RF SCANNER PROGRAMMER
Help Guide

Introduction

The **RF Scanner Programmer** is a Windows® based program that is used to program **The PitCrewRacing® RFS Series Scanners**. This software may be used on any Windows based PC that utilizes a USB port.

The **RF Scanner Programmer** is an easy to use program that allows quick and easy programming of an **RFS Series Scanner**. The ability to save and load scanner configuration files saves much time over manual keypad entry programming.

Quick Start

Step 1: Install the **RF Scanner Programmer** software by unzipping the main file into a temporary directly, and then run the setup.exe file. The program will install automatically.

Step 2: Connect the **Scanner Programming Cable** to a USB port on your computer. Connect the other end of the **Scanner Programming Cable** to the PC Connector of the Scanner.

Step 3: While the Scanner is OFF, press and hold Buttons 1 and 2 (the two upper large buttons) together to enter the Programming Mode. When the LCD display appears release the buttons. **P1-0** will appear in the LCD display.

Step 4: Start the **RF Scanner Programmer** software by selecting **START:Programs:RF Scanner Programmer** from the Windows main menu. The main screen will appear.

Step 5: Select the Model Number of your Scanner from the **Model Menu** item. The software is automatically loaded with a default configuration file depending on the Scanner Model Number. Once the Model Number is selected, it is saved for future software operations.

Step 6: Select the serial port that will be used from the **Serial Port Menu** item. Several serial ports selections may need to be made to find the correct Communications Port. Invalid ports are flagged as errors. Once the serial port is selected, it is saved for future software operations.

Step 7: Test the communication link between the PC and the Scanner by clicking on **Read Scanner** button. The main screen will update with the scanner's information. If the screen does not update, check the **Scanner Programming Cable** and also try a different serial port.

Step 8: The Scanner may now be configured for your requirements. The software is initially loaded with a default programming file for the **RFS UHF Scanner**. This file can be used as a starting point to customize the Scanner. If you are programming a different model Scanner, please see the instructions below on loading a different default programming file.

Step 9: When the Scanner configuration is finished, save the new configuration in a file name of your choice by selecting **File:Save As**. Then write the new configuration to the Scanner by pressing the **Write Scanner** button.

Step 10: Turn the Scanner off and remove the **Serial Programming Cable** when finished. When the Scanner is turned back on, the new configuration will be operational.

Main Menu

The Main Menu is located at the top of the **RF Scanner Programmer** main screen.

File Menu

New selection loads the default.rfs file. This file initializes all scanner parameters to the default settings. This file is automatically loaded when the program is started depending on the Scanner Model Number. This file should be saved in its original configuration and never changed. When programming a Scanner, be sure that the Model Number of your Scanner matches the Model Number shown at the top left corner of the main screen.

Open File is used to load a Scanner configuration file. Scanner configuration files use the **.rfs** extension. This configuration file will load previously saved data that has been saved using the Save As... menu selection. All transceiver configuration information is contained in this file. When programming a scanner for the first time, always start with the default file for the Model Number of your scanner.

Save As� is used for saving customized Scanner configuration data. When the menu box opens, enter a file name to use, and then save the file. This data file can be re-loaded anytime by using Open File.

Exit is used to exit the **RF Scanner Programmer** software, and return to the Windows operating system.

Serial Port Menu

This menu item selects the Serial Communications Port that will be used to communicate with the Scanner. A check mark next to the selected serial port on this menu item will indicate which serial port is in use. Highlight and click on the Serial Port that will be used to program your Scanner.   Please note that when selecting the serial port, it may be necessary to try several serial ports until the correct port number is selected. The software will automatically save the selected serial port in a configuration file once the correct serial port is found.

Model Menu

This menu item is used to select the Model of your Scanner. When starting the software for the first time, or if the Scanner Model is changed, select the Model of your Scanner from the list. This allows the software to load the correct default configuration file for your Scanner and to enable the available options for your Scanner. The software will automatically save the selected Scanner Model in a configuration file.

Frequency Band Menu

This menu item is used to select the frequency band of your Scanner. Always verify that the frequency band is the same as the Scanner. DO NOT program a Scanner with a frequency band other than what is shown on your Scanner. The Scanner will not operate correctly if the frequency band is changed. The frequency band of your Scanner is shown inside the Battery Compartment. The software will automatically save the selected frequency band in a configuration file. Please note that when reading the Scanner for the first time, the frequency Band menu will not be updated. This is why it is important to make sure the correct frequency band is selected at all times.

