

User's Guide

HELIOS-EX

HIGH POWER™ AC2200

WI-FI® RANGE EXTENDER

TRI-BAND WITH DIRECTLINK™

RE2200T

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INTRODUCTION

Thank you for purchasing this Amped Wireless product. At Amped Wireless we strive to provide you with the highest quality products through innovation and advanced technology. We pride ourselves on delivering products that outperform and go beyond your expectations. If you have any questions please feel free to contact us. We'd love to hear from you and thank you for your support!

Email: sales@ampedwireless.com

Call: 888-573-8830

Web: www.ampedwireless.com

GETTING STARTED

Package Contents

Check to make sure you have all the contents within your package:

- HELIOS-EX High Power AC2200 Tri-Band Wi-Fi Range Extender with DirectLink
- 3 x Detachable High Gain Antennas
- Power Adapter
- Setup Guide

LED Indicators



Power/WPS: Indicates when the Router is powered on. The LED will remain on. Blinks when Wi-Fi Protected Setup (WPS) is activated and the Router awaits a connection.

Signal Strength LED: Indicates when the Range Extender is connected to a Home Network and the signal strength quality of that connection.

5.0GHz (1) Wireless Activity: Blinks rapidly when wireless data traffic is transmitted or received over the 5GHz (1) wireless network.

5.0GHz (2) Wireless Activity: Blinks rapidly when wireless data traffic is transmitted or received over the 5GHz (2) wireless network.

2.4GHz Wireless Activity: Blinks rapidly when wireless data traffic is transmitted or received over the 2.4GHz wireless network.



Gigabit Wired Ports 1-5: Indicates when a networking device is connected to a wired port on the back of the Range Extender. The LED will blink rapidly when wired data traffic is transmitted or received. The green LED displays when there is an active gigabit connection.

Back Panel Description



From Left to Right

Antenna Connectors: RJ-SMA antenna connectors. Attach the included high gain antennas to these connectors.

LED On/Off: Push to turn LED indicators on or off.

WPS: Hold down for 3 seconds to enable WPS push button configuration.

Reset: Push down once to reboot the Range Extender. Hold down for 5-10 seconds to reset the Range Extender back to factory settings.

USB Port: Attach USB storage devices, such as USB flash drives and external hard drives, for file sharing.

Wired Devices: Gigabit RJ-45 ports for connecting to wired computers or network devices.

Power On/Off: Push to turn the Range Extender on or off.

Power: Power adapter port. Output: 12V, 3A, Input: 100-240v.

SETUP GUIDE

Find a Setup Location

The location of where you install the Range Extender is very important to how it will function. The optimal setup location should be somewhere no more than halfway between your Wi-Fi router and your Wi-Fi dead zone.

RECOMMENDED
SIGNAL STRENGTH



2.4GHz and 5GHz
(if available)

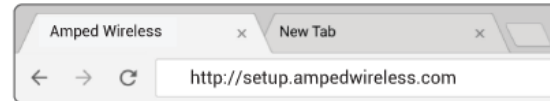


Attach the Antennas & Connect your PC or Tablet to the Range Extender

- a. Connect the included high gain antennas by screwing them into the antenna connectors.
- b. Plug the Range Extender into an available power outlet.
- c. Connect your PC, Tablet or mobile device to the Range Extender's Wi-Fi network:
Amped_HeliosEX_2.4 or Amped_HeliosEX_5.0

Open your Web Browser to Access the Web Menu

- a. Open your web browser.
- b. Type in: <http://setup.ampedwireless.com> into the web address bar.
- c. If the web menu fails to open, type in the following IP address into your web address bar:
<http://192.168.1.240>



<http://setup.ampedwireless.com>

NOTE: IF YOU HAVE PROBLEMS ACCESSING THE WEB MENU

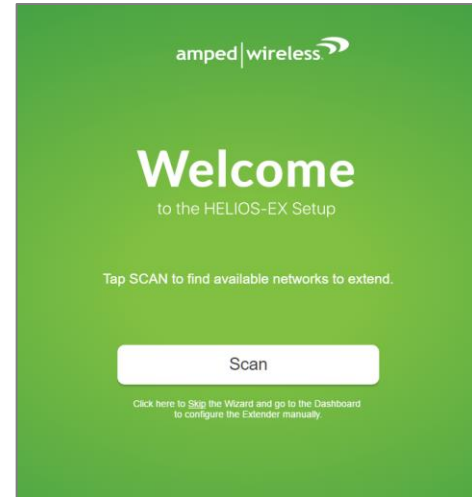
- a. Disconnect your PC from all Wi-Fi networks.
- b. Attach an Ethernet cable between the PC and the Range Extender.
- c. Open your web browser and go to <http://setup.ampedwireless.com> again.

Welcome to the Setup Wizard

The Setup Wizard will guide you through the setup process

Click **SCAN** to find an available network to extend.

Setup screens for mobile devices will vary from desktop and tablet versions.



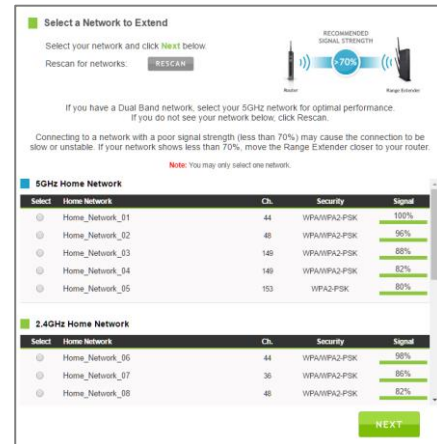
Scan for a Wireless Network

The Scan result will list all available 5GHz and 2.5GHz wireless networks detected by the Range Extender – including each network name (SSID), the operating channel, the type of security and the signal strength.

If you are extending a dual band router, you will need to select the SSID of the 5GHz network only. To enable DirectLink for optimal performance, you must connect to a 5GHz network.

The signal strength indicates the wireless connection between that network and the Range Extender. It is important to choose networks that are greater than 70%. A wireless network with a signal strength of less than 70% may create a poor connection which results in slower throughput and frequent dropped connections.

If you fail to find any wireless networks, or your signal strength is below 70%, try moving the Range Extender closer to the wireless network that you are trying to repeat and click SCAN again.



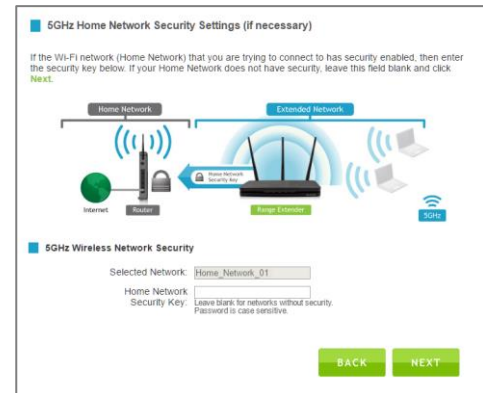
Once you have selected your wireless network, click **Next** to continue.

Connecting to a Secure Network

If the wireless network you are trying to repeat has wireless security enabled, you will be prompted to enter a security key. If the network does not have security, leave the field blank.

After you have entered the security key, click **Next** to continue.

If you do not know the key to the network you are trying to repeat, then click **Back** and select another network.



Extended Network Settings (SSID & Security)

The default SSID of the Range Extender is "Amped_HeliosEX_2.4" and "Amped_HeliosEX_5.0".

If you choose to "Clone" the settings from your Home Network, the wizard will copy the SSID and security key of your Home Network.

The SSID of the Extended Network will have a "_RE" at the end of its name. For example: Home_Network_RE.

You can also manually enter a new network ID and security key. The new security key must be at least 8 characters long.

Click **Next** to apply the settings.

Extended Network Settings

Copy settings from your Home Network or manually configure them below: [Clone Settings](#)

5GHz Extended Network ID (SSID)	2.4GHz Extended Network ID (SSID)
<input type="text" value="Amped_HeliosEX_5.0"/>	<input type="text" value="Amped_HeliosEX_2.4"/>
5GHz Extended Network Security Key	2.4GHz Extended Network Security Key
<input type="text"/>	<input type="text"/>
<small>8 Character Minimum Leave blank for no security</small>	<small>8 Character Minimum Leave blank for no security</small>

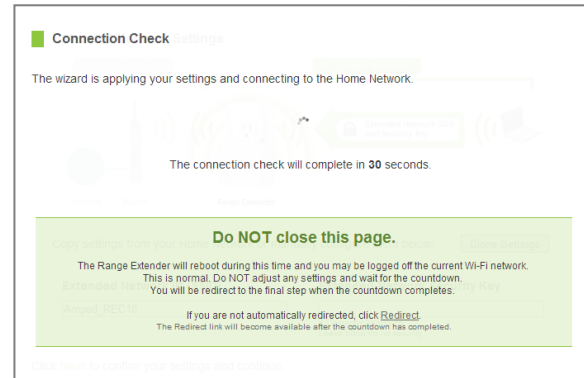
Click **Next** to confirm your settings and continue.

[BACK](#) [NEXT](#)

Connection Check

DO NOT LEAVE OR REFRESH THIS PAGE.

Allow the countdown to complete and the Wizard will automatically redirect you to the next step.



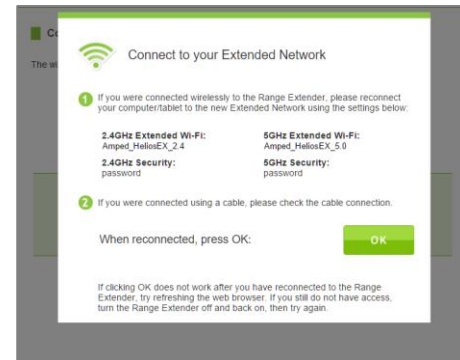
Connect to the new Extended Network

During the countdown process, the Range Extender will reboot and disconnect the Wi-Fi connection. At this point, you will need to reconnect your PC or tablet to the new Extended Network. Follow the instructions on the screen to connect to the Extended Network.

