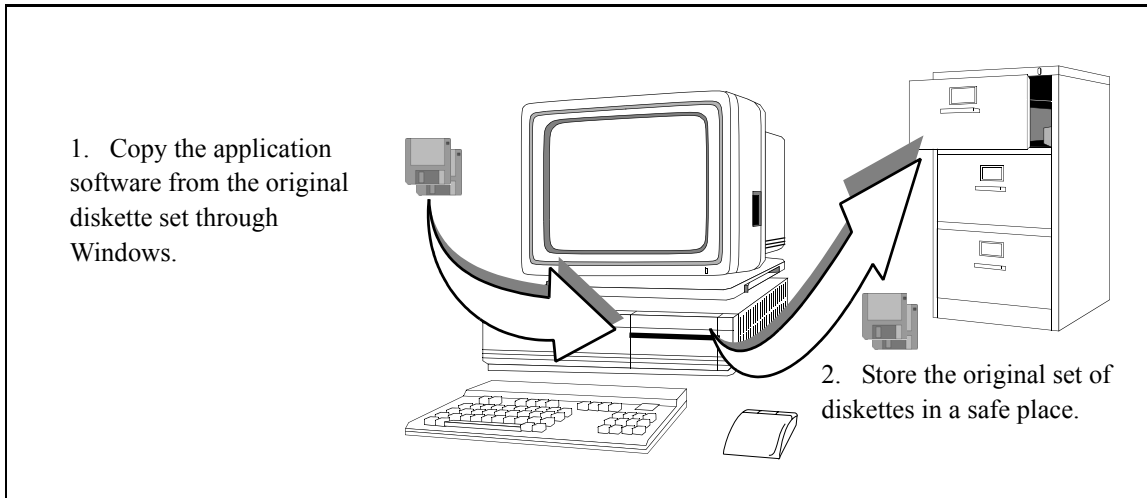


Figure 2-1 Copying Diskettes

## 2.2 Configuring the Computer

Configuring the computer involves checking to ensure that the required hardware is available on the computer and that the required files and buffers are set up.

### To Check Available Computer Resources...

The required computer hardware configuration is described in Section 1.2.

#### Windows 3.1...

To check the available RAM and hard disk space through Windows 3.1:

1. Check the available hard disk space by viewing the message bar of the File Manager (this is under Program Manager and Main icons).
2. Check the available virtual memory (RAM + hard disk swap space) through the **Help** menu → **About File Manager** command.

4 MBytes of free virtual memory should be available to run the RSS. For proper performance it is strongly recommended to have 4 MBytes free in RAM.

If necessary, change the virtual memory settings through the **Enhanced** icon (this is under the **Program Manager** and **Main** and **Control Panel** icons).

3. Check the number of files and buffers by viewing the config.sys file under the C:\ directory. This file can be viewed through the **Notepad** accessory (this is located under the **Program Manager** and **Accessories** icons).

If necessary, edit the **config.sys** file to change the number of files and buffers to 50.

Windows 95...

To check the available RAM and hard disk space through Windows 95:

1. Check the available hard disk space by:
  - Starting the Explorer (i.e., **Start** button, **Program** menu → **Windows Explorer** command.
  - Selecting the drive onto which the RSS is to be installed.
  - Opening the hard disk property window to show the free disk space
2. Check the available virtual memory (RAM + hard disk swap space) through the **Help** menu → **About Windows 95** command.

## 2.3 Installing the RSS Application and Online Help

The RSS application and RSS Online Help consists of several data files, text files, an executable file, and an installation file.

To install the RSS application and Online Help software onto the computer hard disk:

1. Through Windows, go to the **File Manager** (Windows 3.1) or the **Explorer** (Windows 95 or later).
2. Select the appropriate source drive; (i.e., the diskette drive).  
The contents of the selected drive appears.
3. If there is a **info.txt** file, open and read it.
4. It is recommended that all running software programs be stopped during the installation process, such as anti-virus software.
5. Initiate the installation onto the hard disk by double clicking on the **set-up.exe** file.

The user is prompted for the next diskette when the current diskette is finished and if the printable help file option is selected (see Note below).

The following files are loaded during installation:

- |                 |   |
|-----------------|---|
| <b>mps.exe</b>  | - the RSS executable file.  |
| <b>info.txt</b> | - (if present) the text file outlines version-related information. For example, in subsequent versions of the application, an info file can highlight new RSS functions and changes to the Online Help. |
| <b>mps.hlp</b>  | - the Online Help file.   |
| <b>*.rtf</b>    | - the printable help source files which are created if the:   |

### **RSS with printable Help files      2**

option is selected during installation. Refer to *Printing Online Help* in Part 4 for a list of the printable **.rtf** files.

If this option is not selected, the user is not prompted for the second diskette during installation.





## 2.4 Connecting the Computer to the Station

Figure 2-2 shows connections between the station and a PC-compatible computer. The procedure is:

1. Connect the DB9 end of the cable to the COM (communications) serial port of the computer.

The COM port configured for the RSS is selected through the **Preferences** menu → **RSS Configuration** window in the RSS application.

2. Connect the RJ45 end of the cable to the RSS port connector, located on the Station Control Module (SCM).

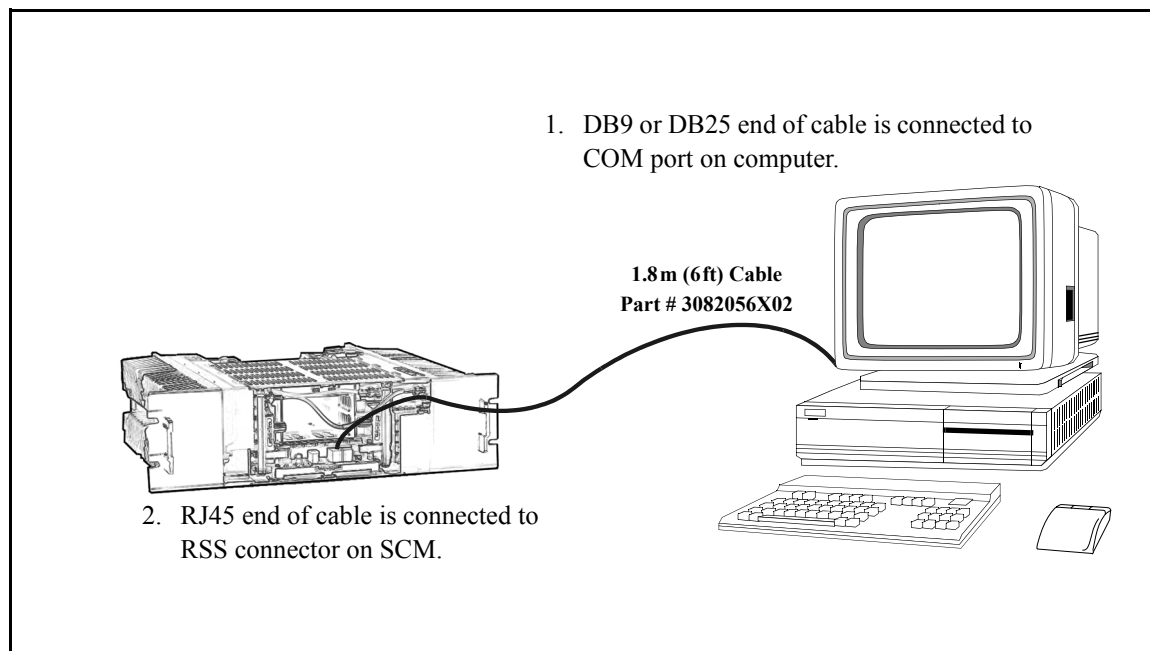


Figure 2-2 Station – Computer Connections

## *How to Program and Maintain the Station*

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This part introduces the RSS application, enabling the user to be ready to maintain or program a station.