Operations Menu

These menu items can be used to **Read Scanner** and **Write Scanner**.

In addition **Flash Firmware** allows for updating the Scanner's operating program. This item must be used very carefully as the Scanner's memory can be damaged. It is suggested to return the Scanner to your dealer for firmware upgrade.

Help Menu

This menu item allows access to this Help File as well as software updates.

Main Screen Options

Scan Hold Time

When the Scanner receives a signal, while actively scanning channels, the Scanner will stop scanning on the active channel. The Scanner will stay on this channel for as long as it is active. The Scan Hold Time sets the amount of time that the Scanner will wait, when the signal disappears, before resuming the channel scan operation. Any value from 1 to 9 seconds may be entered in the field.

Squelch Setting

The Squelch Setting controls the RF signal level at which the Scanner will pass audio. Setting this parameter to a lower setting allows for weaker signals to be received. Using a higher

setting is the same as tightening the squelch. A value from 2 - 8 may be programmed in this field.

Default Channel

The Default Channel, sometimes called the Jump Channel, is a user programmable channel in the Scanner. Enter a four digit number for the Default Channel desired.

Priority Scan Channel

If the Priority Scan Channel is enabled, the Priority Scan Channel will be active during Automatic Scan operation. The Priority Channel will be sampled every other channel while scanning. Enter a four digit number to program the Priority Scan Channel.

Battery Save

This ON-OFF function controls the power on duty cycle of the receiver in order to conserve and extend the life of the battery. The Battery Save function is disabled while in the Automatic Channel Scan mode. Click on this field to toggle the Battery Save function ON or OFF.

LED Back Light

This ON-OFF function controls the LED Backlight function. When turned ON, the LED Backlight will stay illuminated for 10 seconds after a key is pressed. When turned OFF, the LED Back is disabled, and will not turn ON. This feature is only available on the FM Scanner.

Channel List

The Channel List is a list of channels that are set by the user. The Channel List allows the user to quickly switch between frequently used channels. The user may wish to set up the Channel List with all frequencies that are commonly used. Up to 50 channels may be custom programmed into the Channel List. The Channel List may be manually or automatically scanned.

To add a channel to the Channel List, type a four digit channel number into the **Channel List** Box. Then click the **Add Channel** button. The channel will be added to the end of the Channel List.

To delete a channel from the Channel List, first select the channel that you wish to delete from the **Channel List** Drop Down Box. Then click the **Delete Channel** button. The channel will be deleted from the Channel List.

FM Broadcast Preset Channels

Up to six **FM Broadcast Preset Channels** may be programmed in Scanners with the FM radio option. Enter in the FM frequency in the Preset Channel Fields. The frequency entered must be of the form **XX.X** or **XXX.X**. Please see the Scanner specifications for the FM frequency range allowed. This feature is only available on the FM Scanner.

Press the **Read Scanner** button to read the memory and programming contents of the Scanner.

Press the **Write Scanner** button to write and update the memory and programming contents of the Scanner.

CTCSS / DCS Programming

To program a channel with a CTCSS tone or DCS code, first select the desired channel from the **Channel Selection** List Drop Down Box. Then select and click on the desired CTCSS tone or DCS code from the **CTCSS-DCS Tone Selection** List Drop Down Box. As soon as the CTCSS tone or DCS code desired is clicked, the **Channel Selection** List Box will be updated. Use **Carrier** to select carrier only receive operation with no CTCSS tone or DCS code. **Carrier** is the default condition for all channels.

Channel – Frequency Calculator

The **Channel – Frequency Calculator** is used to convert a channel number to its equivalent frequency, or convert a given frequency to its equivalent channel number. Since a channel number or RF frequency is usually available, this calculator provides an easy way to convert between channel numbers and frequencies without any hand calculations. Be sure to set the correct Scanner Model Number for UHF or VHF before using the calculator.

For example, to find the RF frequency of channel 1000, first enter 1000 in the **Channel Number** field. Then click on the **Frequency** field below. The **Frequency** field will automatically update with the equivalent frequency for the channel number entered.

To find the channel number of a given frequency, first enter the RF frequency in the **Frequency** field. Then click on the **Channel Number** field above. The **Channel Number** field will automatically update with the equivalent channel number for the frequency entered.