Once you have connected, click the **OK** button to complete the setup process.

If there are problems with your configuration, the Wizard will inform you to rescan for a network to extend.

If there are no problems, you will see the Setup Summary on the following page.



Setup Summary

Congratulations, the Range Extender is now successfully configured. Your settings are now saved.

Print the Setup Summary details and save it for future reference.

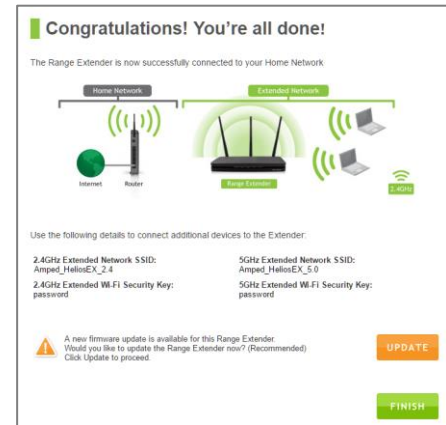
If you have any wired devices that you would like to attach to the Range Extender, you may do so now.

The wizard will notify you if there is a newer firmware for the Extender and update if needed.

If you haven't already positioned your Range Extender in an optimal location, you may do so. All Range Extender settings are saved and can be safely powered off for relocation.

Use the Signal Strength LED to assist you in finding the optimal installation location. (See the following page for details.)

Enjoy your extended network!



Signal Strength LED

The Signal Strength LED will help you find the most optimal location. It may take 1-3 minutes for the LED to register after powering on the Extender. We recommend a signal of at least 70% or when the LED is green.



OPTIMAL INSTALLATION

Signal Strength LED helps you find the perfect location

- Green: Excellent Signal 70-100%
- Yellow: Moderate Signal 60-69%
- Red: Poor Signal 59% and below

If the Home/Office Network connection fails try the following...

The failed connection page will provide you with information on why the connection failed. Read the instructions carefully and retry your connection. The tips below will help to solve common issues:

- a. Check to make sure your Home Network security settings are correct.
- b. On the SCAN page, check that your Home Network is showing a signal of 70% or greater. If not, move the Range Extender closer to your Home Network router and try again. If you are connecting to a dual band router, ensure that both the 2.4GHz and 5GHz networks show a signal strength of 70% or greater.
- c. Check that your Home Network router's DHCP server is enabled.
- d. Try changing the channel of the Home Network router to a higher channel number and run the Setup Wizard again.
- e. Check the internet connection on your Home Network wireless router. Connect directly to your router and attempt to access the web. If this fails, the problem is with your internet connection. Contact your broadband provider to fix this issue first before configuring the Range Extender.
- f. Try to reboot (unplug the power from the Range Extender and plug it back in) the Range Extender and check to see if the connection is established (some networks may be very slow and take longer than the allotted time for the Range Extender to successfully connect).

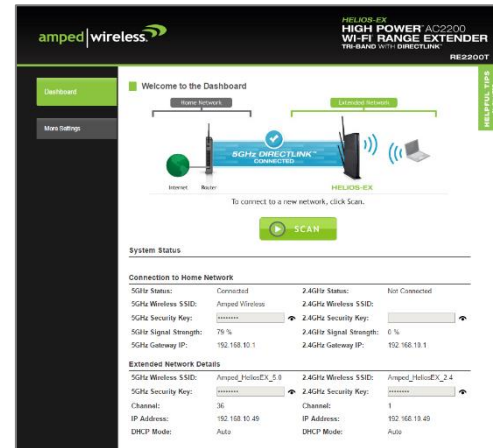
DASHBOARD

The Dashboard will provide you with the current status of the Range Extender.

Click **SCAN** to find an available network to extend if you choose to connect to a new network or if you haven't yet connected to a network to extend.

The diagram on this page displays the terms used to describe:

1. The network you are trying to extend (Home Network).
2. The network that is rebroadcasted and extended (Extended Network).



The lower section provides details regarding your Home Network connection and your Extended Network connection. You can also find the security key and network name of both Home and Extended networks here.

Use the navigation menu on the left side to configure additional settings.

HOME NETWORK

The Home Network Settings page allows you to adjust settings for your 5GHz or 2.4GHz Home Network connection. These settings are for adjusting the Range Extender's Home Network connection after you have already gone through the Setup Wizard and wish to adjust your current configurations. It is recommended that you connect to only a 5GHz Home Network to enabled DirectLink Technology for optimal performance. However, if you only have a 2.4GHz network to connect to, click the 2.4GHz selection on the top of the page to configure the Extender's 2.4GHz Home Network connection.

Home Network SSID: Manually enter the Identification name of the existing Home Network you wish to connect to.

Channel Number: Enter the channel number of the Home Network. If the channel number does not match, a connection will not be established.

Channel Width: Wi-Fi operates in two separate channel widths, 20Hz, 40Hz and 80Hz. 40Hz and 80Hz allows for faster speeds. Each Channel Width will have a different selection of wireless channels to choose from.

Home Network Settings

Manually configure the settings for your Home Network connection.

Select your Home Network: 5GHz Radio 2.4GHz Radio

Router: DIRECTLINK™
HELIOS-EX
2.4GHz
5GHz

Must be same as your Home Network router

Home Wireless Connection - 5GHz Network

Home Network SSID:

Channel Width:

Channel Number:

Security Settings (5GHz)

Encryption:

Authentication Mode: Personal (Pre-Shared Key) Enterprise (RADIUS)

WPA Cipher Suite: TKIP AES Auto

Pre-Shared Key:

Select the channel width you wish to use for your network. **This setting must match that of your Home Network for a successful connection.**

Security Settings: Change the security settings for your Home Network.

Encryption: Select the encryption type for your Home Network. This is the wireless encryption for your home or office router.

Pre-Shared Key: The Home Network Security Key is the key that you use when connecting wirelessly to your home or office router. If you do not know your home network's wireless security key, please check with your network administrator.

Note: An incorrect SSID and/or Security Key for your Home Network settings will cause the Range Extender to disconnect from your Home Network.

5GHz WI-FI SETTINGS

5GHz Wi-Fi Settings: Extended Network Settings (5GHz)

The Extended Network Settings page allows you to adjust settings for your Extended Network.

SSID of Extended Network: The name used to identify your Extended Network. This is the name that appears when a user scans for available Wi-Fi networks.

Band: Allows you to setup access under a specific combination of Wi-Fi speed standards.

Broadcast SSID: Selecting Disable Broadcast SSID will hide the visibility of the Range Extender's SSID. Users must manually enter the SSID to connect.

Associated Clients: Shows the list of active devices connected to the Extended Network

Tx Beamforming: Enable or disable Wi-Fi transmit beamforming.

Extended Network Settings (5GHz)

These settings apply to your Extended wireless network.

Diagram: Home Network (Router) connected to 5GHz Extended Network (Range Extender) which is connected to 5GHz devices (laptops).

5GHz Extended Wireless Network Settings

Disable 5GHz Wireless Connections:

Band: 5 GHz (A+N+AC) ▼

Broadcast SSID: Enable Disable

SSID of Extended Network: Ampd_HelloEX_5.0

Channel Width: VHT80 ▼

Channel Number: 36 - 5160MHz ▼

WMM: Disabled ▼

Associated Clients: [Show Active Clients](#)

Tx Beamforming: Enabled Disabled

MUMIMO: Enabled Disabled

Security Settings (5GHz)

Encryption: WPA-Mixed ▼

Authentication Mode: Personal (Pre-Shared Key)
 Enterprise (RADIUS)

WPA Cipher Suite: TKIP AES Auto

Pre-Shared Key: *****

APPLY **RESET**

MU-MIMO: Enable or disable the use of MU-MIMO in your Extended Network.

Security Settings: Change the type of wireless security settings for your 5GHz Extended Network.

Encryption: Select the encryption type for your Extended Network.

Pre-Shared Key: The password for your Extended Network. This is the key used by devices connecting to your Extended Network.

5GHz Wi-Fi Settings: Guest Networks (5GHz)

Click “Enable” to create a Guest Network. Guest Networks provide a separate wireless network, with unique settings for users to connect to.

SSID: This is the name of your Guest Network.

Broadcast SSID: Disable to hide your SSID from public view. Users will need to manually enter the SSID into their wireless software interface to connect.

Network Access: Restrict users connecting to your Guest Network to Internet access only or both local network and Internet access.

Active Client List: View all computers and network devices that are connected to your Guest Network wirelessly.

Security Settings: Change the type of wireless security settings for your Guest Networks by selecting the specific Guest Network SSID from the drop down menu.

Encryption: Select the encryption type for your Guest Network.

Pre-Shared Key: The password for your Guest Network. This is the key used by devices connecting to your Guest Network.

Enable	Guest Network SSID	Broadcast SSID	Network Access	Encryption	Active Client List
<input type="checkbox"/>	Amped_Guest_5.0_1	Enabled	Internet and Local	Disabled	Show
<input type="checkbox"/>	Amped_Guest_5.0_2	Enabled	Internet and Local	Disabled	Show
<input type="checkbox"/>	Amped_Guest_5.0_3	Enabled	Internet and Local	Disabled	Show
<input type="checkbox"/>	Amped_Guest_5.0_4	Enabled	Internet and Local	Disabled	Show

Security Settings (5GHz)

Select a Guest Network: Guest1 - Amped_Guest_5.0_1

Encryption: Disable

802.1x Authentication:

5GHz Wi-Fi Settings: Wi-Fi Protected Setup – WPS (5GHz)

WPS is a Wi-Fi feature created to make Wi-Fi setup simple and easy. Some wireless routers and adapters support this feature with varying names (i.e. one touch setup or WPS).

You may enable WPS setup here by selecting the type of WPS setup you wish to use. The Range Extender supports all types of WPS setup:

Option A: Push button: You may push the WPS button on the web menu or use the physical button on the back of the Range Extender.

Option B: PIN: Some wireless devices use a PIN number to access wireless network. If your wireless device requests for a PIN number, then use the PIN code located here.

