

Application Note: LibraPlus 5860 Quick Start Guide PtP

This guide explains how to establish a PtP (Point to Point) bridge between a LibraPlus 5860 Master and LibraPlus 5860 Slave pair. The LibraPlus 5860 radio can be configured as either a Slave or a Master by the user. In order to establish a point-to-point link you must have one slave radio and one master radio.

This guide will explain all of the parameters that the user needs to configure the units in a point-to-point setup.

For advanced configuration not covered in this guide, please consult the complete LibraPlus 5860 user manual. This manual can be found on the CD that shipped with your radio, or on the EION Wireless website at: <http://www.eionwireless.com/support>

NOTICE

EION recommends that you go through this procedure in the lab before mounting the equipment on a tower and at the customer location.

NOTICE

The configuration of a LibraPlus 5860 is achieved with a web browser. Mozilla Firefox must be used.

NOTICE

Default passwords are public knowledge. You should change the default passwords at installation time and record them. When you restore the factory configurations, the passwords will not revert to their defaults.

NOTICE

Every time one or more parameters in the Wireless Interface are changed, clicking the "Apply" button will soft reboot the unit. Therefore, it is recommended to configure the Network Interfaces first then save the configuration and then configure the Wireless Interface. After Soft Reboot, the unit is configured with all the saved parameters.

1 Master Unit Configuration

There are two main steps to the configuration process for each LibraPlus unit; configuration of the Network Interface and configuration of the wireless interface.

1.1 GUI Access

To connect to the LibraPlus GUI do the following:

1. Configure the PC in the same subnet as the LibraPlus 5860 (e.g. 192.168.1.0 with subnet mask 255.255.255.0)
 - a. **NOTE:** 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.
2. Open the web browser on the PC.
3. Type "**http://192.168.1.44**" in your web browser and press "Enter"
4. When prompted to login, type "**admin**" as the login, and "**admin123**" as the password, and then click the on the "OK" button.

