



FREEWAVE

WavePro™ WP201 Access Point

For Model: - 100

User Manual



Part Number: LUM0073AA

Revision: Feb-2017

Safety Information

The products described in this manual can fail in a variety of modes due to misuse, age, or malfunction. Systems with these products must be designed to prevent personal injury and property damage during product operation and in the event of product failure.

Warranty

FreeWave Technologies, Inc. warrants the FreeWave® Wireless Data Radio (Product) against defects in materials and manufacturing for a period of one year from the date of shipment, depending on model number. In the event of a Product failure due to materials or workmanship, FreeWave® will, at its discretion, repair or replace the Product. For evaluation of Warranty coverage, return the Product to FreeWave® upon receiving a Return Material Authorization (RMA).

In no event will FreeWave Technologies, Inc., its suppliers, or its licensors be liable for any damages arising from the use of or inability to use this Product. This includes business interruption, loss of business information, or other loss which may arise from the use of this Product.

Warranty Policy will **not apply** in the following circumstances:

1. If Product repair, adjustments, or parts replacements are required due to accident, neglect, or undue physical, electrical, or electromagnetic stress.
2. If Product is used outside of FreeWave® specifications as stated in the Product's data sheet.
3. If Product has been modified, repaired, or altered by Customer unless FreeWave® specifically authorized such alterations in each instance in writing.

WP201-100 Return Material Authorization (RMA) Policy and Procedures

This policy describes the responsibilities and procedures of the Customer and FreeWave when a WP201-100 Product return is required.

When a request for a WP201-100 Product replacement has been verified by FreeWave's Customer Support, FreeWave's policy for processing the device returned due to a fault is to replace the device with a new or refurbished device upon receipt of the reported faulty product.

FreeWave's RMA policy is subject to change without notice.

In-Warranty Replacement Procedure

1. Customer contacts FreeWave Customer Support to report the non-functioning WP201-100 Product.
2. FreeWave Customer Support:
 - a. Verifies that a Product replacement is the appropriate action.
 - b. Issues a FreeWave RMA number.
3. The Customer pays the shipping costs to return the WP201-100 Product to FreeWave.
4. FreeWave sends a new or refurbished WP201-100 Product to the Customer.

Important! Any visual or external damage noted on a returned Product may void the warranty. This will be communicated back to the customer and a Purchase Order (PO) will be requested from the customer for Product replacement.

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Preface

Where to Find Additional Information

Use the WP201-100 website, <http://www.freewave.com/support/>, to download the latest version of the Quick Start Guide.

Contact FreeWave Technical Support

For up-to-date troubleshooting information, check the **Support** page at www.freewave.com. FreeWave provides technical support Monday through Friday, 8:00 AM to 5:00 PM Mountain Time (GMT -7).

- Call toll-free at 1.866.923.6168.
- In Colorado, call 303.381.9200.
- Contact us through e-mail at moreinfo@freewave.com.

Printing this Document

This document is set to print double-sided with a front cover and a back cover. Viewing this document online with a PDF viewer, may show pages intentionally left blank to accommodate the double-sided printing.

Document Styles

This document uses these styles:

- FreeWave applications appear as: **FreeWave**.
- Parameter setting text appears as: **[Page=radioSettings]**
- File names appear as: **configuration.cfg**.
- File paths appear as: **C:\Program Files (x86)\FreeWave Technologies**.
- User-entered text appears as: **xxxxxxxxxx**.



Caution: Indicates a situation that **MAY** cause damage to personnel, the radio, data, or network.

Example: Provides example information of the related text.

FREEWAVE Recommends: Identifies FreeWave recommendation information.

Important!: Provides semi-cautionary information relevant to the text or procedure.

Note: Emphasis of specific information relevant to the text or procedure.



Tip Provides time saving or informative suggestions about using the product.



Warning! Indicates a situation that **WILL** cause damage to personnel, the radio, data, or network.

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1. WP201-100 Overview

Thank you for purchasing the WavePro WP201 Access Point.

The FreeWave WP201-100 is a high-powered, long-range, 3x3 Dual-Band, Wireless, 802.11ac/a/b/g/n Outdoor Access Point. It can be configured as:

- an Access Point.
- a B.A.T.M.A.N. Mesh (Mesh-AP or Mesh-Only).
- a Wireless Distribution System (WDS-AP, Station, or Bridge).

The FreeWave WP201-100:

- is easy to install in almost any location with its PoE (Power over Ethernet) Injector for quick outdoor installation.
- enables network administrators to control its transmit power and feature settings for selecting narrow bandwidths and traffic shaping.
- supports wireless encryption including Wi-Fi Protected Access (WPA-PSK/ WPA2-PSK) Encryption, and IEEE 802.1x with RADIUS.

The WP201-100 is designed to operate in a variety of outdoor environments and:

- Supports IEEE 802.11ac/a/b/g/n wireless standards with a maximum speed of:
 - 450Mbps data rate on a 2.4GHz frequency band under 802.11b/g/n mode.
 - 1300Mbps data rate on a 5GHz band under 802.11ac/a/n mode for communicating to and from 5GHz capable computers, tablets or smart phones or transferring files.

Example: Several WP201-100 Access Points can be deployed in a campus setting using the 5GHz band as a backhaul to provide multiple 2.4GHz wireless cells for computers or mobile devices in common outdoor areas.

1. WP201-100 Overview

- A maximum of 29dBm transmit power, enabling long range connectivity.
 - The WavePro WP201 covered in this document has a maximum combined transmitted output power of:
23dBm for FCC ID KNYPRW5000AA and
29dBm for FCC ID KNYPRW5000AB.
- There are three detachable:
 - 5dBi 2.4GHz omni-directional antennas.
 - 7dBi 5GHz omni-directional antennas.
- Mesh Supported (2.4GHz and 5GHz).
- Compatible with 802.3at - capable switches or injectors.
- Band Steering dynamically shifts Dual Band clients to 5GHz for better throughput performance.
- Secured Guest Network option available

Notes

- Maximum data rates are based on IEEE 802.11 standards.
- Actual throughput and range may vary depending on many factors including environmental conditions, distance between devices, radio interference in the operating environment, and mix of devices in the network.
- Features and specifications are subject to change without notice.
- Trademarks and registered trademarks are the property of their respective owners.

1.1. Assumptions

It is assumed the user has these skills and knowledge to setup and use the WP201-100.

- Physical installation of network equipment.
- RF network design, usage, propagation and verification.
- IP network setup and verification.

1.2. WP201-100 Included Equipment

The WP201 package contains these items:

Included Equipment		
Qty	Description	Image Letter
1	WP201-100 Quick Start Guide	
1	WP201-100 Access Point	
1	Mounting Bracket	A
1	PoE+ Injector	B
1	Mounting Kit Package (includes screws, masonry wedge anchor bolts)	C

Included Equipment		
Qty	Description	Image Letter
2	Green / Yellow #10AWG Ground Cables	D
1	Packaged Ground Screw	E
1	Universal Power Adapter	F
1	Pole Mounting Bracket	G
3	7dBi 5GHz omni-directional antennas	H
3	5dBi 2.4GHz omni-directional antennas	H
2	Band Clamps	I

Note: For additional equipment, see [WP201-100 Available Accessories \(on page 260\)](#).

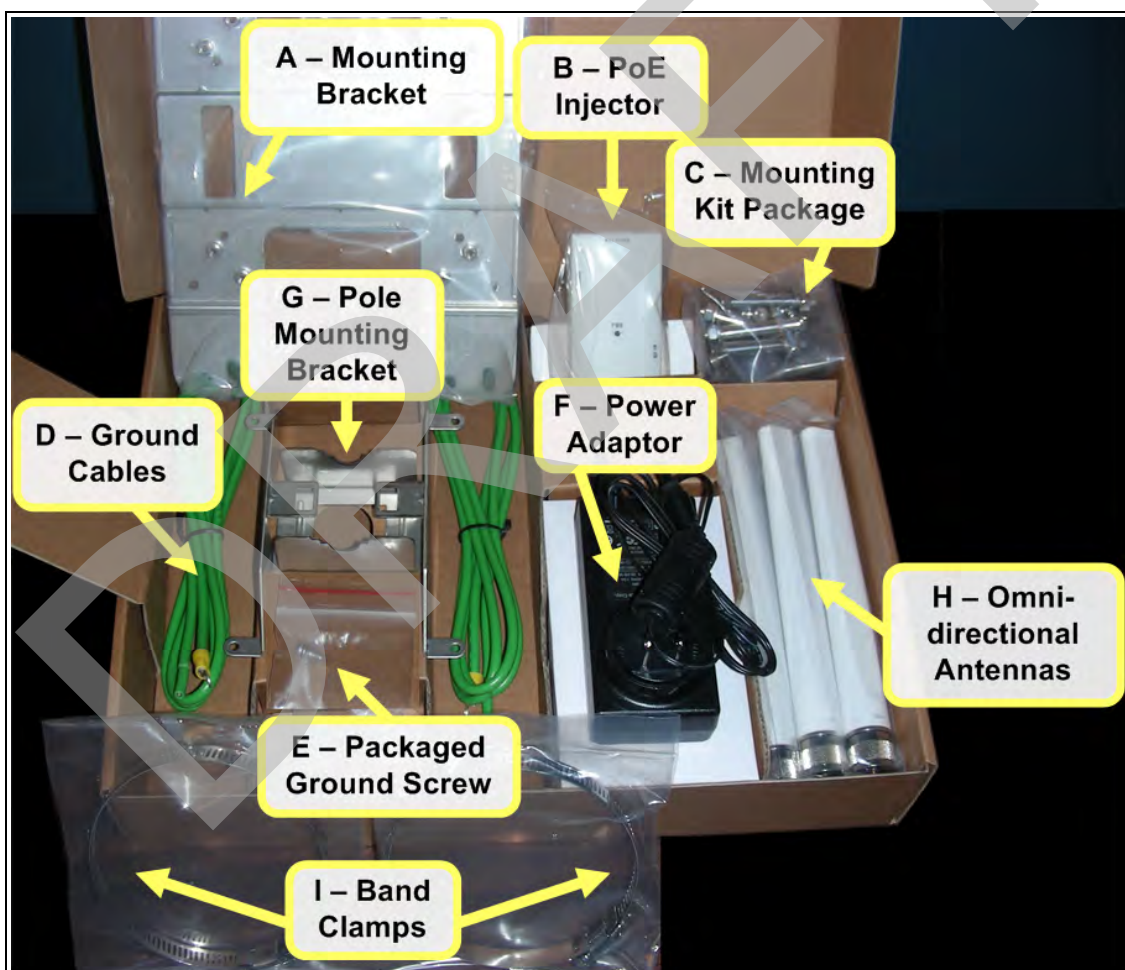


Figure 1: WP201 Included Accessories

1.3. User-supplied Equipment

- Computer with:
 - an Ethernet port.
 - Windows® 7 or greater.
 - Internet Browser: Chrome®, Firefox®, Internet Explorer®, Opera®, Safari®.



Caution: The default browser in Windows® 10 is Microsoft® **Edge**.
The WP201-100 software does NOT automatically download to the computer using **Edge**.
Use one of the other identified browsers instead.

- Qty-2: CAT5e / CAT6 Ethernet cables WITHOUT strain relief
- Broadband Internet Service (Cable or DSL Modem)
- [Wall Mounting Installation - WP201-100 \(on page 28\)](#) or [Pole Mounting Installation - WP201-100 \(on page 32\)](#):
 - Drill with 8mm diameter drill bit (for wall installation)
 - Hammer (for wall installation)
 - Medium Flat-head screwdriver
 - Metric Box-end Wrenches
 - Pliers
 - Small Flat-head screwdriver
 - Small Phillips-head screwdriver

1.4. WP201-100 Hardware Layout

These images identify the hardware layout of the WP201-100:

- [Front of the WP201-100 \(on page 14\)](#)
- [Back of the WP201-100 \(on page 15\)](#)
- [Left Side of the WP201-100 \(on page 16\)](#)
- [Right Side of the WP201-100 \(on page 17\)](#)
- [Bottom of the WP201-100 \(on page 16\)](#)

Note: For additional equipment, see [WP201-100 Available Accessories \(on page 260\)](#).

