



Where Automation Connects.



  
**RadioLinx®**  
**RLXIB-IH2N-W**

802.11n

Weatherproof Dual Industrial Hotspot

April 22, 2010

SETUP GUIDE

## Your Feedback Please

We always want you to feel that you made the right decision to use our products. If you have suggestions, comments, compliments or complaints about the product, documentation, or support, please write or call us.

### **ProSoft Technology**

5201 Truxtun Ave., 3rd Floor

Bakersfield, CA 93309

+1 (661) 716-5100

+1 (661) 716-5101 (Fax)

[www.prosoft-technology.com](http://www.prosoft-technology.com)

[support@prosoft-technology.com](mailto:support@prosoft-technology.com)

Copyright © 2010 ProSoft Technology, Inc., all rights reserved.

RLXIB-IH2N-W Setup Guide

4/22/2010

ProSoft Technology<sup>®</sup>, ProLinX<sup>®</sup>, inRAX<sup>®</sup>, ProTalk<sup>®</sup>, and RadioLinX<sup>®</sup> are Registered Trademarks of ProSoft Technology, Inc. All other brand or product names are or may be trademarks of, and are used to identify products and services of, their respective owners.

## **ProSoft Technology<sup>®</sup> Product Documentation**

In an effort to conserve paper, ProSoft Technology no longer includes printed manuals with our product shipments. User Manuals, Datasheets, Sample Ladder Files, and Configuration Files are provided on the enclosed CD-ROM, and are available at no charge from our web site: [www.prosoft-technology.com](http://www.prosoft-technology.com)

Printed documentation is available for purchase. Contact ProSoft Technology for pricing and availability.

North America: +1.661.716.5100

Asia Pacific: +603.7724.2080

Europe, Middle East, Africa: +33 (0) 5.3436.87.20

Latin America: +1.281.298.9109

## Important Safety Information

The following Information and warnings pertaining to the radio module must be heeded:

### **WARNING – EXPLOSION HAZARD – DO NOT REPLACE ANTENNAS UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.**

- A** "THIS DEVICE CONTAINS A TRANSMITTER MODULE, FCC ID: SDZ-WA-1. PLEASE SEE FCC ID LABEL ON BACK OF DEVICE."
- B** "THIS DEVICE USES AN INTERNAL COMPACT FLASH RADIO MODULE AS THE PRIMARY RADIO COMPONENT. THE COMPACT FLASH RADIO MODULE DOES NOT HAVE AN FCC ID LABEL. THE COMPACT FLASH RADIO MODULE HAS NO USER SERVICEABLE PARTS."
- C** "THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION."
- D** "THIS DEVICE AND ANY RADIO ACCESSORY SOLD BY PROSOFT MUST BE INSTALLED BY AN AUTHORIZED PROFESSIONAL INDUSTRIAL RADIO SYSTEM INTEGRATOR. FURTHER, ONLY RADIO ACCESSORIES SOLD BY PROSOFT AND SPECIFICALLY TESTED FOR USE WITH THIS DEVICE MAY BE USED WITH THIS DEVICE."
- E** "THE USER OF THIS EQUIPMENT CANNOT BE WITHIN 20 cm. FROM THE RADIATING ELEMENT DEVICE."
- F** "CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT."

### Industry Canada Requirements:

- A** "THIS DEVICE HAS BEEN DESIGNED TO OPERATE WITH AN ANTENNA HAVING A MAXIMUM GAIN OF 24 dB. AN ANTENNA HAVING A HIGHER GAIN IS STRICTLY PROHIBITED PER REGULATIONS OF INDUSTRY CANADA. THE REQUIRED ANTENNA IMPEDANCE IS 50 OHMS."
- B** "TO REDUCE POTENTIAL RADIO INTERFERENCE TO OTHER USERS, THE ANTENNA TYPE AND ITS GAIN SHOULD BE CHOSEN SUCH THAT THE EQUIVALENT ISOTROPICALLY RADIATED POWER (EIRP) IS NOT MORE THAN THAT REQUIRED FOR SUCCESSFUL COMMUNICATION."
- C** "THE INSTALLER OF THIS RADIO EQUIPMENT MUST INSURE THAT THE ANTENNA IS LOCATED OR POINTED SUCH THAT IT DOES NOT EMIT RF FIELD IN EXCESS OF HEALTH CANADA LIMITS FOR THE GENERAL POPULATION; CONSULT SAFETY CODE 6, OBTAINABLE FROM HEALTH CANADA."

