

# #5408

## **Using HyperTerminal to Program Freewave Radios**

**April 7, 2005**

### **Setting up the Transceiver using HyperTerminal**

**Note:** The terms Modem and Transceiver are used interchangeably in this manual and in the text of the Setup menu. While the words have different meanings, the two terms should be treated as one and the same when referring to FreeWave products.

**Note:** Included on the User Manual CD is the optional "EZConfig" transceiver setup program and instructions. This program eliminates the need to use HyperTerminal to program the transceivers.

Once the transceiver is powered and connected with the programming cable to the programming computer, it can be programmed for use through HyperTerminal or EZConfig.

The following describes how to set HyperTerminal to program the transceivers.

### **Accessing HyperTerminal's Setup Menu**

**Note:** The following screen shots are taken from a computer using Windows XP. The display may vary slightly if using different operating systems.

1. Click on the **Start** button. A cascading menu appears. Select **Programs, Accessories, Communications** and then **HyperTerminal**. A window appears similar to the following:

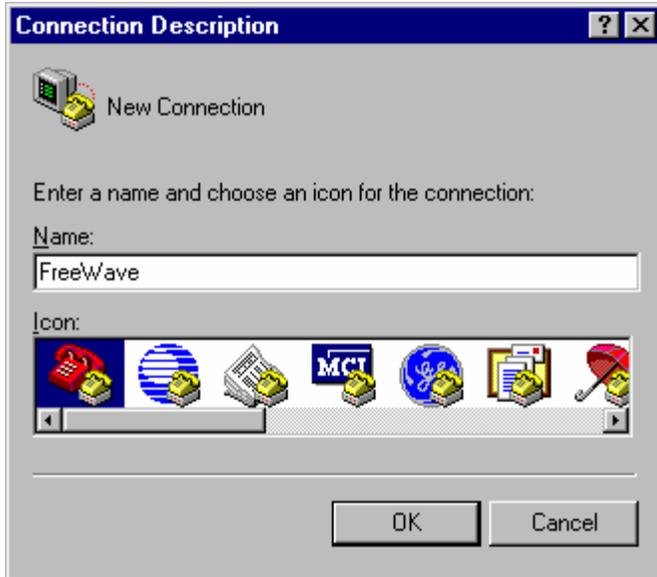


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# #5408

## Using HyperTerminal to Program Freewave Radios

2. Double-click on the **Hypertrm.exe** icon. The following window appears.



3. In the **N**ame text box, type in a descriptive name. Select an icon from the **I**con selection box.
4. Click on the **OK** button. The following “Connect To” dialog box appears:

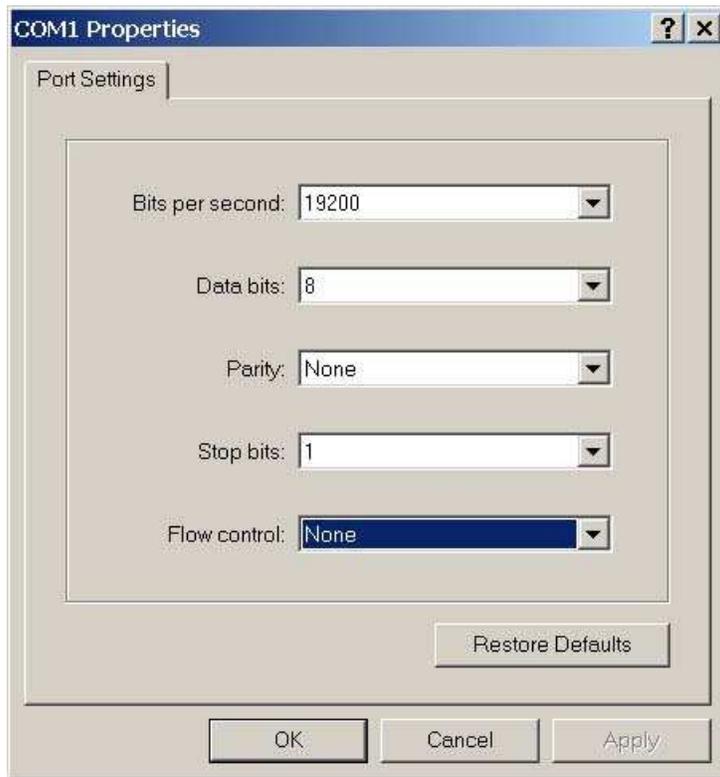


5. Select the connection type to be used from the **Connect using** drop-down menu. In most cases the connection type will be either **Direct to Com1** or **Direct to Com2**.
6. Click on the **OK** button. The Properties dialog box appears for the selected connection type.