1.4.1. Front of the WP201-100

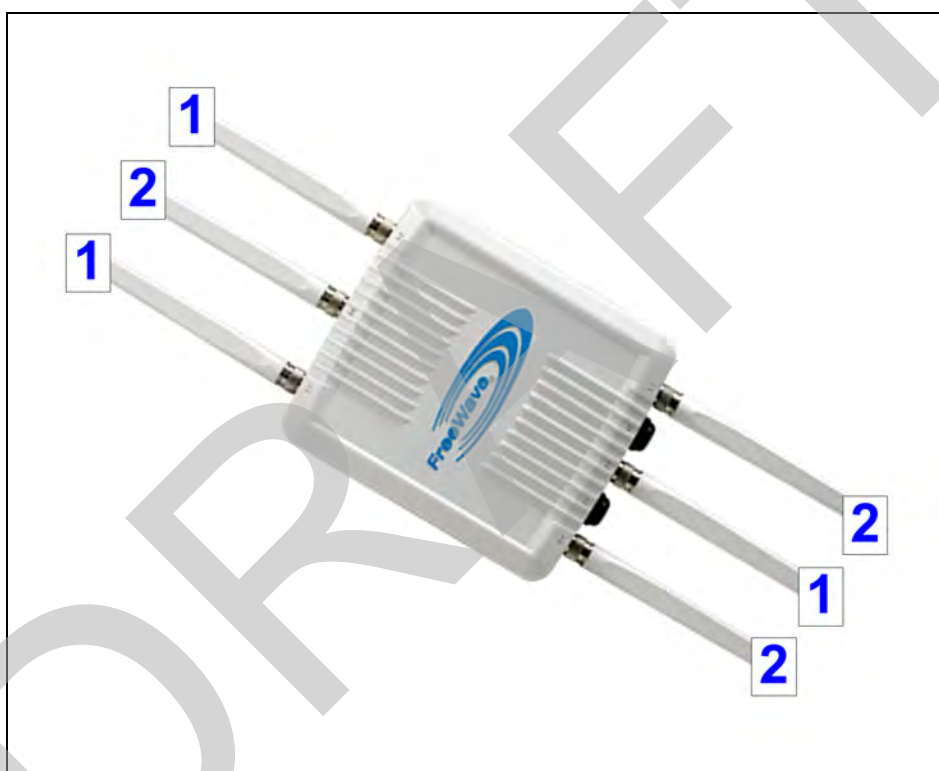


Figure 2: Front of the WP201-100 with Antennas

Front of the WP201-100 with Antennas			
#	Name	Description	Accessory Location***
1	2.4 GHz Antennas	Detachable 5 dBi 2.4 GHz omni-directional	H
2	5 GHz Antennas	Detachable 7 dBi 5 GHz omni-directional	H

Note: ***See the [WP201-100 Included Equipment \(on page 11\)](#).

1.4.2. Back of the WP201-100



Figure 3: Back of the WP201-100

Back of the WP201-100			
#	Name	Description	Accessory Location***
3	Mounting Holes	The Mounting Holes are used to attach the Mounting Bracket to the WP201-100.	A
4	Ground screw hole	Using the enclosed Packaged Ground Screw , attach the loop end of one of the supplied Ground Cables to the ground point on the back of the WP201-100. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Important! The Green Ground Cable MUST BE attached to the WP201-100 BEFORE the Mounting Bracket is attached.</p> </div>	E

Note: ***See the [WP201-100 Included Equipment \(on page 11\)](#).

1.4.3. Left Side of the WP201-100



Figure 4: Left Side of the WP201-100

Left Side of the WP201-100		
#	Name	Description
5	Serial Number label	The Serial Number of the WP201-100 is 9 digits.

1.4.4. Bottom of the WP201-100

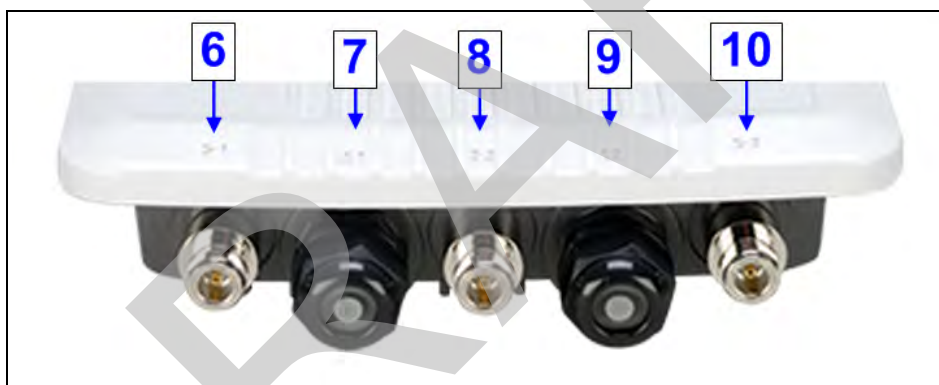


Figure 5: Bottom of the WP201-100

Bottom of the WP201-100			
#	Name	Description	Accessory Location***
6	5GHz Antenna	Detachable 7 dBi 5 GHz omni-directional	H
7	LAN Port 1 (PoE Input)	802.3at Ethernet port for RJ-45 cable.	
8	2.4GHz Antenna	Detachable 5 dBi 2.4 GHz omni-directional	H
9	LAN Port 2 (PSE Output)	802.3af Ethernet port for RJ-45 cable.	
10	5GHz Antenna	Detachable 7 dBi 5 GHz omni-directional	H

Note. ***See the [WP201-100 Included Equipment \(on page 11\)](#).

1.4.5. Right Side of the WP201-100

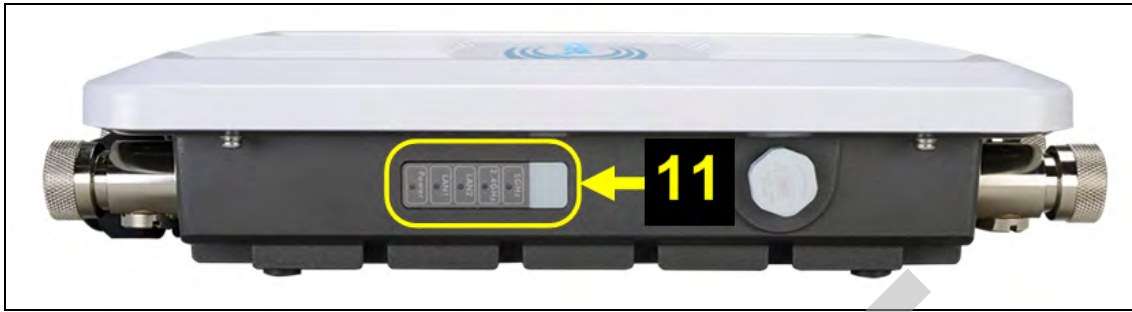


Figure 6: Right of the WP201-100

Front of the WP201-100		
#	Name	Description
11	LED Indicators: LED lights	The LEDs are: <ul style="list-style-type: none"> • Power • LAN Port 1 • LAN Port 2 • 2.4 GHz Connection • 5 GHz Connection

Note: ***See the [WP201-100 Included Equipment \(on page 11\)](#).

2. Installation and Setup

This section provides procedure information about installation and initial setup of the WP201-100.

- [Connect to the WP201-100 Access Point \(on page 19\).](#)
- [Setup the Computer IP Address Configuration \(on page 21\).](#)
- [Access the WP201-100 \(on page 24\).](#)
- [Change the Wireless Mode \(on page 25\).](#)
- [Wall Mounting Installation - WP201-100 \(on page 28\).](#)
- [Pole Mounting Installation - WP201-100 \(on page 32\).](#)

2.1. Connect to the WP201-100 Access Point

Power Notes

- The **Universal Power Adapter** operates from voltages 100 to 240VAC, 50-60Hz.
- The WP201-100 is powered through the **E1 Port (PoE Input)** by any PSE (Power Sourcing Equipment) which supports IEEE 802.3at (PoE+) including the provided **PoE+ Injector**.
- Using 100 to 240VAC \pm 10%, 50/60 Hz input power, the WP201-100 can power a PoE (802.3af) device connected to the WP201-100 **E2 Port (PSE Output)**.

Procedure

1. Remove the protective caps from the antenna ports.
2. Attach using a strong hand-tighten the 2.4GHz and 5GHz antennas to their same-labeled antenna ports on the WP201-100.
3. If applicable, replace the protective caps on unused antenna ports.
4. Remove the compression gland assembly from the **E1 Port (PoE Input)**.
5. Thread one end of the Ethernet cable through the cap of the compression gland.
6. Insert the compression gland onto the Ethernet cable.
7. Connect the assembled Ethernet cable (WITHOUT strain-relief) to the **E1 Port (PoE Input)** of the WP201-100 and the other end into the **AP/Bridge** port on the **PoE+ Injector**.



Figure 7: Compression Gland on the CAT5e / CAT6 Ethernet cable attached to the E1 Port (PoE Input)

8. Tighten the compression gland cap on the **E1 Port (PoE Input)**.

9. Connect the second Ethernet cable to the **Network** port of the **PoE+ Injector** and to the Ethernet port on the computer.
10. Connect the **Power Adapter** to the **DC IN** port of the **PoE+ Injector** and plug the other end into an AC electrical outlet.
11. Attach the loop end of one of the supplied **Ground Cables** to the **Ground** screw on the **PoE+ Injector**.
12. Attach the wire end of the **Green / Yellow #10AWG Ground Cable** to an earth / safety ground (the loop end was attached to the WP201 in a previous step).

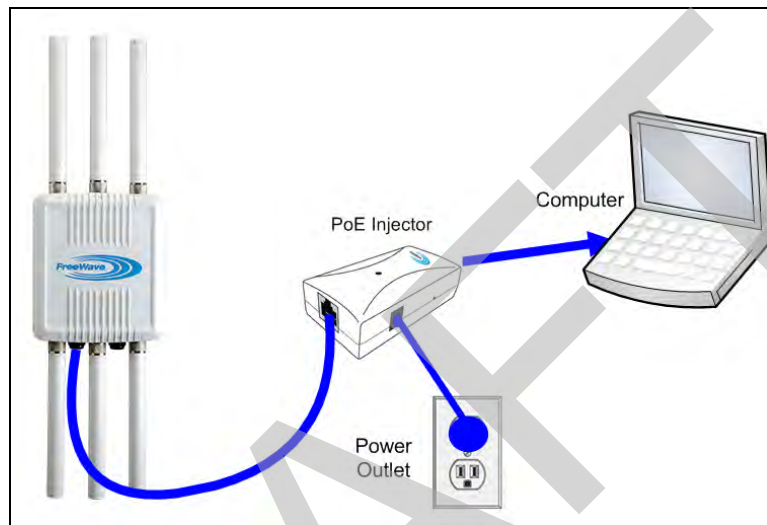


Figure 8: Connecting the WP201-100 Access Point

2.2. Setup the Computer IP Address Configuration

Note: The images used in these procedures are for Windows® 7.

1. On the computer, click the Windows® Start button and select **Control Panel**.
2. View the **Control Panel** window by **Category** and click **Network and Internet > View Network Status and Tasks**.
3. Click the **Change Adapter Settings** link.

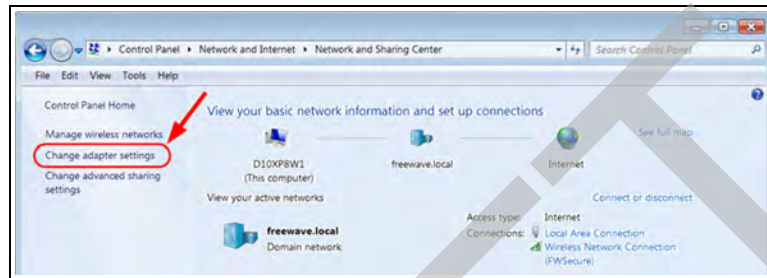


Figure 9: Change Adapter Settings Link

4. Double-click the **Local Area Connection** link.

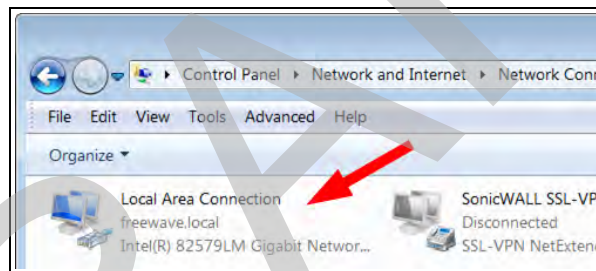


Figure 10: Local Area Connection Link

The **Local Area Connection Status** dialog box opens.

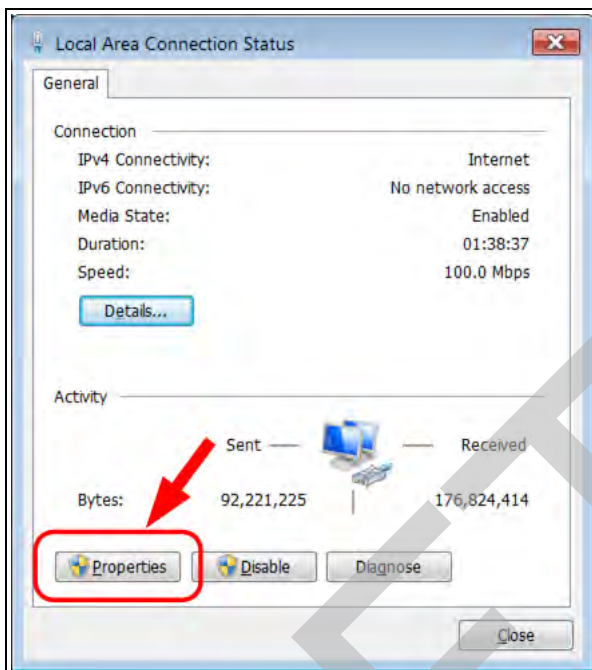


Figure 11: Local Area Connection Status dialog box

5. Click **Properties**.
The **Local Area Connection Properties** dialog box opens.
6. Select the **Internet Protocol Version 4 (TCP/IPv4)** option.

