

# Getting Started with RT Systems Programmers

© 2015 RT Systems, Inc.



# Getting Started with RT Systems Programmers

---

*by RT Systems, Inc.*

*The Programmer is designed to give you the ease and convenience of programming the memories and options of the radio from your PC.*

*Using the Programmer, you can create separate files for unique applications such as travel, emergency activities, or special events. These files can contain different settings, such as memories, power management features, and DTMF numbers, for each purpose.*

*The Programmer also gives you the ability to read a configuration from the radio. The configuration would be stored in a file on your computer to be changed easily. Then, with minimal button pushing, you can send the altered file back to program the radio.*

# Getting Started with RT Systems Programmers

© 2015 RT Systems, Inc.

All rights reserved. No part of this work may be reproduced in any form or by any means - graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems for other than your own use - without the written permission of the publisher.

Products that are referred to in this document may be either trademarks and/or registered trademarks of the respective owners. The publisher and the author make no claim to these trademarks.

While every precaution has been taken in the preparation of this document, the publisher and the author assume no responsibility for errors or omissions, or for damages resulting from the use of information contained in this document or from the use of programs and source code that may accompany it. In no event shall the publisher and the author be liable for any loss of profit or any other commercial damage caused or alleged to have been caused directly or indirectly by this document.

Printed: June 2015

# Table of Contents

Foreword	5
<b>Part I Where to Begin</b>	<b>7</b>
<b>Part II Getting Started</b>	<b>9</b>
Index	<b>0</b>

---

# Foreword

*These help files are offered as reference for the features of the programmer and with some added information about the features and functionality of the radio.*

*The final reference for a feature of the radio is the Users' Manual for that radio. Any error, omission or misrepresentation of a radio's ability is unintentional.*

*The Programmer cannot make the radio do anything that it cannot do from the face of the unit. It makes it easier to set options for the existing functions.*

**Part**



# 1 Where to Begin

Welcome to the *RT Systems'* radio programmer.

There are two ways to get started:

[If you don't yet have your radio, begin creating your file.](#)

or

[If you already have your radio, get details from it.](#)

This program may seem simple yet complicated at the same time. Just like your radio.

The programmer eases the confusion of your new radio by putting all the feature settings on "easy to use" screens on your computer. Take all the time you need to understand a feature then customize the settings to fit your activities.

"Experimenting" is easy.

Customize a setting.

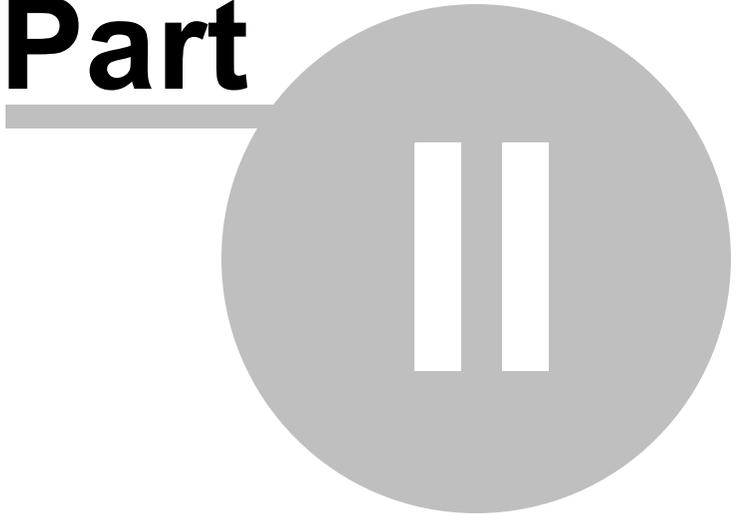
Send the file to the radio.

Try it.

If you don't like the result, repeat the process after making a change for that option.

You don't need to know everything at once. The computer file can be saved for editing later. After using your radio for a while you may discover a feature you want to use. Open the original file. Make the changes to the settings for that option. Send the file to the radio.