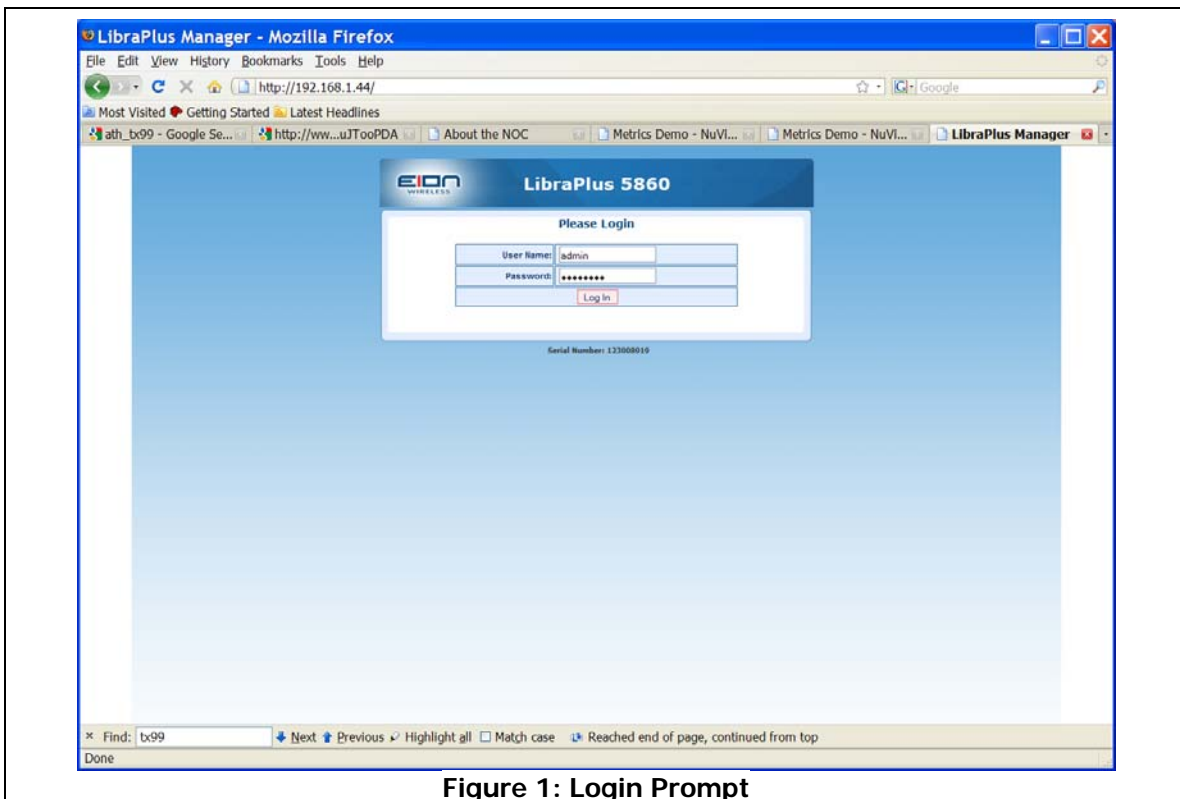


Figure 1: Login Prompt

NOTICE

Default login information for the radio is:

IP address: 192.168.1.44

Username: admin

Password: admin123

5. After successful login, the Master Home Page appears. You are now logged in and may begin configuring the radio.

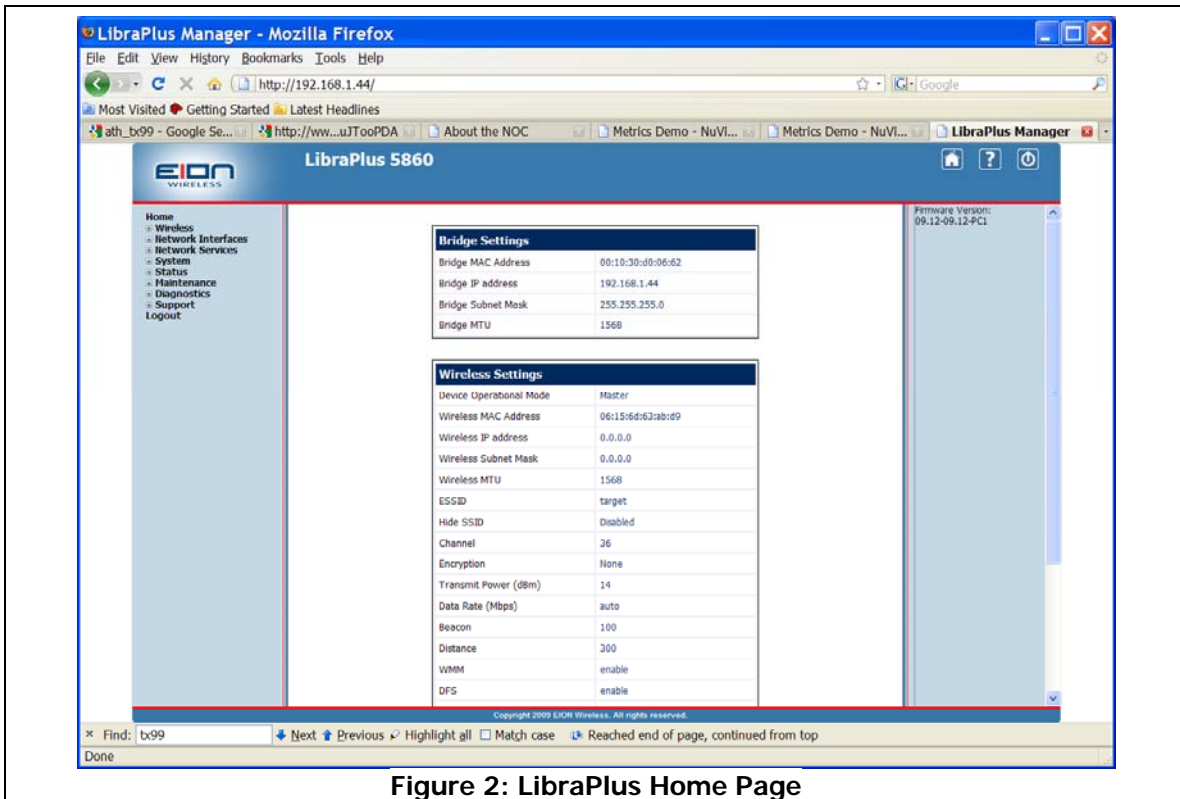


Figure 2: LibraPlus Home Page

1.2 Network Interfaces

1.2.1 Master Unit

This is the configuration procedure to configure the management settings of the LibraPlus 5860 product.