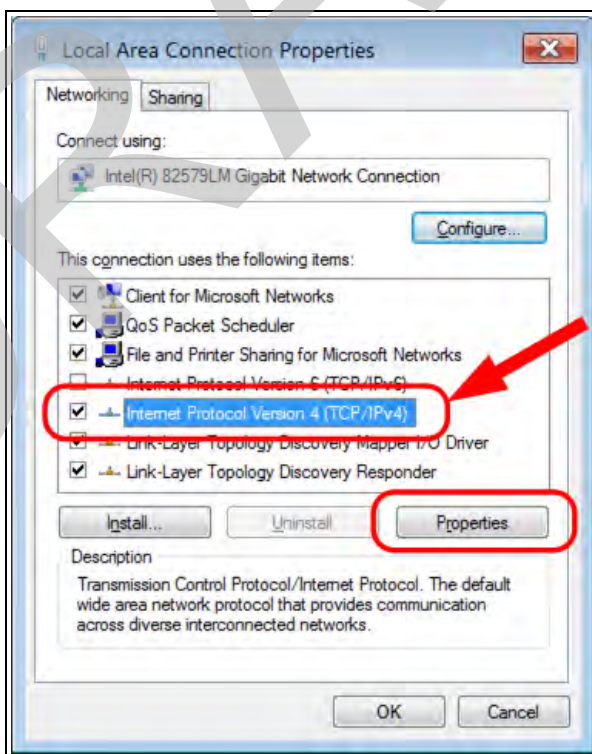


Figure 12: Local Area Connection Properties dialog box

2. Installation and Setup

7. Click **Properties**.
The **Internet Protocol Version 4 (TCP/IPv4) Properties** dialog box opens.
8. Make a note of the current settings (to reverse this procedure later).
9. Select the **Use the following IP address** option button.
10. In the **IP Address** text box, enter an IP Address that is **in the same subnet range but a DIFFERENT IP Address** than the WP201-100 AND **different than the computer IP Address**.

Note: The default WP201-100 IP Address is **192.168.1.1**. The default subnet mask is **255.255.255.0**.

Example: Enter an **IP Address** from **192.168.1.1** to **192.168.1.254** (but NOT **192.168.1.1**) and the **Subnet Mask** to **255.255.255.0**.

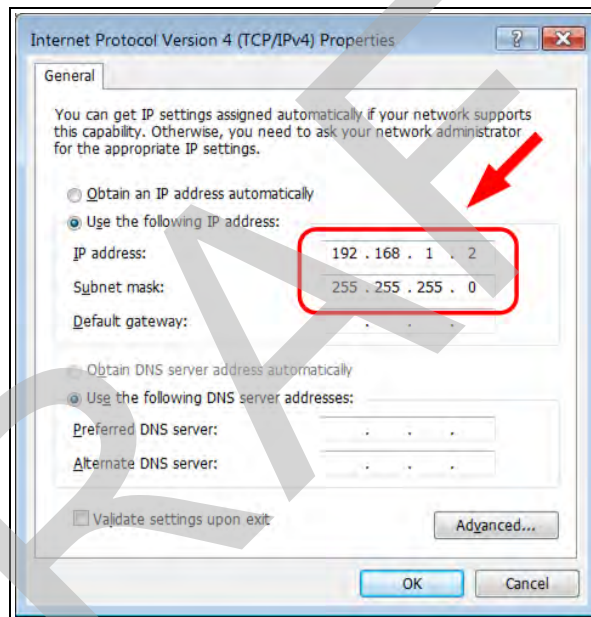


Figure 13: Internet Protocol Version 4 (TCP/IPv4) Properties dialog box

Note: An IP Address is NOT required in the **Default Gateway** text box.

11. Click **OK** to save the changes and close the dialog box.
12. Click **Close** twice to close the **Local Area Connection Properties** and **Local Area Connection Status** dialog boxes.

2.3. Access the WP201-100

1. On the computer connected to the WP201-100, open a web browser.
2. In the address bar of the browser, enter the default WP201-100 IP Address: **192.168.1.1**.

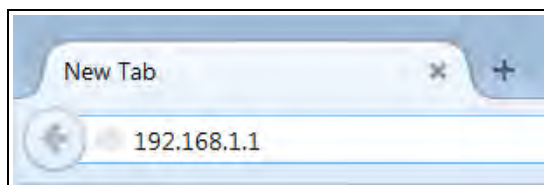


Figure 14: Entered IP Address

3. Press <Enter>.
The **Login** window opens.

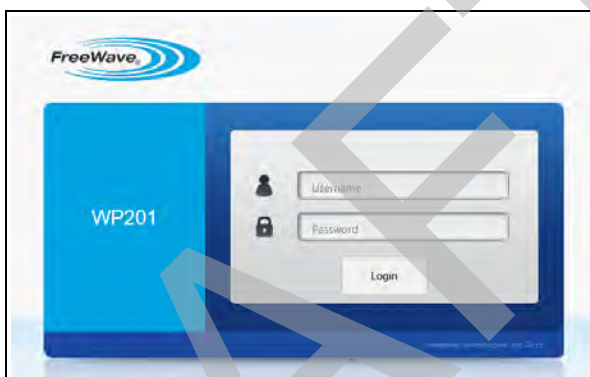


Figure 15: Login window

4. Enter the default **Username** and **Password** (**admin** for both) and click **Login**.
The **Device Status window** opens.

Note: See the description of the [Device Status window \(on page 165\)](#) for detailed information about the options in the window.

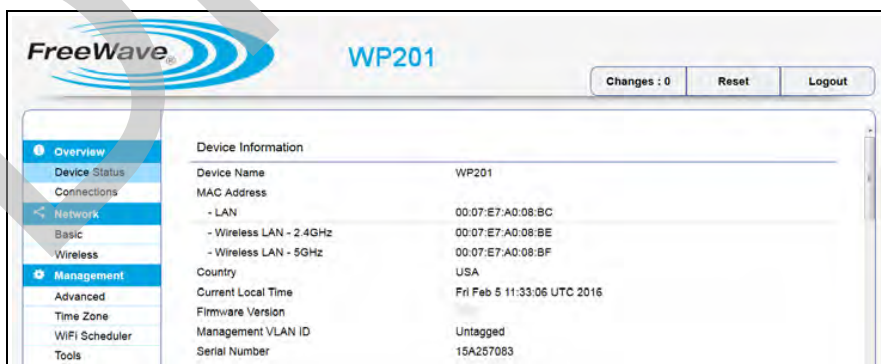


Figure 16: Device Status window - Device Information area

5. Verify the WP201-100 **Firmware** version is the current version available from the <http://www.freewave.com/support/> site.

2.4. Change the Wireless Mode

Note: See [Configuring the WP201-100 \(on page 36\)](#) for detailed procedures for each **Operation Mode**.

1. In the [WP201-100 Access Panel](#), click **Wireless**.
The [Wireless window](#) opens.

Note: See the description of the [Wireless window \(on page 191\)](#) for detailed information about the options in the window.

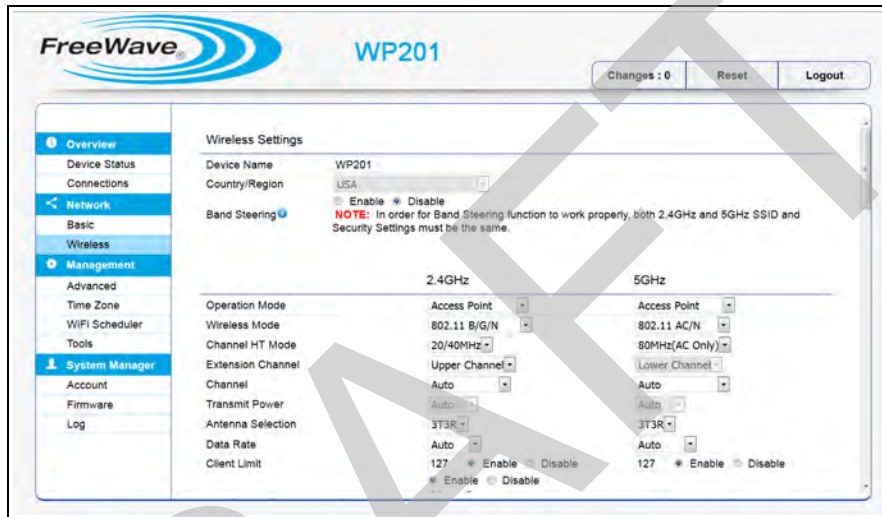


Figure 17: Wireless window

2. Click the **Operation Mode** list box arrow for the designated frequency and select the applicable **Mode** for the WP201-100.

Note: See [Examples of WP201-100 Networks \(on page 133\)](#) for detailed information and examples using the different Operation Modes.

3. Scroll to the bottom of the window and click **Save**.



Figure 18: Wireless window

A **Processing** bar appears.

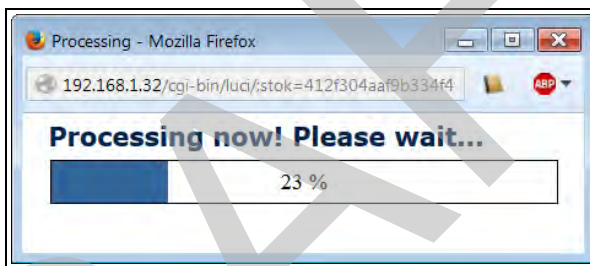


Figure 19: Processing bar

The **Wireless window** refreshes.

The **Changes tab** shows the accumulated number of pending changes ready to apply.



Figure 20: Changes tab showing the number of changes to apply.

4. Click the **Changes** tab.
The **Unsaved window** opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.



Figure 21: Unsaved window showing changes to apply.

5. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the **Device Status window** opens.
6. Optional: In the **WP201-100 Access Panel**, click **Wireless** to view the saved changes in the **Wireless window**.
7. Click the **Logout** tab to exit the WP201-100.
A confirmation message appears.



Figure 22: Logout Confirmation message

8. Click **OK** to confirm the logout.

2.5. Wall Mounting Installation - WP201-100

Tools Needed for this Procedure

- Drill with 8mm diameter drill bit (for wall installation)
- Hammer (for wall installation)
- Metric Box-end Wrenches
- Medium Flat-head screwdriver
- Pliers
- Small Flat-head screwdriver
- Small Phillips-head screwdriver

Note: For additional equipment, see [WP201-100 Available Accessories \(on page 260\)](#).

Procedure

Note: For illustration purposes, the images in this section DO NOT have the antennas or cables attached to the WP201.

1. Using the **Mounting Bracket** as a template, mark the locations of the mounting holes on the wall.

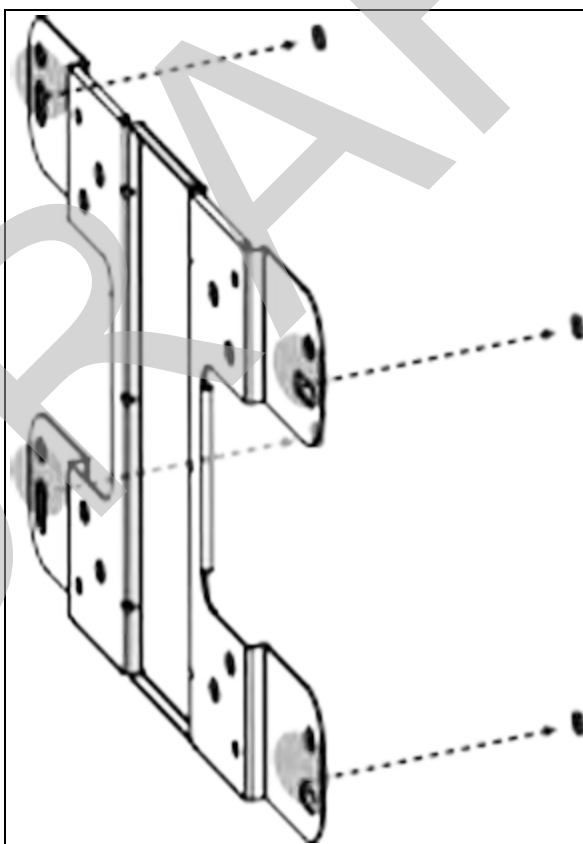


Figure 23: Marked locations of the mounting holes

2. Drill a 37mm deep, 8mm diameter hole in each of the markings on the wall.

2. Installation and Setup

3. Using the masonry wedge anchor bolts in the **Mounting Kit Package**, and with the threaded ends facing outward, hammer the bolts into the openings.



Caution: Be careful to keep the threaded ends of the bolts visible outside the wall.

