RADIOLINX

RLX-FHE
Wireless
Ethernet Switch

POWER
LINK
TRANSMIT
RECEIVE
10/100 LINK
ACTIVITY

RADIOLINX
FREQUENCY HOPPING ETHERNET

Quick Start Guide

ProSoft
TECHNOLOGY

6/28/2005

Table of Contents

Before You Begin

Your RLX-FHE Wireless Ethernet Switch is shipped with the following:

RLX-FHE Wireless Ethernet Switch

AC Power Adapter
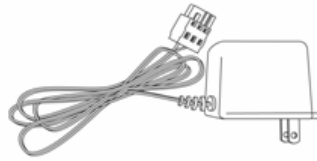
Omni-directional antenna (2 dBi)

5-foot Ethernet Straight-Thru Cable (Gray)

5-foot Ethernet Crossover Cable (Red)

RadioLinx CD

DB9 M/F 6-foot Configuration Cable
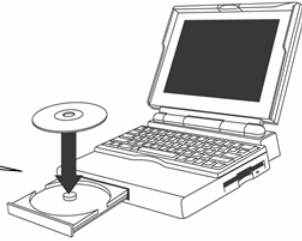
In addition, you will need:

- A PC or Laptop computer equipped with an Ethernet port
- IP addresses for each RLX device you plan to install. You can obtain this information from your system administrator.

Note: This Startup Guide is designed for use with two (2) RLX-FH radios. One radio will be set up as a Master (base) while the other radio will be set up as a Remote.

Install the Configuration Software on Your PC

1. Insert the RadioLinx Solutions CD into your CD-ROM drive and close the drive.

RadioLinx (D:)

This disk or device contains more than one type of content.

What do you want Windows to do?

- Copy pictures to a folder on my computer
  using Microsoft Scanner and Camera Wizard
- View a slideshow of the images
  using Windows Picture and Fax Viewer
- Print the pictures
  using Photo Printing Wizard
- Open folder to view files
  using Windows Explorer
- Take no action

[OK] [Cancel]

2. When this screen appears, select "Open folder to view files using Windows Explorer.

3. Click OK

4. Double-click on the RLX-FH folder.

RLX-FH   RLX-IH

Note: Use the default installation directories.

5. Double-click on the RLX-FH ControlScape Setup and Configuration Software folder.

RLX-FH
ControlSca...

RLX-FH
ControlScape
Setup and
Configuration
Software

RLX-FH
FIRMWARE

6. Double-click on the Setup icon to start the installation process. When complete, the program adds the RadioLinx ControlScape icon to your desktop for use in the next step.
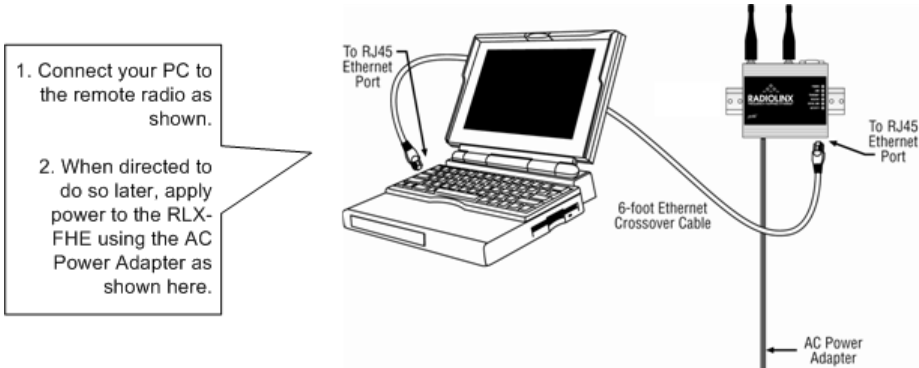
Setup   RadioLinx
               ControlSc...

Note: This example uses Microsoft XP operating system. Your screens may vary depending on the operating system installed on your PC.

Connect Your PC to a RLX-FHE

You can configure the RLX-FHE using the Ethernet or Serial port on the module. Using the Ethernet port is the most common method and will be illustrated in the Quick Start Guide. For instructions on how to configure the RLX-FHE using the Serial port, please see the ControlScape FH software online Help.