**Part**

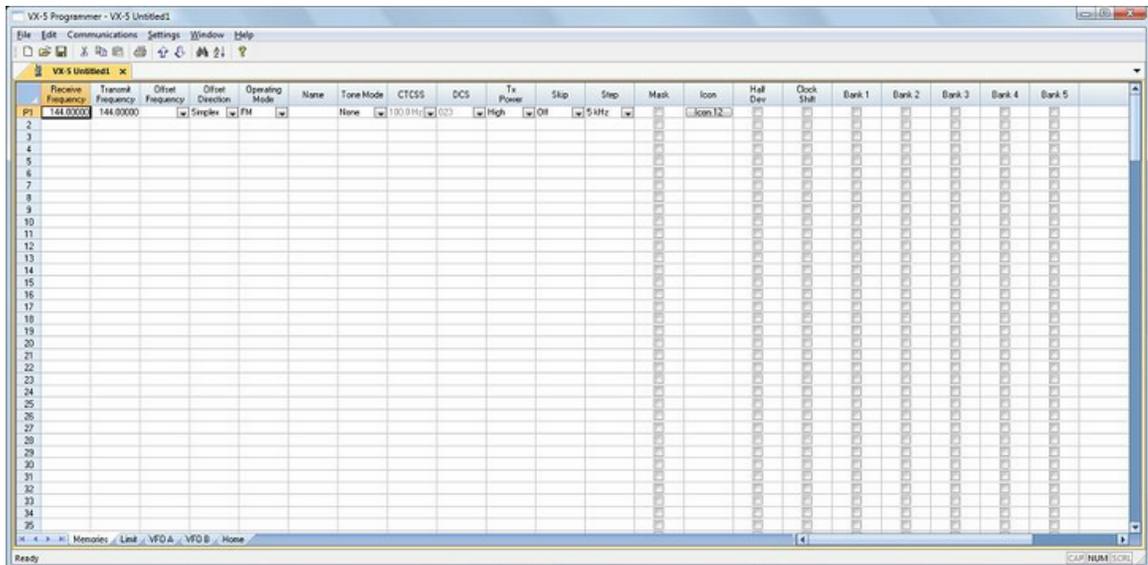


## 2 Getting Started

### Creating the file

The Programmer gives you an easy way to access details for memory channels and other settings of the radio.

Open the programmer by clicking on the icon that was created during installation. The programmer opens to a default file.



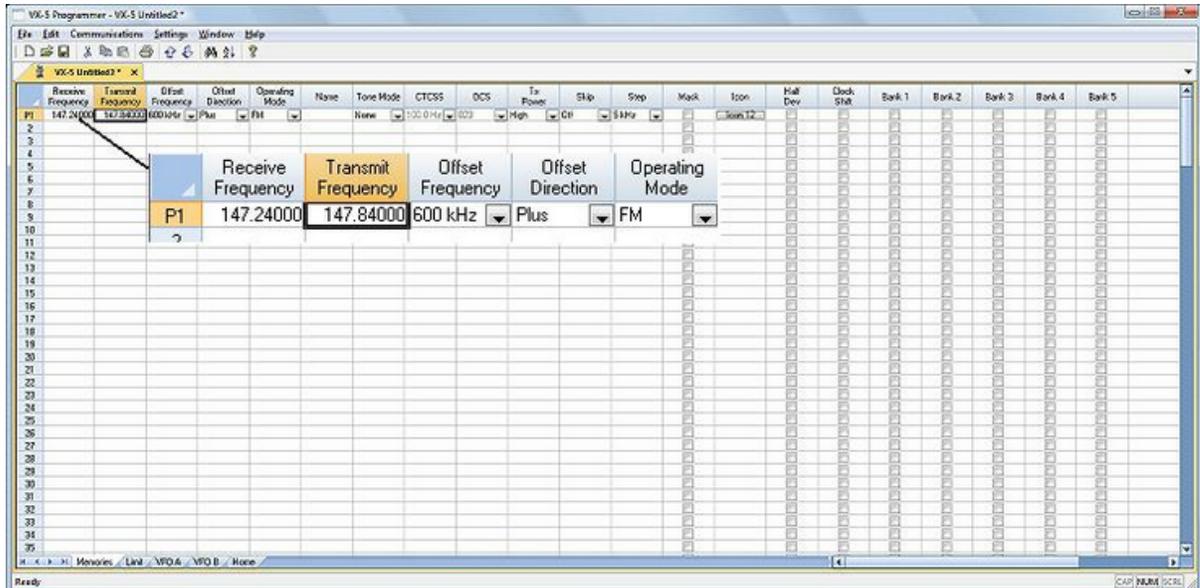
**Note:** The default file contains memory channel information on several of the screens. This information is needed by the radio to "fill spaces in its little brain". You can change the default entries that you see; but anything that is completed in the default file cannot be left blank. The Programmer will help you with this. If information is required, it will warn you when it is missing.

