RFM220 ISDB-Tb Measurement Demodulator Release Notes

This document supports firmware version 1.0.

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Release Notes

This document contains information that was available too late to be included in the *RFM220 ISDB-Tb Measurement Demodulator User Manual* (Tektronix part number 071-2896-00).

Initial RFM220 Client Display

When you use a RFM220 Client to make the initial connection to a RFM220 instrument, the following conditions exist:

- The input frequency has the default value of 665,142,857 Hz.
- The RF Lock and AGC Lock indicators are red and their lock state is "No" unless the frequency of the input signal is 665,142,857 Hz.
- The Channel Plan is set to ISDB-T and the Channel Number is set to 45.
- All of the measurement alarms are disabled, as shown by the gray Signal Quality LED indicators.
- Most of the Signal Quality metric values are 0 or "-" if RF Lock is not acquired.
- There are only two entries in the RF Event Log mentioning the status of RF Lock and AGC Lock.



Alarm Configuration

If you use the Alarm Configuration dialog to change many values at once, some of the new values may not get set into the RFM220 instrument when you click OK or Apply. Therefore, you should always perform the following steps when you are updating the alarm configuration:

- 1. After making changes in the Alarm Configuration dialog, first click Apply.
- 2. Wait for the Alarm Configuration dialog to refresh.
- **3.** After the Alarm Configuration dialog refreshes, verify that all of your changes have been applied.

NOTE. When you first open the Alarm Configuration dialog or when the dialog is refreshed after you click Apply or OK, the dialog shows the actual values that are set into the RFM220 instrument.

- **4.** If all of the changes were not applied, reenter the necessary changes and click Apply.
- 5. After all of the changes are successfully applied, click OK to close the dialog.

Using an RS-232 Serial Cable to Configure the Network Settings

The *RFM220 ISDB-Tb Measurement Demodulator User Manual* contains a procedure for configuring the network settings of an RFM220 instrument using an Ethernet cable connection between the instrument and a PC.

The following procedure describes how to configure the network settings using an RS-232 serial-cable connection between the instrument and the PC.

Required Equipment You will need the equipment listed below to set the network settings of an RFM220 instrument using a serial cable:

- PC with an RS-232 connection
- RS-232 serial cable, DB9 male to DB9 female, straight wiring (pin 2 to pin 2, pin 3 to pin 3, etc.)

Required Software You will need a terminal-emulator software program such as HyperTerminal or Poderosa. The following procedure uses HyperTerminal.

- **Procedure** 1. Connect the RS-232 cable between the RS-232 ports on the PC and the RFM220 instrument.
 - 2. Power on both the PC and the RFM220 instrument.
 - 3. From the Start menu on the PC, select All Programs > Accessories > Communications > HyperTerminal. This opens the HyperTerminal window.

NOTE. If this is the first time that HyperTerminal has been opened on the PC, a Location Information dialog box will open where you must enter your location parameters before the HyperTerminal application will operate.

If the Location Information dialog box appears, fill in the location information and then click OK.

Location Information	· · · · · · · · · · · · · · · · · · ·
	Before you can make any phone or modem connections, Windows needs the following information about your current location. What country/region are you in now? Brazil What area code (or city code) are you in now? If you need to specify a carrier code, what is it? If you dial a number to access an outside line, what is it? If you dial a number to access an outside line, what is it? The phone system at this location uses: The phone system at this location uses: Tone dialing Pulse dialing

Figure 1: Entering location information for HyperTerminal



Figure 2: Entering the connection description for HyperTerminal

4. When the HyperTerminal window opens, the Connection Description dialog appears. Enter the connection name you want to use and click **OK**. The Connect To dialog then appears with the connection name you entered. In the example shown below, RFM220 – 150 was entered as the connection name.

Connect To	? 🛛					
🗞 RFM220 - 150						
Enter details for the phone number that you want to dial:						
Country/region:	United States (1)					
Area code:	503					
Phone number:						
Connect using:	СОМ1					
	OK Cancel					

Figure 3: Selecting the COM port for HyperTerminal

5. In the Connect To dialog box, use the drop-down list to select an available COM port on your PC (one not used by another device). Typically, this will be COM1. If you select a COM port that is already in use, a warning message will appear. Select another COM port until no warning message appears and then click **OK**.