### WARNING:

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

## Antenna spacing requirements for user safety

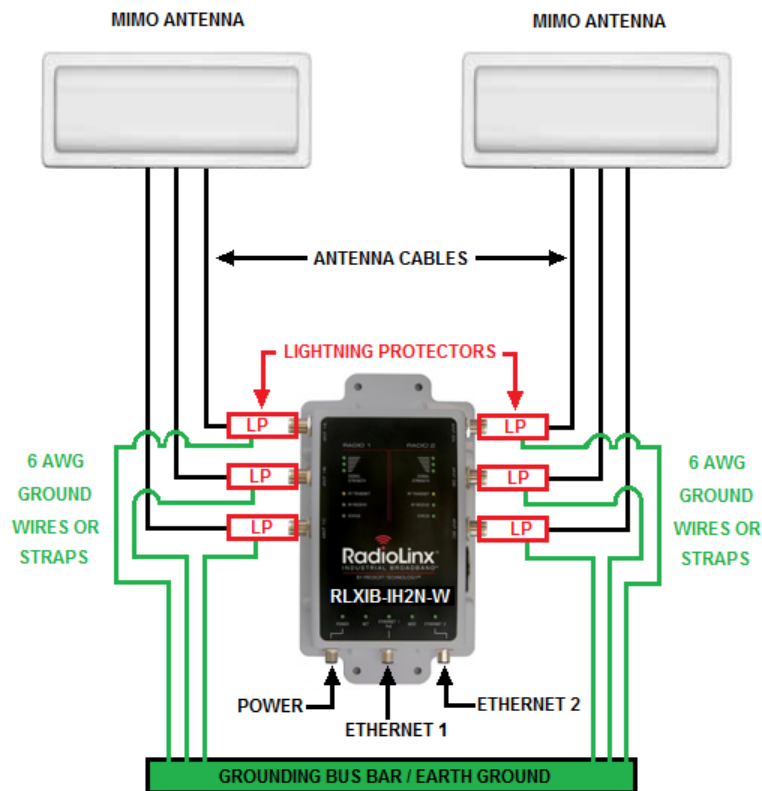
It is important to keep the radio's antenna a safe distance from the user. To meet the requirements of FCC part 2.1091 for radio frequency radiation exposure, this radio must be used in such a way as to guarantee at least 20 cm between the antenna and users. Greater distances are required for high-gain antennas. The FCC requires a minimum distance of  $1 \text{ mW} \cdot \text{cm}^2$  power density from the user (or 20 cm, whichever is greater).

If a specific application requires proximity of less than 20 cm, the application must be approved through the FCC for compliance to part 2.1093.

The installer of this radio equipment must ensure that the antenna is located or pointed in such a way that it does not emit RF fields in excess of Health Canada limits for the general population; refer to Safety Code 6, obtainable from Health Canada.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication.

## Outdoor Radio Lightning Protection Grounding Instructions



Ground wires or straps must be tied from each active lightning protector to a secured earth ground.  
(LP Grounding Wires must be 6 AWG, or larger.)

The radio is to be installed by trained personnel or licensed electrician only and installation must be carried out in accordance with the instructions listed here:

- 1 Each of the six active antennas MUST have a secure ground strap tied from the lightning protector to a secured earth ground.
- 2 The power supply used in the testing of the radio was not evaluated and must be located in an area known to be a non- hazardous location.
- 3 The power supply used for this testing is a Limited Power Source, "LPS", having an output voltage rating of 48 volts direct current (VDC) and an output current rating of 0.35 Amp (A).
- 4 Provisions for appropriately sized earthing and grounding shall be provided in the end-use application.
- 5 Only lightning protectors approved by a Nationally Recognized Testing Laboratory (NRTL) should be used in this installation.
- 6 The wire gauge used for earth grounding to the lightning protector must be in accordance with the manufacturer's instructions.
- 7 Outdoor field wiring must be in accordance with the National Electrical Code (NEC) and the local jurisdiction.

## United States FCC & Industry Canada rules



RYK-WMIA199NI



Industry  
Canada

Industrie  
Canada

5265A-IHN

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: The device may not cause harmful interference, and it must accept any interference received, including interference that may cause undesired operation.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

**CAUTION:** Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

## CSA C22.2 213-M1987 and N. American Standard ANSI/ISA 12.12.01 listing

In accordance with Canadian Standard CSA C22.2 213-M1987 and ANSI Standard ISA 12.12.01, the RLXIB series radios have been UL listed for operation in Class I, Division 2, Groups A, B, C, and D Locations.

THIS EQUIPMENT IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C, AND D, HAZARDOUS LOCATIONS AND IS POWERED BY A CLASS 2 "Limited Power Source" (LPS) POWER SUPPLY.

WARNING: EXPLOSION HAZARD! SUBSTITUTION OF ANY COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.

WARNING – EXPLOSION HAZARD – Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.

AVERTISSEMENT - RISQUE D'EXPLOSION - LA SUBSTITUTION DE COMPOSANTS PEUT RENDRE CE MATERIEL INACCEPTABLE POUR LES EMPLACEMENTS DE CLASSE I, DIVISION 2.