Enter a receive frequency

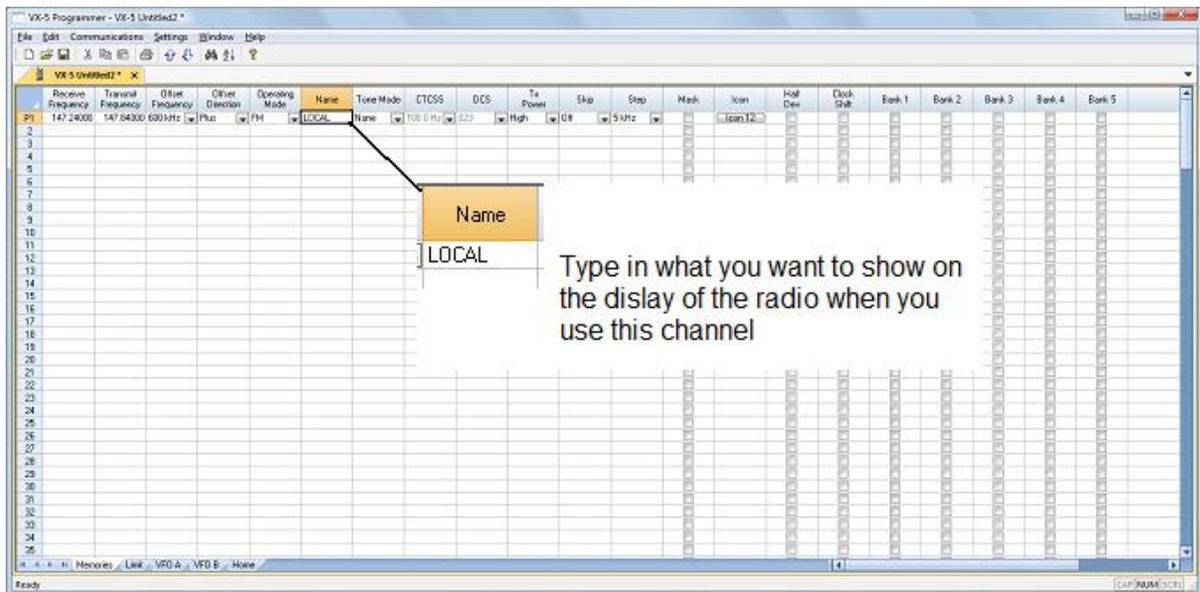
In this example we'll enter 147.240 MHz with standard offset, a Name of Local, and a tone of 100hz.

- Type one four seven period two four zero into the receive frequency column.

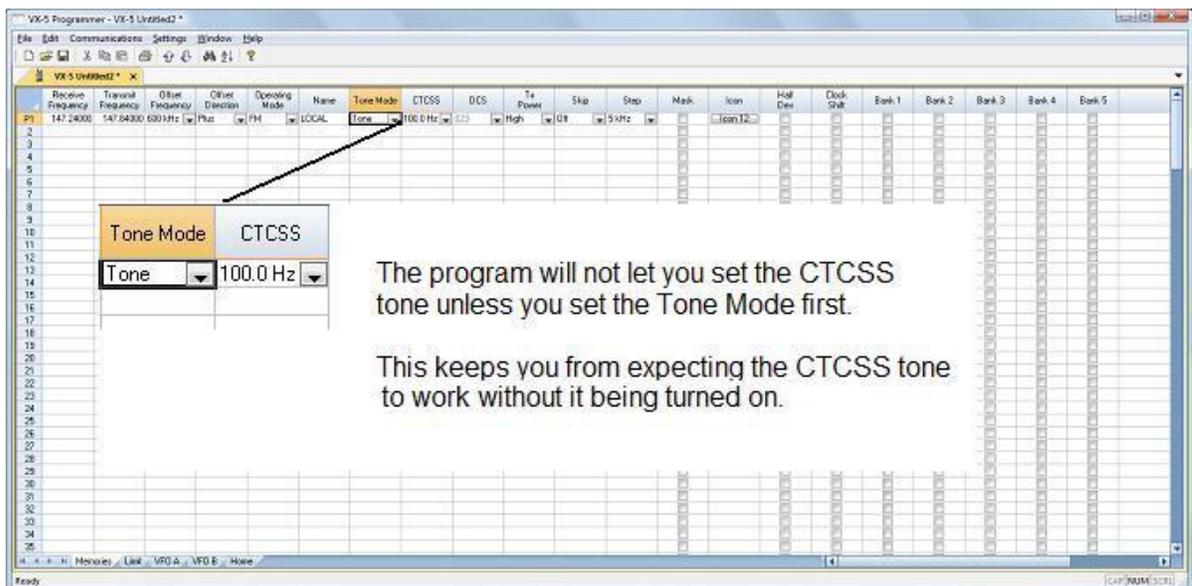
- Press Enter.
- The program completes much of the channel information with defaults. The Transmit frequency, Offset frequency, Offset Direction and Operating Mode are completed. This satisfies the "Standard offset" requirement from the original information.