Option C: Enter PIN: Some wireless devices require that you use a PIN number to add them to the wireless network. If your wireless device has a PIN number, then locate the number and enter in the field, then press Start Pin.



The screenshot shows a web interface titled "Enable Wi-Fi Protected Setup". It contains three options for enabling WPS:

- Option A:** "If your wireless user has a Wi-Fi Protected Setup button, click or press the WPS PBC (Push Button Configuration) button here:" followed by a "Start PBC" button.
- Option B:** "If your wireless user asks for the Smart Repeater's PIN number, use this number on the user's device: 53760969".
- Option C:** "If your wireless user has a Wi-Fi Protected Setup PIN number, enter that number here:" followed by a text input field and a "Start PIN" button.

5GHz Wi-Fi Settings: User Access (5GHz)

User Access allows you to deny access or allow access to specific users connecting to the network. Each networking device has a unique address called a MAC address (a 12 digit hex number).

By inputting the MAC address into the field, you can define whether that device is allowed into your network or not allowed.

A MAC Address may sometimes be referred to as a Physical Address. Most networking devices have their MAC Address located on a label on the actual device.

For Windows computers with internal networking adapters, the MAC Address can be found by viewing the Network Connection Details of the network adapter. The MAC Address will be listed as the Physical Address.

Be sure to enter the MAC Address without any symbols. For example, a MAC Address of 78-DD-78-AA-78-BB would be entered as 78DD78AA78BB.



User Access Control (5.0GHz)

Allow or deny wireless access to specific users by entering the MAC address of the device below. The MAC address of a networking device is a 12 digit hex number normally found on a label on the bottom of the device (e.g. 1A2B3C4F5A6D).

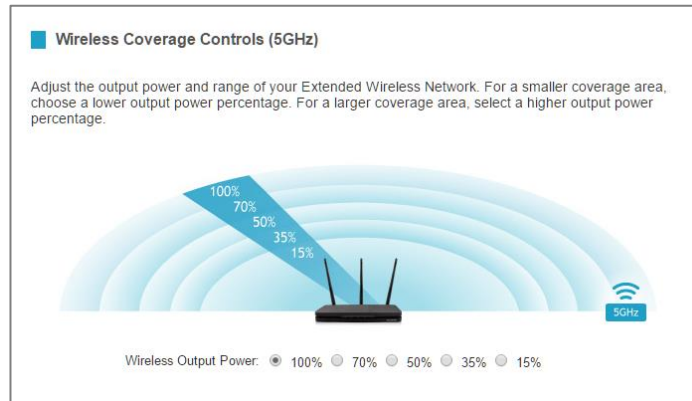
Wireless Access Control Mode:

MAC Address:

Comment:

5GHz Wi-Fi Settings: Wireless Coverage Controls (5GHz)

Adjust the output power of the Range Extender to control the coverage distance of your 5GHz Extended Wireless Network. For a smaller coverage area you can select a lower output power. For the maximum wireless coverage select the 100% selection. Note that if you select a lower output power, your connection to your 5GHz Home Network will also decrease in range. It is recommended that you test your signal strength after each adjustment.



5GHz Wi-Fi Settings: Access Schedule (5GHz)

Access Schedules will enable or disable your 5GHz wireless access at a set time based on your predefined schedule. This feature is often used for restricting access to all users (such as children, employees, guests) during specific times of the day for parental control or security reasons.

- Enable Access Schedule.
- Select which days you wish for your Wi-Fi to be available.
- Select the time frame during that day that you wish for Wi-Fi to be available.
- Select the Network that you wish to apply these settings to.
- Apply Changes.

Enabling Access Schedule on the Main Network will also disable internet access for wired connections on specified days.

Note: Make sure you have already configured your System Clock in order for your schedule to work correctly. Time Zone Settings can be adjusted from the web menu under Management > Time Zone Settings.

Access Schedule (5GHz)

Define a schedule for when the 5GHz Wi-Fi network is enabled or disabled on the Range Extender. Please be sure that your time zone settings have been configured before using this feature.

Enable Access Schedule (5GHz)

Enable	Day	From (hh:mm)	To (hh:mm)	Network
<input type="checkbox"/>	All Day	Everyday	00 : 00 - 00 : 00	Main Network
<input type="checkbox"/>	All Day	Everyday	00 : 00 - 00 : 00	Main Network
<input type="checkbox"/>	All Day	Everyday	00 : 00 - 00 : 00	Main Network
<input type="checkbox"/>	All Day	Everyday	00 : 00 - 00 : 00	Main Network
<input type="checkbox"/>	All Day	Everyday	00 : 00 - 00 : 00	Main Network
<input type="checkbox"/>	All Day	Everyday	00 : 00 - 00 : 00	Main Network
<input type="checkbox"/>	All Day	Everyday	00 : 00 - 00 : 00	Main Network
<input type="checkbox"/>	All Day	Everyday	00 : 00 - 00 : 00	Main Network
<input type="checkbox"/>	All Day	Everyday	00 : 00 - 00 : 00	Main Network
<input type="checkbox"/>	All Day	Everyday	00 : 00 - 00 : 00	Main Network

5GHz Wi-Fi Settings: Advanced Settings (5GHz)

Advanced Wireless Settings should only be adjusted by technically advanced users. It is not recommended that novice users adjust these settings to avoid degrading wireless performance. Here are a few definitions on some settings.

Fragment Threshold: The Default and Recommended setting is at 2346, meaning the High Power Range Extender will never fragment any frames that it sends to wireless users.

RTS Threshold: Adjusts the size of RTS data packets. Lower values reduce throughput, but allow the system to recover quicker from interference/collisions. Higher values provide the fastest throughput.

Beacon Interval: Indicates the frequency interval of the beacon. A beacon is a packet broadcast by the Range Extender to sync the wireless network.

STBC: Space Time Block Coding improves Transmitting (Tx) or Receiving (Rx) by coding the data stream in blocks.

■ Advanced Settings (5GHz)

Advanced wireless settings are for technically advanced users. It is recommended that these settings not be changed unless it is understood what the effects will be on your local wireless network.

Fragment Threshold: 2346 (256-2346)

RTS Threshold: 2347 (0-2347)

Beacon Interval: 100 (20-1024 ms)

Aggregation: Enabled Disabled

Aggregated Frames Number: 64 (1-64)

Maximum Aggregated Size: 65535 (2346-65535)

Short GI: Enabled Disabled

Tx STBC: Enabled Disabled

Rx STBC: Enabled Disabled

LDPC: Enabled Disabled

APPLY RESET

2.4GHz WI-FI SETTINGS

2.4GHz Wi-Fi Settings: Extended Network Settings (2.4GHz)

The Extended Network Settings page allows you to adjust settings for your Extended Network.

SSID of Extended Network: The name used to identify your Extended Network. This is the name that appears when a user scans for available Wi-Fi networks.

Band: Allows you to setup access under a specific combination of Wi-Fi speed standards.

Broadcast SSID: Selecting Disable Broadcast SSID will hide the visibility of the Range Extender's SSID. Users must manually enter the SSID to connect.

Associated Clients: Shows the list of active devices connected to the Extended Network

Security Settings: Change the type of wireless security settings for your 2.4GHz Extended Network.

Extended Network Settings (2.4GHz)

These settings apply to your Extended wireless network.

Diagram: Home Network (Router) connected to Internet. Range Extender connected to Router. 2.4GHz Extended Network (Range Extender) connected to Router. Laptops and mobile devices connected to Range Extender.

2.4GHz Extended Wireless Network Settings

Disable 2.4GHz Wireless Connections:

Band: 2 GHz (B/G/N)

Broadcast SSID: Enable Disable

SSID of Extended Network: Amped_HeliosEX_2_4

Channel Width: HT40

Channel Number: 1 - 2412MHz

WMM: Disabled

Associated Clients: [Show Active Clients](#)

Security Settings (2.4GHz)

Encryption: WPA-Mixed

Authentication Mode: Personal (Pre-Shared Key) Enterprise (RADIUS)

WPA Cipher Suite: TKIP AES Auto

Pre-Shared Key: [masked]

APPLY **RESET**

Encryption: Select the encryption type for your Extended Network.

Pre-Shared Key: The password for your Extended Network. This is the key used by devices connecting to your Extended network.

2.4GHz Wi-Fi Settings: Guest Network (2.4GHz)

Click “Enable” to create a Guest Network. Guest Networks provide a separate wireless network, with unique settings for users to connect to.

SSID: This is the name of your Guest Network.

Broadcast SSID: Disable to hide your SSID from public view. Users will need to manually enter the SSID into their wireless software interface to connect.

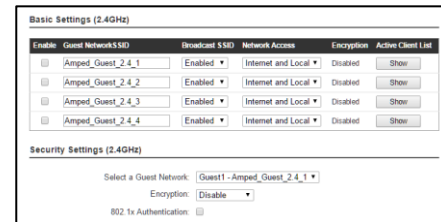
Network Access: Restrict users connecting to your Guest Network to Internet access only or both local network and Internet access.

Active Client List: View all computers and network devices that are connected to your Guest Network wirelessly.

Security Settings: Change the type of wireless security settings for your Guest Networks by selecting the specific Guest Network SSID from the drop down menu.

Encryption: Select the encryption type for your Guest Network.

Pre-Shared Key: The password for your Guest Network. This is the key used by devices connecting to your Guest Network.



2.4GHz Wi-Fi Settings: Wi-Fi Protected Setup – WPS (2.4GHz)

WPS is a Wi-Fi feature created to make Wi-Fi setup simple and easy. Some wireless routers and adapters support this feature with varying names (i.e. one touch setup or WPS).

You may enable WPS setup here by selecting the type of WPS setup you wish to use. The Range Extender supports all types of WPS setup:

Option A: Push button: You may push the WPS button on the web menu or use the physical button on the back of the Range Extender.

Option B: PIN: Some wireless devices use a PIN number to access wireless network. If your wireless device requests for a PIN number, then use the PIN code located here.

