

# Quick Start Guide

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## MaxStream PKG-E Ethernet RF Modem

RF Building Blocks  
Com Port Communications  
Range Test  
Optional Configurations



Create a Wireless Link In Minutes.

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## RF Building Blocks

This Quick Start Guide provides OEMs and integrators with an introduction to some of the RF modem's most important features. This guide provides step-by-step instruction on how to setup a wireless link and test the modem's ability to transport data over varying ranges and conditions.

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### Requirements for Range Test

- 1 PKG-E (Ethernet) RF Modem
- 1 PKG-R (RS-232) RF Modem
- 1 PC (Windows 98 SE, 2000 or XP) loaded with the following software:
  - X-CTU
  - Com Port Redirector
- Accessories (Loopback adapter, CAT5 cable, 2 RPSMA antennas, 2 power supplies)

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### Installation #1: X-CTU Software

Double-click the "setup\_X-CTU.exe" file then follow installation screen prompts. File is located in the "software" folder of the MaxStream CD and under the "Downloads" section of the following web page: [www.maxstream.net/helpdesk](http://www.maxstream.net/helpdesk)

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 RF modem's range under varying conditions
- Terminal - Read/Set RF modem parameters and monitor data communications
- Modem Configuration - Read/Set RF modem parameters

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### Installation #2: Com Port Redirector Software

Double-click the "setup\_ComPortRedirector.exe" file then follow installation screen prompts. File is located in the "software" folder of the MaxStream CD and under the "Downloads" section of the following web page: [www.maxstream.net/helpdesk](http://www.maxstream.net/helpdesk)

The Ethernet Com Port Redirector must be installed to enable the "Ethernet Com Ports" sub-tab of the X-CTU "PC Settings" tab. If this software is not installed, the features under the "Ethernet Com Ports" sub-tab are grayed and cannot be used.

The "Ethernet Com Ports" sub-tab enables users to discover Ethernet RF Modems on an Ethernet network and setup serial com port communications.

## Com Port Communications

The X-CTU and Com Port Redirector software applications combine to facilitate communications through a PC's com port. A com port is not required for communicating to Ethernet RF Modems, but is recommended as a means of configuring and testing the modems.

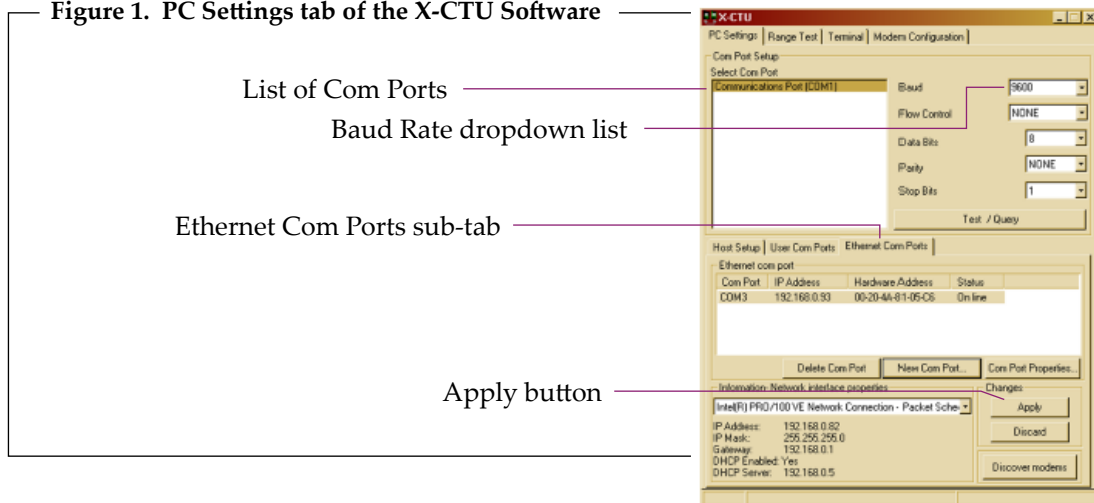
### Ethernet RF Modem Discovery

The X-CTU Software can be used to search a local network and display Ethernet RF Modems found.

