

Quick Start Guide

XBee-PRO PKG-U™ USB RF Modem

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Create a long range wireless data link in minutes!

Introduction

This Quick Start Guide provides step-by-step instruction on how to setup a wireless link and test the RF modem's ability to transport data over varying ranges and conditions.

Range Test Setup

Requirements for Range Test

- One XBee-PRO USB RF Modem (Base unit that will connect to the host)
- One XBee-PRO RS-232 RF Modem (Remote unit)
- One PC (Windows 98 SE, 2000 or XP) with an available USB port.
To complete the range test, X-CTU Software & USB drivers must be installed to the PC [refer to instructions below].
Note: LINUX and Mac OS X drivers are provided on the CD, but the X-CTU Software is supported only by Microsoft Windows operating systems.
- Accessories (USB Cable, serial loopback adapter, power supply)

Install X-CTU Software

Double-click "setup_X-CTU.exe" file and follow prompts of the installation screens. This file is located on the MaxStream CD and under the 'Software' section of the following web page: www.maxstream.net/helpdesk/download.php

The X-CTU Software interface is divided into the four following tabs:

- PC Settings - Setup PC serial com ports to interface with the RF modem
- Range Test - Test range of wireless links under varying conditions
- Terminal - Read/Set RF modem parameters and monitor data communications
- Modem Configuration - Read/Set RF modem parameters

Install USB Drivers (Hardware USB Bus & Virtual Com Port drivers)

The following steps were recorded while using the Windows XP operating system.

1. Connect the XBee-PRO USB RF Modem to a PC using a USB cable.
▶After the RF modem is detected by the PC, a "Found New Hardware Wizard" dialog box should appear.
2. Verify the MaxStream CD is inserted into the CD drive.
3. Select "Install from a specific list or location (Advanced)" option; then select the 'Next' button.
4. a. Select the 'Search for the best driver in these locations' option.
b. Check 'Search removable media (CD-ROM...)' box; then select the 'Next' button.
▶"Windows Logo Testing" alert box appears.
5. Select the 'Continue Anyway' button.
6. Select the 'Finish' button.
7. Repeat steps 2 through 6 to install the next driver.
8. Reboot computer if prompted to do so.

Range Test Setup (continued)

Hardware Setup

The XBee-PRO USB RF Modem will be referred to as the "BASE". The XBee-PRO RS-232 RF Modem will be referred to as the "REMOTE".

1. After installing the X-CTU Software and USB drivers [opposite page], connect the BASE RF modem (XBee-PRO USB) to the PC using a standard USB cable.
[Figure 1 - Illuminated bottom-left red LED indicates a successful USB link.]
2. Attach the serial loopback adapter to the female DB-9 connector of the REMOTE RF modem (XBee-PRO RS-232).

The serial loopback adapter configures the REMOTE to function as a repeater by looping data back into the RF modem for retransmission [Figure 2].

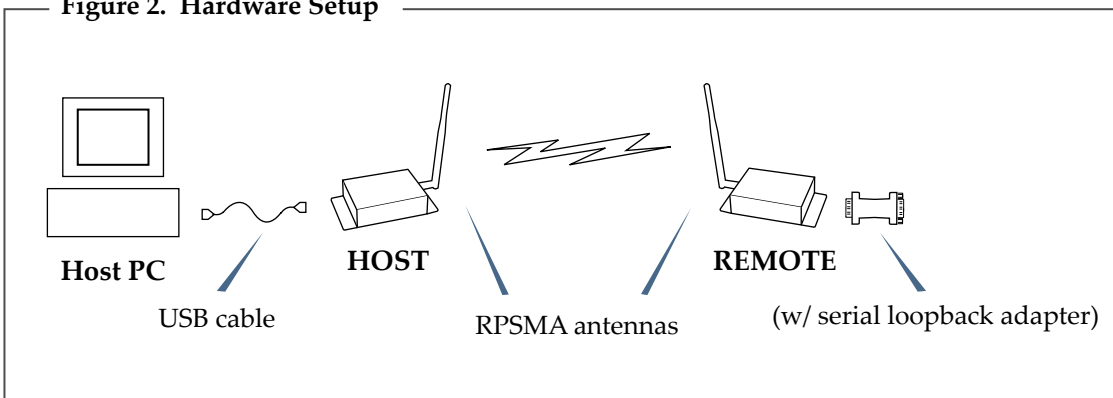
3. Power the REMOTE through its power connector using the power adapter included in the RS-232 accessories kit.

(The BASE is powered through its USB connection.)

Figure 1. LED indication of successful USB link
(Bottom-left Red LED is illuminated.)



Figure 2. Hardware Setup



Addressing Information (Unicast / Point-to-point Mode by default)

No additional configuration is necessary to run this range test; however, the following addressing information is critical to many network configurations. Proceed to the back page to complete range test.

By default, all RF modems are configured to operate in Unicast Mode with a source address (MY parameter = 0) and destination address (DH = 0 and DL = 0). Under this default configuration, the RF modems will communicate in Unicast/Point-to-point Mode and retries are enabled [refer to product manual for more information]. This configuration only supports point-to-point communications.