Option C: Enter PIN: Some wireless devices require that you use a PIN number to add them to the wireless network. If your wireless device has a PIN number, then locate the number and enter in the field, then press Start Pin.

Enable Wi-Fi Protected Setup

Option A: If your wireless user has a Wi-Fi Protected Setup button, click or press the WPS PBC (Push Button Configuration) button here:

Option B: If your wireless user asks for the Smart Repeater's PIN number, use this number on the user's device: 53760969

Option C: If your wireless user has a Wi-Fi Protected Setup PIN number, enter that number here:
 and then click

2.4GHz Wi-Fi Settings: User Access (2.4GHz)

User Access allows you to deny access or allow access to specific users connecting to the network. Each networking device has a unique address called a MAC address (a 12 digit hex number).

By inputting the MAC address into the field, you can define whether that device is allowed into your network or not allowed.

A MAC Address may sometimes be referred to as a Physical Address. Most networking devices have their MAC Address located on a label on the actual device.

For Windows computers with internal networking adapters, the MAC Address can be found by viewing the Network Connection Details of the network adapter. The MAC Address will be listed as the Physical Address.

Be sure to enter the MAC Address without any symbols. For example, a MAC Address of 78-DD-78-AA-78-BB would be entered as 78DD78AA78BB.



User Access Control (2.4GHz)

Allow or deny wireless access to specific users by entering the MAC address of the device below. The MAC address of a networking device is a 12 digit hex number normally found on a label on the bottom of the device (e.g. 1A2B3C4F5A6D).

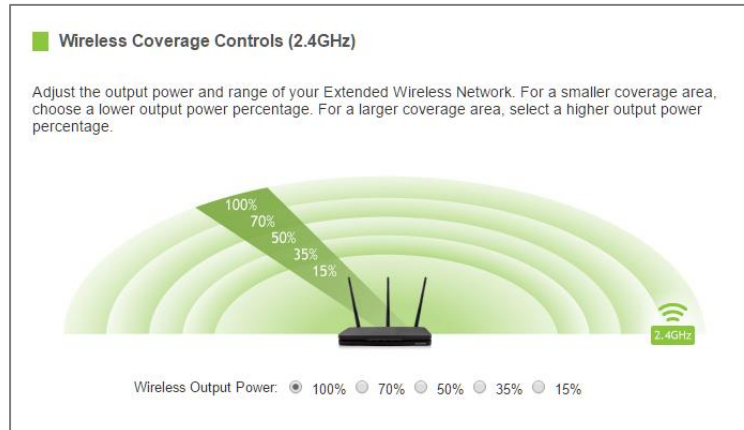
Wireless Access Control Mode:

MAC Address:

Comment:

2.4GHz Wi-Fi Settings: Wireless Coverage Controls (2.4GHz)

Adjust the output power of the Range Extender to control the coverage distance of your 2.4GHz Extended Wireless Network. For a smaller coverage area you can select a lower output power. For the maximum wireless coverage select the 100% selection. Note that if you select a lower output power, your connection to your 2.4GHz Home Network will also decrease in range. It is recommended that you test your signal strength after each adjustment.



2.4GHz Wi-Fi Settings: Access Schedule (2.4GHz)

Access Schedules will enable or disable your 2.4GHz wireless access at a set time based on your predefined schedule. This feature is often used for restricting access to all users (such as children, employees, guests) during specific times of the day for parental control or security reasons.

- Enable Access Schedule.
- Select which days you wish for your Wi-Fi to be available.
- Select the time frame during that day that you wish for Wi-Fi to be available.
- Select the Network that you wish to apply these settings to.
- Apply Changes.

Enabling Access Schedule on the Main Network will also disable internet access for wired connections on specified days.

Note: Make sure you have already configured your System Clock in order for your schedule to work correctly. Time Zone Settings can be adjusted from the web menu under Management > Time Zone Settings.

Access Schedule (2.4GHz)

Define a schedule for when the 2.4GHz Wi-Fi network is enabled or disabled on the Range Extender. Please be sure that your time zone settings have been configured before using this feature.

Enable Access Schedule (2.4GHz)

Enable	Day	From (hh:mm)	To (hh:mm)	Network
<input type="checkbox"/>	* All Day	Everyday	00 * 00 *	Main Network
<input type="checkbox"/>	* All Day	Everyday	00 * 00 *	Main Network
<input type="checkbox"/>	* All Day	Everyday	00 * 00 *	Main Network
<input type="checkbox"/>	* All Day	Everyday	00 * 00 *	Main Network
<input type="checkbox"/>	* All Day	Everyday	00 * 00 *	Main Network
<input type="checkbox"/>	* All Day	Everyday	00 * 00 *	Main Network
<input type="checkbox"/>	* All Day	Everyday	00 * 00 *	Main Network
<input type="checkbox"/>	* All Day	Everyday	00 * 00 *	Main Network
<input type="checkbox"/>	* All Day	Everyday	00 * 00 *	Main Network
<input type="checkbox"/>	* All Day	Everyday	00 * 00 *	Main Network

2.4GHz Wi-Fi Settings: Advanced Settings (2.4GHz)

Advanced Wireless Settings should only be adjusted by technically advanced users. It is not recommended that novice users adjust these settings to avoid degrading wireless performance. Here are a few definitions on some settings.

Fragment Threshold: The Default and Recommended setting is at 2346, meaning the High Power Range Extender will never fragment any frames that it sends to wireless users.

RTS Threshold: Adjusts the size of RTS data packets. Lower values reduce throughput, but allow the system to recover quicker from interference/collisions. Higher values provide the fastest throughput.

Beacon Interval: Indicates the frequency interval of the beacon. A beacon is a packet broadcast by the Range Extender to sync the wireless network.

STBC: Space Time Block Coding improves Transmitting (Tx) or Receiving (Rx) by coding the data stream in blocks..

Advanced Settings (2.4GHz)

Advanced wireless settings are for technically advanced users. It is recommended that these settings not be changed unless it is understood what the effects will be on your local wireless network.

Fragment Threshold: (256-2346)

RTS Threshold: (0-2347)

Beacon Interval: (20-1024 ms)

Aggregation: Enabled Disabled

Aggregated Frames Number: (1-64)

Maximum Aggregated Size: (2346-65535)

Short GI: Enabled Disabled

Tx STBC: Enabled Disabled

Rx STBC: Enabled Disabled

LDP: Enabled Disabled

20/40MHz Coexist: Enabled Disabled

USB STORAGE

USB Storage: Local Sharing

Share a USB storage device with computers on the local network of the Extended Network

Insert a USB storage device, such as a flash drive or external hard drive, to the USB port on the back or side of the Range Extender and follow the directions below for your operating system. The computer must be connected to your Home Network or Extended Network to access the storage device. You may also want to Map the Network Drive so it shows up as a standard drive on your computer for easier access.

USB Storage Local Sharing

Share a USB storage device, such as a USB flash drive or external hard drive, locally among networked computers. Insert your USB storage device into the USB port on the back panel of the Range Extender.

(For Mapping the Network Drive) Shared Disk Address: AMPED_USB

[How to Access or Map your Network Drive](#)

Note: You may need to [add your Network Drive](#) to it to appear in your computer's networked device list.

Local Network Sharing

USB Device Name: AMPED_USB

Work Group: WORKGROUP

Password Protected Access: Enable Disable

System Account List

Enable	User Name	Password	Access Type
<input type="checkbox"/>	admin	admin	Read & Write
<input type="checkbox"/>	guest	guest	Read Only

Note: Login and password are case sensitive.

APPLY RESET

The System Account List allows you to edit the password for specific user accounts accessing the storage drive.

Windows 7 and Vista

To access the drive from your Windows desktop:

Note: If the USB drive does not appear automatically under your Networked devices (Windows 7, Vista or Mac OS X), you will need to Map the Network Drive.

- a. Click the *Start* button
- b. Click *Computer*
- c. On the *Computer* page, the drive should appear on the left hand column under *Network* as *AMPED_RE_USB*

To Map the Network Drive:

- a. Click the *Start* button
- b. Click *Computer*
- c. Click *Map Network Drive* from the top bar.
- d. Select a drive letter (any), then enter in the folder field depending on which USB port your drive is attached to:
\\AMPED_RE_USB\usb3 or *\\Range Extender's LAN IP address\usb3*
- e. If the drive fails to open, click *browse* and locate *AMPED_USB* under *Network*.

Windows XP

To access the drive from your Windows desktop:

Note: If the USB drive does not appear automatically under your Networked devices (Windows 7, Vista or Mac OS X), you will need to Map the Network Drive.

- a. Click the **Start** button
- b. Click **My Computer**
- c. Click on **My Network Places** and locate the drive named **AMPED_USB**

To Map the network drive:

- a. Click the **Start** button
- b. Right Click **My Computer** and select **Map Network Drive**
- c. Select a drive letter (any), then enter in the folder field depending on which USB port your drive is attached to:
`\\AMPED_RE_USB\usb3\` or `\\Range Extender's LAN IP address\usb3\`
- d. If the drive fails to open, click **browse** and locate **AMPED_USB** under **Network**.

Mac OS X

To access the drive from your Mac desktop:

Note: If the USB drive does not appear automatically under your Networked devices, you will need to Map your Network Drive (Instructions below).

- a. Open **Finder**
- b. On the left hand menu, under Shared, click **AMPED_USB**

To Map the network drive:

- a. Open **Finder**
- b. From the menu on the top of the desktop, select **Go**
- c. Select **Connect To Server** from the drop down menu
- d. Enter the address of the network drive based on which port the USB drive is attached to:
smb://AMPED_RE_USB/usb3 or *smb://Range Extender's LAN ip address/usb3*
Then click **Connect**

If the network drive does not appear on your Mac desktop, follow these steps:

- a. Open **Finder**
- b. Select **Preferences** from the drop down menu
- c. Check show "Connected Servers"
- d. The drive should now appear on your desktop

DIRECTLINK™ TECHNOLOGY

DirectLink Technology is a feature that increases the overall speed and performance of the Range Extender by dedicating all traffic to and from the home network through a single 5GHz Wi-Fi frequency band. Doing so optimizes network traffic through the fastest available frequency band and gives it the dedicated bandwidth it needs to direct traffic to your home network and back.