#### Discover Ethernet RF Modem, redirect com port & assign IP address:

1. Launch X-CTU Software and select the "PC Settings" tab; then select the "Ethernet Com Ports" sub-tab [Figure 1].  
--> After the Ethernet Com Port Redirector is installed (& PC is re-booted), a "Setup Com Port" dialog box will appear the first time the "Ethernet Com Ports" sub-tab is selected.
2. Select "OK" button.  
--> All discovered Ethernet RF Modems will be displayed in a new "Assign IP Address" dialog box.
3. Highlight one of the discovered Ethernet RF Modems (Modem's IP and hardware address are listed in the "... discovered Ethernet Modem" section).
4. Select "OK" button.  
--> Newly assigned Ethernet Modem is listed under the "Ethernet Com Ports" sub-tab and the first available com port is assigned to it.
5. Select "Apply" button [Figure 1]. Even though the Ethernet RF Modem appears in the "Ethernet Com Port" list, the new com port cannot be used until changes are applied and the PC is re-booted.
6. Re-boot the PC; then re-launch the X-CTU Software. The com port can now be used for Ethernet RF Modem communications.

Figure 1. PC Settings tab of the X-CTU Software



### Assign Static IP Address (Optional)

If an Ethernet RF Modem resides on a DHCP network, it may become necessary to reconfigure a mapped com port any time an IP address is re-assigned by the DHCP server. Dynamic addressing is supported, but setting a static IP address can simplify the application. In cases where a static IP Address should explicitly be assigned to an Ethernet RF Modem, follow instructions in the Ethernet RF Modem user manual.

# Range Test

Once the Ethernet RF Modem has been setup for com port communications, a wireless link between devices can be created for the transport of data.

## Hardware Setup

Using the components listed on page one of the quick start guide, assemble the hardware needed for the range test.

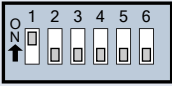
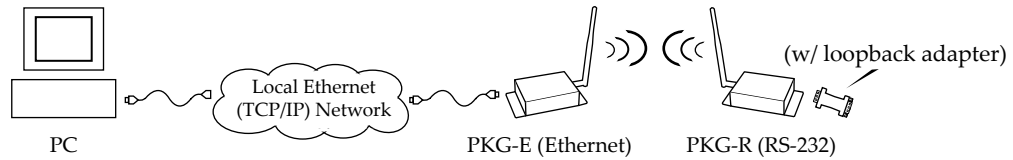
1. Connect a PKG-E (Ethernet) RF Modem and a PC to active Ethernet ports of the same local network using CAT5 cables [Figure 2].
2. Attach serial loopback adapter to the DB-9 serial connector of the PKG-R (RS-232) RF Modem. The adapter configures PKG-R RF Modem to function as a repeater by looping serial data back into the modem for retransmission.
3. Configure the PKG-R (RS-232) RF Modem for RS-232 operation using the built-in DIP Switch. Dip Switch 1 should be ON (up) and the remaining switches should be OFF (down). 
4. Attach RPSMA antennas to both RF Modems.
5. Power both RF Modems with power supplies (included w/ accessory packages).