WARNING: EXPLOSION HAZARD! DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON HAZARDOUS.

AVERTISSEMENT - RISQUE D'EXPLOSION - AVANT DE DECONNECTER L'EQUIPEMENT, COUPER LE COURANT OU S'ASSURER QUE L'EMPLACEMENT EST DESIGNÉ NON DANGEREUX.

This radio has been designed to operate with the Omnidirectional Multi-Band Articulating Antenna, model A2502S-OA and having a maximum gain of 3dBi @ 2.4GHz and 4dBi @ 5.0GHz. Antennas not listed herein having a gain greater than that listed are strictly prohibited. The required antenna impedance is 50ohms nominal. This statement is in accordance with RSS-Gen Section 7.1.4.

The following label is applied to the radio to indicate that it is listed under ANSI/ISA standard 12.12.01 and CSA standard C22.2 213-M1987.

This Device contains a Radio Transmitter Module  
FCC ID:RYK-WMIA199NI Canada IC5265A-IHN  
Conforms to ANSI/ISA Std. 12.12.01 – Certified to CSA Std. C22.2 No. 213-M1987  
Class I Division 2 10-24 Volts DC 13 Watts  
48 Volts DC using the PoE Injector  
Groups A, B, C & D  
Max. Ambient: 60°C Temp Code T6

**Note:** The Temp. Code (Temperature Code) refers to the temperature of the rating of the RLXIB radio. The T6 code means that the maximum temperature of the unit did not exceed 135°C.

## ATEX Approval



II 3 G

Ex nA nL IIC T6 X

-30° C ≤ Ta ≤ 60° C

ProSoft Technology, Inc., Bakersfield, CA USA

Model: RLXIB

S/N: XXXXXXXXXXX

Caution: Read instructions before operating in Hazardous Areas

N. America

The Radio must be installed inside an IP54 enclosure which requires a special tool for access.

### Explosive Atmosphere

Power, Input, and Output (I/O) wiring must be in accordance with the authority having jurisdiction

- A** Warning – Explosion Hazard – Do not make or break connections in an explosive atmosphere.
- B** Caution – Use only approved recommended power supply.
- C** Warning - Power supply should be installed in a non-hazardous area.
- D** Warning – DO NOT OPEN WHEN ENERGIZED.
- E** These products are intended to be mounted in an IP54 enclosure. The devices shall provide external means to prevent the rated voltage being exceeded by transient disturbances of more than 40%. This device must be used only with ATEX certified backplanes.

### European CE certification

The radio modem has been approved for operation under the RTT&E directive, passing the following tests: ETS300-826 (EMC), ETS300-328 (Functionality), and EN60950 (Safety).

The following is the appropriate label that is applied to the radio modem product line to indicate the unit is approved to operate with CE certification:



The following is the appropriate label that is applied to the radio modem product line shipping package to indicate the unit is approved to operate with CE certification:

AUS	B	DK	FIN
F	D	GR	IRE
I	LUX	NL	P
E	S	UK	

**Note:** Member states in the EU with restrictive use for this device are crossed out. This device is also authorized for use in all EFTA member states (CH, ICE, LI, and NOR).

**IMPORTANT:** This device is a 2.4-GHz, low-power RF device intended for office and home use in all EU and EFTA member states, except in France where restrictive use applies.

### EU Requirements

1. For outdoor use, France has a frequency restriction of 2.4GHz - 2.454GHz for an output power greater than 10mW and below 100mW.
2. For outdoor use in France, the output power is restricted to 10mW in the frequency range of 2.454GHz – 2.4835GHz.
3. 5.15GHz – 5.35GHz is restricted to 200mW EIRP throughout the European Union.

## **Power over Ethernet Injector and Accessories "Warning"**

The PoE Injector was not a part of the hazardous location or ATEX certification. Therefore, if an injector is used to power any of the radios, the PoE injector must be installed/located outside of any area that could be known to be hazardous. The AC power adaptor was not a part of the haz loc certification.

The RLXIB series were tested and certified to hazardous location and ATEX without any accessories included in this certification. Therefore, any accessory added to the RLXIB series radios must be used in an area known to be non-hazardous as they have not been subjected to hazardous location and ATEX certifications.

The preferred method of powering the radios is using the supplied power adaptor but If the PoE injector is used in an ordinary location "only", the PoE injector must be Listed. If the PoE injector is used instead of the supplied power adaptor, all of the wiring to and from the injector must be routed/installed inside building/plant and never routed/installed outside of the building/plant.