Detailed information on maintaining and programming a station is contained in the Online Help.

The following information is provided:

- Starting up the RSS application – ready to service station or get ready to program station (Section 3.1).
- Using the RSS application; i.e., using screen elements, RSS commands, and RSS application windows (Section 3.2).
- Optimizing a newly installed station (Section 3.3).
- Servicing the station (Section 3.4).
- Managing Codeplug Data Files (Section 3.5).

All of the screen images shown in this manual represent the RSS running under Windows 3.1; these images are slightly different in the Windows 95 environment.



### 3.1 Starting Up the RSS Application



See Online  
Help...

Information is available in the Online Help under: **Help** menu → **Contents** → **How To Get Started** → **Starting the RSS Application**.



To start up the RSS application:

1. Access the Windows **Program Manager** window.
2. Open the **RSS Program** group icon by double clicking on it.
3. Launch the RSS application by double clicking on the **MTR2000** application icon.
4. The RSS application starts.

The application information box appears (see Figure 3-1), with the main application window (see Figure 3-2).

Close the application information box by clicking on it; otherwise it closes automatically after about 15 seconds.

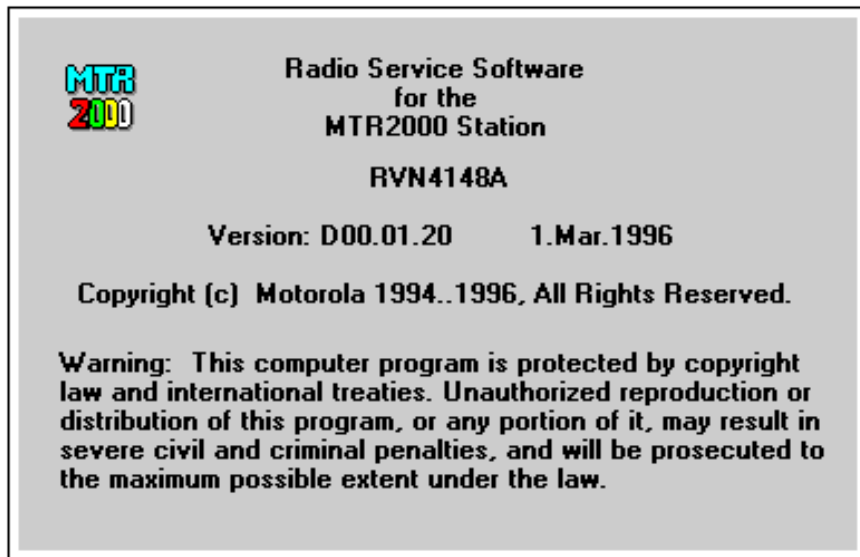


Figure 3-1 Application Information Box

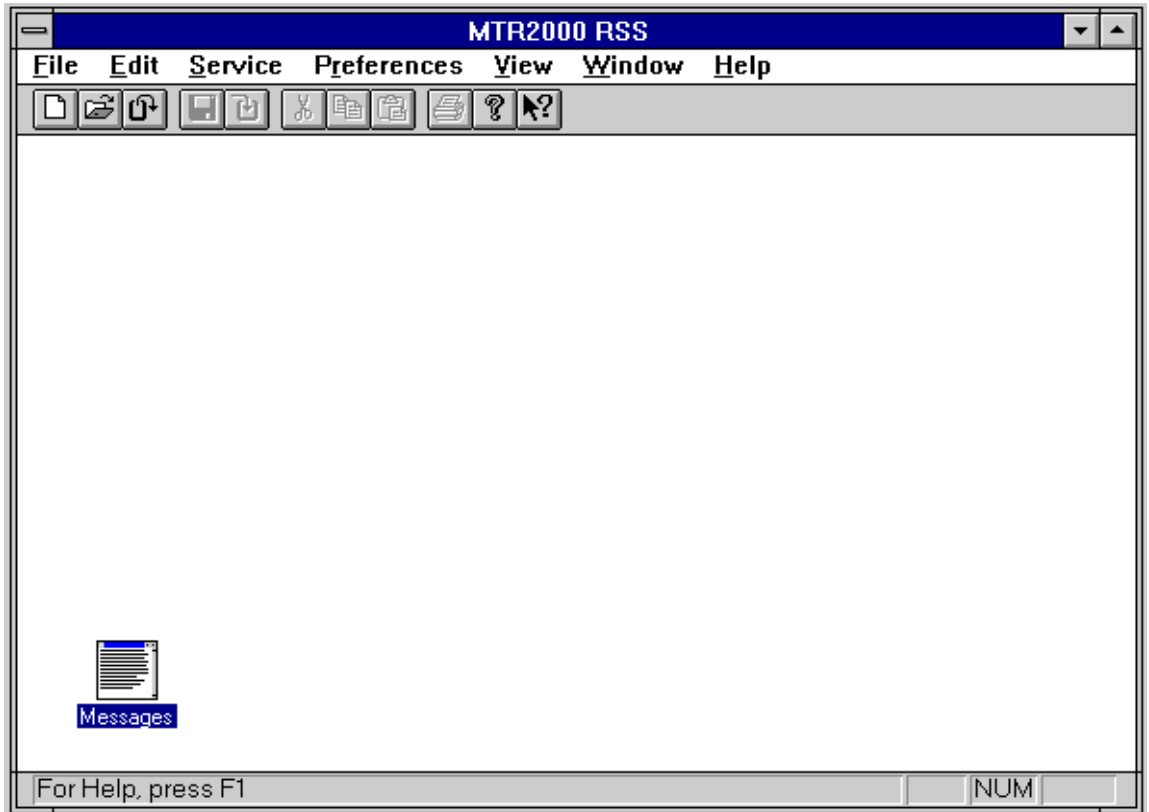


Figure 3-2 Main Application Window

## You Can now...

At this point the user can:

- service a station which is connected to the COM port.
- read station codeplug data from a station or stored file
- create new codeplug data based on a default template

### Codeplug Data File

In order to program the station, it is necessary to have a codeplug data file available to the RSS. A codeplug data file contains the set of data which defines the operating characteristics of a station.

## Get Ready to Program the Station

To read codeplug data into the RSS:

1. Read codeplug data into the RSS by:
  - opening an existing codeplug data file, or
  - creating a new codeplug data file (based on a default codeplug data file, or
  - reading the codeplug data from a station connected to the computer.
2. For example, if reading an existing file, select the **File** menu **Open** command.  
The **File Open** window appears (see Figure 3-3).
3. Select which file is to be read.
4. The **Station Configuration** window appears (see Figure 3-4).

