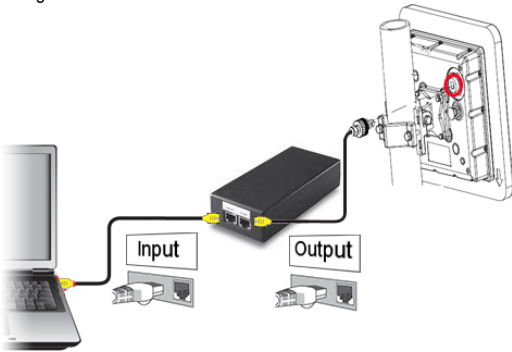


**WARNING:** All antennas and equipment must be installed by a knowledgeable and professional installer. Never operate a unit without an antenna, dummy load, or terminator connected to the antenna port. Operating a unit without an antenna, dummy load, or terminator connected to the antenna port can permanently damage a unit.

## 1. Hardware Installation

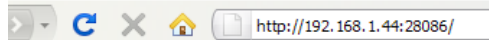
1. Connect the LibraPlus unit as shown in the diagram below. Use a straight through cable between the LibraPlus and the output port on the PoE. When power is connected, the unit will emit a single tone.



2. After hearing the tone, wait three minutes while the unit boots before trying to access the GUI.

## 2. GUI Access

1. Configure the PC in the same subnet as the LibraPlus (e.g. 192.168.1.120 with subnet mask 255.255.255.0)
2. To change the IP and subnet on a windows computer, go to Control Panel -> Network Connections. Open the network connection being used to access the unit, go to the TCP/IP Properties screen and manually set the IP address and subnet of the PC.
3. Navigate to **http://192.168.1.44:28086** in your web browser



4. When prompted to login, type **"admin"** as the login, and **"admin123"** as the password,

**IMPORTANT:**  

 Mozilla Firefox version 3.0+ or Internet Explorer 7.0+ MUST be used to access the GUI

## 3. AP/Master Configuration

1. Login to the AP and navigate to **Wireless** → **Wireless Settings** and set the configuration as shown in the example below;

Wireless Settings	
Device Operation Mode	Master
Station ID (SSID)	target
Mode	Normal
Channel	153
Transmit Power (dBm)	19
Data Rate (Kbps)	auto
Wireless Transmission	ON
Fast Frame	Enable
WMM	Enable
MAC Access List Name	None
MAC Access List Mode	None
Distance (meters)	300
Beacon Interval (ms)	100

2. Click "Apply" and then click on "Reboot"
3. The unit will reboot with the new configuration and is ready to accept new CPE connections.

## 4. CPE/Slave Configuration

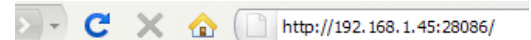
1. To prevent IP address conflicts, the default IP address on the CPE must be changed. Login to the GUI (Step 2 above) and navigate to: **Network Interfaces** → **Management**.

2. Change the Management IP address to 192.168.1.45 and click "Apply"

Management	
Management IP Address	192.168.1.45
Management Subnet Mask	255.255.255.0
Management VLAN	Disable
Management VLAN ID	0

Apply

3. After clicking Apply, the management session will be lost. Re-establish a browser session by navigating to the new IP address 192.168.1.45:28086



4. Login and save the configuration with the new IP address. Navigate to: **Maintenance** → **Save Configuration**. Click on "Save Configuration"
6. Navigate to **Wireless** → **Wireless Settings** and set the configuration as shown in the example below;

Wireless Settings	
Device Operation Mode	Slave
Station ID (SSID)	target
Mode	Normal
Channel	153
Transmit Power (dBm)	19
Data Rate (Kbps)	auto
Wireless Transmission	ON
Fast Frame	Enable
WMM	Enable
MAC Access List Name	None
MAC Access List Mode	None
Distance (meters)	300

7. Click "Apply" and then click on "Reboot"
8. The unit will reboot and connect to the AP. Check the quality of the connection and align the antenna using the tools in **Diagnostics** menu.
9. Repeat above steps for each slave ( using different IP address each time)

## 5. Installation Record

**Unit Identification:**

Site Name: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Bridge MAC Address: **00 : 01 : 30** : \_\_\_\_ : \_\_\_\_ : \_\_\_\_