Ethernet Port Connection

Set Up IP Addresses

All new RadioLinx Radios must have their IP addresses set using the following procedure. The IP address of the PC must be on the same network as the IP addressed assigned for the RLX-FHE. If you are not sure if your PC address matches, refer to "Checking Your PCs IP Address" at the end of this Quick Start. Before performing these steps, ensure that your radio is attached to your PC via the Ethernet cable, and the the power is not yet attached.

1. From your desktop, double-click on this icon to begin the configuration process.

RadioLinx ControlSc...

2. Attach power to the radio. The software will detect the RLX-FHE connected to your PC and displays the serial number of the connected RLX-FHE.

Set the Radio IP Address

Radio Serial Number: 3129

IP Address: 0 . 0 . 0 . 0

OK   Cancel

3. Enter the IP Address for this RLX-FHE. Press the OK button.

RadioLinx ControlScape FH

File Port Setup Configure Diagnostic Utilities Help

Download Code
Set Radio Color...
Edit Radio IP Address

4. Select Edit Radio IP Address from the Utilities menu.

Edit BootP Table

Radio S/N	IP Address	
3129	192.168.0.233	

Add
Edit
Delete

OK

5. The RLX-FHE that you assigned an IP address to appears in the Edit BootP table.

6. Click the Add button to add another RLX-FHE.

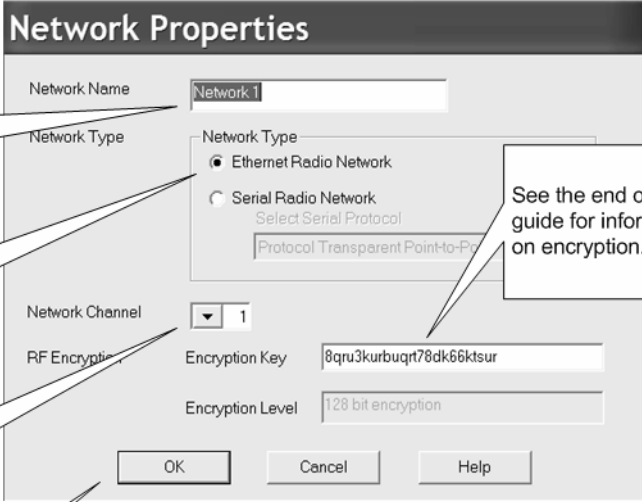Enter the serial numbers and IP addresses for all additional radios.

Edit BootP Table

Set the Radio IP Address

Radio Serial Number:

IP Address: 0 . 0 . 0 . 0

OK   Cancel

4

Configure a RLX-FHE Using the Ethernet Port

Note: You can configure the RLX-FHE using the Ethernet port or the serial port. This procedure configures the RLX-FHE using the Ethernet port. For information on using the serial port, please refer to the online Help.

RadioLinx ControlScape FH

File   Port Setup   Configure   Diagnostic   Utilities   Help

New Network   Ctrl+N

1. From the ControlScape Main Menu, choose Configure/New Network

Network Properties

Network Name   Network 1

2. Type in a Network Name

Network Type

Network Type
- ○ Ethernet Radio Network
- ○ Serial Radio Network
  Select Serial Protocol
  Protocol Transparent Point-to-Po

See the end of this guide for information on encryption.

3. Select Ethernet Radio Network

Network Channel   ▼ 1

RF Encryption

Encryption Key   8qru3kurbuqrt78dk66ktsur

Encryption Level   128 bit encryption

4. If you have previously configured a RLX-FHE network, select a different channel.

OK   Cancel   Help

5. Click OK. Update radio icons appear on the screen.

Update Radio

Update Radio

Master Radio   Radio 2

6. Double-click on the Radio 2 icon

7. Type in a Radio Name.

Radio Configuration - Radio 2

Radio Name: Radio 2   Last Date Configured: 12:00:00 AM
Last S/N Configured: [   ]

This radio has not yet been configured.

Ethernet Settings

Ethernet Settings
[Select Radio]
IP Address   [.   .   .   ]
Subnet Mask   [.   .   .   ]
Default Gateway [.   .   .   ]

Serial-to-Ethernet Settings
Port Number: 4002   Serial Protocol: None
Baud Rate: 115,200
Parity: None
Data Bits: 8
Stop Bits: 1
Turn around time between packets (ms): [   ]

[OK] [Configure Radio] [Cancel] [Help] [Advanced >>]

8. Click on the Select Radio button. The Select Radio dialog appears.

Select Radio

Select the Ethernet radio to configure.