- File Open Window      The following fields allow the user to specify which file to open:
- File Name**            Type in or select the file name to be opened. The list box displays files with the extension selected in the **List Files of Type** box.
  - List Files of Type**    Select the type of file to be opened; the default file type for the RSS is .pcf
  - Drives**                Select the drive in which the RSS stores the file to be opened.
  - Directories**         Select the directory in which the RSS stores the file to be opened.

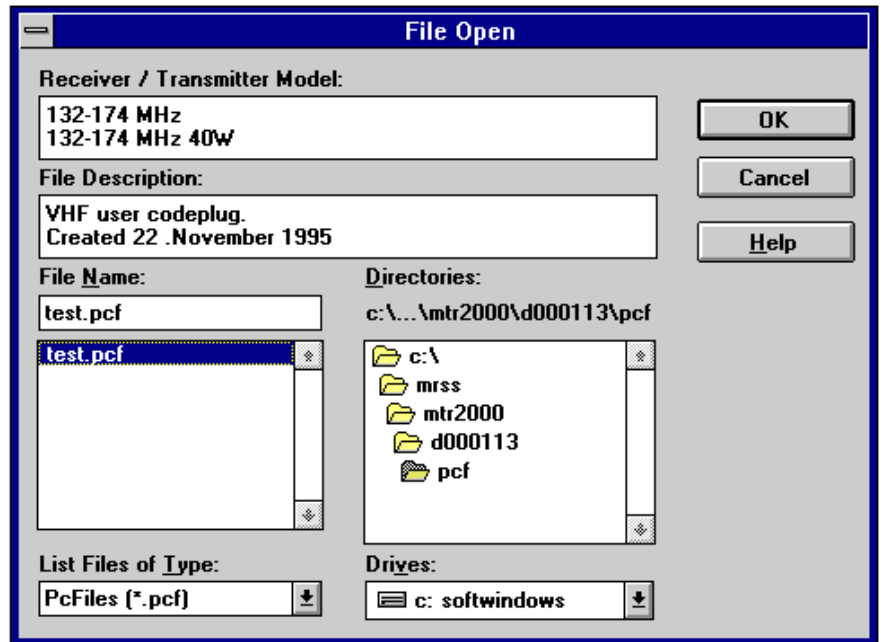


Figure 3-3      File Open Window

Station Configuration Window

After a codeplug data file has been read, the **Station Configuration** window automatically appears.

The **Station Configuration** window shows the following information read from a file or station:

- overall configuration for the station and
- codeplug data file information.

The **RX Frequency Band**, **TX Frequency Band**, and **Power Level** fields are read-only.

If it is required to reconfigure the station hardware, access the **Edit Configuration** window by pressing the **Edit Config** button.

Close the codeplug data file by pressing the **Close** button. If the data was not saved to file before, the save is forced.

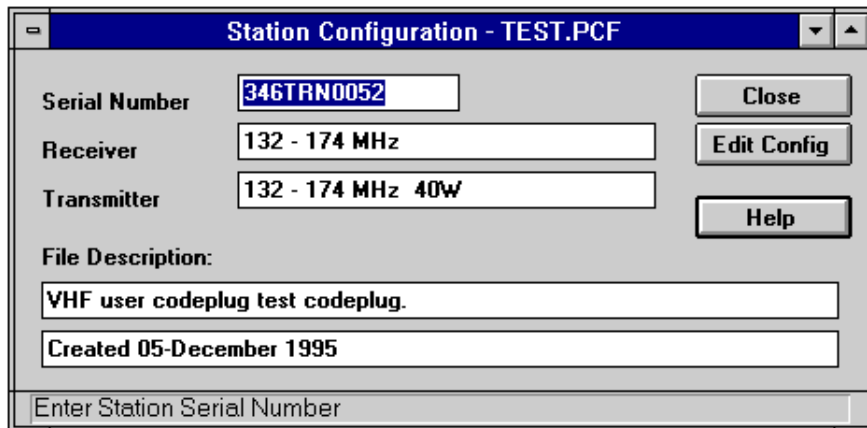


Figure 3-4 Station Configuration Window

## 3.2 Using the RSS Application



See Online  
Help...

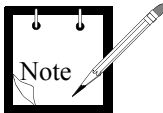
Information is available in the Online Help under: **Help** menu → **Contents** → **How To Use RSS to Maintain and Program the Station** → **RSS Window Elements** → desired element.

The RSS application is displayed with the common elements of any Windows 3.1 application.

See the *Main RSS Application Window Screen Elements* subsection for information about the basic RSS application display.

See the following subsections for further details on the display elements:

- *Menu Bar Items*
- *Toolbar Commands*
- *Application Commands*
- *RSS Application Windows*
- *RSS Application Window Elements*



In the following descriptions, the term “active codeplug” is used. A codeplug file becomes active when it is selected (e.g., by clicking on an RSS window with the codeplug file name shown in the title bar).



## Main RSS Application Window Screen Elements

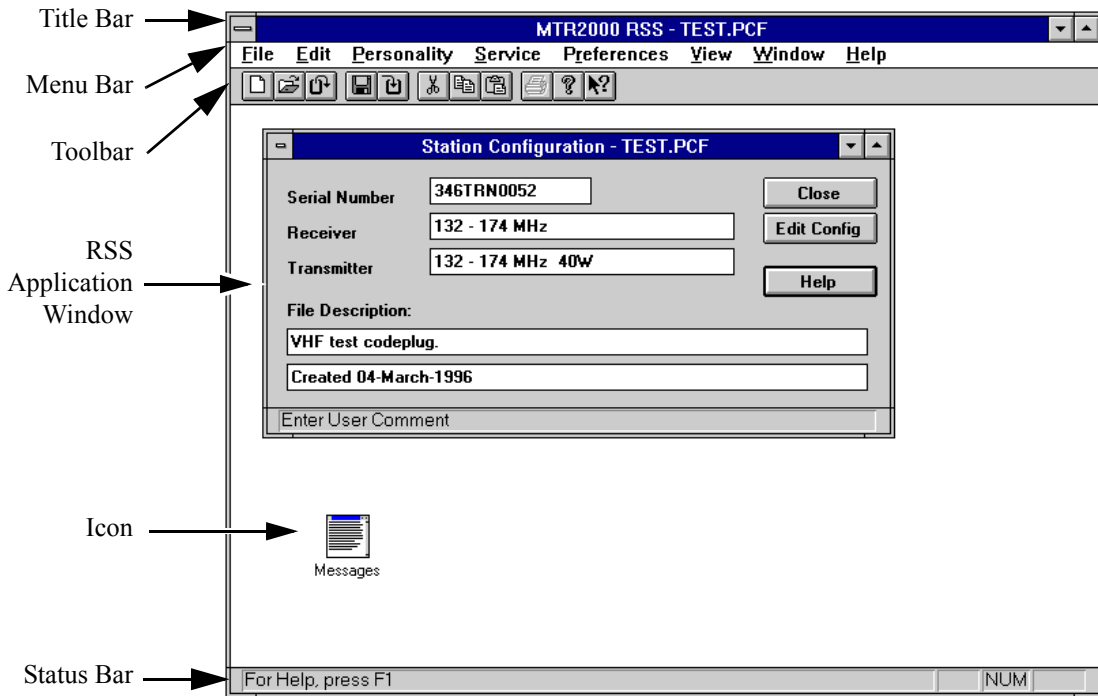
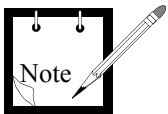


Figure 3-5 Typical Main RSS Application Window

A typical RSS application window is shown in Figure 3-5. This displayed window has the following screen elements:

**Title Bar** The title bar of the main RSS application window indicates the name of the RSS application, followed by the currently active codeplug file.