DirectLink Technology can only be enabled when the Range Extender is connected to a 5GHz connection.

While DirectLink Technology is enabled, Wi-Fi devices will still be able to connect to the Range Extender using 2.4GHz and 5GHz connections since the Range Extender provides 1 x 2.4GHz band and 2 x 5GHz bands.

The screenshot shows the 'Welcome to the Dashboard' page. At the top, there is a diagram illustrating the 'Home Network' and 'Extended Network'. The 'Home Network' includes an 'Internet' connection and a 'Router'. The 'Extended Network' includes a 'HELIOS® EX' range extender and a laptop. A blue banner across the diagram says '5GHz DIRECTLINK™ CONNECTED'. Below the diagram, there is a 'SCAN' button and the text 'To connect to a new network, click Scan.' Below this is the 'System Status' section, which includes a table for 'Connection to Home Network'.

Connection to Home Network			
5GHz Status:	Connected	2.4GHz Status:	Not Connected
5GHz Wireless SSID:	Amped_office_5_0Ghz_2	2.4GHz Wireless SSID:	
5GHz Security Key:	*****	2.4GHz Security Key:	
5GHz Signal Strength:	79 %	2.4GHz Signal Strength:	0 %
5GHz Gateway IP:	192.168.10.1	2.4GHz Gateway IP:	192.168.10.1

NETWORK SETTINGS


Network Settings: IP Settings

IP Address: The IP address of the Range Extender.

Subnet Mask: The subnet of the Range Extender.

Default Gateway: The access point to another network, normally the Range Extender or your router.

DHCP: The Range Extender includes a feature to help manage the IP addresses within your Extended Network and with your Home Network automatically. When connected to a Home Network, the Range Extender will obtain an IP address from your Home Network's router and act as a DHCP Client. However, when there is no connection available, the Range Extender will act as a DHCP Server. You may also manually control the IP settings of the Range Extender by choosing Client, Server or Disabled from the DHCP drop down menu. This is only for advanced users.



The screenshot shows the IP Settings configuration page. It includes the following fields and options:

- IP Address: 192.168.1.240
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- DHCP: Auto (dropdown menu)
- DHCP Client Range: 192.168.1.100 - 192.168.1.200 (with a Show Client button)
- Static DHCP: Set Static DHCP (checkbox)
- Auto Load Menu (Auto-DNS): Enabled (radio button selected) / Disabled (radio button)
- Domain Name: ampedwireless
- 802.1d Spanning Type: Disabled (dropdown menu)
- Clone MAC Address: 000000000000

At the bottom right, there are two buttons: APPLY (highlighted in green) and RESET.

DHCP Client Range: The range of IP addresses the Range Extender's DHCP server will assign to users and devices connecting to the Range Extender.

Static DHCP: You may set a static IP address within your DHCP network. The Range Extender will track the device via its MAC address and assign it a pre-defined IP address each time the device logs into the network. Obtain IP settings from the Home router or manually enter your IP settings.

Auto-Load Menu (Auto-DNS): When the Range Extender loses connection to your Home Network it will automatically redirect your web browser to the web menu. To turn this feature off, you can disable Auto-DNS. **Note:** Disabling Auto-DNS will require that you access the web menu using the IP address of this device. It is recommended that you note your IP address before changing this mode. If you are no longer able to access the web menu, you will need to perform a hardware reset.

Domain Name: The Domain Name allows you to change the URL which is used to access the Setup Menu for the Range Extender. For example, entering <http://setup.ampedwireless.com> into your web browser while connected to the Range Extender, will guide you to the Web menu for the Range Extender. By changing the Domain Name, you will change the URL entered to access the Web menu. If you forget the Domain Name you entered and can no longer access the Web menu, then you will need to reset your Range Extender to default settings by holding down the reset button on the back panel for 5-10 seconds.

MANAGEMENT FEATURES

The Management features on the Range Extender allow you to view the status of your Range Extender and adjust other settings such as your System Clock, Passwords, and Firmware Upgrades among other administrative functions.

Management: Device Status

The System Status provides you with a snapshot of your Range Extender's current connections and settings.

System Information: This section provides you with information on the version and build time of your firmware. This is used to help our support department determine what firmware version your device is running.

The Current Date / Time will display the current clock settings of the Range Extender. If this time is off, go to the System Clock section and configure your system time.

The Wired Ports Routing shows the active Home Network used for transferring data to and from the wired ports.

Home Wireless Network Settings: This section displays the current status of the connection between the High Power Range Extender and your Home Network (2.4GHz or 5GHz). When viewing this section it is important to check that your Home Network SSID is correct, that the channel number matches your Home Network's channel number settings.



Connection State: The Connection State will say "Connected" when there are no problems with the connection to your Home Network.

If the Connection State shows "Waiting for Keys" then the WPA/WPA2 security key you entered is incorrect.

If the Connection State shows "Scanning" the Range Extender may be too far away from your home/office router.

The Signal Strength display can be updated by refreshing the page and is a good tool to use for finding the optimal installation location. A signal strength of 70% or greater is recommended for stable operation of the High Power Range Extender.

Extended Wireless Network Settings: Shows the current settings for your Extended Wireless Network (2.4GHz or 5GHz).

IP Settings: The network IP settings for your Range Extender will change as you connect and disconnect from your 2.4 or 5GHz Home Network. When connected to your Home Network, the network IP settings will be assigned by your Home Network. When not connected, the High Power Range Extender will use its own default network IP settings. These IPs are assigned to the 2.4 and 5GHz networks individually.

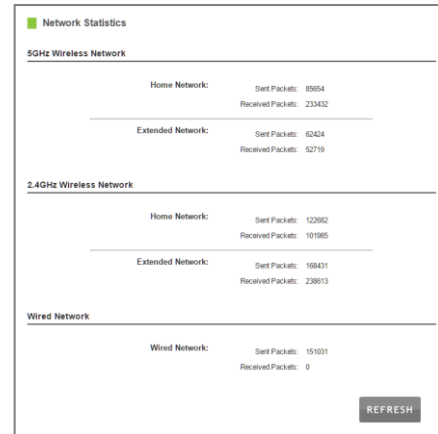
Management: Network Statistics

These statistics show the data activity for each network connection.

Connection to Home Network: This statistics shows the data activity for all upload and download data between the Home Network and the Range Extender.

Extended Wireless Network: These statistics shows all data activity for all users connected wirelessly to the Range Extender.

Extended Wired Network: The Wired Connection statistics shows all data activity for all users physically connected to the wired ports on the Range Extender.



Management: System Clock

Maintain the internal clock for the Range Extender by syncing with your computer's time. Your system clock settings need to be accurate in order for logs and wireless access schedules to work correctly.

System Clock

Maintain the system clock settings by syncing the system time with the time on your computer. The Range Extender's clock is used to make sure your Access Schedules and logs function correctly and on time.

Current Time: Month Day Year
 Hour Minute Sec

Sync with your computer:

Management: System Logs

System Logs are useful for viewing the activity and history of the Range Extender. The System Logs are also used by Amped Wireless Elite Support Concierges to help troubleshoot your Range Extender when needed.

It is recommended that you enable all logs in the event that troubleshooting is required. All log entries are deleted each time the Range Extender reboots or is powered off.

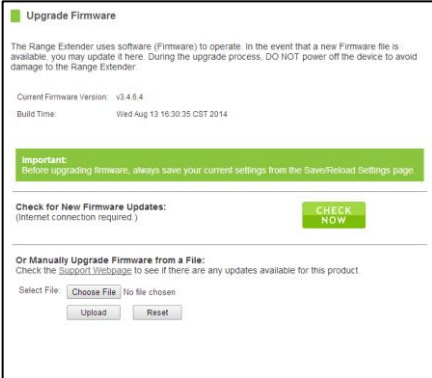
Management: Upgrade Firmware

Amped Wireless continuously updates the firmware for all products in an effort to constantly improve our products and their user experiences. When connected to an active connection with Internet access, the Range Extender can automatically check for new firmware updates that are available by pressing **Check Now**. Follow the prompts to complete the upgrade process.

Before upgrading the firmware, remember to always save your current settings first by going to the **Save/Reload Settings page**. The firmware upgrade process will reset the settings of the Range Extender to default settings.

Manual Firmware Upgrade: In the case that the Range Extender does not have access to the Internet, you can manually upgrade the firmware by downloading the firmware file from the Amped Wireless Elite Support website. The firmware update is downloaded as a zip file and you will need to have an unzipping program to open the file. Inside the file will be a text document with details on the current firmware release and instructions on how to upgrade the firmware.

To manually upgrade your firmware:



The screenshot shows a web interface titled "Upgrade Firmware". It contains the following elements:

- Header:** "Upgrade Firmware"
- Text:** "The Range Extender uses software (Firmware) to operate. In the event that a new Firmware file is available, you may update it here. During the upgrade process, DO NOT power off the device to avoid damage to the Range Extender."
- Metadata:** "Current Firmware Version: v3.4.6.4" and "Build Time: Wed Aug 13 16:30:35 CST 2014".
- Important Note:** A green box with white text: "Important: Before upgrading firmware, always save your current settings from the Save/Reload Settings page."
- Check for Updates:** A section titled "Check for New Firmware Updates: (Internet connection required)" with a green "CHECK NOW" button.
- Manual Upgrade:** A section titled "Or Manually Upgrade Firmware from a File:" with a link to "Support Webpage" and a note: "Check the Support Webpage to see if there are any updates available for this product."
- File Selection:** A "Select File:" label, a "Choose File" button, and the text "No file chosen".
- Buttons:** "Upload" and "Reset" buttons.