1. Log into the LibraPlus 5860 Product, click the "+" sign near the "Network Interfaces" at the left side of the page.
2. Pressing the "+" sign", the "Network Interfaces" will expand showing "Management".
3. After clicking on "Management", the parameters below are shown

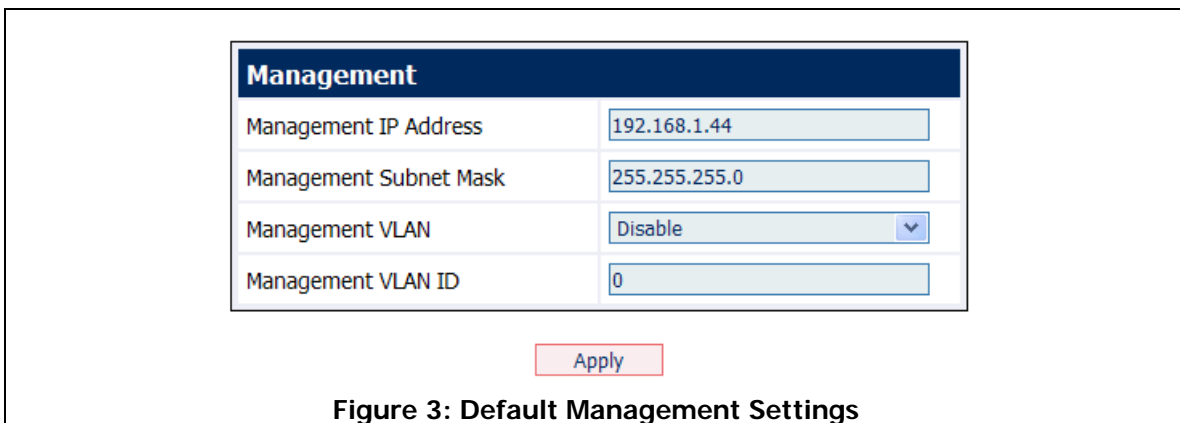
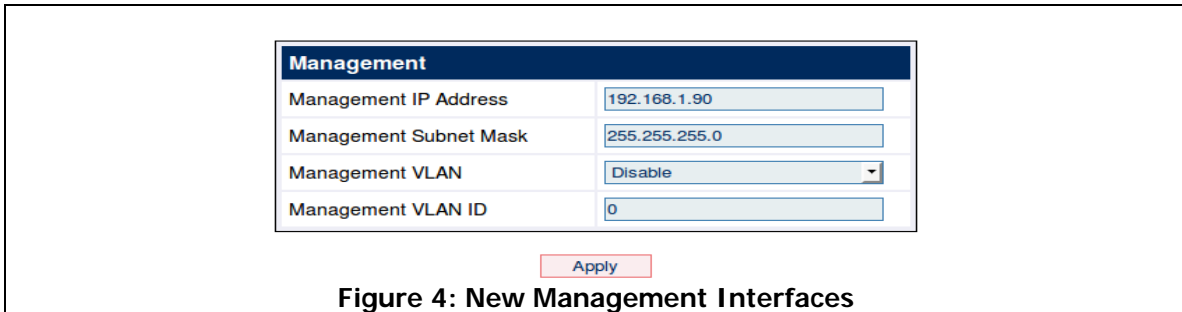