The indicated file name is important, since this is the file on which:

- all **File** menu commands (such as **Save**, **Save As...**, **Write Station**, and **Print**) are performed on. Particular attention should be paid when several codeplugs are open at the same time.
- all **Personality** menu commands are performed on.

Menu Bar	<p>This set of command menus provides access to the currently available application commands.</p> <p>Before codeplug data is available to the RSS, a set of menu bar commands and toolbar commands can be executed. This same set of commands is available whenever the <b>Message</b> window is active.</p> <p>After the codeplug data is available to the RSS and active (which is confirmed in the main RSS application title bar), a larger set of menu bar commands and toolbar commands can be executed.</p> <p>See the <i>Menu Bar Items</i> subsection for menu information. Table 3-1 lists the menu bar commands, and identifies which commands are only active after codeplug data is available to the RSS (see the <i>Comment</i> column). Commands which are also accessible through Toolbar buttons are listed under the <i>Toolbar Button</i> column.</p> <p>See the <i>Application Commands</i> subsection for more details on menu commands.</p>
Toolbar	<p>This bar contains buttons for quick access to application commands.</p> <p>See the <i>Toolbar Commands</i> subsection for toolbar information. Table 3-2 lists toolbar commands, and identifies which toolbar commands are only active after codeplug data is available to the RSS.</p>
RSS Application Window	<p>An RSS application window is a screen box which provides a means of interfacing with the RSS. These windows are used to open codeplug data files, change station parameters, display messages, run diagnostics, and so on.</p> <p>See the <i>RSS Application Windows</i> and <i>RSS Application Window Elements</i> subsections for more details.</p>
Icon	<p>An icon represents a minimized window.</p>
Status Bar	<p>This bar displays messages and prompts related to current activity.</p>

## Menu Bar Items

Before codeplug data is available to the RSS  
or when the Message window is active...

**File Edit Service Preferences View Window Help**

With codeplug data available to the RSS and active...

**File Edit Personality Service Preferences View Window Help**

Table 3-1 Menu Bar Commands







Menu	Command	Toolbar Button	Comment	
File	New			
	Open			
	Read Station			
	Close		Codeplug data must be available and active in order for these commands to be active.	
	Save			
	Save As...			
	Write Station			
	Print			
	Print Preview			
	Print Setup			
	1, 2, 3, 4			
	Exit			

Table 3-1 Menu Bar Commands (Continued)





Menu	Command	Toolbar Button	Comment
<b>Edit</b>	<b>Undo</b>	   	Codeplug data must be available and active in order for these commands to be active.
	<b>Cut</b>		
	<b>Copy</b>		
	<b>Paste</b>		
	<b>Clear</b>		
<b>Personality</b>	<b>Station Configuration...</b>		Codeplug data must be available and active in order for these commands to be active.
	<b>RF Options...</b>		
	<b>Wireline...</b>		
	<b>TRC Commands...</b>		
	<b>6809 Trunking</b>		
	<b>Wildcard</b>		
	<b>Channel Information</b>		
<b>Service</b>	<b>Station Status Information</b>		
	<b>Station Error Log</b>		
	<b>Station Operation Controls</b>		
	<b>Station Alignment</b>		
	<b>Station Diagnostics</b>		
	<b>Station Metering</b>		
	<b>Station Upgrade</b>		
	<b>Edit Serial Number</b>		
<b>Preferences</b>	<b>RSS Configuration...</b>		

Table 3-1 Menu Bar Commands (Continued)

Menu	Command	Toolbar Button	Comment
<b>View</b>	<b>Toolbar</b>		
	<b>Status Bar</b>		
<b>Window</b>	<b>Cascade</b>		
	<b>Tile</b>		
	<b>Arrange Icons</b>		
	<b>1, 2, 3, 4...</b>		
<b>Help</b>	<b>Contents</b>		
	<b>Using Help</b>		
	<b>Index</b>		
	<b>Glossary</b>		
	<b>About RSS...</b>		

Toolbar Commands

Before codeplug data is available to the RSS...



After codeplug data is available to the RSS...

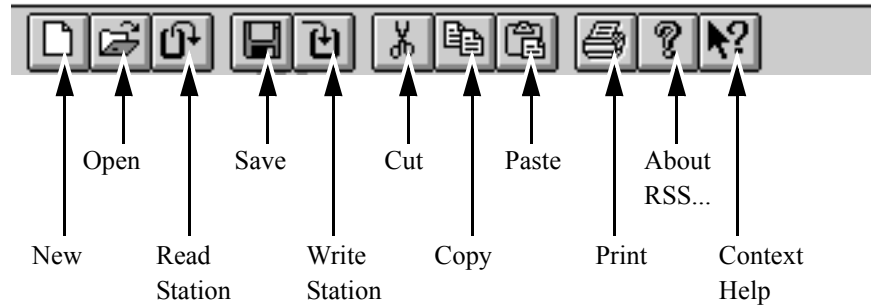


Table 3-2 Toolbar Commands

Command	Comment
New	
Open	
Read Station	
Save	
Write Station	
Cut	Codeplug data must be available and active in order for these toolbar commands to be active.
Copy	
Paste	
Print	
About	
Context Help	

## Application Commands

This section provides a brief description of each available RSS command. The commands are listed under the menus which contain them.



See Online  
Help...

Information on the available commands is available in the Online Help under: **Help** menu → **Contents** → **How To Use RSS to Maintain and Program the Station** → **RSS Menus / Command Descriptions** → desired menu → desired command.

This information is also available directly through the Context Help.

File Menu  
Commands

The **New...** command is used to create a new codeplug data file from scratch. A codeplug data file is opened from the default directory.

The **Open...** command is used to open an existing codeplug data file in a new window. Multiple codeplug data files can be open at one time. Use the File menu **1, 2, 3, 4** command to switch among the multiple open and most recently closed codeplug data files. Use the Window **1, 2, 3, 4,...** command to switch among the multiple open windows.

The **Read Station** command is used to read a codeplug data file from the station. This requires a connected station via the COM port.

The **Close** command is used to close the active codeplug data file. It is recommended that the user save file changes before closing it. If a codeplug data file is closed without saving, all changes made since the last file save are lost. Before closing a new **Station Configuration - NONAME** window or closing an altered **Station Configuration - station** window, the RSS displays the **Save Changes to** popup, allowing the user to confirm that the codeplug data is to be saved. Selecting **YES** causes the **Save As** window to appear, which prompts for the codeplug data file to be named and saved to disk.

The **Save...** command is used to save the active codeplug data file to its current name and directory. When a new codeplug data file is saved, the **Save As** window is displayed, allowing the user to name the file. To change the name and directory of an existing file before saving it, select the **Save As** command.

The **Save As...** command is used to save and name the active codeplug data file to disk. The **Save As** window appears. To save a codeplug data file with its existing name and directory, use the **Save** command.

The **Write Station** command is used to write the active codeplug data file to the station. This requires that a station be connected to the computer via the COM port.