- Press tab or use your mouse to select the Name cell. Type LOCAL. You choose upper or lower case on many radios. On others, only upper case letters are allowed. The programmer will help you. If a letter or symbol will not work on the radio, you will not be able to enter it here.



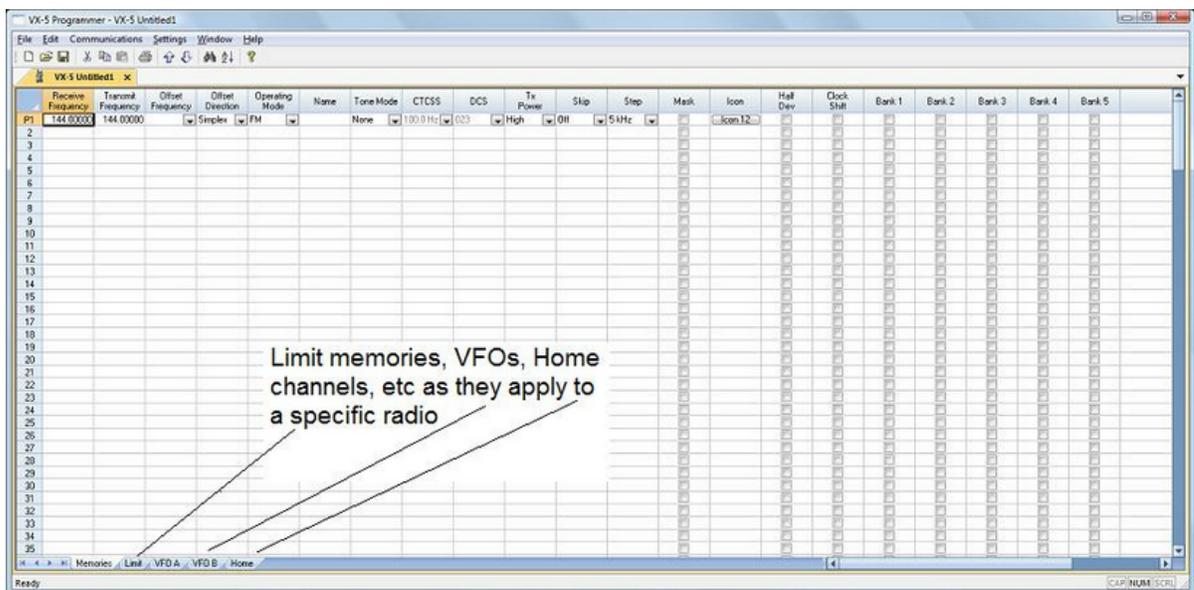
- Press tab to move to the Tone Mode cell. Setting up the tone of 100hz requires TWO steps (just as it would if you were doing this from the face of the radio). Turn on Tone Mode AND then set the 100hz tone.



- This channel is ready to use.
- The other columns are set only if you need them for better radio

performance. These columns are detailed in the Regular Memory Channels section of the help for a specific radio programmer.

There may be more to your radio than just memory channels. There will be more to the programmer. Tabs at the bottom of the main screen give you access to Limit memories, Home channels, Hypermemoies, VFO, Marine and Shortwave channels, that apply to your radio.