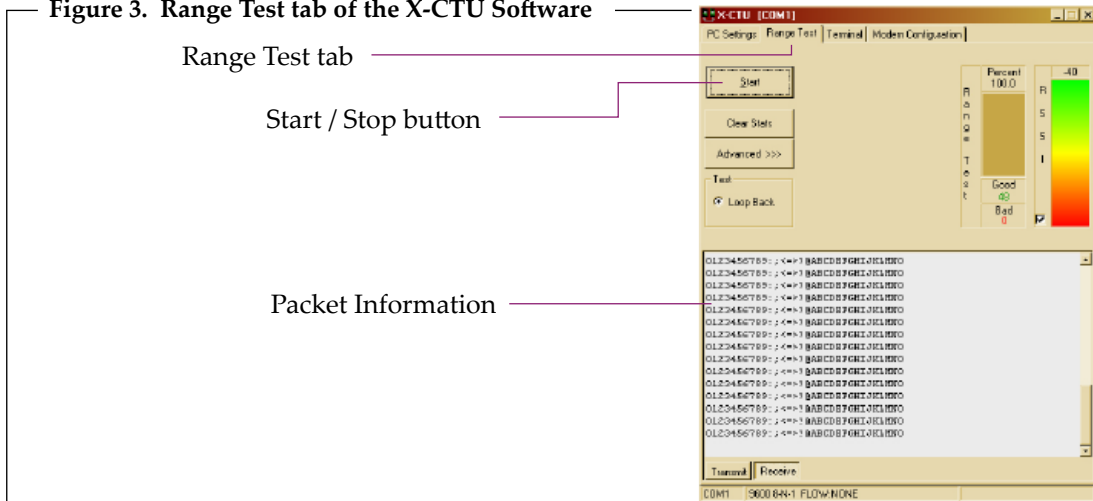
Figure 2. Hardware Setup for Range Test



## Run Range Test

1. From the list of com ports under the "PC Settings" tab, highlight the com port that was setup in the Ethernet RF Modem Discovery section [opposite page].  
Select the PC com port baud rate from the "Baud" dropdown list that matches the default baud rates of the RF Modems in the wireless link [Figure 1].
2. Click the "Range Test" tab [Figure 3].
3. Select the "Start" button to begin range test.
4. Move the remote PKG-R (RS-232) RF Modem away from the PKG-E (Ethernet) RF Modem to measure the range of the wireless link.

Figure 3. Range Test tab of the X-CTU Software



## Optional Configurations

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Out-of-box, XStream-PKG-E Ethernet RF Modems come configured to provide an immediate wireless link between devices. The modem's default configuration supports a wide range of RF communications.

If the RF Modem must be configured to support specific needs of a data system, RF Modem parameters can be customized using standard AT commands. MaxStream recommends using the X-CTU Software when configuring the PKG-E Ethernet RF Modem. Alternatively, programs such as "Telnet" and "HyperTerminal" can be used, although RF Modem IP addresses must already be known in order to establish communications.

### Restore RF Modem Defaults

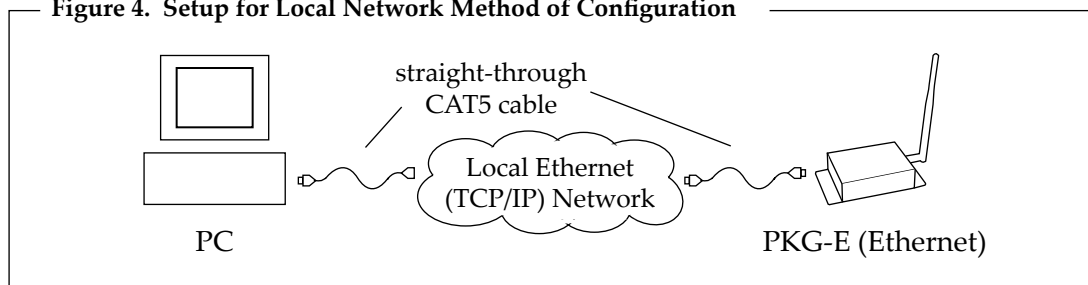
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If the RF Modem is not responding or cannot enter into "AT Command Mode", restore the RF Modem to its original settings:

#### Restore RF Modem Default Parameters (Local Network Method):

1. Connect a PC and the Ethernet RF Modem to active Ethernet connections of the same local network [Figure 4].
2. Follow the steps outlined in the "Ethernet RF Modem Discovery" section in order to identify the com port that will be used to communicate to the Ethernet RF Modem [page 2 of quick start guide].
3. Launch the X-CTU Software on the PC and select the "PC Settings" tab.
4. Highlight the Com Port from the list of com ports to which the Ethernet RF Modem is assigned [Figure 1].
5. Select the "Modem Configuration" tab. ("Terminal" tab could also be used.)
6. Select the "Restore" button (default parameters values are written to RF Modem's non-volatile memory)
7. Select the "Read" button to view parameter values.

Figure 4. Setup for Local Network Method of Configuration



### Ethernet RF Modem Configuration

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The X-CTU Software features the "Terminal" and "Modem Configuration" tabs that provide easy-to-use interfaces for configuring RF Modems. Refer to the product and advanced manuals for more information.

## Contact MaxStream

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