For one RF modem to communicate to many modems, the modems must be configured to operate in Broadcast Mode. Broadcast Mode is enabled by setting the Destination Addresses as follows: DH = 0x00000000
DL = 0x0000FFFF.

In Broadcast Mode, retries are disabled.

Range Test Completion

Use the "PC Settings" and "Range Test" tabs of the X-CTU Software to to:

- Setup a PC Serial Com Port for communications with the BASE RF modem
- Determine the range capabilities of the XBee-PRO RF Modems

Range Test

1. Launch the X-CTU Software: (Start --> Programs --> MaxStream --> X-CTU)
- ② Under the "PC Settings" tab [Figure 3], select the PC serial com port from the list that will be used to connect to the BASE RF modem.
Com ports redirected to a USB RF modem have "MaxStream-PKG-U" in the com port name. This com port will be used when executing the range test.
3. Select the "Range Test" tab. [Figure 4]
- ④ (Optional) Check the "RSSI" checkbox to enable its display.
- ⑤ Click the 'Start' button to begin the range test.
6. Move the REMOTE (with loopback connector) away from the BASE to find the maximum range of the wireless link.

Figure 3. PC Settings tab

NOTE: Failure to enter AT Command Mode is most commonly due to baud rate mismatch. Ensure the 'Baud' setting on the "PC Settings" tab matches the interface data rate of the modem (BD parameter = 9600 bps by default).

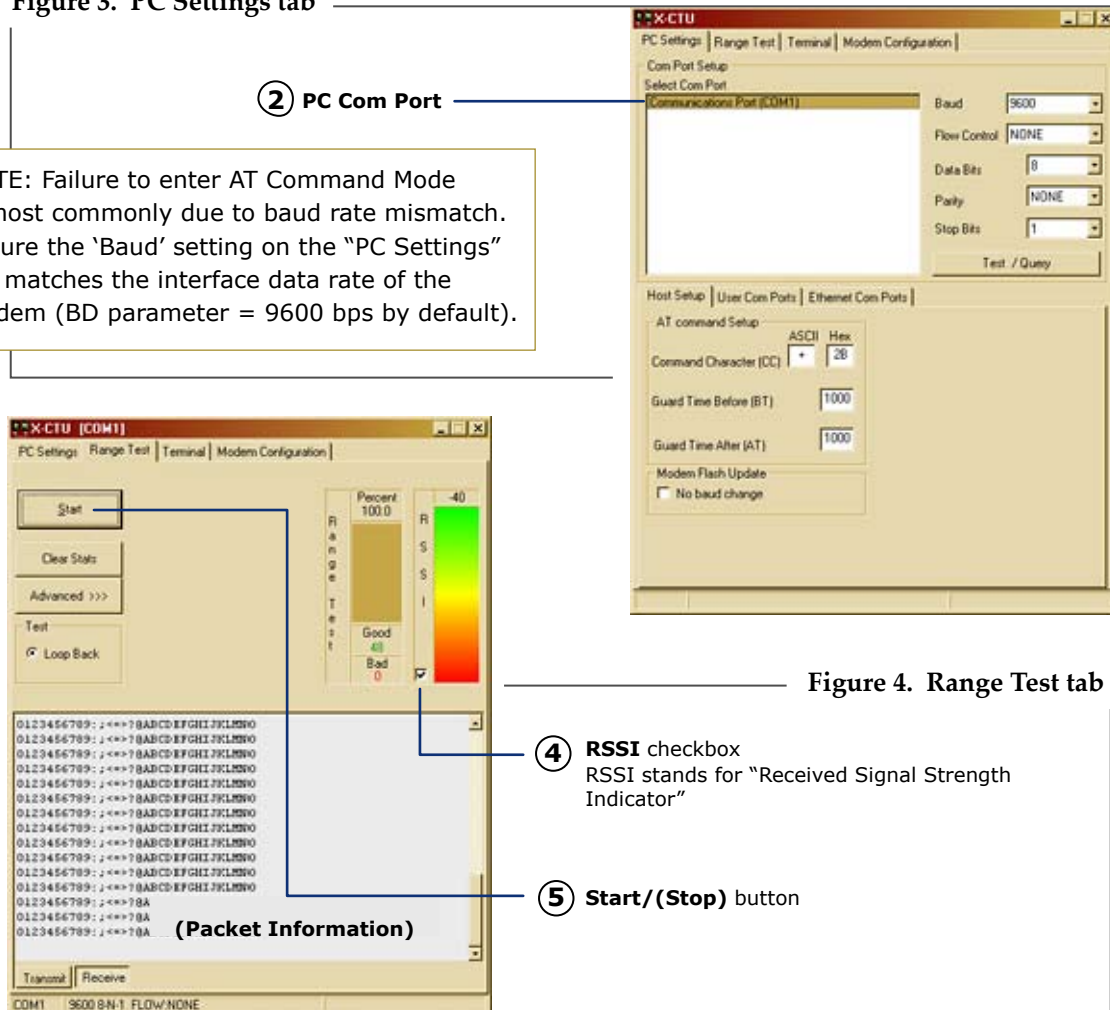


Figure 4. Range Test tab

Contact MaxStream (Office hours are 8am – 5pm U.S. Mountain Standard Time)

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