The **Print** command is used to print the active codeplug data file. When this command is selected, the **Print** window appears. The user can specify the range of pages to be printed, the number of copies, the destination printer, and other printer setup options.



The **Print Preview** command is used to display the active codeplug data file as it would appear when printed. When this command is chosen, the main window is replaced with a print preview window in which one or two pages are displayed in their printed format. The print preview toolbar offers options to view either one or two pages at a time; move back and forth through the codeplug data file; zoom in and out of pages; and initiate a print job.

The **Print Setup...** command is used to select a printer and a printer connection. This command presents a **Print Setup** window, where the user specifies the printer and its connection.

Currently open files and the most recently closed files are listed and numbered **1, 2, 3, 4**. Select one of the listed files to be opened.

The **Exit** command is used to end the RSS session. The window Control menu **Close** command can also be used. The RSS prompts the user to save codeplug data files with unsaved changes.

Edit Menu  
Commands

The **Undo** command is used to reverse the last editing action, if possible.

The **Cut** command is used to remove the currently selected data and put it on the clipboard. Cutting data to the clipboard replaces the contents previously stored there.

The **Copy** command is used to copy selected data onto the clipboard. Copying data to the clipboard replaces the contents previously stored there.

The **Paste** command is used to insert a copy of the clipboard contents at the insertion point.

The **Clear** command is used to acknowledge and clear the messages from the **Message** window. This command is available when the **Message** window is active.

Personality Menu  
Commands

The **Station Configuration...** command is used to access the **Station Configuration** window. This window shows station information read from a file or station; that is, overall configuration for the station and codeplug data file information.

The **RF Options...** command is used to access the **RF Options** window for the currently active codeplug data file. This window contains all parameters associated with RF options.

The **Wireline...** command is used to access the **Wireline** window for the currently active codeplug data file. This window contains all parameters associated with wireline interface options.

The **TRC Commands...** command is used to access the **TRC Commands** window for the currently active codeplug data file. This window contains all parameters associated with Tone Remote Control commands.

The **6809 Trunking...** command is used to access the **6809 Trunking** window for the currently active codeplug data file. This window contains all parameters associated with 6809 Trunking.

The **Wildcard...** command is used to access the **Wildcard** window for the currently active codeplug data file. This window contains all parameters associated with Wildcard input/output configuration.

The **Channel Information** command is used to access the **Channel Information** window for the currently active codeplug data file. This window contains all parameters associated with channel information.

Service Menu  
Commands

A station must be connected to the computer in order to execute any of the Service commands.

The **Station Status Information** is used to view the stations operating mode, the firmware version number, and status of the hardware modules.

The **Station Error Log** command is used to display the error messages logged in the station memory. The station logs errors which are significant to station operation. These error messages can be used by a service technician for analysis of station operation.

The **Station Operation Controls** command is used to view and/or modify selected station parameters. The user can change current channel, speaker volume level, squelch, intercom, and disable access to the station by non-RSS users.

The **Station Alignment** command is used to view and/or modify selected station alignment parameters. The user can change station alignment for the Reference Oscillator, Audio Input/Output, Receiver and Transmitter.

The **Station Diagnostic** command is used to run all available diagnostics manually.

The **Station Metering** command is used to access various critical metering points throughout the station circuitry and display the current voltages, levels, status, etc.

The **Station Upgrade** command is used to select and transfer station software files to the connected station and to update the feature set available in the connected station.

The **Edit Serial Number** command is used to modify the serial number of the station.

Preferences Menu  
Command

The **RSS Configuration...** command is used to predefine the configuration of the RSS. Pressing the **OK** button activates all changes and stores it to disk.

View Menu  
Commands

The **Toolbar** and **Status Bar** commands are used to switch on or off the viewing of the Toolbar or Status bar.

Window Menu  
Commands

The **Cascade** command arranges windows so that they overlap. The title bar of each window remains visible, making it easy for the user to select any window.

The **Tile** command arranges the windows side by side, so that each window is visible and none overlap.

The **Arrange Icons** command is used to arrange the icons for minimized windows at the bottom of the main window. If there is an open window at the bottom of the main window, then some or all of the icons may not be visible because they will be underneath this window.

The names of the currently open windows are numbered (**1, 2, 3, 4,...**) and listed. A check mark appears in front of the active window name. A window can be chosen from this list to make it active. All open directory windows are listed, including those that have been reduced to icons.

Help Menu  
Commands

The **Contents** command is used to display the opening window of Help. From this opening window, step-by-step instructions can be jumped to, for using the RSS and various types of reference information. Once Help is open, the **Contents** button can be pressed to return to the opening **Online Help Contents** window.

The **Index** command is used to display an alphabetical listing of topics which are organized according to key RSS subjects. Each index topic is a jump to the desired information. When the reader activates an index jump, the corresponding topic appears.

The **Glossary** command is used to display an alphabetical listing of terms used for the RSS. Each glossary term is a hypertext jump to the desired information. When the reader activates a glossary jump, the corresponding definition appears in a popup window.

The **Using Help** command is used to display information describing how to use Help.

The **About RSS** command is used to display the copyright notice and version number of this copy of the RSS.

Context Help  
Command

The Context Help command is only available through the Toolbar and is used to obtain help on some portion of the RSS. When the Toolbar's Context Help button is chosen, the mouse pointer changes to an arrow and question mark. Clicking somewhere in the RSS window, such as another Toolbar button, causes the associated Help topic to be displayed.

## RSS Application Windows

RSS application windows consist of:

- the Message window and
- command-initiated windows.

Message window

The Messages window is always shown, either as an open window or as an icon. This is a list box which displays a log of error and warning messages. Clicking on a message which is related to an RSS window, causes that window to be displayed.

Other RSS windows are displayed when the following RSS commands are selected:

File Menu

- New
- Open
- Read Station
- Save As...
- Write Station
- Print
- Print Preview
- Print Setup

Personality Menu

- Station Configuration
- RF Options
- Wireline Interface
- TRC Commands
- 6809 Trunking

- Wildcard
- Channel Information
- Service Menu
  - Station Status Information
  - Station Error Log
  - Station Operation Controls
  - Station Alignment
  - Station Diagnostics
  - Station Metering
  - Station Upgrade
  - Edit Serial Number
- Preferences Menu
  - RSS Configuration

## RSS Application Window Elements

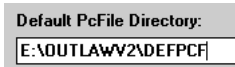
The following control elements are used to enter information within the RSS; for example, change station parameters.


### Command Button



Graphical representations of buttons on the application windows are used to execute commands. A command button is effectively pressed by clicking on it.

### Text Box



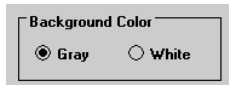
A text box allows the user to key in the required information. When the pointer is over a text box, and the mouse button is pressed, the cursor changes to an I-beam (  ) – data can now be keyed into the box.

Highlighted text in a text box is replaced by starting to type; the original text is replaced with the typed in text.

A text box is selected by clicking once in the text box.

All of the text in a text box is highlighted by double-clicking in the text box.

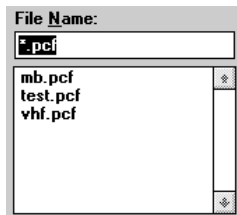
### Option Buttons



Also called Radio Buttons, a set of options is listed with circles beside them. Only one of the set can be selected.