# Contents

Your Feedback Please.....	2
ProSoft Technology® Product Documentation.....	2
Important Safety Information.....	3
Antenna spacing requirements for user safety .....	3
Outdoor Radio Lightning Protection Grounding Instructions .....	4
United States FCC & Industry Canada rules .....	5
CSA C22.2 213-M1987 and N. American Standard ANSI/ISA 12.12.01 listing .....	5
ATEX Approval .....	6
European CE certification .....	6
EU Requirements.....	6
Power over Ethernet Injector and Accessories "Warning".....	7
<b>1 Before You Begin</b>	<b>11</b>
1.1 Install the WirelessN Discovery Tool.....	12
1.2 Start WirelessN Discovery Tool .....	13
1.3 Plug In the Cables.....	14
1.4 Detect the Radio(s) .....	15
1.5 Assign an IP Address .....	16
1.6 Set Up a Repeater.....	17
1.7 Save the Radio Configuration .....	20
<b>2 Adding and Configuring Additional Radios</b>	<b>21</b>
<b>3 Verify Communication</b>	<b>23</b>
<b>4 If You Encounter Problems</b>	<b>25</b>
4.1 Check the Ethernet cable.....	25
4.2 LED Display.....	26
4.3 Retrieve the Default Password.....	27
4.4 Starting Over .....	28
<b>5 What's Next?</b>	<b>29</b>



# 1 Before You Begin

## *In This Chapter*

- ❖ Install the WirelessN Discovery Tool ..... 12
- ❖ Start WirelessN Discovery Tool ..... 13
- ❖ Plug In the Cables ..... 14
- ❖ Detecting the Radio ..... 15
- ❖ Assign an IP Address ..... 16
- ❖ Set Up a Repeater ..... 17
- ❖ Save the Radio Configuration ..... 20

The following components are included with your RLXIB-IH2N-W radio, and are all required for installation and configuration.

**Important:** Before beginning the installation, please verify that all of the following items are present.

Qty.	Part Name	Part Number	Part Description
1	RLXIB-IH2N-W Radio	RLXIB-IH2N-W	Weatherproof Dual Industrial Hotspot
1	Cable	RL-CBL024	5 foot Ethernet Straight-Thru Cable (Red)
1	Cable	RL-CBL025	5 foot Ethernet Straight-Thru Cable (Gray)
1	Cable	RL-CBL029	5 foot RJ45 to M12 Straight Ethernet
1	Power-Over-Ethernet Power Injector	POE-48i	RLX Power Injector, Input: 90 to 264 VAC, Output: 0.35 A max @ 48 VDC.
1	ProSoft Solutions CD		Contains sample programs, utilities and documentation for the RLXIB-IH2N-W module.

If any of these components are missing, please contact ProSoft Technology Support for replacement parts.

In addition, you will need:

- A personal computer equipped with an Ethernet port
- IP address, Subnet Mask and Gateway information for each RLX device you plan to install. You can obtain this information from your system administrator.

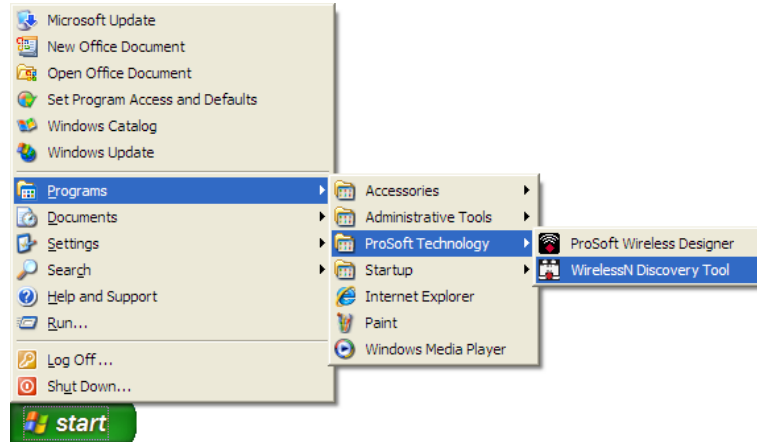
**Note:** This Startup Guide is designed for use with two RLXIB-IH2N-W radios. One radio will be setup as a Master (AP) while the other radio will be set up as a Repeater.