Click a tab. A screen opens with the details that can be entered for these radio functions. You can work with the radio without ever using these tabs. There are default values on these screens that never need to be changed. Make changes for your special activities when you plan to use one of these functions of the radio.

## Save the file

Now that you have the frequencies entered into the memory channels, Save the file.

VX-8 Programmer - DCSTest\*

File Edit Communications Settings Window Help

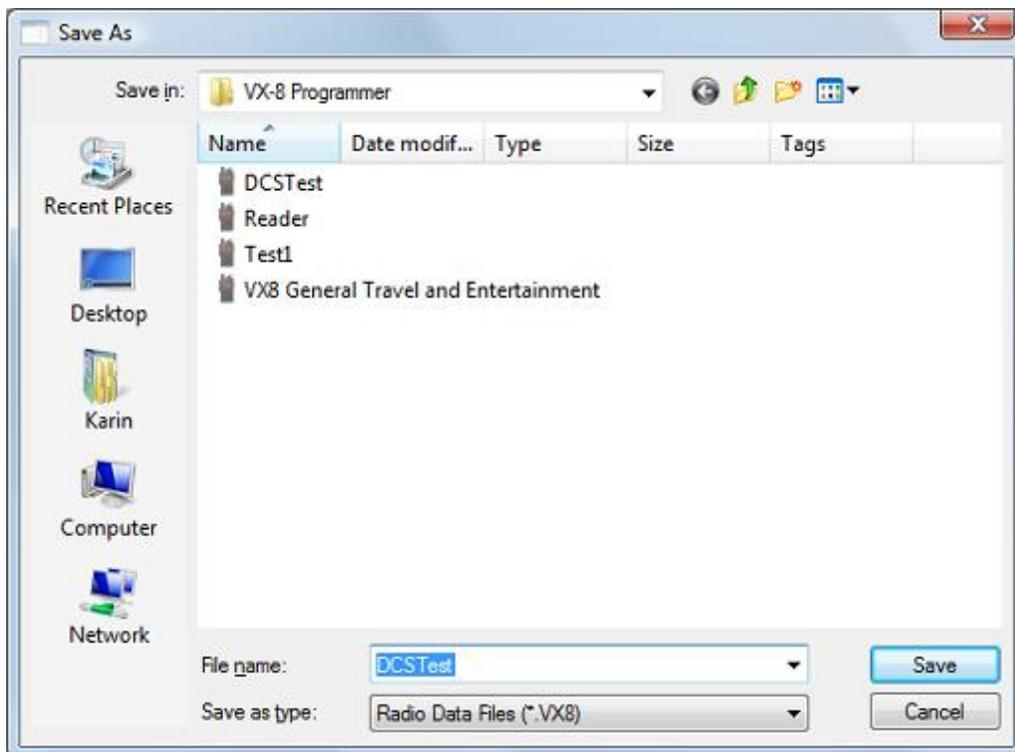
DCSTest\* x

Receive Frequency	Transmit Frequency	Other Frequency	Other Direction	Operating Mode	Name	Tone Mode	CTCSS	DCS	DCS Polarity	Use CTCSS	Tx Power	Skip	Step	Mask	Attenuator	Shifter Squash	Ref	Half Dev	Clock Shift	BANK 1	BANK 2	
147 2400	147 8400	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		15 kHz			0W	0W					
2	147 2400	147 8400	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
3	147 2500	147 8500	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
4	147 2500	147 8500	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
5	147 2600	147 8600	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
6	147 2600	147 8600	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
7	147 2700	147 8700	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
8	147 2700	147 8700	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
9	147 2800	147 8800	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
10	147 2800	147 8800	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
11	147 2900	147 8900	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
12	147 2900	147 8900	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
13	147 3000	147 9000	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
14	147 3000	147 9000	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
15	147 3100	147 9100	600kHz	Plus	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W	15 kHz			0W	0W					
16	445 2500	445 2500	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
17	445 2500	445 2500	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
18	445 2600	445 2600	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
19	445 2600	445 2600	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
20	445 2700	445 2700	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
21	445 2700	445 2700	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
22	445 2800	445 2800	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
23	445 2800	445 2800	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
24	445 2900	445 2900	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
25	445 2900	445 2900	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
26	445 3000	445 3000	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
27	445 3000	445 3000	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
28	445 3100	445 3100	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
29	445 3100	445 3100	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
30	445 3200	445 3200	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
31	445 3200	445 3200	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
32	445 3300	445 3300	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
33	445 3300	445 3300	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
34	445 3400	445 3400	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					
35	445 3400	445 3400	Simplex	FM	Name	100.0 Hz	223	RM TM	1800Hz	High (S W)	0W		50 kHz			0W	0W					