6. In the COM port properties dialog box, enter the information shown below and then click **OK**.

🗞 rqx - HyperTerminal		
File Edit View Call Transfer Help		
UF @ % UA M		
	COM1 Properties Port Settings Bits per second: Data bits: Baily: None Stop bits: Elow controt None Elow controt Restore Defaults OK Cancel	
Disconnected Auto detect Auto	detect SCROLL CAPS NUM Capture Print echo	.::

Figure 4: Entering the COM port properties for HyperTerminal

7. Check that the status bar at the bottom of the HyperTerminal window now displays **Connected**.

8. If the status bar shows Auto Detect, click the **Disconnect** icon to close the HyperTerminal connection and then perform the following steps to set a specific speed and mode for the connection.

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CAUTION. If the Status Bar displays Auto Detect, be sure to change the mode as described below. The RFM220 instrument does not support the auto detect mode.

- a. In the HyperTerminal window, select Properties from the File menu.
- **b.** Select the **Settings** tab and then use the Emulation drop-down list to change the setting from Auto Detect to **ANSIW**.

RFM220 - 150 Properties					
Connect To Settings					
Function, arrow, and ctrl keys act as					
⊙ Terminal keys 🔿 Windows keys					
Backspace key sends					
Otrl+H ○ Del ○ Ctrl+H, Space, Ctrl+H					
Emulation:					
ANSIW Terminal Setup					
Telnet terminal ID: VT100					
Backscroll buffer lines: 500					
Play sound when connecting or disconnecting					
Input Translation ASCII Setup					
OK Cancel					

Figure 5: Setting the emulation mode for HyperTerminal

- c. Click the ASCII Setup button to open the ASCII Setup dialog box.
- d. In the ASCII dialog box, select all of the boxes as shown below. Click **OK** to confirm the settings and then click **OK** again to close the properties dialog box.

ASCII Setup 🛛 💽 🔀
ASCII Sending
☑ Send line ends with line feeds
Echo typed characters locally
Line delay: 0 milliseconds.
Character delay: 0 milliseconds.
ASCII Receiving Append line feeds to incoming line ends Force incoming data to 7-bit ASCII Y provide the exceed terminal width OK Cancel
2006.01

Figure 6: Configuring the ASCII setup for HyperTerminal

e. Verify that the status bar in the HyperTerminal window now shows the ANSIW emulation mode.

🗞 rqx -	- Нуре	erTer	minal								×
Eile Edit	t ⊻iew	Call (⊡ransfer ¤©1	Help							
	9 @								 	1	~
											_
Disconnect	ted	AN	ISIW	57600 8-N-1	SCROLL	CAPS	NUM Captur	e Print echo]	

Figure 7: HyperTerminal window showing the ANSIW emulation mode

- **9.** In the HyperTerminal window, click the **Call** icon to connect to the RFM220 instrument. The status bar will now say Connected.
- **10.** In the HyperTerminal window, enter the following command: **TX 11 8B**. This command must be entered in upper case.
- 11. The HyperTerminal application returns the network settings of the RFM220 instrument in hex. In the illustration below, the returned hex string is C0A800D2C0A800D1FFFFFF00C0A800FE. This example shows the default value when the instrument is shipped.

🗞 rqx - HyperTerminal	
Eichier Edition Affichage Appeler Iransfert 2	
TX 11 8B TX 11 8B C0A800D2C0A801D1FFFFF00C0A800FE -	
Landra	

Figure 8: HyperTerminal window showing the IP address in hex

The 16-character hex string shown in the preceding illustration contains four fields of network settings, each with eight characters. The characters are grouped as follows: C0A800D2 C0A800D1 FFFFFF00 C0A800FE.

The following table shows how the hex values are converted to the network setting values of the instrument.

Table 1: Converting the HyperTerminal hex string to network settings

Values	Streaming port address ¹	Instrument IP address	Subnet mask	Gateway
String value	C0A800D2	C0A800D1	FFFFF00	C0A800FE
Hex value	C0.A8.00.D2	C0.A8.00.D1	FF.FF.FF.00	C0.A8.00.FE
Decimal value	192.168.0.210	192.168.0.209	255.255.255.0	192.168.0.254

¹ The streaming port address is not supported at this time.

12. To change the network settings, enter the following command in the HyperTerminal window: **TX 11 0B < new hex string>**.

The command must be entered in upper case and the new hex string must be 16 characters long. Work with your local network administrator to properly configure the network settings.

- **13.** Verify the new network settings by entering the following command in the HyperTerminal window: **TX 11 8B**.
- **14.** When you are done changing the network settings, close the HyperTerminal window.

The instrument is now ready to be installed on your network.