## 1.1 Install the WirelessN Discovery Tool

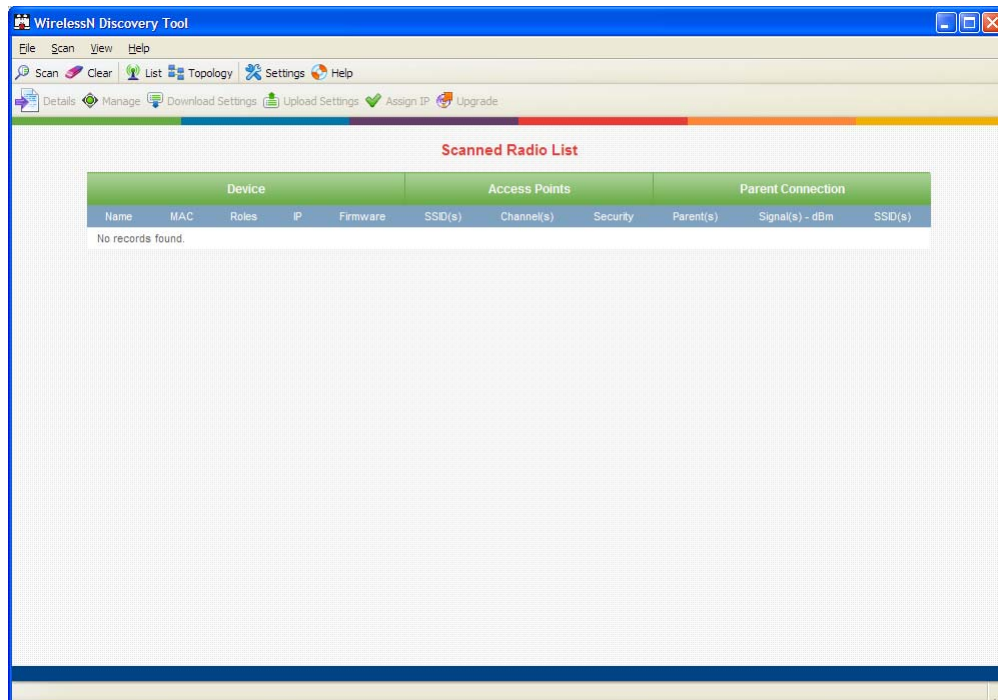
- 1 Insert the ProSoft Solutions CD in your CD-ROM drive. On most computers, a menu screen will open automatically. If you do not see a menu within a few seconds, follow these steps:
  - a Click the Start button, and then choose Run.
  - b In the Run dialog box, click the Browse button.
  - c In the Browse dialog box, click "My Computer". In the list of drives, choose the CD-ROM drive where you inserted the ProSoft Solutions CD.
  - d Select the file **prosoft.exe**, and then click Open.
  - e On the Run dialog box, click OK.
- 2 On the CD-ROM menu, select **WIRELESSN DISCOVERY TOOL**. This action opens the Setup Wizard for WirelessN Discovery Tool.
- 3 Follow the instructions on the installation wizard to install the program with its default location and settings.
- 4 When the installation finishes, you may be prompted to restart your computer if certain files were in use during installation. The updated files will be installed during the restart process.

## 1.2 Start WirelessN Discovery Tool

- 1 Click the **START** button, and then navigate to **PROGRAMS / PROSOFT TECHNOLOGY**



- 2 Click to start **RADIOLINX WIRELESSN DISCOVERY TOOL**.



The window lists all the radios your computer can access. The MAC ID number is essentially the serial number of the radio; this number is also printed on the side of the radio. If a radio listing does not appear in the window, click the **SCAN** button. If you still do not see a radio listing, see Troubleshooting in the RLXIB-IH2N-W User Manual.

### 1.3 Plug In the Cables

You can configure the RLXIB-IH2N-W using the Ethernet 1 port on underside of the radio.

Note: The RLXIB-IH2N-W radio receives both power and connectivity from the Ethernet cable.



From left to right: Power, Ethernet 1, and Ethernet 2

Use the Ethernet cable to configure the radio for the first time.

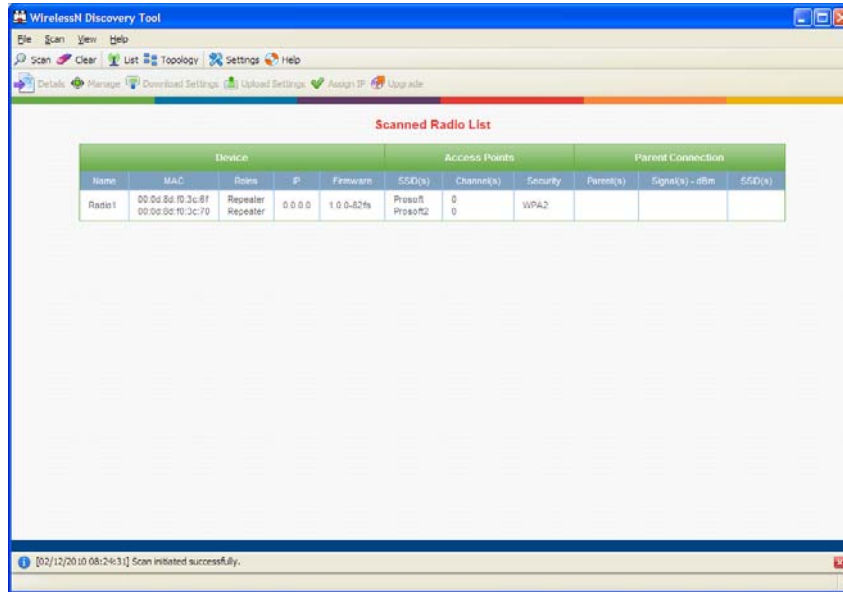
Note: After you plug in the power cable and Ethernet cable, the radio performs a startup procedure that includes a self-test, loading the main program, and initializing the radio. The front panel LEDs will illuminate after approximately two seconds. The entire startup procedure can take up to 30 seconds.