Select an option by clicking on the appropriate circle. The circle becomes dark, and any other option button already dark, becomes empty.

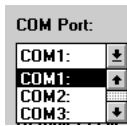
### List Box



A list box contains a list of options. If the list is longer than the list box, use the scroll bar to view the remaining options. For a continuous scroll of a long list, click-and-hold on the desired arrow.

Select a list option by double-clicking on the desired option.

Drop-down List



Some fields have a predefined list of possible options. Clicking on the arrow (m), or the field to the left of this arrow, causes a popup list to appear.

Select the desired option by dragging the pointer to an item and releasing the mouse button, or by double-clicking on the option.

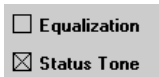
If there are more options than can be shown all at once, scroll bars appear in the right border of the list box.

Slider Control



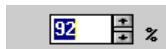
A slider control is used to adjust level; for example, the sound volume level. This control is adjusted by moving (dragging) the control pointer to the desired position.

Check Box



A check box is used to set a condition that has two options. A check box is turned on (with an X in it) or off (empty). Turn a check box on or off by clicking in the check box.

Increase/Decrease Box



An increase/decrease box is used to change the displayed value up or down by one unit. Adjust the displayed value by clicking on the up arrow to increment the value, or by clicking on the down arrow to decrement the value. For a continued change of the value, click-and-hold on the desired arrow. The value can also be changed by keying in a new number.



### 3.3 Optimizing a Newly Installed Station



#### CAUTION

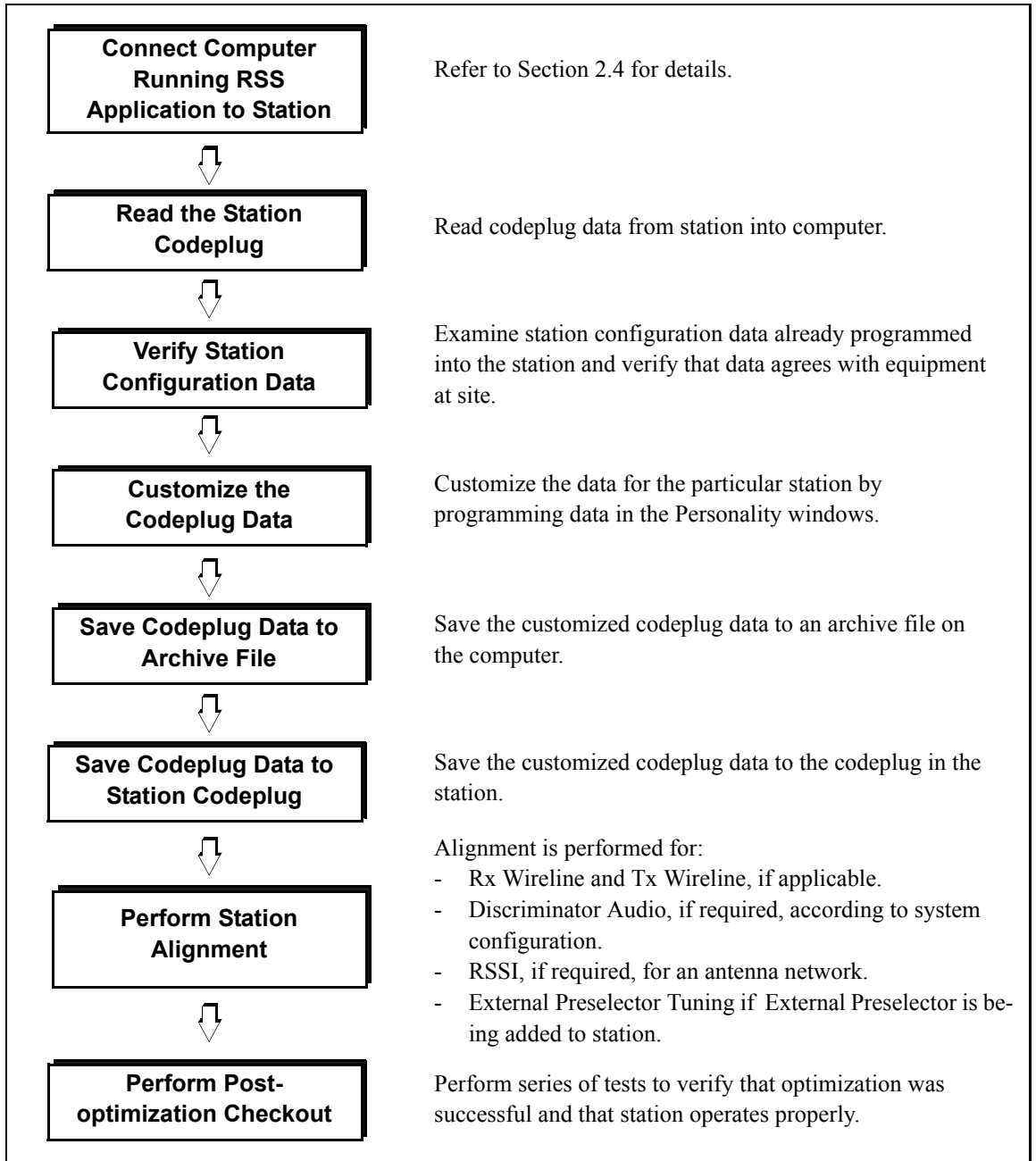
Ensure that the original station codeplug data is saved before optimizing a newly installed station. Make an archive copy of the codeplug. For information on managing codeplug files, refer to Section 3.5.



See Online  
Help...

Information on optimizing a newly installed station is available in the Online Help under: **Help** menu → **Contents** → **How To Optimize a New Installation**.

The process for optimizing a newly installed station is illustrated in the flow diagram of Figure 3-6.



Refer to Section 2.4 for details.

Read codeplug data from station into computer.

Examine station configuration data already programmed into the station and verify that data agrees with equipment at site.

Customize the data for the particular station by programming data in the Personality windows.

Save the customized codeplug data to an archive file on the computer.

Save the customized codeplug data to the codeplug in the station.

Alignment is performed for:

- Rx Wireline and Tx Wireline, if applicable.
- Discriminator Audio, if required, according to system configuration.
- RSSI, if required, for an antenna network.
- External Preselector Tuning if External Preselector is being added to station.

Perform series of tests to verify that optimization was successful and that station operates properly.

Figure 3-6 Optimization Flow Chart

## 3.4 Servicing the Station



See Online  
Help...

Information is available in the Online Help under: **Help** menu → **Contents** → **How To Run Diagnostics and Check Status** and **How To Perform Alignment**.

The RSS can be used to service a station connected to the COM port of the computer.

The user can use the **Service** menu windows to:

- run diagnostics and check the status of a station.
- troubleshoot a station using digital metering.
- perform post-repair or post-installation alignment.

## 3.5 Managing Codeplug Data Files



See Online  
Help...

Information is available in the Online Help under: **Help** menu → **Contents** → **How To Manage Codeplug Data Files**.

File management is required to organize backup codeplug data files. If there is a problem reading a codeplug data file, its backup file can be loaded.