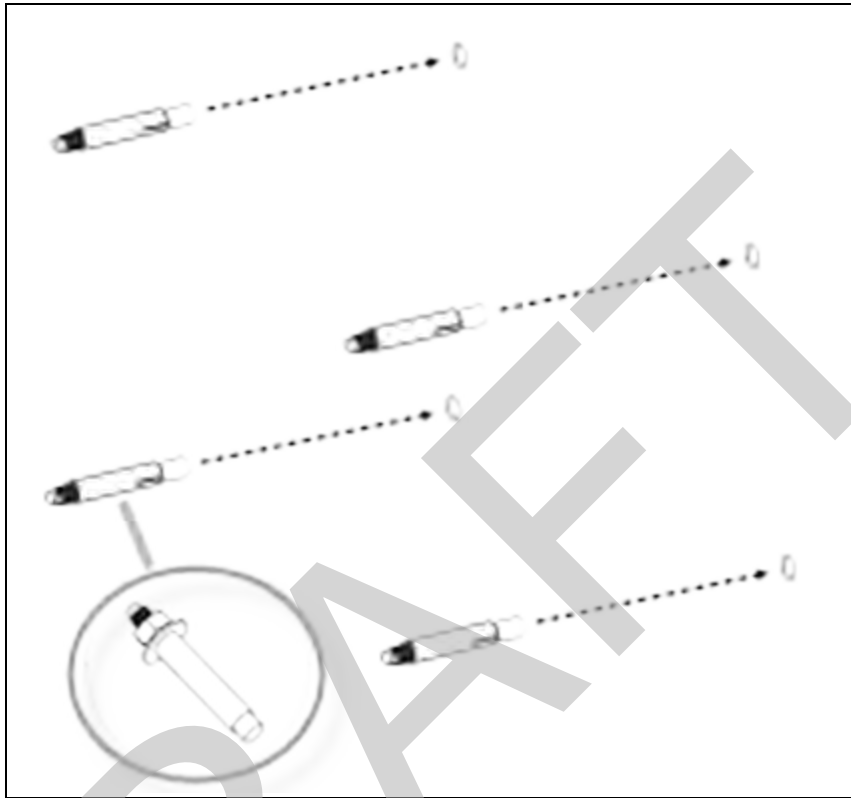


Figure 24: Hammer the bolts into the drilled openings

4. Verify all antennas are attached to their correct ports and the Ethernet cable is connected between the **PoE+ Injector** and the **E1 Port (PoE Input)** on the WP201.
5. Using the enclosed **Packaged Ground Screw**, attach the loop end of one of the supplied **Green / Yellow #10AWG Ground Cable** to the ground point on the [Back of the WP201-100 \(on page 15\)](#).

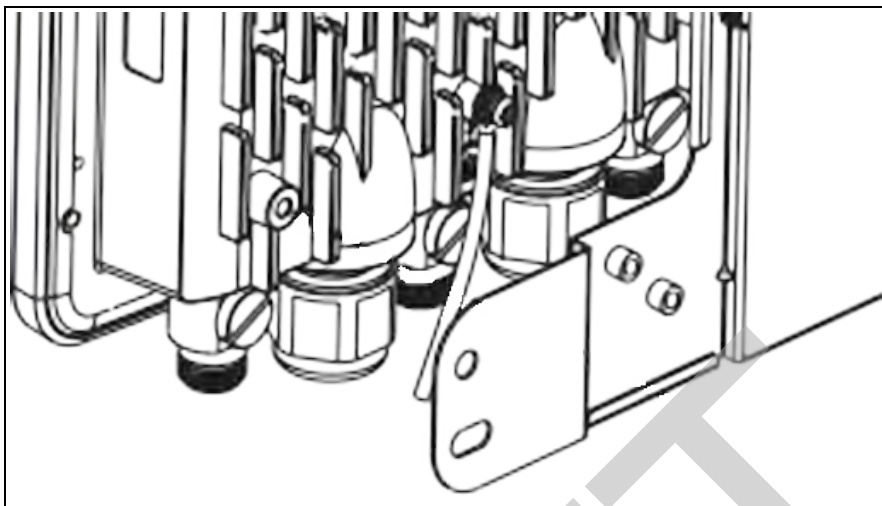


Figure 25: Attached Ground Cable

6. Use the small screws to attach the **Mounting Bracket** to the [Back of the WP201-100 \(on page 15\)](#).

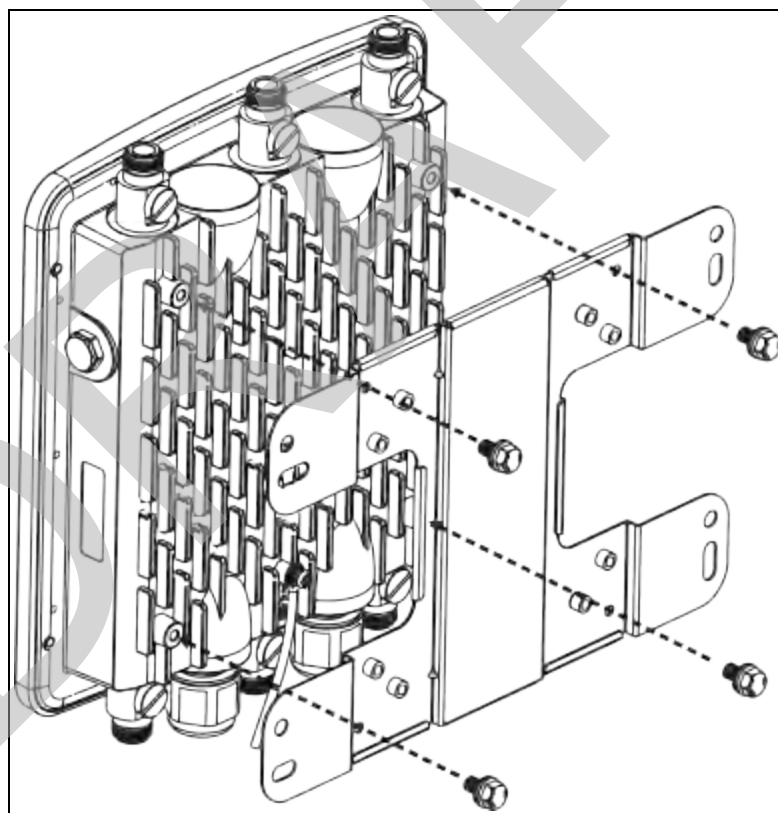


Figure 26: Insert and tighten the screws to attach the bracket

2. Installation and Setup

7. Tighten the nut and flat washers to secure the bracket to the mounting surface.

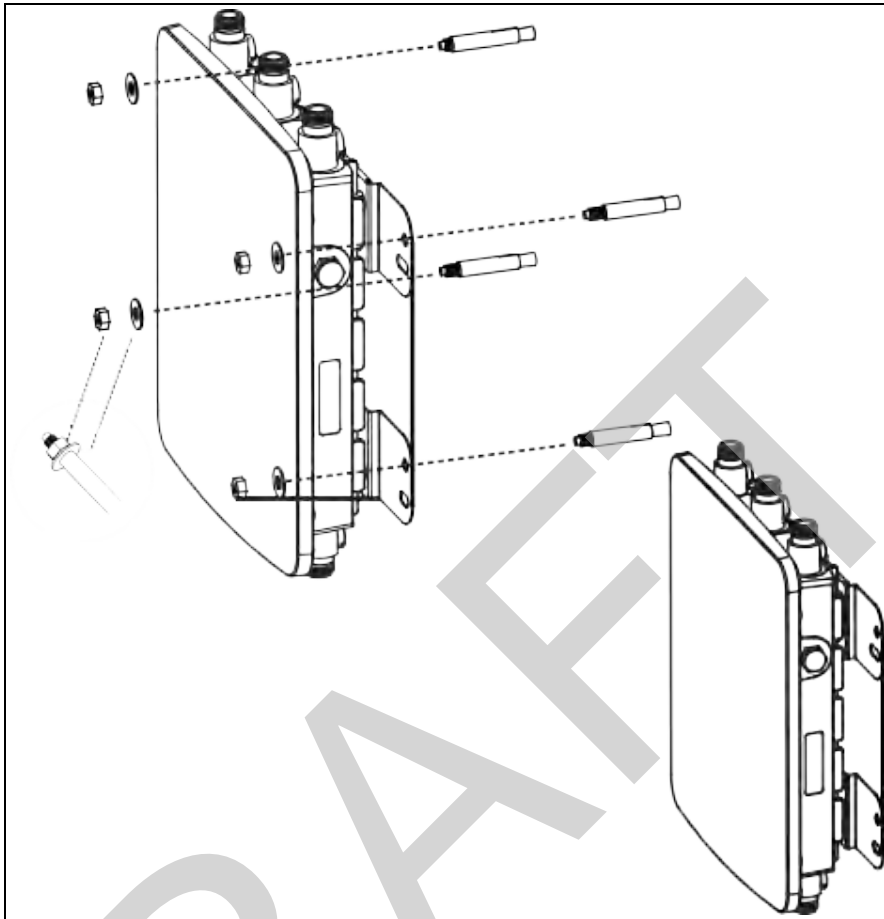


Figure 27: Tighten the nut and flat washers to secure the bracket

8. Attach the wire end of the **Green / Yellow #10AWG Ground Cable** to an earth / safety ground (the loop end was attached to the WP201 in a previous step).

2.6. Pole Mounting Installation - WP201-100

Note: For additional equipment, see [WP201-100 Available Accessories \(on page 260\)](#).

2.6.1. Included Equipment

Important! The WP201 mounting equipment is shipped with the WP201. See [WP201-100 Included Equipment \(on page 11\)](#).

2.6.2. User Supplied Equipment

- Metric Box-end Wrenches
- Medium Flat-head screwdriver
- Pliers
- Small Flat-head screwdriver
- Small Phillips-head screwdriver

Procedure

Note: For illustration purposes, the images in this section DO NOT have the antennas or cables attached to the WP201.

1. Verify all antennas are attached to their correct ports and the Ethernet cable is connected between the **PoE+ Injector** and the **E1 Port (PoE Input)** on the WP201.
2. Using the enclosed **Packaged Ground Screw**, attach the loop end of one of the supplied **Green / Yellow #10AWG Ground Cable** to the ground point on the [Back of the WP201-100 \(on page 15\)](#).