After the startup procedure has completed successfully, the Power LED should be green, meaning that the radio has power. The Ethernet LED should also be green, meaning that the Ethernet connection is working. The RF Transmit and RF Receive LEDs should blink.

For information on making connections, see Radio Power Requirements and Cable Specifications in the RLXIB-IH2N-W User Manual.

## 1.4 Detect the Radio(s)

After the radio has completed its startup procedure, the radio will appear in the WirelessN Discovery Tool window.



The window lists all the radios your computer can access. The MAC ID number is essentially the serial number of the radio; this number is also printed on the side of the radio. If a radio listing does not appear in the window, click the **SCAN** button on the toolbar. If you still do not see a radio listing, refer to Diagnostics and Troubleshooting in the RLXIB-IH2N-W User Manual.

## 1.5 Assign an IP Address

You need the IP address to log into the RadioLinx Configuration Manager and configure the radio settings. If the radio is connected to a network with a DHCP server, the radio may already have an IP address assigned to it.

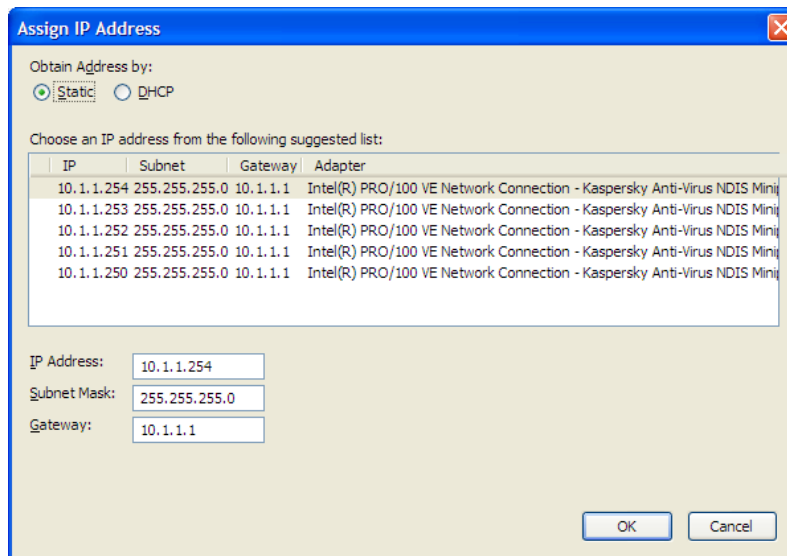
If a DHCP server is not available, or if you prefer to assign a static IP address, you can enter an IP address here.

### To assign an IP Address

- 1 In WirelessN Discovery Tool, click to select the radio.

**Tip:** If a radio listing does not appear in the window, click the Scan button on the toolbar. If you still do not see a radio listing, refer to Diagnostics and troubleshooting in the RLXIB-IH2N-W User Manual.

- 2 Right-click on the radio to open a shortcut menu, and then choose **ASSIGN IP**. This action opens the Assign IP Address dialog box.



- 3 Select one of the unused IP addresses, and then click **OK**.

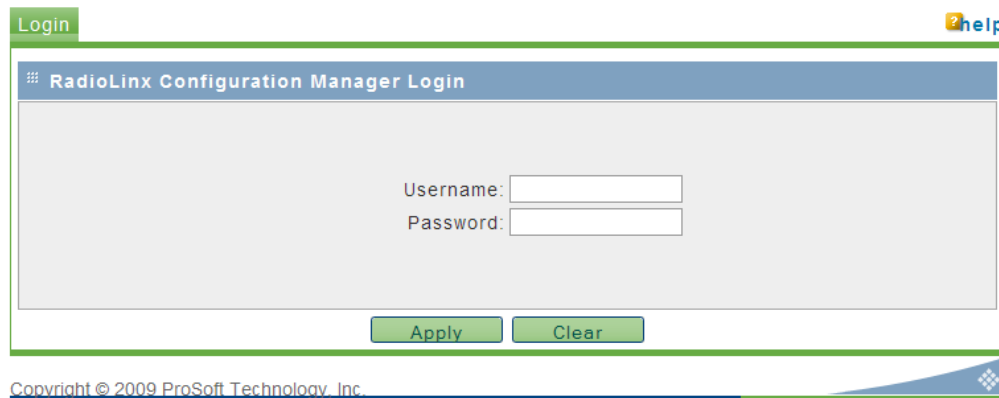
**Tip:** You must also assign a Gateway address. The Gateway assigned to your PC's Ethernet port is offered as a suggestion. If your PC does not have a Gateway setting, the Gateway field in the Assign IP Address dialog will be blank. You will need to enter a Gateway before clicking OK.