# #5408

## Using HyperTerminal to Program Freewave Radios



The following are the port settings which must be set for a proper connection:

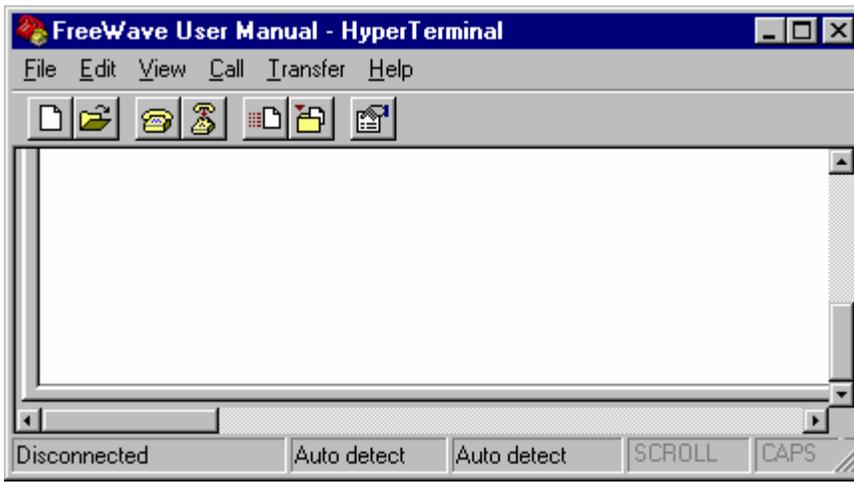
Port Setting	Menu Option to Select
<u>B</u> its per second	19200
<u>D</u> ata bits	8
<u>P</u> arity	None
<u>S</u> top bits	1
<u>F</u> low control	None

7. After selecting the appropriate menu items for each setting, click on the **OK** button. The following HyperTerminal dialog box appears:



# #5408

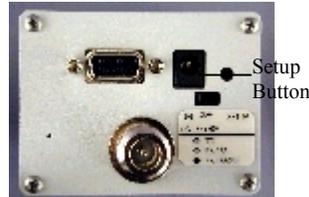
## Using HyperTerminal to Program Freewave Radios



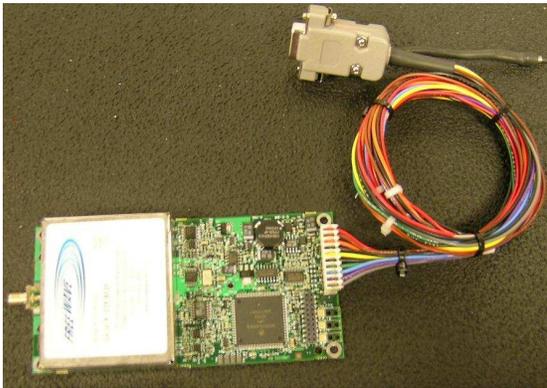
8. To connect HyperTerminal to the transceiver, press the Setup button on the back of the FreeWave transceiver. If connected to the diagnostics port, type **U** (Capital 'U') to invoke the Setup menu.



Model FGR-115WC  
(Waterproof)



Model FGR-115RC  
(Rugged)



To invoke the Setup menu in board level radios:

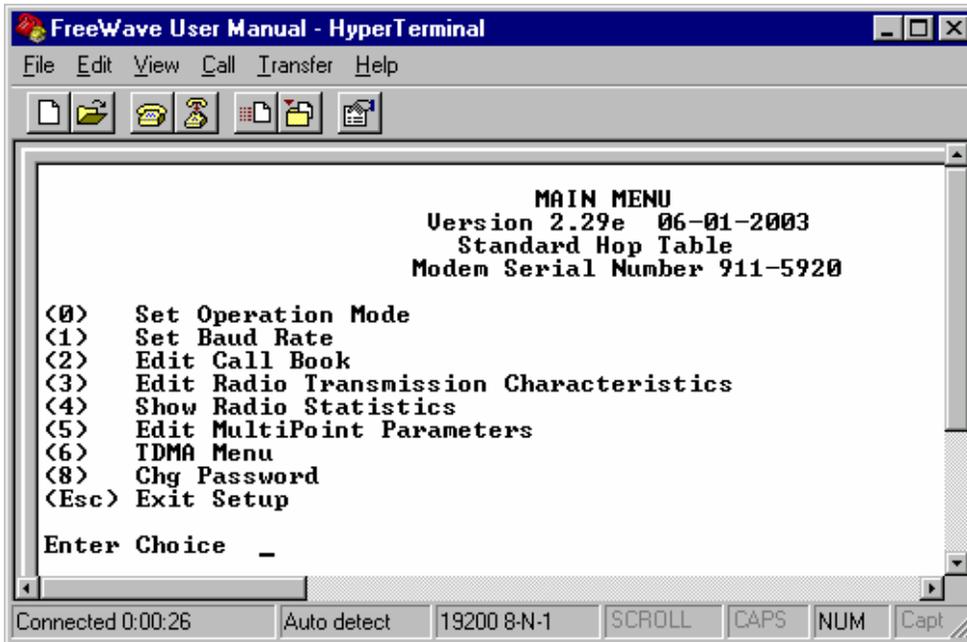
- 1) Short pins 2 & 4 (Brown to Black) on the white 10 pin header next to the LEDs.
- 2) If using a Programming Cable (P/N ASC3610Dx), press the Setup button.
- 3) If using the gray ribbon Diagnostic Cable (P/N AC2009DC), or the black Diagnostic Cable (P/N AC0409DC), press *Shift-U* (capital U) to invoke the Setup menu.