- a. Download the file from www.ampedwireless.com/support and remember the location where you saved it. Firmware files may also be provided by Amped Wireless Elite Support Concierges.
- b. Click **Choose File** and locate the file.
- c. Click **Upload** to begin upgrading.

Note: Firmware files normally have a **.bin** file extension.

Management: Save/Reload Settings

Saving your current settings allows you to back-up your current settings which may be reloaded at a later time. This feature may be useful for testing new features and settings without having to worry about returning to a stable platform.



To save current settings:

- a. Click Save
- b. Select a file name and location

To load previously saved settings:

- a. Click Browse
- b. Locate the previously saved settings file
- c. Click Upload to restore the settings to the saved file

You may also reset the Range Extender's settings to factory settings by pressing Reset. By resetting the Range Extender you will lose all previous configurations and will need to run the Setup Wizard again to reconnect to a Home Network.

Management: Password Settings

By default, the Range Extender does not require a password to log on to the web menu. If you wish to enable a password to protect unauthorized access to the web menu and Setup Wizard, you may enter one here.

■ Password

Prevent unauthorized access to your Range Extender's web-based configuration menu by providing a login and password. If no protection is necessary, leave these fields blank and you will not be prompted for a login and password when accessing this web menu.

New Login:

New Password:

Confirmed Password:

APPLY **RESET**

TECHNICAL SPECIFICATIONS

Wireless Standard: 802.11a/b/g/n/ac

Frequency Band: 2.4/5GHz

Wireless Speed: 2.4GHz: 399Mbps (Tx/Rx)

5GHz (1): 866Mbps (Tx/Rx)

5GHz (2): 866Mbps (Tx/Rx)

Amplifier: 2 x 2.4GHz Amplifiers

4 x 5GHz Amplifiers

6 x Low Noise Amplifiers

Memory: 128MB DDR3

Processor: Qualcomm Quad Core ARM Processor

Antennas: 3 x Detachable High Gain Antennas

1 x Internal High Gain Antenna

3 x Reverse SMA Connector

Port:

- 5 x RJ-45 10/100/1000M LAN port (Local Port)
- 1 x USB 3.0 Port

Mounting:

- Wall or Desktop

Operating Temperature

- 32-140° F (0- 40° C)

Warranty: 1 Year

Setup Requirements:

- 2.4GHz or 5GHz Wireless 802.11a/b/g/n or ac Wi-Fi Network
- Computer, tablet or smartphone with a web browser
- Google Chrome, Internet Explorer (8.0 and up), or Safari web browser

DEFAULT SETTINGS

The default settings for your Range Extender are listed here. If for some reason you need to return your Range Extender back to default settings, hold down the Reset button on the back panel for 10 seconds. The Range Extender will reset back to factory settings as listed below:

IP Address: 192.168.1.240

Web Menu Access: <http://setup.ampedwireless.com>

2.4GHz Extended Network SSID: Amped_HeliosEX_2.4

5GHz Extended Network SSID: Amped_HeliosEX_5.0

TROUBLESHOOTING & SUPPORT INFORMATION

We are here to help. If you have any issues with your Range Extender, please contact us.

To contact Amped Wireless Elite Support use one of the following methods:

Phone: 888-573-8820

Email: techsupport@ampedwireless.com

Web: www.ampedwireless.com/support

Troubleshooting

The tips in this guide are listed in order of relevance. Try solution (a) before trying solution (b), etc.

Troubleshooting: Web Menu Access Issues

I entered <http://setup.ampedwireless.com> and it failed to open the Web Menu.

- a. Make sure your computer is connected to the Range Extender's Wi-Fi network: Amped_HeliosEX_2.4 or Amped_HeliosEX_5.0
- b. Try to use a different web browser. We recommend the Google Chrome web browser.
- c. Try to open your web browser to the default IP address by putting this number into your web browser instead: 192.168.1.240
- d. Power off (unplug from the power outlet) the Range Extender and power it back on. Try again.
- e. Reset your Range Extender to default settings by holding the Reset Button (located on the back panel) for ten (10) seconds and try again.
- f. If steps (a) thru (e) fail, disconnect your PC from all Wi-Fi networks. Attach an Ethernet cable between the Range Extender and your PC. Try to access <http://setup.ampedwireless.com> again.

I could NEVER log on to the Range Extender wirelessly.

- a. Check that your wireless adapter supports WPA2 or WPA wireless security. If it does not then you will need to change the wireless security on the Range Extender. Go to the Web Menu, select Wireless Settings and then Wireless Security. Select the Extended Network from the drop down menu and either disable security or downgrade the security to WEP. Try connecting again.
- b. The connection to the Home Network may be down. Use an Ethernet cable and connect directly to the Range Extender. Access <http://setup.ampedwireless.com> and run through the Setup Wizard again. After you have successfully reset the Home Network connection, try connecting wirelessly again.

I can no longer access the Web Menu or the Range Extender no longer responds.

- a. Connect to your Range Extender and try to access <http://setup.ampedwireless.com> using your web browser.
- b. If you are advanced in networking troubleshooting, log onto your home router's web interface. Look for the DHCP client list and try to find the IP address of your Range Extender assigned by your home router. Once you have it, connect to the Range Extender using an Ethernet cable. Open your web browser and enter the IP address into the address bar.
- c. Reset the Range Extender back to default settings and try the Setup Wizard again. To reset the Range Extender back to default settings, push the Reset Button (on the back panel) down for five (5) to ten

(10) seconds then let go. After the Range Extender has fully reset, use an Ethernet cable and connect to the Range Extender. Login to the Web Menu at <http://setup.ampedwireless.com> and run through the Wizard.

Troubleshooting: Home Network Connection Issues

I cannot connect to my Home Network. I received an error when running the Setup Wizard.

- a. Your Home Network may be secured. Double check that you have the correct security key to connect to the Home Network.
- b. Your Range Extender may be located too far from your Home Network. Run through the Setup Wizard again. On the SCAN page, your Home Network should show a signal strength of 70% or greater. If it does not, move the Range Extender closer to your Home Network and try again.
- c. If you are connecting to a dual band router, both networks (2.4GHz and 5GHz) should have a signal strength of 70% or greater.
- d. Check that the antennas are connected securely to the antenna connectors.
- e. Check to see that your Home Network router's DHCP server is enabled. The Range Extender needs to obtain an IP from your Home Network router.

I cannot find my Home Network when scanning for wireless networks in the Setup Wizard.

- a. The Range Extender may be out of range. Move the Range Extender closer towards the wireless router and try the Setup Wizard again from the Web Menu. It is recommended that your Home Network shows a signal strength of 70% or greater in the Setup Wizard SCAN results.
- b. Go to the Wireless Settings tab in the web menu and access the Wireless Coverage Controls for your specific wireless network (2.4GHz or 5GHz). Make sure the setting is at 100% and try again.
- c. Make sure that your Home Network's wireless SSID is broadcasting and not hidden. If your Home Network SSID is hidden, you will need to manually setup the Range Extender through the Wireless Settings > Home Network Settings menu.

My Range Extender was working fine previously, but now I can no longer access the Internet through the Range Extender. Or, I had a **POWER OUTAGE and now the Range Extender no longer works.**

The Range Extender should automatically heal itself and reconnect to your wireless network. However, in the event that it does not and you are not able to access the Internet or your home network please try the following options:

- a. Reboot the Range Extender, wait 3 minutes for the Range Extender to reconnect to your network and try to access the Internet.

- b. The connection to your Home Network may have been dropped or the router settings may have changed. Changes to the router could be a result of several events, such as a power outage. When this occurs, connect to the Range Extender and access the setup menu using the web address: <http://setup.ampedwireless.com>. Run the Setup Wizard to reconnect the Range Extender to your network.
- c. The Range Extender may be too far from your home router and not maintaining a signal strength of above 70%. Check the signal strength between the router and the Range Extender through the web menu (left side): More Settings > Management > Device Status. The Signal Strength readout will be under the Home Wireless Network Settings section. This Signal Strength must be above 70%. If it is below, move the Range Extender closer to your router, or reposition the Range Extender.
- d. Check that the antennas are connected securely to the antenna connectors.
- e. Rescan for another network by accessing <http://setup.ampedwireless.com> to connect to and repeat or you may try to fix the issues with your Home Network and your home wireless router.
- f. Check to see that your home wireless router settings have not changed. Any changes to the SSID, security, or channel number from the original settings will disconnect the Range Extender's connection to the home network. To solve this simply run the Setup Wizard again from the web menu and reconfigure your Home Network connection. You can also set a static channel number on your router to prevent this from happening again in the future.

- g. If you cannot access the setup menu, check to see that your Range Extender is still on. Reboot the Range Extender by unplugging the power adapter and plugging it back in. Check to see if your connection has been reestablished by viewing a website. If you do not have a connection, log on to <http://setup.ampedwireless.com> and configure a new Home Network connection.
- h. Check to see that your home wireless router is still on. If it has been turned off please turn it back on. The Range Extender should automatically reconnect to your Home Network within 10 minutes.

I have a dual-band router and I cannot extend the network.

- a. The Range Extender will repeat the 2.4GHz signal or the 5GHz signal from your router. Either wireless network must have a signal strength of 70% or greater with the Range Extender for a reliable connection. Make sure that your dual band router is close enough to the Range Extender to receive a strong signal. It is recommended to repeat the 5GHz network for optimal performance.
- b. Check to make sure that you have the correct security key for each network.
- c. Check that the antennas are connected securely to the antenna connectors.
- d. Ensure that your dual band router does not have any security features enabled, such as MAC address filtering. If it does, disable it and try again.

I cannot find any wireless networks (Home Networks) to repeat.

- a. The Range Extender may be out of range. Move the Range Extender closer towards the wireless router and try the Setup Wizard again from the Web Menu.
- b. The antennas on your Range Extender may be loose. Tighten the antenna connections and try again.
- c. Check that the antennas are connected securely to the antenna connectors.
- d. The wireless Home Network may not be a compatible wireless network (802.11a/b/g/n/ac).

I am connected to a Home Network, however, I do not have Internet access.