For information, see Radio Access settings in the RLXIB-IH2N-W User Manual.



## 1.6 Set Up a Repeater

To configure the radio, double click on the radio (Radio1) in the WirelessN Discovery Tool window. This action opens a web browser (for example Microsoft Internet Explorer or Firefox) and loads the Radio's web configuration interface.



### Administrator login

With administrative privileges, you can view or modify the configuration of the access point.

Enter the user name in lower case, no quotes.

- The default administrator user name is "admin"
- The default password is "password"
- The user name and password are case sensitive

### Guest login

With guest privileges, you can view the existing configuration, but you cannot make changes.

Enter the user name in lower case, no quotes.

- The default guest user name is "guest".
- The default password is "password".

**Important:** You should change the default user names and passwords, write down the settings, and keep a copy in a safe place, to protect the radio from being reconfigured or viewed by unauthorized users.

**Note:** The master is the "root" or central radio in a network. You must have at least one master radio per network. For redundancy, you can assign more than one master to a network.

To configure Radio 1 as a Repeater, make the following changes to the web configuration form:

The screenshot displays the ProSoft RadioLinX web interface. The top navigation bar includes 'Configuration', 'Diagnostics', and 'Utilities'. The 'Configuration' menu is expanded to show 'IPv6 Configuration'. The 'Overall' section contains fields for Unit Name (IH2N\_Repeater6F-213), MAC ID (00:0D:8D:F0:3C:6F), Unit up Time (0 days, 0 hours, 11 minutes, 17 seconds), and Firmware (1.0.0-86s). The 'Radio 1' section shows Link Status (CONNECTED), Parent (empty), Link Time (0 days, 0 hours, 0 minutes, 0 seconds), RSSI (-95), SNR (0), Current Channel (136 - 5680 Mhz), 11h Status (unchecked), and Radar event (None). The Mode is set to Repeater. Radio MAC address options are Use host MAC address (selected) and Use this MAC address: 00:00:00:00:00:00. SSID is ProSoft, Hide SSID is unchecked, Channel Selection is Auto, Security is WPA2-Personal, WPA/WPA2 Key is masked with dots, WEP Key is empty, and Power Constraint is 15 dBm.

Radio Network Settings

- **Unit Name:** Enter a unique name for the radio.
- **Obtain IP Address by:** If a DHCP (Dynamic Host Control Protocol) server is configured on your local area network, the DHCP server can assign IP addresses automatically.

If you prefer to assign a Static (Fixed) IP address, select **STATIC**, and then enter the IP Address, Subnet Mask and Default Gateway in the Overall area of the Radio web configuration form.

**Important:** If you intend to assign IP addresses manually, you must not duplicate an IP address that is already in use on your network. If you are not sure what IP addresses are available, ask your network administrator for assistance.

- Select **REPEATER** as the radio mode.
- **SSID:** Enter the SSID you configured for the Master radio. All radios in a network must have the same SSID.
- **Security:** Encryption scrambles data so that only intended viewers can decipher and understand it. Choose the same encryption type you configured for the Master radio.
- **WPA/WPA2 Key:** Enter the pass phrase you configured for the Master radio.

**Important:** The Network SSID and WPA phrase are case sensitive. Use *exactly* the same combination of upper case and lower case letters you entered for the Master radio, otherwise the Repeater radio will not be able to connect to the Master radio.

By default, a repeater connects automatically to the best available parent radio on the network. If necessary, however, you can click the Parent Link button and specify how repeater radios connect to the network. See Parent Link settings in the RLXIB-IH2N-W User Manual for information.

## 1.7 Save the Radio Configuration

Before browsing to other pages in the Radio Configuration window, you must apply your changes. Click **APPLY** to save your configuration and restart the radio.

Note: To discard your changes and start over, click CLEAR.

A rectangular button with a light green background and a thin blue border. The word "Apply" is centered in a dark green font.A rectangular button with a light green background and a thin blue border. The word "Clear" is centered in a dark green font.

## 2 Adding and Configuring Additional Radios

At this point you should attach and configure any additional radios you will be using. Ensure that any new radios use a unique name, but the same Network SSID as your master. The only difference in procedure will be in setting up each additional radio. Instead of setting your additional radios as Masters, they should be set as Repeaters or, more rarely, Clients, depending on their intended purpose.