It is recommended that:

- archive directories be created as a location for storing backup files
- backup files be created from codeplug data files

All of these tasks are performed through Windows 3.1 or Windows 95 or later.



## *How to Use Online Help*

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The Online Help provides quick access to required information. Help is initiated from the RSS application and appears in a Help window on the computer screen.

This part describes:

- How to initiate the RSS Online Help (Section 4.1).
- How to navigate through the RSS Online Help; this includes how to use the menu commands and toolbar buttons (Section 4.2).
- How to use jumps to navigate in the Help system (Section 4.3).
- How to interpret information that has been highlighted with color and symbols (Section 4.4).
- How to print Online Help (Section 4.5).

The RSS Online Help is very similar to the Windows Online Help system in appearance and operation.



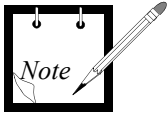
See Online  
Help...

Information specific to the RSS Online Help is available from the Online Help window under: **Help** menu → **Contents** → **How To Use the RSS Online Help**.

General information on using Windows Help is available:

- from the RSS application window under: **Help** menu → **Using Help**
- from the RSS Online window under: **Help** menu → **How to Use Help**

All of the screen images shown in this manual represent the RSS running under Windows




3.1. The description of the Online Help is based on the functionality available in the Windows 3.1 environment. Since the Help window (including menu and toolbar) is part of the Windows operating system, it will reflect any Windows system updates (e.g., Windows 95).

## 4.1 Initiating RSS Application Help

The Online Help can be accessed from the RSS application:

- |   |  |
|---|--|
| <b>Help</b> menu commands                 | - through the RSS window <b>Help</b> menu commands.<br>The menu allows the user to access the Help Contents, Help Index, Help Glossary and information on how to use Windows help.   |
| <b>&lt;F1&gt;</b> key                     | - by pressing the <b>&lt;F1&gt;</b> key.<br>When the RSS application is first started, pressing <b>&lt;F1&gt;</b> accesses the Help Contents. Otherwise, pressing <b>&lt;F1&gt;</b> accesses help for the active data field. If no data field is active <b>&lt;F1&gt;</b> accesses help for the active application window. |
| RSS application window <b>Help</b> button | - by pressing an RSS application window <b>Help</b> command button.<br>Help is displayed for the associated application window.  |
| Context Help                              | - by initiating Context Help.<br>Help is available directly for an active RSS application window, menu bar commands, and toolbar commands of the RSS application; this is context help.  |

To access context help when the arrow pointer (p) is active:

1. Activate the context-sensitive help by pressing **<shift>-<F1>** or clicking on the arrow-questionmark toolbar button.   
The arrow-question mark pointer (p?) appears.
2. Click on the desired field for the associated help information.  
The Online Help window appears.

To access context-sensitive help when the field cursor ( I ) is active, press the **<F1>** key. The Online Help window appears.

## 4.2 Using Online Help

Online Help allows the user to access information in different ways.

Information related to application activity can be accessed directly through Context Help or the use of an RSS application window **Help** command button.

Information can be found through the Online Help Contents, just as information would be looked up in a conventional book.


To access desired information through the Online Help Contents:

1. Select the **Help** menu **Contents** command.  
The **Online Help Contents** is displayed.
2. Select the desired topic.  
A more detailed list of topics is listed.
3. Select the desired topic.  
The information is displayed in the Help window.

Toolbar buttons are available to aid the user in finding information. These include the **Search**, **History**, **Glossary**, and **Index** buttons. For details, refer to subsection, *Help Toolbar Buttons*.

There is more than one way to get to the desired information. For example, to see information about the Channel Information window, the user could access the:

- **Contents** → **How to Optimize a New Installation** → **Channel Information**, OR
- **Contents** → **How to Use RSS to Maintain and Program the Station** → **RSS Menus / Command Descriptions** → **Personality** → **Channel Info**.

Pointer – 

When the Online Help window is open, the cursor pointer appears as an arrow or a hand. The hand pointer indicates that the pointer is over a field which is a jump to another place in the Help. By clicking on the jump, the desired information appears. For more information on jumps, refer to Section 4.3.



## Help Window Screen Elements

A typical Help window is shown in Figure 4-1. This displayed window has the following screen elements:

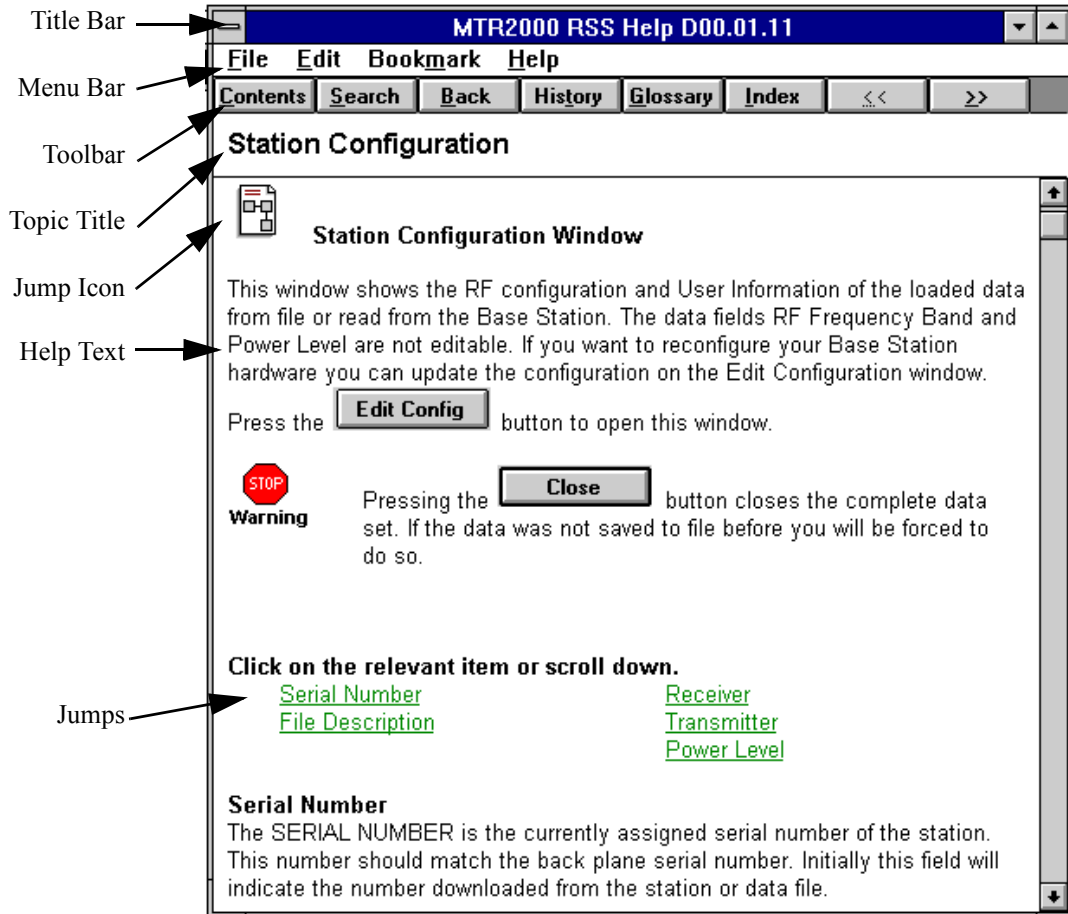


Figure 4-1. Typical Help Window

Navigation through the RSS Online Help involves moving through the online Help system to find the desired information.