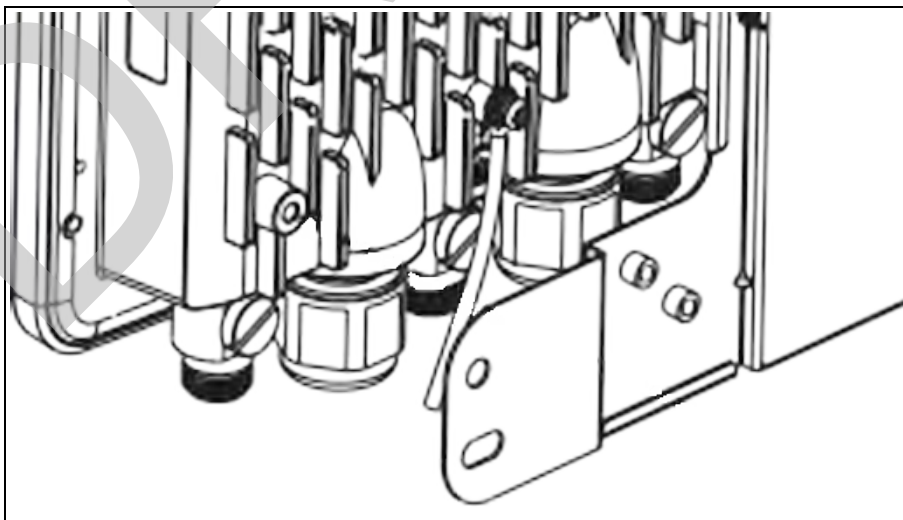


Figure 28: Attached Ground Cable

2. Installation and Setup

3. Use the small screws to attach the **Mounting Bracket** to the [Back of the WP201-100](#) (on [page 15](#)).

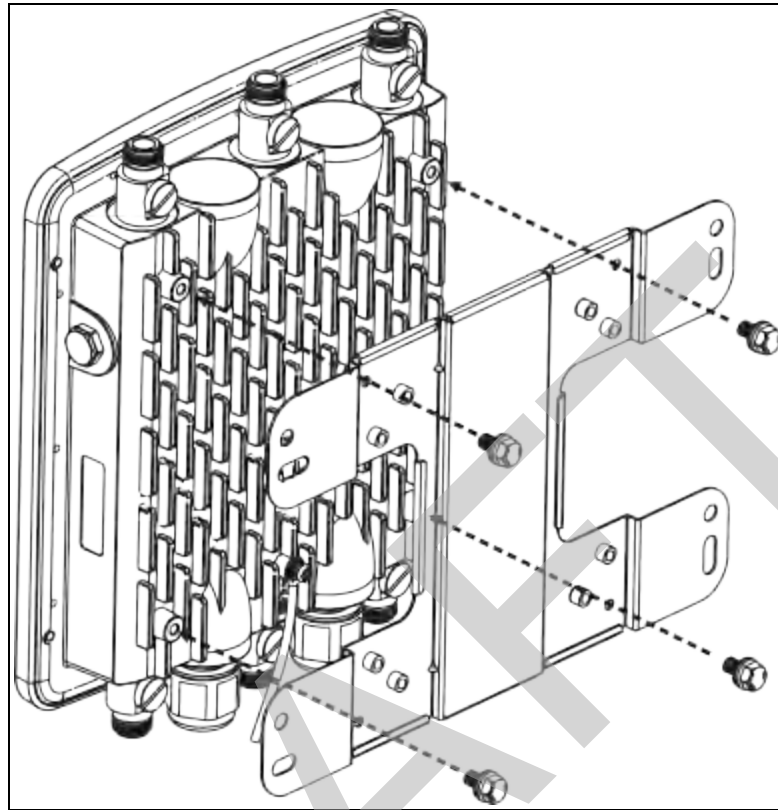


Figure 29: Insert and tighten the screws to attach the Mounting Bracket

4. Insert and tighten the small screws to attach the **Pole Mounting Bracket** to the **Mounting Bracket**.

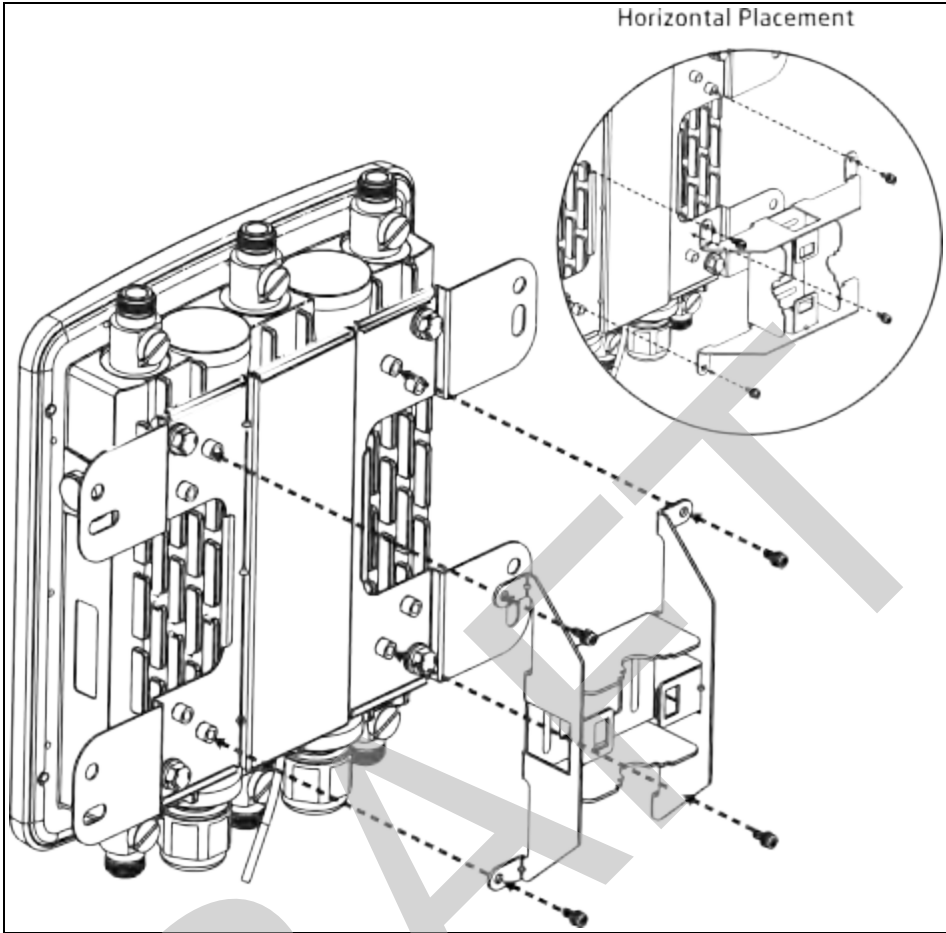


Figure 30: Attach the Pole Mounting Bracket to the Mounting Bracket

2. Installation and Setup

5. Thread the open end of the **Band Clamps** through the tabs on the **Pole Mounting Bracket**.

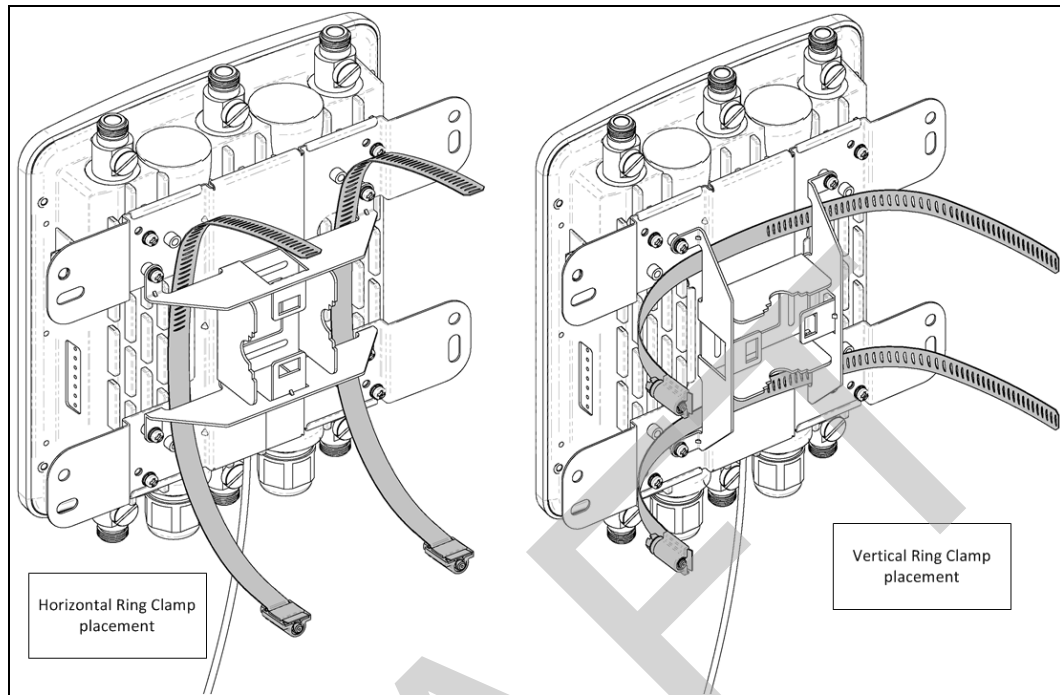


Figure 31: Thread the open end of the Band Clamps

6. Lock and tighten the **Band Clamps** to secure the WP201 to the pole.

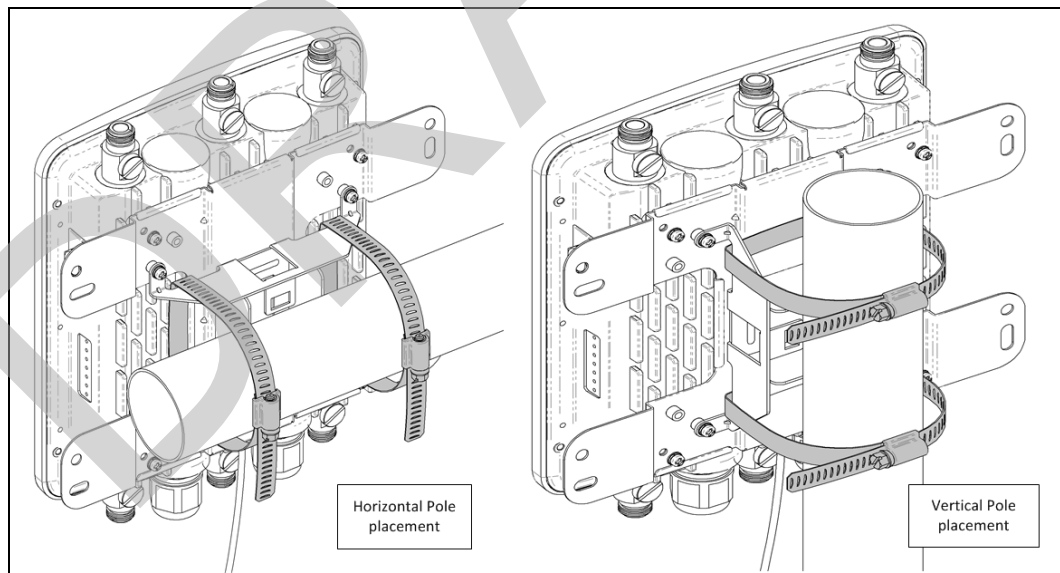


Figure 32: Lock and tighten the Band Clamps

7. Attach the wire end of the **Green / Yellow #10AWG Ground Cable** to an earth / safety ground (the loop end was attached to the WP201 in a previous step).

3. Configuring the WP201-100

This section provides procedure information about configuring the WP201-100.

- [Access Point Configuration \(on page 37\)](#).
- [Mesh-AP or Mesh-Only Configuration \(on page 42\)](#).
- [WDS - Access Point Configuration \(on page 48\)](#).
- [WDS - Bridge Configuration \(on page 55\)](#).
- [WDS - Station Configuration \(on page 61\)](#).

3.1. Access Point Configuration

This procedure configures the WP201-100 as an Access Point.

Example: See [Access Point Mode \(on page 134\)](#) for an example of an Access Point network setup.

Procedure

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. Change the [Setup the Computer IP Address Configuration \(on page 21\)](#).
3. [Access the WP201-100 \(on page 24\)](#).
4. In the [WP201-100 Access Panel](#), click **Wireless**.
The [Wireless window](#) opens.

Note: See the description of the [Wireless window \(on page 191\)](#) for detailed information about the options in the window.

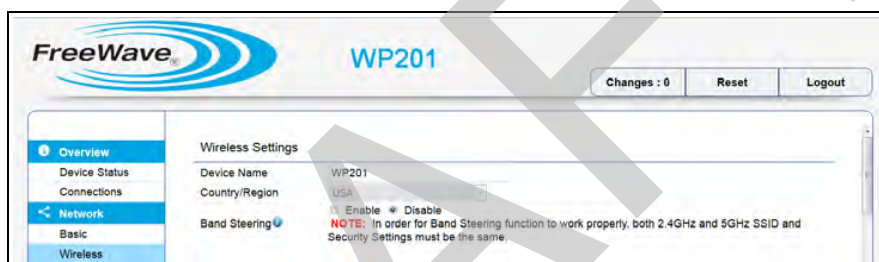


Figure 33: Wireless window - Wireless Settings area

5. In the **Device Name** text box, enter a name for the WP201-100.

Important! The **Country / Region** is set at the factory and cannot be changed by the user.

6. If applicable, select the **Band Steering Enable** option button to activate this feature in the WP201-100.
7. Scroll to the [Operation Mode area](#).

Note: See the description of the [Operation Mode area \(on page 193\)](#) for detailed information about the options in this area.



Figure 34: Wireless window - Operation Mode area - Defaults

8. In the **Operation Mode** area:
 - a. For either the 2.4GHz or 5GHz frequency, click the **Operation Mode** list box arrow and select **Access Point**.
 - b. Click the **Wireless Mode** list box arrow and select:
 - 802.11 B/G/N** for 2.4GHz or
 - 802.11 AC/N** for 5GHz.
 - c. Click the **Channel HT Mode** list box arrow and select the size of the channel for each frequency band.

FREEWAVE Recommends: Use a lower **Channel HT Mode** bandwidth if network signals are not strong.

- d. Click the **Extension Channel** list box arrow and select either the **Upper Channel** or **Lower Channel** for the designated frequency of the WP201-100. 0=

Note: The **Extension Channel** option is NOT available if **20MHz** is selected as the **Channel HT Mode**.

- e. Click the **Channel** list box arrow and select the channel to use for the Wi-Fi from the WP201-100.
- f. Click the **Transmit Power** list box arrow and select the power output of the wireless signal from the WP201-100.

Important! The **Transmit Power** list box is not available if the **Channel** list box selection is **Auto**.

- g. Click the **Antenna Selection** list box arrow and select the number of antennas used on this WP201-100.

3. Configuring the WP201-100

- h. Click the **Data Rate** list box arrow and select a data rate for the upload and download speed.



The lower the data rate selected, the lower the throughput.
Transmission distance may be increased.

- i. If applicable, select the **Enable** option button to activate the **Client Limit** restriction in the WP201-100.
 - j. In the **Client Limit** text box, enter the maximum number of clients allowed to connect to the WP201-100.
 - k. Select the **Aggregation - Disable** option button to NOT use the **Aggregation** area.
 - l. In the **RTS/CTS Threshold** text box, enter the threshold package size for RTS/CTS.
 - m. In the **Distance** text box, enter the distance between the WP201-100 Access Points and clients.
 - n. Click the **AP Detection Scan** button to open the [Site Survey window \(on page 178\)](#) showing the nearby Access Points.
9. Scroll to the [Wireless Settings area](#).

Note: See the description of the [Wireless Settings area \(on page 197\)](#) for detailed information about the options in this area.