Radio S/N	IP Address
3171	192.168.0.234
3172	192.168.0.233

[Select]   [Cancel]

9. Choose the remote radio by serial number and IP address by highlighting it.

10. Press the Select button. The IP address now appears in the IP Address field of the Radio Configuration window.

11. Type in the Subnet Mask. The Subnet Mask is set to 255.255.255.0 for Class C and for this example. All devices should have the same Subnet Mask.

Radio Configuration - Radio 2

Radio Name: Radio 2   Last Date Configured: 12:00:00 AM
Last S/N Configured: [   ]

This radio has not yet been configured.

Ethernet Settings

Ethernet Settings
[Select Radio]
IP Address   192 . 168 . 0 . 233
Subnet Mask   [.   .   .   ]
Default Gateway [.   .   .   ]

Serial-to-Ethernet Settings
Port Number: 4002   Serial Protocol: None
Baud Rate: 115,200
Parity: None
Data Bits: 8
Stop Bits: 1
Turn around time between packets (ms): [   ]

[OK] [Configure Radio] [Cancel] [Help] [Advanced >>]

12. Type in the Default Gateway (optional). The Default Gateway defines the default network that the configuration PC operates on.

13. Click the Configure Radio button to start the configuration process on the remote radio.

6

Once you click the Configure Radio button, a dialog box appears showing the progress of the configuration download.

Radio Configurat...

Connecting to Radio...

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14. Once the radio is configured, the Successful Configuration dialog appears. Click OK.

RadioLinx ControlScape FH ✕

ⓘ Configuration Completed Successfully

OK

Update Radio

Master Radio
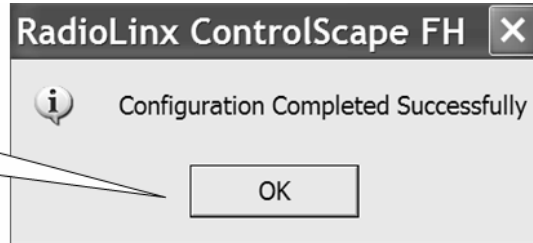
Radio 2

15. The remote radio icon now appears in a darker color indicating that it has been properly configured.

The box around the radio icon shows which RLX-FHE is selected.

16. Cycle power to the RLX-FHE.

Repeat the same process for all RLX-FHE remote switches. Once all remotes are configured, repeat the same process for the RLX-FHE master.

Test Communications

With each radio configured, ensure that you still have your PC connected to the Master RLX-FHE as shown in the following diagram.
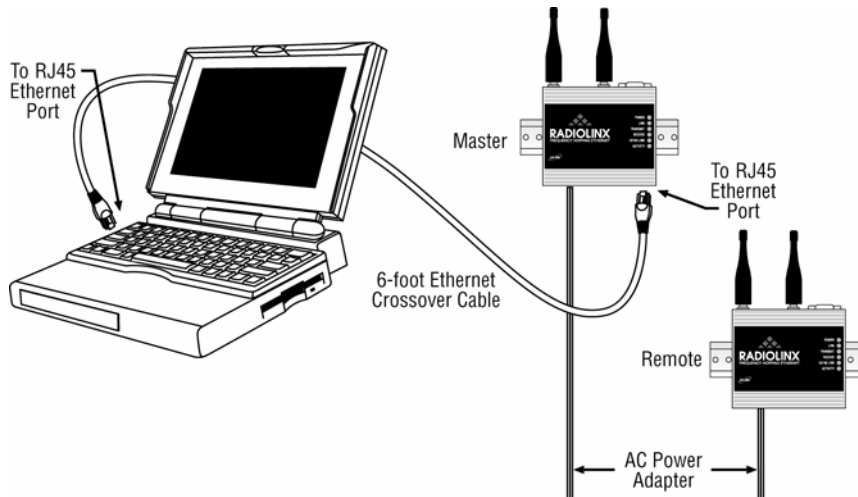
Note: This test requires the use of the ping command. You will need to know the pathname where the ping command resides in order to use it. If you do not know that path, contact your system administrator.