- a. The Home Network itself may not have Internet access. Check to see that you have internet access by connecting directly to the Home Network first. If you are able to go online then this is not a problem. If you cannot go online, then the Home Network's Internet connection must first be resolved.
- b. You may have a DNS issue and the Range Extender is not obtaining the IP settings from your Home Network. Try to reboot the Range Extender. If that fails, then reboot the Home Router to see if that fixes it.
- c. There may be an IP conflict with your Home Network and your Extended Network. Try to adjust the IP Settings of your Extended Network using IP values that are different from your Home Network.

I can no longer connect to the Range Extender wirelessly.

- a. Power on and off the Range Extender and try again.
- b. The connection to the Home Network may be down. Use an Ethernet cable and connect directly to the Range Extender. Access <http://setup.ampedwireless.com> and run through the Setup Wizard again. After you have successfully reset the Home Network connection, try connecting wirelessly again.

The connection to the Home Network seems slow. File transfers take a long time to transfer.

- a. You may be too far away from your Home Network. The closer the Range Extender is to your Home Network, the better its connection will be. The Range Extender must have a strong signal in order to repeat the signal with fast speeds and further range. Move the Range Extender closer to your Home Network and try again.
- b. Check that the antennas are connected securely to the antenna connectors.
- c. Check that the Extender is connected to the 5GHz band of your Home Network so that DirectLink is enabled.
- d. You may be downloading from the Internet and not within your Home Network or Extended Network. Files transferred through the Internet are limited by your ISP speed and the data download speeds from the website that you are downloading from.

- e. Your computer may be using an older Wi-Fi adapter with lower speed limits and range capabilities (802.11b/g/n).
- f. To achieve 802.11ac Wi-Fi speeds for your extended network, it is necessary to extend an 802.11ac Wi-Fi router. Check that your home router is an 802.11ac router. Extending a router with slower Wi-Fi speeds, such as 802.11b/g/n will result in slower Wi-Fi speeds for your extended network.

Troubleshooting: Wireless Issues

I am only getting 3 or 4 wireless signal bars on my wireless computer and I am within 10 feet of the Range Extender.

- a. Step back at least 10 feet from the Range Extender and check your signal again. The Range Extender emits high power, long range Wi-Fi signals that may confuse your wireless adapter signal reading at close range. The speed and signal are at 100%, however your readout may not be displaying the data correctly.
- b. Check that the antennas are connected securely to the antenna connectors.
- c. The wireless channel that your network is running on may be congested. Change the wireless channel on your home Router and reconnect the Range Extender.

The range from the Range Extender seems low or the speed is slow.

- a. Check to see that your wireless output settings are at 100%. Go to the Web Menu, Wireless Settings and check the Advanced Settings. Make sure the output power is at 100%.
- b. Your Range Extender may be installed in a poor location. Avoid setting up your Range Extender in areas with high interference, such as, near fridges, microwaves, metallic objects and low surfaces. Install the Range Extender in a higher location if possible.

- c. Check the connections of the Antennas to the Range Extender. Tighten them if necessary.
- d. Adjust the Antennas of the Range Extender in different angles.
- e. The wireless channel that your network is using may be congested. Change the channel for your router's 2.4GHz network or 5GHz network. The Range Extender should automatically reconnect to your networks new settings, however if it does not, simply reconfigure the Range Extender to your network.
- f. The network adapter that you are using may have poor range, older technology with slower speeds or may need a driver update.
- g. Your computer may be using an older Wi-Fi adapter with lower speed limits and range capabilities (802.11b/g/n).
- h. To achieve 802.11ac Wi-Fi speeds for your extended network, it is necessary to extend an 802.11ac Wi-Fi router. Check that your home router is an 802.11ac router. Extending a router with slower Wi-Fi speeds, such as 802.11b/g/n will result in slower Wi-Fi speeds for your extended network.

Troubleshooting: USB Storage and Web Menu Feature Issues

I cannot access my USB storage device after I plug it into the range extender.

Follow the instructions below for your operating system.

Windows 7 and Vista

To access the drive from your Windows desktop: Note: If the USB drive does not appear automatically under your Networked devices (Windows 7, Vista or Mac OS X), you will need to Map the Network Drive.

- a. Click the **Start** button.
- b. Click **Computer**.
- c. On the **Computer** page, the drive should appear on the left hand column under **Network** as **AMPED_RE_USB**.

To Map the Network Drive:

- a. Click the **Start** button.
- b. Click **Computer**.
- c. Click **Map Network Drive** from the top bar.
- d. Select a drive letter (any), then enter in the folder field depending on which USB port your drive is attached to:
`\\AMPED_RE_USB\usb3\` or `\\Range Extender's LAN IP address\usb3\`
- e. If the drive fails to open, click **browse** and locate **AMPED_USB** under **Network**.

Windows XP

To access the drive from your Windows desktop:

Note: If the USB drive does not appear automatically under your Networked devices (Windows 7, Vista or Mac OS X), you will need to Map the Network Drive.

- a. Click the **Start** button.
- b. Click **My Computer**.
- c. Click on **My Network Places** and locate the drive named **AMPED_USB**.

To Map the network drive:

- a. Click the **Start** button.
- b. Right click **My Computer** and select **Map Network Drive**.
- c. Select a drive letter (any), then enter in the folder field depending on which USB port your drive is attached to:
`\\AMPED_RE_USB\usb3\` or `\\Range Extender's LAN IP address\usb3\`
- d. If the drive fails to open, click **browse** and locate **AMPED_USB** under **Network**.

Mac OS X

To access the drive from your Mac desktop:

Note: If the USB drive does not appear automatically under your Networked devices (Windows 7, Vista or Mac OS X), you will need to Map the Network Drive.

- a. Open **Finder**.

- b. On the left hand menu, under Shared, click Amped USB.

To Map the network drive:

- a. Open Finder.
- b. From the menu on the top of the desktop, select Go.
- c. Select *Connect To Server* from the drop down menu.
- d. Enter the address of the network drive based on which port the USB drive is attached to:
smb://AMPED_RE_USB/usb3 or *smb://Range Extender's LAN ip address/usb3*

The Range Extender freezes or I cannot access the web when a USB storage device is connected.

- a. Remove the USB storage device from the Range Extender and reboot it by unplugging the power adapter. Once rebooted, try inserting the USB storage device again.
- b. Make sure your USB storage device is not corrupted and is working properly and try again.

Additional USB Storage troubleshooting tips may be available online at the Amped Wireless Elite Support Center. Please check the Elite Support Center for the latest updates and features for USB Storage support.

My Wireless Access Schedule is being erratic and not working at the correct times.

- a. You need to adjust your Time Zone Settings from the Management Web Menu page.

Wi-Fi Protected Setup (WPS) is not working. Push button configuration does not detect the connection.

- a. The Range Extender supports WPS connections, however, some companies may use proprietary code for their own push button configurations. Try connecting using the Windows wireless utility or Mac wireless utility instead.

WARRANTY AND REGULATORY INFORMATION

The Amped Wireless (A division of Newo Corporation, Inc.) Limited Warranty

Warranty Period: The Amped Wireless Limited Warranty is for one (1) year from the date of purchase for new products. Refurbished products carry the Limited Warranty for thirty (30) days after the date of purchase.

Guarantee: Amped Wireless warrants to the original purchaser that the hardware of this Amped Wireless product shall be free of defects in design, assembly, material, or workmanship.

Conditions: The Amped Wireless Limited Warranty is for repair or replacement only at the sole discretion of Amped Wireless. Amped Wireless does not issue any refunds for purchased product. In the event that Amped Wireless is unable to repair or replace a product (i.e. discontinued product), Amped Wireless will offer a credit toward the purchase of a similar product of equal or lesser value direct from Amped Wireless. Any repaired or replacement products will be warranted for the remainder of the original Warranty Period or thirty (30) days, whichever is longer. Amped Wireless reserves the right to discontinue any of its products without notice, and disclaims any limited warranty to repair or replace any such discontinued product. Amped Wireless reserves the right to revise or make changes to this product, its documentation, packaging, specifications, hardware, and software without notice. If any portion of the Amped Wireless Limited Warranty is found to be unenforceable, its remaining provisions shall remain in effect. All costs of shipping the product to Amped Wireless shall be borne solely by the purchaser.

Limitations: IN NO EVENT SHALL AMPED WIRELESS' (NEWO CORPORATION'S) LIABILITY EXCEED THE AMOUNT PAID BY YOU FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, ITS ACCOMPANYING SOFTWARE, ACCESSORIES OR ITS DOCUMENTATION. The Amped Wireless Limited Warranty does not apply if: (a) the product assembly has been opened or damaged, (b) the product or its software or firmware has been altered or modified, (c) the product has not been used and installed in accordance to Amped Wireless' instructions, (d) the product has been subjected to misuse, or negligence. Amped Wireless does not guarantee the continued availability of a third party's service for which this product's use or operation may require. The Amped Wireless Limited Warranty does not protect against acts of God, vandalism, theft, normal wear and tear, obsolescence and environmental damages such as, but not limited to, weather and electrical disturbances. The Amped Wireless Limited Warranty is the sole warranty for this product. There are no other warranties, expressed or, except required by law, implied, including the implied warranty or condition of quality, performance merchantability, or fitness for any particular purpose.

How to Claim Warranty: In the event that you have a problem with this product, please go to www.ampedwireless.com/support to find help on solving your problem. In the event that you cannot and need to file a warranty claim, please call Amped Wireless' Elite Support or visit <http://www.ampedwireless.com/support/center.html#rma> to obtain a Support Ticket Number (obtained from Technical Support Reps), fill out a Return Authorization (RMA) form and obtain a Return Authorization (RMA) number. A dated proof of original purchase and the RMA number is required to process warranty claims. You are responsible for properly packaging and shipping the product at your cost and risk to Amped Wireless. The bearer of cost related to shipping repaired or replaced product back to the purchaser will be at the sole

discretion of Amped Wireless and determined based on the details of each RMA case. Customers outside of the United States of America are responsible for all shipping and handling costs including custom duties, taxes and all other related charges.