Wireless MAC Address: **06 : 15 : 6D** : \_\_\_\_ : \_\_\_\_ : \_\_\_\_

Management IP : **http://**\_\_\_\_.\_\_\_\_.\_\_\_\_.\_\_\_\_:**28086**

Username: **admin** Password: \_\_\_\_\_

**Wireless Settings:**

Station ID (SSID): \_\_\_\_\_

Mode: \_\_\_\_\_ Channel: \_\_\_\_\_ Tx Power: \_\_\_\_\_

Encryption: None WEP WPA(TKIP) WPA(CCMP)

Passkey: \_\_\_\_\_

**SNMP Configuration:**

Community Read: \_\_\_\_\_ Write: \_\_\_\_\_

**Link Monitoring:**

RSSI: \_\_\_\_\_ dBm Noise Level: \_\_\_\_\_ dBm

Speed: \_\_\_\_\_ Mbps SNR: \_\_\_\_\_ dB

**Notes:**

Installed by: \_\_\_\_\_ Date: \_\_\_\_\_

## 6. Deployment Checklist

- Obtain network plan:** Before beginning any wireless deployment you should have a comprehensive network plan that includes a site survey of the area for existing RF interference. The network plan describes the network in detail, including the following:
  - Type and number of units
  - Physical layout
  - Configuration settings for each unit
  - Site names, IP addresses and links
  - Antenna types, RF cables and cable lengths, surge suppressors, terminators
  - Network cable types and lengths
  - Grounding kits and backup power requirements
  - Link budget
  - Floor plans and equipment cabinet requirements
- Assemble units:** Check the contents of each LibraPlus shipping package to ensure that you have received the required parts and accessories. Connect an indoor antenna or dummy load and connect the power supply unit and check the power.
- Configure Units:** Set unit parameters in accordance with the network plan. At this point you should also install any required license keys and upgrade each unit to the latest software load.
- Bench Test Units:** Test basic RF and network operation of units in a controlled environment.
  - Ensure that a basic RF link exists between a base station and a remote unit.
  - Test the basic link with Link Monitor and adjust Tx power level.
  - Perform some simple network tests.
- Install Units:** Place the tested units in their field locations and connect them to antennas, the wired network, and power. Install all required surge protection devices and grounding wires.
- Test Network:** Test the operation of the installed network.

For questions not covered in this guide please join the discussion on our online tech support forum



<http://www.eionwireless.com/forum>

## 7. Common Problems

- No Ethernet Connection or Ping**
  - Visually inspect Ethernet cables and connectors
  - Do NOT use cross-over cable between unit and PoE
  - PC must be on same subnet as LibraPlus unit
  - Check if beep tone is heard on boot-up
  - Check firewall settings on PC
  - Try the default IP (192.168.1.44)
  - Cycle power by unplugging PoE cable
  - Reset IP address using **iprecover** utility
- No Web GUI Access**
  - Use Firefox v3.0+ or Internet Explorer v7.0+
  - Include port number 28086 in URL, e.g. <http://192.168.1.44:28086>
  - Check if "Management VLAN" has been configured
- Missing RF Channels or Modes**
  - Check which license key is installed, most units are shipped with a default license key
  - Contact [techsupport@eion.com](mailto:techsupport@eion.com) to obtain a license key for your region. Include the Bridge MAC Address and Serial Number of all units in your request.
- Configuration or IP Address is Not Saved**
  - New configuration must always be saved by going to **Maintenance** → **Save Configuration**. Otherwise the configuration will be lost when the unit reboots.
- Cannot Access SSH or Telnet**
  - SSH and Telnet are not available to end users of the LibraPlus. All required configuration commands for the radio are accessible through the web-based GUI and SNMP.
- Poor Link Performance**
  - Record RSSI to determine fade margin
  - Run spectrum analyzer to ensure the path is clear and free of interference
  - Adjust Tx Power
  - Check for RF absorbent obstacles in the antenna path
  - Search for indirect RF paths between antennas (i.e. ones that use beneficial reflections or multipaths)
  - Check and replace RF cables if necessary
  - Reposition antenna or if possible remove obstruction
  - Change center frequency in case of interference
  - Change polarization of antennas
  - Bench test LibraPlus unit
  - Replace with spare radio unit