1. Open a DOS window on your PC

2. Change to the directory where the ping command resides. At the prompt, type:

    ping xxx.xxx.xxx.xxx

   where xxx.xxx.xxx.xxx is the IP Address is the address you noted on the first remote radio.

3. Press Enter

A "Reply from…" response indicates that communication was successful.
A "Request Timed Out…" response indicates that the test was unsuccessful. In this case, repeat the configuration process.

If You Encounter Problems

- Make sure you have a link light illuminated on the remote RLX-FHES (the Link Light is always illuminated on a RLX-FHES Master). If not, repeat the procedure.
- Make sure the crossover cable is connected properly from the PC to the Master radio. The 10/100 LINK LED will be illuminated if the correct cable is attached to a functioning Ethernet device
- Make sure the Ethernet card in your PC is functioning properly. Try pinging your PC. If unsuccessful, contact your administrator.
- Make sure both radios are on the same channel and have the same encryption key and subnet.
- In the ControlScape application, save your Network Configuration. In the Diagnostic menu, click on Network, and select your network configuration file from the list. This should bring up a new screen showing the radios on your network. The color of the arrow will indicate the communication between the radios. If the arrow is green or yellow your radios should be communicating properly. If it is red there is something wrong with the communication. By double clicking on one of the radios you can pull up even more information (see image below). You may wish to remove both radios from the network and run through this procedure again.
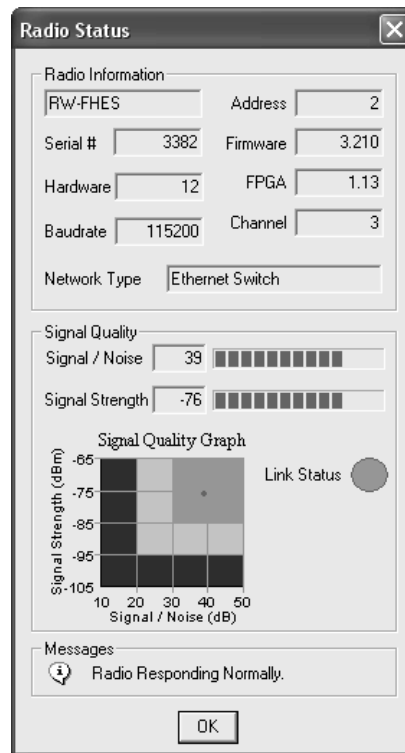
- If the above actions do not resolve the problem, contact ProSoft Technology Technical Support.

Encryption Keys

A random 128-bit encryption key is generated for you. Enter a different key if desired. The encryption levels are None, 40 bits, or 128 bit encryption. You can view the encryption level on the Encryption Level field

Indicates the current Encryption Level
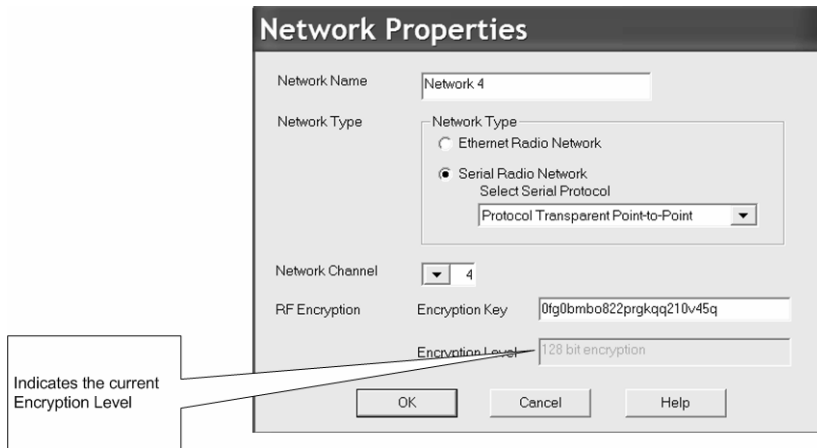
What's Next?

Your wireless network is up and running. You now need to connect your wireless Ethernet switches to your network devices. ProSoft Technology provides application connection instructions for numerous applications. Refer to the RadioLinx Application Connection Guide located on the RadioLinx Solutions CD.