Figure 35: Wireless window - Wireless Settings area

10. In the **Wireless Settings** area:
 - a. Select the **Enable** check box to activate an SSID profile.
 - b. In the **SSID** text box, enter a descriptive SSID name for the current WP201-100 profile.
 - c. Optional: Click the **Edit** button to open the [Wireless Edit dialog box \(on page 208\)](#) and select the appropriate security for the WP201-100.

Note: The **Security** column information is from the [Wireless Edit dialog box](#), **Security Mode** list box selection.

Several security options are available for the WP201-100.

See [Define a WPA-Enterprise Security Mode \(on page 105\)](#) or

[Define a WPA-PSK Security Mode \(on page 107\)](#) for specific detailed security setup.

- d. Optional: Select the **Hidden SSID** check box to hide the selected SSID from clients.
 - e. Optional: Select the **Client Isolation** check box to prevent communication between client devices.
 - f. DO NOT select the **VLAN Isolation** check box to avoid blocking the clients from the network.
 - g. Accept the default **VLAN ID**.
11. If applicable, scroll to and complete the procedure: [Guest Network Settings - Activate and Define \(on page 100\)](#).

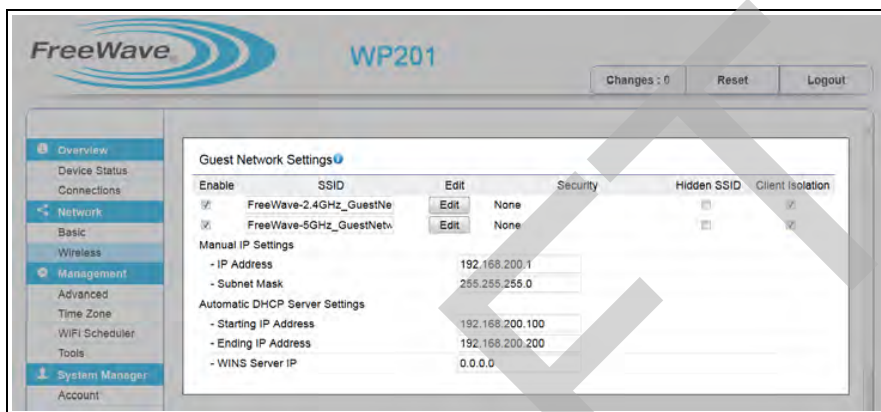


Figure 36: Wireless window - Guest Network Settings area

12. If applicable, scroll to the [Fast Handover](#), [Management VLAN Settings](#), and [Cross Band VLAN Pass Through](#) areas.

Note: See the description of the [Fast Handover](#), [Management VLAN Settings](#), and [Cross Band VLAN Pass Through](#) areas (on page 206) for detailed information about the options in this area.

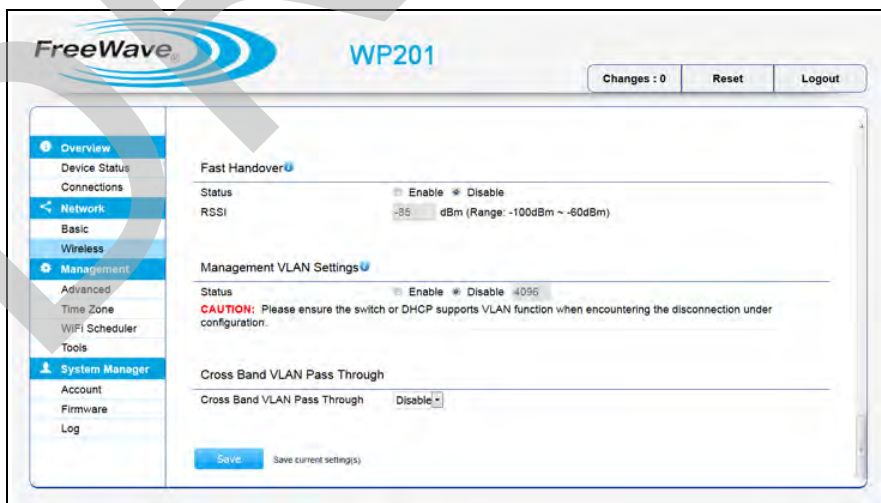


Figure 37: Wireless window - Fast Handover, Management VLAN Settings, and Cross Band VLAN Pass Through areas

3. Configuring the WP201-100

13. Optional: In the **Fast Handover** area:
 - a. Select the **Enable** option button to activate the **Fast Handover** feature in the WP201-100.
 - b. In the **RSSI** text box, enter the Received Signal Strength Index (RSSI) to determine when the handover procedure terminates the current wireless link.
14. Optional: In the **Management VLAN Settings** area:
 - a. Select the **Enable** option button to assign a VLAN tag to packets sent over the network or to access a computer with the same VLAN tag.
 - b. In the **Management VLAN** text box enter the VLAN tag number.
15. Optional: Click the **Cross Band VLAN Pass Through** list box arrow and select **Enable** to allow VLAN traffic on either band to pass through a network.

Important! The **Management VLAN** and the **Cross Band VLAN Pass Through** areas CANNOT be **Enabled** at the same time.

16. Click **Save** to save the changes.
The **Wireless window** refreshes.
The **Changes tab** shows the accumulated number of pending changes ready to apply.



Figure 38: Changes tab showing the number of changes to apply.

17. Click the **Changes** tab.
The **Unsaved window** opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.



Figure 39: Unsaved window showing changes to apply.

18. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the **Device Status window** opens.
19. Optional: In the **WP201-100 Access Panel**, click **Wireless** to view the changes in the **Wireless window**.
20. If applicable, continue with other changes for the WP201-100.

3.2. Mesh-AP or Mesh-Only Configuration

This procedure configures the WP201-100 as a Mesh Access Point.

Example: See either the [Mesh-AP Mode \(on page 135\)](#) or [Mesh-Only Mode \(on page 136\)](#) for examples of an Mesh - AP network setup.

Procedure

Note: This example procedure uses **Mesh-AP**.
The procedure is the same for **Mesh-Only** except where noted.

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. Change the [Setup the Computer IP Address Configuration \(on page 21\)](#).
3. [Access the WP201-100 \(on page 24\)](#).
4. In the [WP201-100 Access Panel](#), click **Wireless**.
The [Wireless window](#) opens.

Note: See the description of the [Wireless window \(on page 191\)](#) for detailed information about the options in the window.

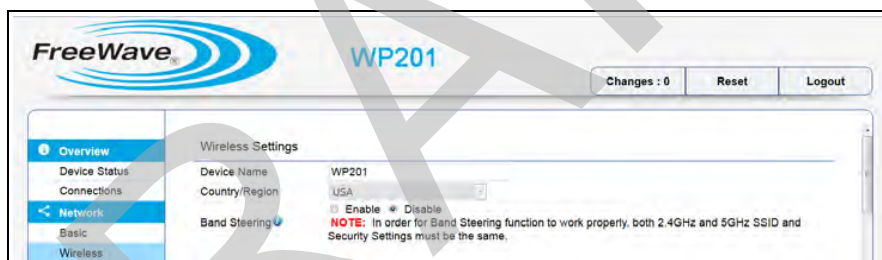


Figure 40: Wireless window - Wireless Settings area

5. In the **Device Name** text box, enter a name for the WP201-100.

Important! The **Country / Region** is set at the factory and cannot be changed by the user.

Note: **Band Steering** cannot be enabled in a Mesh network.

6. Scroll to the [Operation Mode area](#).

Note: See the description of the [Operation Mode area \(on page 193\)](#) for detailed information about the options in this area.

3. Configuring the WP201-100

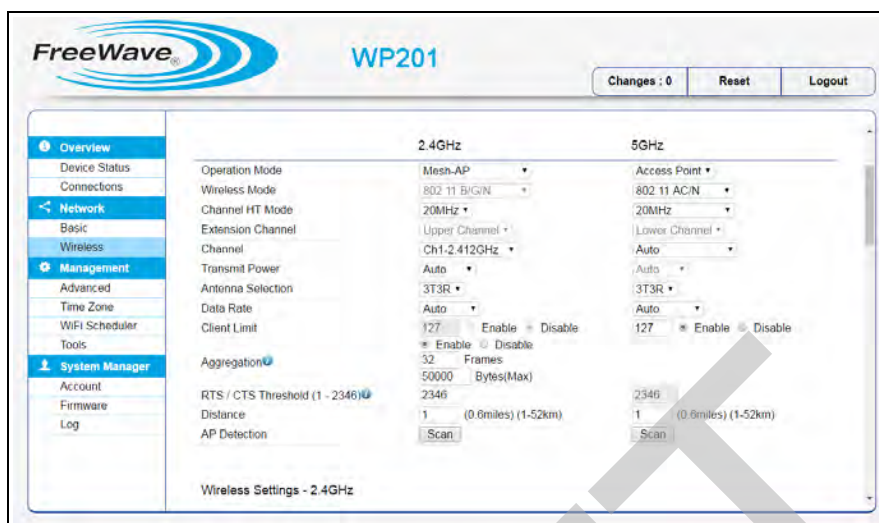


Figure 41: Wireless window - Operation Mode area

7. In the **Operation Mode** area:
 - a. For either the 2.4GHz or 5GHz frequency, click the **Operation Mode** list box arrow and select either **Mesh-AP** or **Mesh-Only**.
 - b. For 5GHz: Click the **Wireless Mode** list box arrow and select:
802.11 B/G/N for 2.4GHz or
802.11 AC/N for 5GHz.

Note: The **Wireless Mode** list box is NOT available for **Mesh-AP** 2.4GHz networks.

- c. Click the **Channel HT Mode** list box arrow and select the size of the channel for each frequency band.

FREEWAVE Recommends: Use a lower **Channel HT Mode** bandwidth if network signals are not strong.

- d. Click the **Extension Channel** list box arrow and select either the **Upper Channel** or **Lower Channel** for the designated frequency of the WP201-100.

Note: The **Extension Channel** option is NOT available if **20MHz** is selected as the **Channel HT Mode**.

- e. Click the **Channel** list box arrow and select the channel to use for the Wi-Fi from the WP201-100.
 - f. Click the **Transmit Power** list box arrow and select the power output of the wireless signal from the WP201-100.

Important! The **Transmit Power** list box is not available if the **Channel** list box selection is **Auto**.

- g. Click the **Antenna Selection** list box arrow and select the number of antennas used on this WP201-100.
- h. Click the **Data Rate** list box arrow and select a data rate for the upload and download speed.



The lower the data rate selected, the lower the throughput.
Transmission distance may be increased.

- i. in the **Client Limit** text box, enter the maximum number of clients allowed to connect to the WP201-100.
 - j. Select the **Aggregation - Disable** option button to NOT use the **Aggregation** area.
 - k. In the **RTS/CTS Threshold** text box, enter the threshold package size for RTS/CTS.
 - l. In the **Distance** text box, enter the distance between the WP201-100 Access Points and clients.
 - m. Click the **AP Detection Scan** button to open the [Site Survey window \(on page 178\)](#) showing the nearby Access Points.
8. If this is a **Mesh-AP** WP201-100, scroll to the [Wireless Settings area](#).
For a **Mesh-Only** WP201-100 network, scroll to the [Mesh and Mesh Advanced Settings areas](#).

Notes

- Use **Mesh-Only** when NO wireless client will join on that band.
- This procedure continues with the options for a **Mesh-AP** network.
Use **Mesh-AP** to allow clients to join on the same band as the MESH backbone.

Note: See the description of the [Wireless Settings area \(on page 197\)](#) for detailed information about the options in this area.



Figure 42: Wireless window - Wireless Settings area - 2.4GHz and 5GHz

9. In the **Wireless Settings** area:

3. Configuring the WP201-100

- a. Select the **Enable** check box to activate an SSID profile.
- b. In the **SSID** text box, enter a descriptive SSID name for the current WP201-100 profile.
- c. Click the **Edit** button to open the [Wireless Edit dialog box \(on page 208\)](#) and select the appropriate security for the WP201-100.

Note: The **Security** column information is from the [Wireless Edit dialog box](#), **Security Mode** list box selection.

Several security options are available for the WP201-100.

See [Define a WPA-Enterprise Security Mode \(on page 105\)](#) or

[Define a WPA-PSK Security Mode \(on page 107\)](#) for specific detailed security setup.

The **Security** column information is from the [Wireless Edit dialog box](#), **Security Mode** list box selection.

- d. Optional: Select the **Hidden SSID** check box to hide the selected SSID from clients.
 - e. Optional: Select the **Client Isolation** check box to prevent communication between client devices.
 - f. DO NOT select the **VLAN Isolation** check box to avoid blocking the clients from the network.
 - g. Accept the default **VLAN ID**.
10. Scroll to the [Mesh and Mesh Advanced Settings areas](#).

Note: See the description of the [Mesh and Mesh Advanced Settings areas \(on page 200\)](#) for detailed information about the options in this area.