File Edit Communications Settings Window Help

Ready

In the menu, click File | Save As



Enter a filename. You can be as descriptive as you want. 256 characters including spaces, upper and lower letters, and much more to describe this file. The programmer will enter the extension so it can find the file later.

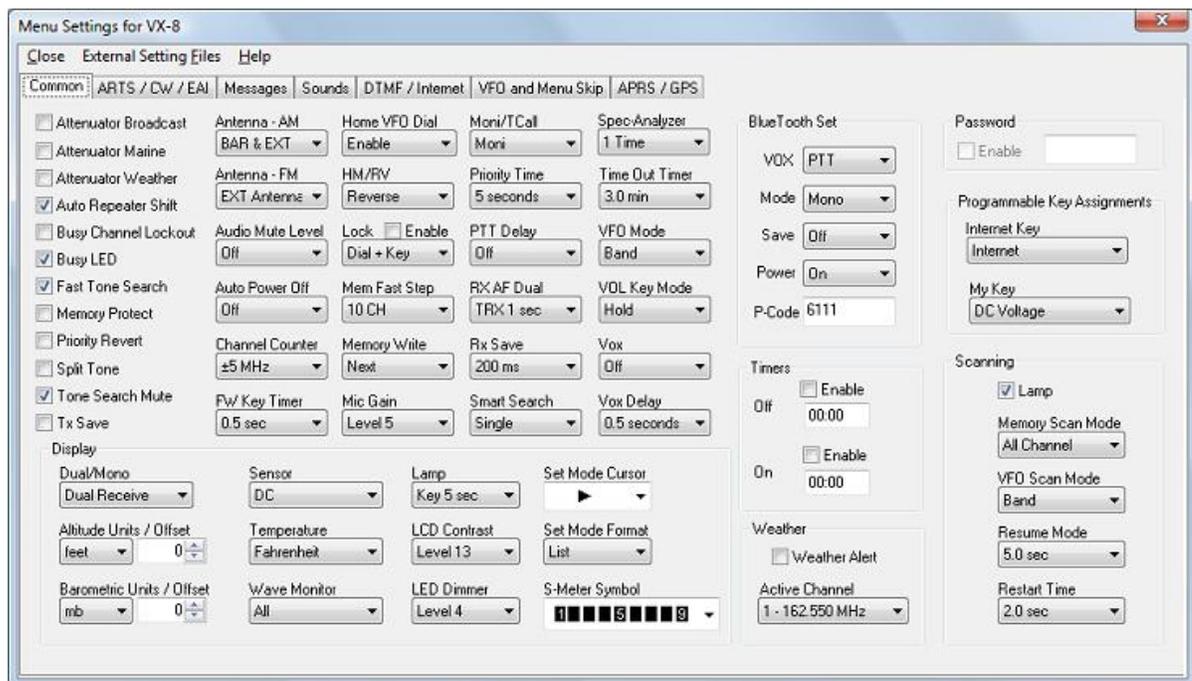
Once you complete this part of the process, the program will open the last file when it starts up.

## Even More Radio Functions

Today's radios can do so much. Many of the features are not a part of the details for a memory channel. These other options are set once for the radio to use no matter what channel you're operating on: memory channel, limit memory, VFO or Home channel.

These options may include, but are not limited to, Lock mode, ARTS details, display brightness and color, DTMF memories, scan resume options, and many others.

Select Settings | Radio Menu settings from the menu at the top of the main screen to access these options. The Settings screen opens to a page with check boxes, list boxes and edit fields. A sample Settings screen would look like this.



- Set the options as you need them to get the performance you want from your radio. The settings shown for your radio will correspond to your radio's features.
- Once you have the options like you want it, save this file. Yes, this is saved separately from the frequencies in the memory channels.
- To save the file, select File | Save from the menu on the Settings page. Enter a name when the window opens. You will not have to set these options again when you start a new file of memory channels.
- Once the file is saved, select File | Exit to return to the main screen of the programmer.