### 3 Verify Communication

When configured, the Roles column identifies each radio as a Master, Repeater, or Client.

The screenshot shows the 'WirelessN Discovery Tool' window. The main area displays a 'Scanned Radio List' table. The table has three main sections: 'Device', 'Access Points', and 'Parent Connection'. Each section has sub-columns for Name, MAC, Roles, IP, Firmware, and SSID(s). The 'Parent Connection' section also includes 'Parent(s)', 'Signal(s) - dBm', and 'SSID(s)'. A status bar at the bottom indicates a successful scan on 02/02/2010 at 12:56:47.

Device			Access Points				Parent Connection			
Name	MAC	Roles	IP	Firmware	SSID(s)	Channel(s)	Security	Parent(s)	Signal(s) - dBm	SSID(s)
Client56-211	00:0d:8d:f0:3c:56	Client	192.168.1.211	1.0.0-82		0				
I2N_Repeater6F-213	00:0d:8d:f0:3c:6f 00:0d:8d:f0:3c:70	Repeater Repeater	192.168.1.213	1.0.0-82	ProSoft	11 11	WPA2	00:0d:8d:f0:3c:57	-52	ProSoft
Master57-212	00:0d:8d:f0:3c:57	Master	192.168.1.212	1.0.0-82	ProSoft	11	WPA2			

Observe the LEDs to ensure good link quality, as explained in LED display (page 26). After configuring a repeater, you can unplug the Ethernet cable from it.





## 4 If You Encounter Problems

### *In This Chapter*

❖ Check the Ethernet cable .....	25
❖ LED Display.....	26
❖ Retrieve the Default Password.....	27
❖ Starting Over .....	28

### 4.1 Check the Ethernet cable

If you connect a radio and the Ethernet LED does not light on the radio, there may be a problem with the Ethernet cable. Verify that the cable is plugged into the radio at one end, and to an Ethernet hub or a 10/100 Base-T Ethernet switch at the other end.

**Note:** The RLXIB-IH2N-W radio auto-detects the Ethernet connection type, and does not require a crossover cable for direct connection to a PC.

## 4.2 LED Display

The RLXIB-IH2N-W front panel includes a set of LEDs that indicate the radio's status:

LED	Description
Signal Strength	If only one of these three LEDs is on, then the radio is linked. If two LEDs are on, the radio's signal strength is fair. If all three LEDs are on, the signal strength is good.
RF Transmit	This yellow LED indicates RF transmission.
RF Receive	This green LED indicates RF reception.
Net	
Mod	
Ethernet 1 PoE Ethernet 2	If this green LED is on, the Ethernet cable is connected. If this LED is flashing, an Ethernet packet is being transmitted or received.
Power	This green LED indicates that the radio has power.

If a radio is configured as a master, the middle light of the three Signal Strength LEDs will always be on, and the bottom Signal Strength LED will always be off. The top LED on the master will flash if any radios are linked to this master.

After you first plug in the power cable and Ethernet cable to the radio, the Power/Status LED should be green, meaning that the radio has power. If the Ethernet LED is green, then the Ethernet connection is working. The RF Transmit and RF Receive LEDs should blink.

All three LEDs will blink just after the radio links to the Master's signal but before it has been fully authenticated. Normally you will see this last only a few seconds. If it blinks longer, or never turns on, it usually means the encryption keys are not correct.

### 4.3 Retrieve the Default Password

If you forget your **PASSWORD**, you will be unable to change the radio settings. You can retrieve the default **PASSWORD** to use the software again, but you will lose all the settings you programmed before. To retrieve the default **PASSWORD** and return the radio to its default settings, follow these steps:

- 1 Turn off power to the radio.
- 2 Feel for the reset button, located under the red "diamond" on the face of the radio.



- 3 Turn on power to the radio, and wait for the Power LED to turn green.
- 4 When the Power LED turns green, press and hold the reset button for at least five seconds.
- 5 The radio will reload its default settings, including the **PASSWORD**. You should now be able to log in using the default **USERNAME** and **PASSWORD**.
  - The default administrator **USERNAME** is "admin"
  - The default **PASSWORD** is "password"
  - The **USERNAME** and **PASSWORD** are case sensitive

#### 4.4 Starting Over

If necessary, you can always restore the default settings that were present when the radio was manufactured.

- 1 Open the Radio Configuration/Diagnostic Utility
- 2 Log into the radio
- 3 Click the Utilities button, and then click the Default button.

**This will remove all changes you have made to the radio configuration, including addressing, naming, and security settings.**

## 5 What's Next?

Congratulations! Your wireless network is up and running. You now need to connect your wireless Hotspots 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.