Title Bar	The title bar of the Help window indicates the name of the RSS application and the version number of the Help system.
Menu Bar	This Help menu bar contains the Online Help commands. See the <i>Help Menu Bar Commands</i> subsection for command details.
Toolbar	This bar contains buttons for quickly accessing Help commands. See the <i>Help Toolbar Buttons</i> subsection for toolbar information.
Topic Title	When a topic is chosen, the topic title remains at the top of the Help window, as a point-of-reference for the user.
Jump Icon	A jump icon represents hidden information. The 3 types of jump icon are expanded text, figure, and table; see <i>Using Jumps to Navigate In the Help System</i> section for details. When the pointer is over a jump, it changes to a hand. Clicking the mouse causes the corresponding information to appear.
Help Text	This is the information within the Online Help document.
Jumps	A jump is indicated by green underlined text. When the pointer is over a jump, it changes to a hand. Clicking the mouse causes the selected topic to appear.

## Help Menu Bar Commands

<b>F</b> ile <b>E</b> dit <b>B</b> ookmark <b>H</b> elp
---

The following RSS Help commands are available through the menu bar. The commands are listed under the menus which contain them.

### File Menu Commands

The **Open...** command is used to open a Help file.

The **Print Topic** command is used to print the topic that is in the Help window; only entire topics can be printed.

The **Print Setup** command is used to set the printer options before printing a topic; can select a printer and set or change options for the printer. The options available depend on the type of printer selected.

The **Exit** command is used to quit Help and save any annotations or bookmarks created.

### Edit Menu Commands

The **Copy** command is used to copy text of the current Help topic to the Clipboard. From the Clipboard, the text can be pasted into another application or document.

The **Annotate** command is used to add text to the current Help topic. Annotations are marked with a paper-clip icon, which appears in front of the topic heading.

Bookmark Menu  
Commands

The **Define** command is used to place a bookmark in the current topic or remove a bookmark from any topic. The name specified for the topic appears on the Bookmark menu.

The **List of Bookmark Names** command is available after a bookmark has been defined. It is used to choose a bookmark from a list for the topic shown in the Help window.

The **More** command is available when more than 9 bookmarks have been defined. It is used to display the complete list of defined bookmark names.

Help Menu  
Commands

The **Search for help on...** command is used to display a popup. From this popup, the user can use the search feature to choose a topic.

The **How to Use Help** command is used to display Contents for How To Use Windows Help.

The **Always on Top** command is used to position all Help windows on top of other windows. After choosing this command, a shadow appears around the window border to indicate that the Help windows are on top.

The **Version** command is used to display a window which identifies any new or changed information in this version of the Online Help.

The **About Help** command is used to display version and copyright information about Windows Help and RSS Help.

## Help Toolbar Buttons

Help toolbar buttons enable easy movement around Help. If a feature is not available, its button name is dimmed.

The following buttons are provided (the appearance of the toolbar buttons shown below is only valid for the Windows 3.1 environment and is slightly different for Windows 95):



- |                 |  |
|-----------------|--|
| <b>Contents</b> | Displays Online Help Contents for the RSS application.   |
| <b>Search</b>   | Lists all the words that can be used to search for topics in the application's Help. By typing or selecting one of these words, the user can search for and go to a specific Help topic. |
| <b>Back</b>     | Displays the last topic viewed. The user can move back one topic at a time in the order the topics were viewed.  |
| <b>History</b>  | Displays the last 40 topics you have viewed in the Windows session. The most recent topic viewed is listed first. To revisit a topic, double-click it.                                   |
| <b>Glossary</b> | Provides access to popups which define terms and acronyms.   |
| <b>Index</b>    | The Index button displays an alphabetical listing of words which are jumps to detailed information.  |
| <b>&lt;&lt;</b> | This browse button displays the previous topic in a series of related topics, until you reach the first topic in the series. The button is then dimmed.                                  |
| <b>&gt;&gt;</b> | This browse button the next topic in a series of related topics, until you reach the last topic in the series. The button is then dimmed.  |




### 4.3 Using Jumps to Navigate In the Help System

Jumps are tools which allow the user to move around within the Online Help system. Clicking on a jump can open:

- another window,
- a secondary window, or
- a popup.

Generally, jumps are indicated by green text or special icons. Table 4-1 lists the types of jumps found in the Online Help system. Each icon can be expanded (by clicking on the icon) to provide more detailed or graphical information. Normally this information is hidden, to provide the user with optimum information access speed.



Table 4-1. Jumps in the RSS Online Help

Jump	Shown as...	Use
<b><u>jump to window</u></b>	underlined green text.	Indicates a jump to another online window.
<b><u>jump to popup</u></b>	dot-underlined green text.	Indicates a jump to a popup.
	the “expand text” icon, accompanied by an underlined green text title.	Indicates that details are hidden and are only shown at a users request. These details are not always applicable or are performed only once.
	the “figure” icon, accompanied by an underlined green figure title.	Indicates that a detailed illustrations is hidden from view and is only viewed if required.
	the “table” icon, accompanied by an underlined green table title.	Long tables are hidden from view and are only viewed if required.

## 4.4 Interpreting Highlight Colors and Symbols

Color is used in the Online Help system to highlight particular information. Table 4-2 identifies the colors used and their significance.

Table 4-2. Color In the RSS Online Help

Color	Appearance	Use
Green	<b><u>Underlined</u></b>	Indicates a jump to another online window.
	<b><u>Broken underlined</u></b>	Indicates a jump to a popup window.
Blue	<b>NOTE</b>	The word <b>NOTE</b> precedes note text.
Red	 <b>Warning</b>	The Warning symbol precedes notes which indicate the potential for personal injury or serious system degradation unless the proper action is taken.
Yellow	 <b>Caution</b>	The Caution symbol precedes notes which indicate a potential problem unless the appropriate actions are taken.

## 4.5 Printing Online Help

The user can print:

- an individual Help topic, or
- an entire section of the Online Help document.

Print a topic

To print a Help topic, select the **File** menu **Print Topic** command. If necessary, use the **Print Setup...** command to configure the printer.

Print Online document

To print an entire section of the Online Help document:

1. Start MS Word or another word processing application which can access .rtf files.
2. Open one of the Online Help files through the **File** menu **Open** command. For example, select the **options.rtf** file.
3. Print the file through **File** menu **Print** command.

The printable files which correspond to the Online Help document sections are:

<b>contents.rtf</b>	Table of Contents structure starting from the overall level of the help content information.
<b>index.rtf</b>	Provides an alphabetically sorted index of related help topics.
<b>glossary.rtf</b>	Provides a short description of terms used.
<b>startup.rtf</b>	Describes how to start and use the RSS.
<b>general.rtf</b>	Describes all RSS screen components, RSS menus, and commands.
<b>options.rtf</b>	Describes all windows with user editable data (e.g., Channel Information, rf Options).
<b>service.rtf</b>	Describes all service and alignment windows, and associated procedures.



.rtf (rich text format) files may be accessed by word processing applications other than MS Word.





# MTR2000™

Radio Service Software  
Startup Manual



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