# #5408

## Using HyperTerminal to Program Freewave Radios

When Setup is invoked, the FreeWave Setup **Main Menu** will display in the HyperTerminal dialog box. All three LED's on the transceiver will light green ■■■ and stay green as long as the transceiver is in the Setup mode.



9. Save the HyperTerminal connection settings by selecting **Save** from the File menu.

**IMPORTANT NOTE:** Whenever a change is made to the **HyperTerminal settings** in an open terminal session, the connection must be disconnected then reconnected before the settings will take effect.

### Connecting and Disconnecting from HyperTerminal

The HyperTerminal dialog box displays several icons in the toolbar. To reconnect to HyperTerminal, click on the Disconnect

 icon, and then click on the Call  icon to reconnect. If the settings have not been saved they must be reselected when HyperTerminal reconnects to the transceiver.



# #5408

## Using HyperTerminal to Program Freewave Radios

### Troubleshooting HyperTerminal

The following are some common issues encountered while using HyperTerminal.

1. **Nothing appears on the screen after pressing the Setup button on the transceiver.**  
This usually indicates one of two things; either the wrong Com port is selected or a null modem RS-232 cable is being used. Follow the steps below to change the Com ports.
  1. Click on the **Disconnect** button.
  2. Select **Properties** from the File menu.
  3. Click on the **Connect To** tab and verify that the correct Com port is selected.
  4. Click on the **OK** button to close the Properties dialog box.
  5. Click on the **Call** button.
  6. Return the transceiver to Setup mode. The Setup menu screen should appear.
2. **Gibberish appears on the screen after pressing the Setup button.**  
This usually indicates a Baud Rate problem. Follow the steps below to change the Baud Rate. The problem may also be that the transceiver under test is a TTL version and NOT RS-232. Gibberish BEFORE the Setup button is pressed indicates Diagnostics is enabled in a Master.
  1. Click on the **Disconnect** button.
  2. Select **Properties** from the File menu.
  3. Click on the **Configure** button.
  4. Change the Baud Rate to **19200** and click on the **OK** button.
  5. Click on the **OK** button to close the Properties dialog box.
  6. Click on the **Call** button.
  7. Return the transceiver to Setup mode. The Setup menu screen should appear.
3. **The Setup menu appears on the screen, but nothing happens when keys on the keyboard are pressed.**  
This usually indicates a three-wire connection, Rx, Tx & Gnd. Follow the steps below if the connection uses a three-wire connection.
  1. Click on the **Disconnect** button.
  2. Select **Properties** from the File menu.
  3. Click on the **Configure** button.
  4. Change the Flow Control to **None** and click on the **OK** button.
  5. Click on the **OK** button to close the Properties dialog box.
  6. Click on the **Call** button.
  7. Return the transceiver to Setup mode. The Setup menu screen should appear.
4. **A connection exists, data is being received through HyperTerminal, and some data is correct, but the remaining data is in unrecognizable characters.**  
This usually indicates a parity mismatch. To resolve this issue, ensure that the parity of the transceiver and the parity of HyperTerminal are set the same. HyperTerminal's parity settings are under Properties and the FreeWave parity is found under the Baud Rate in the Setup mode.
  1. Click on the **Disconnect** button.
  2. Select **Properties** from the File menu.
  3. Click on the **Configure** button.
  4. Change the Parity to **None** and click on the **OK** button.
  5. Click on the **OK** button to close the Properties dialog box.
  6. Click on the **Call** button.Return the transceiver to Setup mode. The Setup menu screen should appear.

For additional troubleshooting for HyperTerminal, call FreeWave Technical Support at (303) 444 3862.