Figure 3: Default Management Settings

4. Any of the parameters listed in the "Management" page can be changed. In this exercise,

we will change the Management IP address to 192.168.1.90

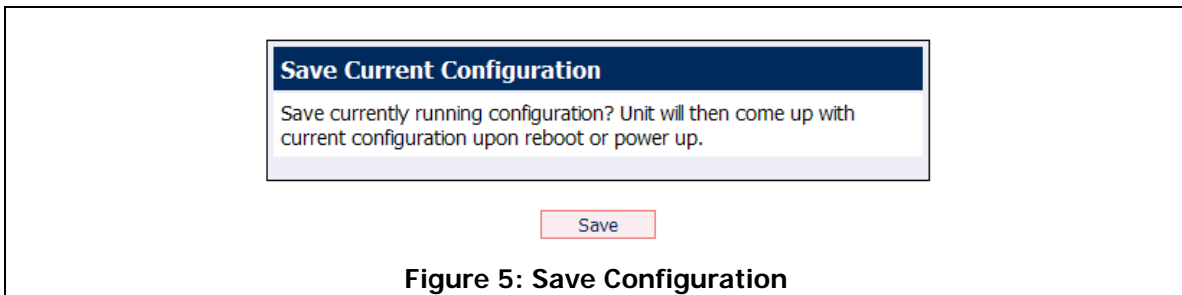
5. Once the Management parameters are changed click the "Apply" button below. This setting takes effect immediately without reboot.
6. Log back into the unit with the new IP address which is 192.168.1.90
7. After pressing the "+" sign, the "Network Interfaces" will expand showing "Management".
8. Click on "Management", and the parameters below will be displayed.



Management	
Management IP Address	192.168.1.90
Management Subnet Mask	255.255.255.0
Management VLAN	Disable
Management VLAN ID	0

Figure 4: New Management Interfaces

9. After clicking on "Maintenance" and "Save Configuration", the screen, as shown below in figure 5, will appear.



Save Current Configuration

Save currently running configuration? Unit will then come up with current configuration upon reboot or power up.

Figure 5: Save Configuration

10. Click on the "Save" Button.

2 Slave Unit Configuration

This is the configuration procedure to configure the management settings of the LibraPlus 5860 product. By default, the unit will boot up as a "Master Unit"

11. After logging into the LibraPlus 5860 Product, click the "+" sign near the "Network Interfaces" at the left side of the page.
12. After pressing the "+" sign, the "Network Interfaces" will expand showing "Management".
13. After clicking on "Management", the screen, as shown below in figure 6, will appear.

Management	
Management IP Address	<input type="text" value="192.168.1.44"/>
Management Subnet Mask	<input type="text" value="255.255.255.0"/>
Management VLAN	<input type="text" value="Disable"/>
Management VLAN ID	<input type="text" value="0"/>

Figure 6: Default Management Settings

14. Any of the parameters listed in the "Management" page can be changed. In this exercise, we will change the Management IP address to 192.168.1.91
15. Once the Management parameters are changed click the "Apply" button below. This setting takes effect immediately without reboot.
16. Log back into the unit with the new IP address which is 192.168.1.91
17. After pressing the "+" sign, the "Network Interfaces" will expand showing "Management".
18. After clicking on "Management", the screen, as shown below in figure 7, will appear.

Management	
Management IP Address	<input type="text" value="192.168.1.91"/>
Management Subnet Mask	<input type="text" value="255.255.255.0"/>
Management VLAN	<input type="text" value="Disable"/>
Management VLAN ID	<input type="text" value="0"/>

Figure 7: New Management Interfaces

19. After clicking on "Maintenance" and "Save Configuration", the screen, as shown below in figure 8, will appear.
20. Click on the "Save" button.

Save Current Configuration
Save currently running configuration? Unit will then come up with current configuration upon reboot or power up.

Figure 8: Save Configuration

2.1 Wireless Interface Configuration

2.1.1 Master Unit

The Master unit Wireless Interface should be configured as show below:

Wireless Settings	
Device Operation Mode	Master
Station ID (SSID)	target
Mode	Normal
Channel	36
Transmit Power (dBm)	14
Data Rate (Mbps)	auto
Wireless Transmission	ON
DFS	Enable
Fast Frame	Enable
ATPC	Disable
WMM	Enable
MAC Access List Name	None
MAC Access List Mode	None
Distance (meters)	300
Beacon (ms)	100

Figure 9: Master Wireless Settings

NOTICE

The Transmit Power value depends on the distance (loss) between the Master and the Slave regardless of the antenna chosen. In this example, LibraPlus 5860 ERs are used with 70dB attenuation.