Technical Support: The Amped Wireless Limited Warranty is not related to the terms, conditions and policies of Amped Wireless Elite Support offerings. For questions regarding support, please contact techsupport@ampedwireless.com

Regulatory Information

FCC Statement and Declaration: Amped Wireless declares that this device complies with Part 15 of the FCC Rules and Regulations. Operation of this device is subject to the following two (2) conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Notice: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and the receiver.

- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution and Safety Notices: Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter. Avoid use of this product near water or during an electrical storm as there may be a remote risk of electrical shock from lightning. This product may contain lead, known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling. This device must always be used with a Listed Computer or device.

For product available in the USA/Canada market, only channel 1-11 can be operated. Selection of other channels is not possible. This device is restricted to indoor use when operated in the 5.15 to 5.25 GHz frequency range.

FCC requires this product to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems.

FCC Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This device is restricted for indoor use.

Industry Canada Statement: This Class B digital apparatus complies with RSS-247 and ICES-003 of the Industry Canada Rules. This device complies with Industry Canada license-exempt RSS standard(s). Operation of this device is subject to the following two (2) conditions:

- (1) This device may not cause harmful interference
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Radiation Exposure Statement: This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 21cm between the radiator and your body.

The transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

For product available in the USA/Canada market, only channel 1-11 can be operated. Selection of other channels is not possible.

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

The maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the EIRP limits specified for point-to-point and non-point-to-point operation as appropriate.

This device has been designed to operate with an antenna having a maximum gain of 4.03 dBi and 4.58 dBi at 2.4 GHz and 5 GHz respectively. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Ant.	Brand	Model Name (Product Number)	Antenna Type	Connector	Gain (dBi)
1	Cortec	AN2450-5010BRS	Dipole Antenna	Reversed-SMA	Note 1
2	Cortec	AN2450-5010BRS	Dipole Antenna	Reversed-SMA	
3	LYNwave	ALA110-091021- 000000	PIFA Antenna	I-PEX	
4	Cortec	AN2450-5010BRS	Dipole Antenna	Reversed-SMA	

Note 1:

Ant.	Gain (dBi)			Cable loss			True Gain (dBi)		
	2.4GHz	5GHz Band 1	5GHz Band 4	2.4GHz	5GHz Band 1	5GHz Band 4	2.4GHz	5GHz Band 1	5GHz Band 4
1	5.03	5.59	-	0.8	1.3	-	4.23	4.29	-
2	5.03	5.59	-	0.8	1.3	-	4.23	4.29	-
3	-	-	2	-	-	1.3	-	-	0.7
4	-	-	5.59	-	-	1.3	-	-	4.29

Déclaration d'Industrie Canada : Cet appareil numérique de classe B est conforme aux réglementations RSS-247 et ICES-003 d'Industrie Canada. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. Le fonctionnement de cet appareil est sujet aux deux conditions suivantes:

- (1) Cet appareil ne peut pas causer de brouillage préjudiciable
- (2) Cet appareil doit accepter toute interférence reçue, y compris les interférences pouvant provoquer un dysfonctionnement.

Déclaration d'exposition à la radiation : Cet équipement respecte les limites d'exposition aux rayonnements IC définies pour un environnement non contrôlé. Cet équipement doit être installé et mis en marche à une distance minimale de 21 cm qui sépare l'élément rayonnant de votre corps.

L'émetteur ne doit ni être utilisé avec une autre antenne ou un autre émetteur ni se trouver à leur proximité.

Pour les produits disponibles aux Etats-Unis / Canada du marché, seul le canal 1 à 11 peuvent être exploités. Sélection d'autres canaux n'est pas possible.

Les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

Le gain maximal d'antenne permis (pour les dispositifs utilisant la bande 5725-5850 MHz) doit se conformer à la limite de PIRE spécifiée pour l'exploitation point à point et non point à point, selon le cas.

De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

Cet appareil a été conçu pour fonctionner avec une antenne ayant un gain maximum de 4,03 dBi et 4,58 dBi sur les bandes 2.4GHz et 5 GHz respectivement. L'utilisation d'antenne ayant un gain supérieur est strictement interdit par le règlement d'Industrie Canada. L'impédance d'antenne requise est 50 ohms.

Le présent émetteur radio a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Ant.	Marque	Nom du modèle (Numéro de produit)	Type d'antenne	Connecteur	Gain (dBi)
1	Cortec	AN2450-5010BRS	Antenne dipôle	RPSMA	Note 1
2	Cortec	AN2450-5010BRS	Antenne dipôle	RPSMA	
3	LYNwave	ALA110-091021- 000000	Antenne PIFA	I-PEX	
4	Cortec	AN2450-5010BRS	Antenne dipôle	RPSMA	

Note 1:

Ant.	Gain (dBi)			Perte de câble			Vrai gain (dBi)		
	2.4GHz	5GHz Bande 1	5GHz Bande 4	2.4GHz	5GHz Bande 1	5GHz Bande 4	2.4GHz	5GHz Bande 1	5GHz Bande 4
1	5.03	5.59	-	0.8	1.3	-	4.23	4.29	-
2	5.03	5.59	-	0.8	1.3	-	4.23	4.29	-
3	-	-	2	-	-	1.3	-	-	0.7
4	-	-	5.59	-	-	1.3	-	-	4.29

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Product wireless range specifications are based on performance test results. Actual performance may vary due to differences in operating environments, building materials and wireless obstructions. Performance may increase or decrease over the stated specification. Wireless coverage claims are used only as a reference and are not guaranteed as each wireless network is uniquely different.

Maximum wireless signal rates are derived from IEEE 802.11 standard specifications. Actual data throughput may vary as a result of network conditions and environmental factors.

Wi-Fi Range Extenders may not work with non-standard Wi-Fi routers or routers with altered firmware or proprietary firmware, such as those from third party sources or some Internet service providers. May not work with routers that do not comply with IEEE or Wi-Fi standards.

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IT IS YOUR RESPONSIBILITY TO BACK UP YOUR SYSTEM INCLUDING, WITHOUT LIMITATION, ANY DATA THAT YOU MAY USE OR POSSESS IN CONNECTION WITH THE PRODUCT. ANY MATERIAL, INFORMATION OR DATA DOWNLOADED OR OTHERWISE OBTAINED IS ACCESSED AT YOUR OWN DISCRETION AND RISK, AND YOU WILL BE RESPONSIBLE FOR ANY DAMAGE TO YOUR COMPUTER SYSTEM OR PRODUCT, OR LOSS OF DATA THAT RESULTS FROM THE DOWNLOAD OF SUCH MATERIAL, INFORMATION OR DATA.

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Dispute Resolution / Arbitration

This section describes how you agree to resolve any disputes with Amped Wireless regarding these Terms of Use or your purchase of any product from Amped Wireless and your use of that product. You and Amped Wireless agree to the following resolution process.

To begin with, you agree that any claim that you might have against us regarding these Terms of Use or your purchase of any Amped Wireless product or use of that product must be resolved through binding arbitration before the American Arbitration Association using its Commercial Arbitration Rules. The arbitrator shall have exclusive authority to the extent permitted by law to resolve all disputes arising out of or relating to the interpretation, applicability, enforceability, or formation of our agreement, including, but not limited to, any claim that all or part of this agreement is void or voidable. The arbitrator shall also have exclusive authority to the extent permitted by law to decide the arbitrability of any claim or dispute between you and Amped Wireless.

Because we prefer to resolve our issues with you directly, you agree to arbitrate with Amped Wireless only in your individual capacity, not as a representative or member of a class. As such, your claims may not be joined with any other claims and there shall be no authority for any dispute to be arbitrated on a class-action basis or brought by a purported class representative.

It is important that you understand that the arbitrator's decision will be binding and may be entered as a judgment in any court of competent jurisdiction. If the arbitrator rules against Amped Wireless, in addition to accepting whatever responsibility is ordered by the arbitrator, we will reimburse your reasonable attorneys' fees and costs.

It's important to us that we address any issues you might have promptly. To help us do that, you agree to begin any arbitration within one year after your claim arose; otherwise, your claim is waived.

Unless you and Amped Wireless agree otherwise, any arbitration hearings will take place in the county where you reside. If your claim is for \$10,000 or less, you may choose whether the arbitration will be conducted solely on the basis of documents submitted to the arbitrator, through a telephonic hearing, or by an in-person hearing as established by the AAA Rules. If your claim exceeds \$10,000, the right to a hearing will be determined by the AAA Rules.

If your claim against Amped Wireless is for less than \$10,000, Amped Wireless will pay all arbitration fees. If your claim against Amped Wireless is for \$10,000 or more, you are responsible for paying your own portion of the fees set forth in the AAA's fee schedule for consumer disputes, and Amped Wireless will pay all remaining arbitration fees. If you believe you cannot afford the AAA's fee, you may apply to the AAA for a waiver.

As an exception to this arbitration agreement, Amped Wireless is happy to give you the right to pursue in small claims court any claim that is within that court's jurisdiction as long as you proceed only on an individual basis.

We would hope that our customer service agents could resolve any disputes you have with us without resorting to arbitration. Before initiating any arbitration proceeding, you agree to first discuss the matter informally with Amped Wireless for at least 30 days. To do that, please send your full name and contact information, your concern and your proposed solution by mail to us at: 13089 Peyton Dr. #C307, Chino Hills, CA 91709; Attn: Legal Department.

This Agreement and the rights of the parties hereunder shall be governed by and construed in accordance with the laws of the State of California, exclusive of conflict or choice of law rules.

The parties acknowledge that this Agreement evidences a transaction involving interstate commerce. Notwithstanding the provision in the preceding paragraph with respect to applicable substantive law, any arbitration conducted pursuant to the terms of this Agreement shall be governed by the Federal Arbitration Act (9 U.S.C., Secs. 1-16).

Mailing Address Only

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Amped Wireless

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