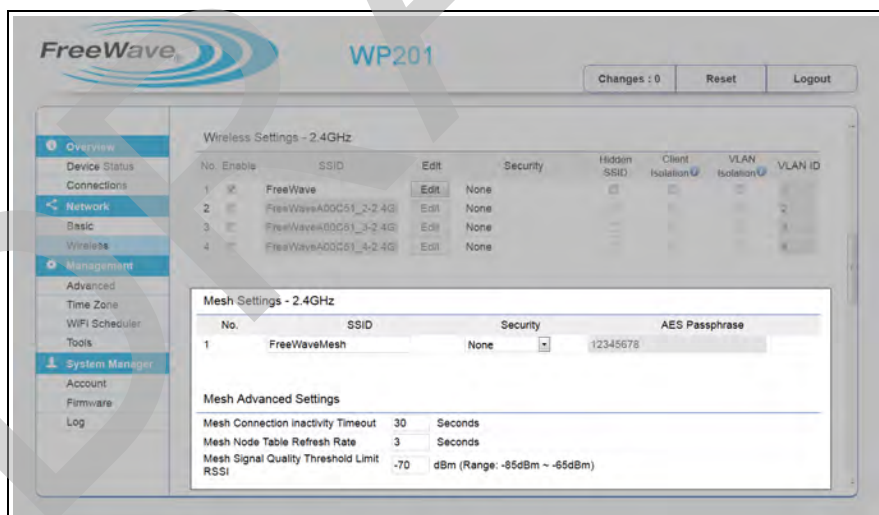


Figure 43: Wireless window - Mesh and Mesh Advanced Settings areas

11. In the **Mesh Settings** area:
 - a. In the **SSID** text box, enter the **Mesh SSID** of the WP201-100 to include in the Mesh network.
 - b. Click the **Security** list box arrow and select **WPA2-PSK AES**.

Note: The default is **None**.

- c. In the **AES Passphrase** text box, enter the key the other WP201-100s must use to establish a Mesh Link.
12. Accept the defaults in the **Mesh Advanced Settings** area.
13. If applicable, scroll to and complete the procedure: [Guest Network Settings - Activate and Define \(on page 100\)](#).

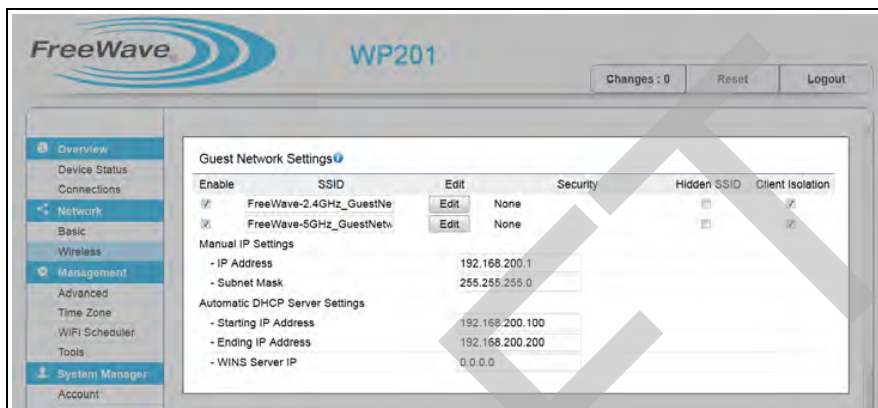


Figure 44: Wireless window - Guest Network Settings area

14. If applicable, enable these options in the [Fast Handover](#), [Management VLAN Settings](#), and [Cross Band VLAN Pass Through](#) areas:

Note: See the description of the [Fast Handover](#), [Management VLAN Settings](#), and [Cross Band VLAN Pass Through](#) areas (on page 206) for detailed information about the options in this area.

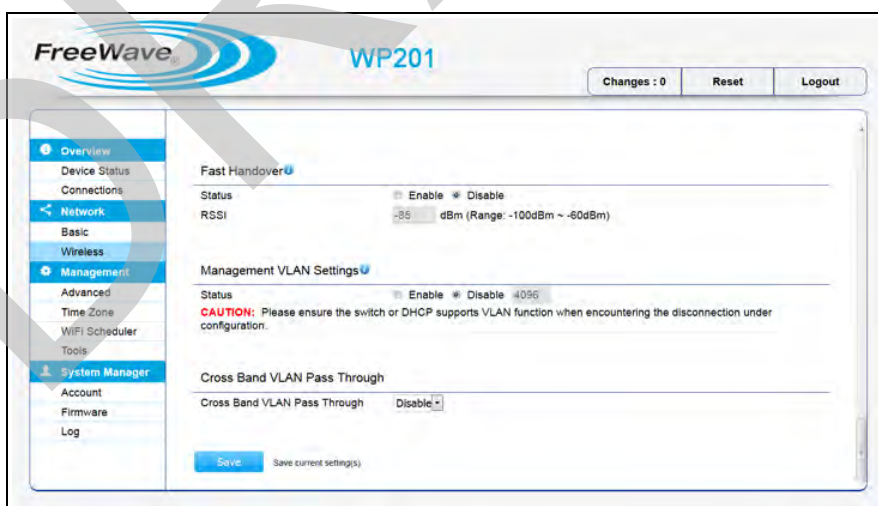


Figure 45: Wireless window - Fast Handover, Management VLAN Settings, and Cross Band VLAN Pass Through areas

15. In the **Fast Handover** area:
 - a. Select the **Enable** option button to activate the **Fast Handover** feature in the WP201-100.
 - b. In the **RSSI** text box, enter the Received Signal Strength Index (RSSI) to determine when the handover procedure terminates the current wireless link.
16. In the **Management VLAN Settings** area:
 - a. Select the **Enable** option button to assign a VLAN tag to packets sent over the network or to access a computer with the same VLAN tag.
 - b. In the **Management VLAN** text box enter the VLAN tag number.
17. Click the **Cross Band VLAN Pass Through** list box arrow and select **Enable** to allow VLAN traffic on either band to pass through a network.
18. Click **Save** to save the changes.
The [Wireless window](#) refreshes.
The [Changes tab](#) shows the accumulated number of pending changes ready to apply.



Figure 46: Changes tab showing the number of changes to apply.

19. Click the **Changes** tab.
The [Unsaved window](#) opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.

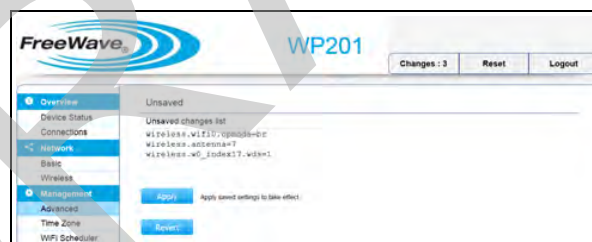


Figure 47: Unsaved window showing changes to apply.

20. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the [Device Status window](#) opens.
21. Optional: In the [WP201-100 Access Panel](#), click **Wireless** to view the changes in the [Wireless window](#).
22. If applicable, continue with other changes for the WP201-100.

3.3. WDS - Access Point Configuration

This procedure configures the WP201-100 as a Wireless Distribution System (WDS) - Access Point.

Example: See [Wireless Distribution System \(WDS\) - AP Mode \(on page 137\)](#) for an example of an WDS - Access Point network setup.

Procedure

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. Change the [Setup the Computer IP Address Configuration \(on page 21\)](#).
3. [Access the WP201-100 \(on page 24\)](#).
4. In the [WP201-100 Access Panel](#), click **Wireless**.
The [Wireless window](#) opens.

Note: See the description of the [Wireless window \(on page 191\)](#) for detailed information about the options in the window.



Figure 48: Wireless window - Wireless Settings area

5. In the **Device Name** text box, enter a name for the WP201-100.

Important! The **Country / Region** is set at the factory and cannot be changed by the user.

6. If applicable, select the **Band Steering Enable** option button to activate this feature in the WP201-100.
7. Scroll to the [Operation Mode area](#).

Note: See the description of the [Operation Mode area \(on page 193\)](#) for detailed information about the options in this area.

3. Configuring the WP201-100

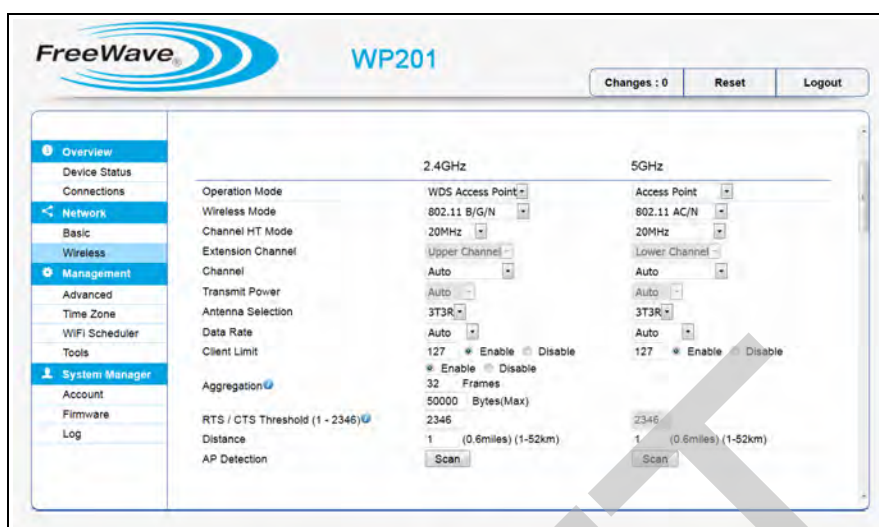


Figure 49: Wireless window - Operation Mode area

8. In the **Operation Mode** area:
 - a. For either the 2.4GHz or 5GHz frequency, click the **Operation Mode** list box arrow and select **WDS Access Point**.
 - b. Click the **Wireless Mode** list box arrow and select:
802.11 B/G/N for 2.4GHz or
802.11 AC/N for 5GHz.
 - c. Click the **Channel HT Mode** list box arrow and select the size of the channel for each frequency band.

FREEWAVE Recommends: Use a lower **Channel HT Mode** bandwidth if network signals are not strong.

Note: The **Extension Channel** list box is not available for WP201-100 WDS networks.

- d. Click the **Channel** list box arrow and select the channel to use for the Wi-Fi from the WP201-100.
- e. Click the **Transmit Power** list box arrow and select the power output of the wireless signal from the WP201-100.

Important! The **Transmit Power** list box is not available if the **Channel** list box selection is **Auto**.

- f. Click the **Antenna Selection** list box arrow and select the number of antennas used on this WP201-100.
- g. Click the **Data Rate** list box arrow and select a data rate for the upload and download speed.



The lower the data rate selected, the lower the throughput.
Transmission distance may be increased.

- h. If applicable, select the **Enable** option button to activate the **Client Limit** restriction in the WP201-100.
- i. in the **Client Limit** text box, enter the maximum number of clients allowed to connect to the WP201-100.
- j. Select the **Aggregation - Disable** option button to NOT use the **Aggregation** area.
- k. In the **RTS/CTS Threshold** text box, enter the threshold package size for RTS/CTS.

Important! The **RTS/CTS Threshold** text box is not available for **5GHz** WP201-100 WDS networks.

- l. In the **Distance** text box, enter the distance between the WP201-100 Access Points and clients.
 - m. Click the **AP Detection Scan** button to open the [Site Survey window \(on page 178\)](#) showing the nearby Access Points.
9. Scroll to the [Wireless Settings area](#).

Note: See the description of the [Wireless Settings area \(on page 197\)](#) for detailed information about the options in this area.



Figure 50: Wireless window - Wireless Settings area - 2.4GHz and 5GHz

10. In the **Wireless Settings** area:
 - a. Select the **Enable** check box to activate an SSID profile.
 - b. In the **SSID** text box, enter a descriptive SSID name for the current WP201-100 profile.
 - c. Optional: Click the **Edit** button to open the [Wireless Edit dialog box \(on page 208\)](#) and select the appropriate security for the WP201-100.

Note: The **Security** column information is from the [Wireless Edit dialog box](#), **Security Mode** list box selection.

Several security options are available for the WP201-100.

See [Define a WPA-Enterprise Security Mode \(on page 105\)](#) or

[Define a WPA-PSK Security Mode \(on page 107\)](#) for specific detailed security setup.

- d. Optional: Select the **Hidden SSID** check box to hide the selected SSID from clients.
 - e. Optional: Select the **Client Isolation** check box to prevent communication between client devices.
 - f. DO NOT select the **VLAN Isolation** check box to avoid blocking the clients from the network.
 - g. Accept the default **VLAN ID**.
11. If applicable, scroll to the [WDS Link Settings area](#).

Important! The **WDS Link Settings** area is only visible when a **WDS Operation Mode** is selected in the [Operation Mode area \(on page 193\)](#).

Note: See the description of the [WDS Link Settings area \(on page 202\)](#) for detailed information about the options in that area.



Figure 51: Wireless window - WDS Link Settings area

- 12. In the **WDS Link Settings** area:
 - a. Click the **Security** list box arrow and select **AES** for the security of the WP201-100.

Important! Using **WEP** is NOT recommended. It is included only for compatibility with older devices.