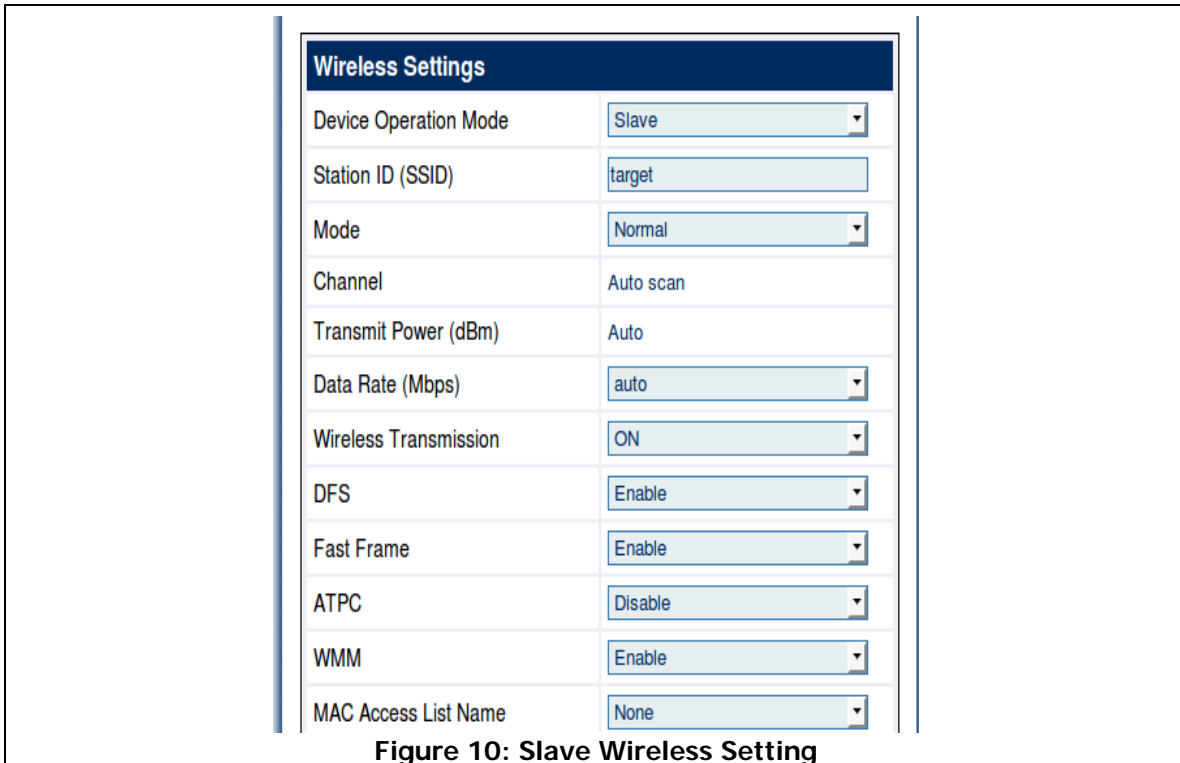
NOTICE

The distance value depends on the distance between the two LibraPlus 5860 units; it must be a multiple of 300. For bench testing, a value of 300 should be used.

Once the Wireless parameters are changed click the “Apply” button below. The unit will go into a soft reboot.

2.1.2 Slave Unit

The Slave unit Wireless Interface should be configured as shown below:



Wireless Settings	
Device Operation Mode	Slave
Station ID (SSID)	target
Mode	Normal
Channel	Auto scan
Transmit Power (dBm)	Auto
Data Rate (Mbps)	auto
Wireless Transmission	ON
DFS	Enable
Fast Frame	Enable
ATPC	Disable
WMM	Enable
MAC Access List Name	None

Figure 10: Slave Wireless Setting

Once the Wireless parameters are changed click the “Apply” button below. The unit will go into a soft reboot.

3 Point-to-Point Link Test

3.1 Monitoring Test

In the GUI of the Slave and under the “Diagnostics” Menu, a Link Monitoring tool is available to that Receive Signal Strength (RSSI) and Signal-to-Noise ratio. This tool is very useful mainly for Antenna alignment purposes. For a good link you should see RSSI in the range between -80 to -50 and CINR from 5 to 27.

3.2 Ping Test

In the GUI of the Master and under the “Diagnostics” Menu, a Ping tool is available to ping every node in the network that’s on the same subnet as the Master. For example, From the Master Ping tool, one can ping the Slave to make sure traffic travels to the remote site.