## **Sending the file(s) to the radio (programming the radio)**

The new RT Systems' programmers have no com port setup. Using the RT Systems' USB cable, you attach the cable, attach the radio, and get the programming done.

### **First: Communications | Get data from**

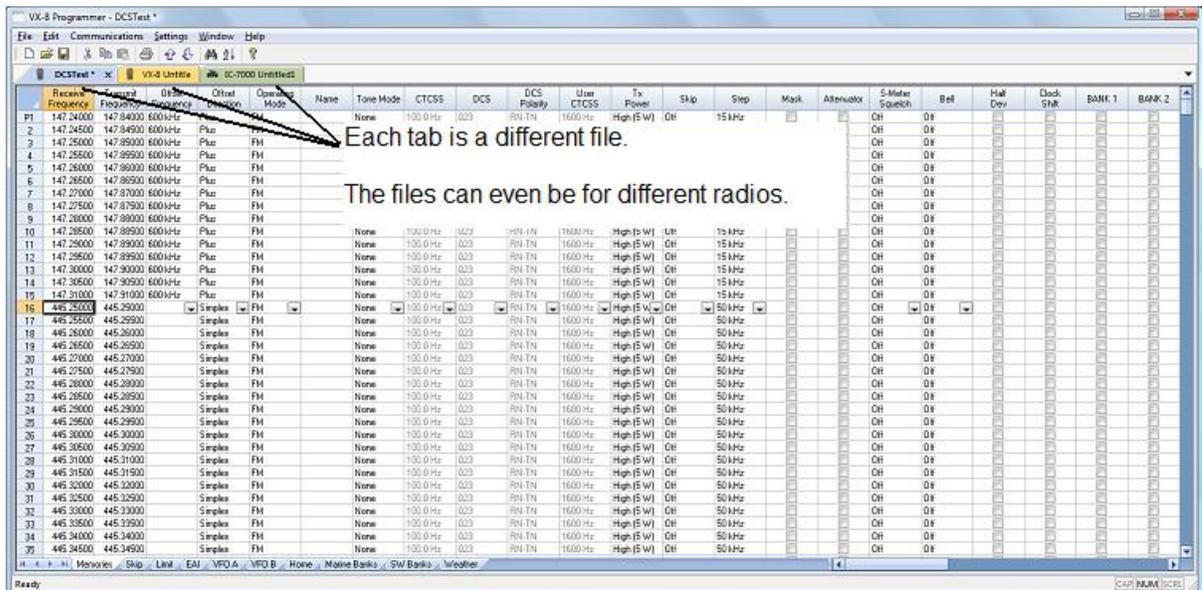
Although you really want to put the details of your file into your new radio so you can use it, doing Get data from with this new radio gets the process started and may help prevent problems sending the file to the radio.

***This process is REQUIRED if your radio has been modified to transmit outside the ham band.***

- From the menu at the top of the main window, select File | New. Open a new file to protect the file that you created.
- Connect the RT Systems USB cable to a port on your computer. Wait until the New Hardware Found process completes.
- With the radio off, connect the other end of the cable to the radio.
- From the menu at the top of the main window, select Communications | Get data from.

***A screen will open with details about this process specific to your radio.***

- Follow these steps carefully until this process is complete.
- Open the file that you created earlier. To open a file select File | Open from the menu at the top. Select your file from those in the list. Or, your file may already be open in the other tab.



## Second: Communications | Send data to

- When your file is ready, select Communications | Send data to from the menu at the top of the main screen.

***A screen will open with details about this process specific to the radio.***

- Follow the steps carefully to complete this process and program the radio. Read the screen carefully. The steps are often different from those used to get data from the radio.
- Turn off the power. Disconnect the programming cable from the radio.

***Your radio may still be in VFO mode after it is programmed. This is a normal mode for the radio. Press the key on the face of the radio as described in the User's Manual for the radio to put the radio into***

---

*Memory mode and see what you programmed.*

## Hardware Requirements

Hardware requirements for the Programmers include:

- A PC running Microsoft Windows XP (SP3), Windows 7, Windows 8 or 8.1, or Windows 10 (32 or 64 bit platform) .
- An open USB port for the RT Systems cable.