- b. In the **AES Passphrase** text box, enter a STRONG Passphrase that is known by and shared only with network devices, WDS nodes in WDS configurations, or Mesh nodes in Mesh configurations.
- c. Click the **Mode** list box arrow and select **Enable** to activate the designated profile.
- d. In the **MAC Address** text box, enter the MAC address of the other WDS nodes.

Important! WDS supports a maximum of four (4) AP MAC addresses.
In a WDS network, the MAC addresses for direct connections must be in the MAC address tables of the devices that are to communicate directly.



Caution: DO NOT enter all MAC address in all the MAC address tables.
This is to avoid creating a loop within the WDS WP201-100 network.

Example: Using three WDS nodes in the network:
A to B, B to A, A to C, and C to A connect correctly; but B to C and C to B do not because they create a loop on the MAC layer. The IP layer does not work properly with a loop.
See [Wireless Distribution System \(WDS\) - Bridge Mode \(on page 138\)](#) for an image of the correct connections.

- e. When the WDS MAC table is changed, especially if a MAC address is **changed or removed** from the table, reboot the WP201-100 devices in the network whose MAC addresses were changed or removed.
13. If applicable, scroll to and complete the procedure: [Guest Network Settings - Activate and Define \(on page 100\)](#).

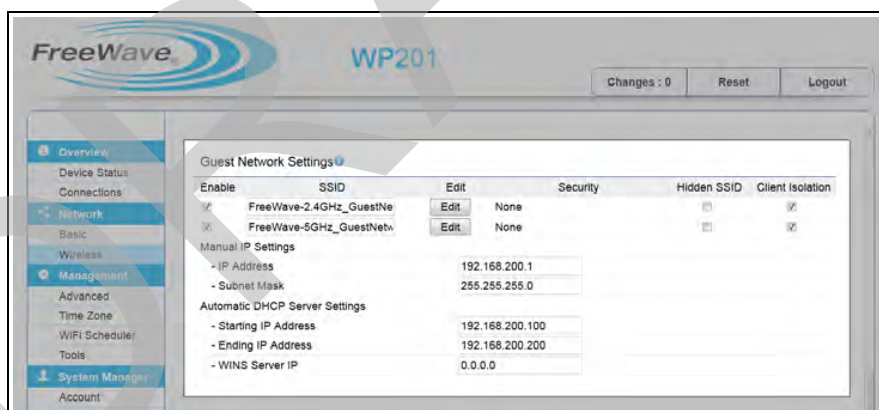


Figure 52: Wireless window - Guest Network Settings area

14. If applicable, enable these options in the [Fast Handover](#), [Management VLAN Settings](#), and [Cross Band VLAN Pass Through](#) areas:

Note: See the description of the [Fast Handover](#), [Management VLAN Settings](#), and [Cross Band VLAN Pass Through](#) areas (on page 206) for detailed information about the options in this area.



Figure 53: Wireless window - Fast Handover, Management VLAN Settings, and Cross Band VLAN Pass Through areas

15. In the **Fast Handover** area:
 - a. Select the **Enable** option button to activate the **Fast Handover** feature in the WP201-100.
 - b. In the **RSSI** text box, enter the Received Signal Strength Index (RSSI) to determine when the handover procedure terminates the current wireless link.
16. In the **Management VLAN Settings** area:
 - a. Select the **Enable** option button to assign a VLAN tag to packets sent over the network or to access a computer with the same VLAN tag.
 - b. In the **Management VLAN** text box enter the VLAN tag number.
17. Click the **Cross Band VLAN Pass Through** list box arrow and select **Enable** to allow VLAN traffic on either band to pass through a network.
18. Click **Save** to save the changes.
The [Wireless window](#) refreshes.
The [Changes tab](#) shows the accumulated number of pending changes ready to apply.



Figure 54: Changes tab showing the number of changes to apply.

19. Click the **Changes** tab.
The [Unsaved window](#) opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.

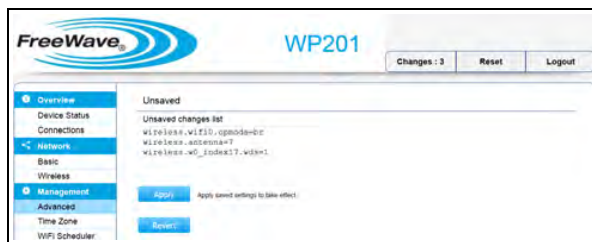


Figure 55: Unsaved window showing changes to apply.

20. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the [Device Status window](#) opens.
21. Optional: In the [WP201-100 Access Panel](#), click **Wireless** to view the changes in the [Wireless window](#).
22. If applicable, continue with other changes for the WP201-100.

3.4. WDS - Bridge Configuration

This procedure configures the WP201-100 as a Wireless Distribution System (WDS) - Bridge.

Example: See [Wireless Distribution System \(WDS\) - Bridge Mode \(on page 138\)](#) for an example of an WDS - Bridge network setup.

Procedure

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. Change the [Setup the Computer IP Address Configuration \(on page 21\)](#).
3. [Access the WP201-100 \(on page 24\)](#).
4. In the [WP201-100 Access Panel](#), click **Wireless**.
The [Wireless window](#) opens.

Note: See the description of the [Wireless window \(on page 191\)](#) for detailed information about the options in the window.

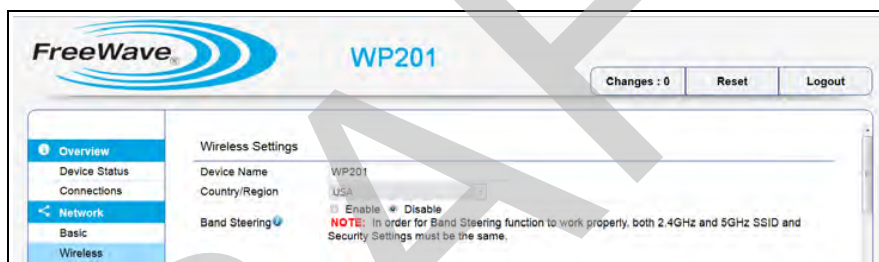


Figure 56: Wireless window - Wireless Settings area

5. In the **Device Name** text box, enter a name for the WP201-100.

Important! The **Country / Region** is set at the factory and cannot be changed by the user.

6. Accept the **Disable** option of the **Band Steering** option in **WDS Bridge** mode.
7. Scroll to the [Operation Mode area](#).

Note: See the description of the [Operation Mode area \(on page 193\)](#) for detailed information about the options in this area.

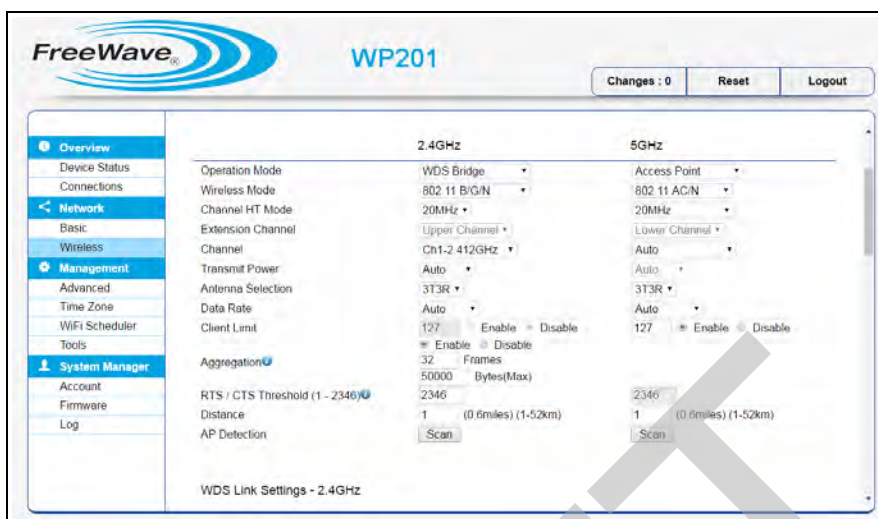


Figure 57: Wireless window - Operation Mode area

8. In the **Operation Mode** area:
 - a. For either the 2.4GHz or 5GHz frequency, click the **Operation Mode** list box arrow and select **WDS Bridge**.
 - b. Click the **Wireless Mode** list box arrow and select:
 - 802.11 B/G/N** for 2.4GHz or
 - 802.11 AC/N** for 5GHz.
 - c. Click the **Channel HT Mode** list box arrow and select the size of the channel for each frequency band.

FREEWAVE Recommends: Use a lower **Channel HT Mode** bandwidth if network signals are not strong.

Note: The **Extension Channel** list box is not available for WP201-100 WDS networks.

- d. Click the **Channel** list box arrow and select the channel to use for the Wi-Fi from the WP201-100.
- e. Click the **Transmit Power** list box arrow and select the power output of the wireless signal from the WP201-100.

Important! The **Transmit Power** list box is not available if the **Channel** list box selection is **Auto**.

- f. Click the **Antenna Selection** list box arrow and select the number of antennas used on this WP201-100.
- g. Click the **Data Rate** list box arrow and select a data rate for the upload and download speed.



The lower the data rate selected, the lower the throughput.
Transmission distance may be increased.

3. Configuring the WP201-100

- h. If applicable, select the **Enable** option button to activate the **Client Limit** restriction in the WP201-100.
- i. in the **Client Limit** text box, enter the maximum number of clients allowed to connect to the WP201-100.
- j. Select the **Aggregation - Disable** option button to NOT use the **Aggregation** area.
- k. In the **RTS/CTS Threshold** text box, enter the threshold package size for RTS/CTS.

Important! The **RTS/CTS Threshold** text box is not available for **5GHz** WP201-100 WDS networks.

- l. In the **Distance** text box, enter the distance between the WP201-100 Access Points and clients.
 - m. Click the **AP Detection Scan** button to open the [Site Survey window \(on page 178\)](#) showing the nearby Access Points.
9. If applicable, scroll to the [WDS Link Settings area](#).

Important! The **WDS Link Settings** area is only visible when a **WDS Operation Mode** is selected in the [Operation Mode area \(on page 193\)](#).

Note: See the description of the [WDS Link Settings area \(on page 202\)](#) for detailed information about the options in that area.



Figure 58: Wireless window - WDS Link Settings area - AES Security

10. In the **WDS Link Settings** area:
 - a. Click the **Security** list box arrow and select **AES** for the security of the WP201-100.

Important! Using **WEP** is NOT recommended. It is included only for compatibility with older devices.

- b. In the **AES Passphrase** text box, enter a STRONG Passphrase that is known by and shared only with network devices, WDS nodes in WDS configurations, or Mesh nodes in Mesh configurations.
- c. Click the **Mode** list box arrow and select **Enable** to activate the designated profile.
- d. In the **MAC Address** text box, enter the MAC address of the other WDS nodes.

Important! WDS supports a maximum of four (4) AP MAC addresses.
In a WDS network, the MAC addresses for direct connections must be in the MAC address tables of the devices that are to communicate directly.



Caution: DO NOT enter all MAC address in all the MAC address tables.
This is to avoid creating a loop within the WDS WP201-100 network.

Example: Using three WDS nodes in the network:

A to B, B to A, A to C, and C to A connect correctly; but B to C and C to B do not because they create a loop on the MAC layer. The IP layer does not work properly with a loop.

See [Wireless Distribution System \(WDS\) - Bridge Mode \(on page 138\)](#) for an image of the correct connections.

- e. When the WDS MAC table is changed, especially if a MAC address is **changed or removed** from the table, reboot the WP201-100 devices in the network whose MAC addresses were changed or removed.
11. If applicable, scroll to and complete the procedure: [Guest Network Settings - Activate and Define \(on page 100\)](#).

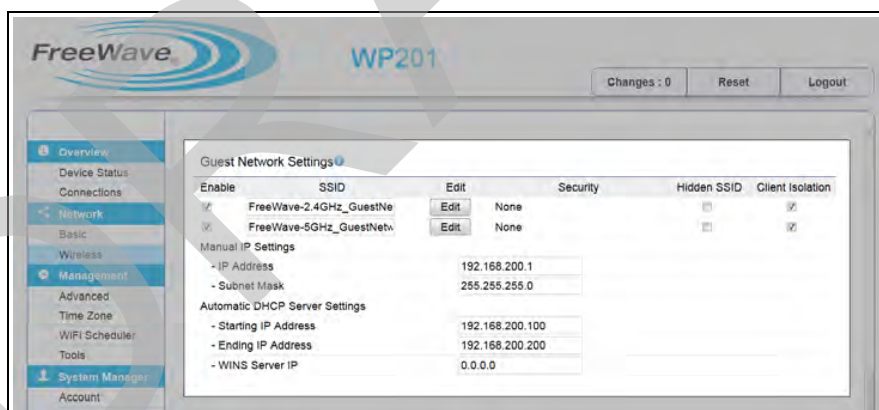


Figure 59: Wireless window - Guest Network Settings area

12. If applicable, enable these options in the [Fast Handover](#), [Management VLAN Settings](#), and [Cross Band VLAN Pass Through](#) areas:

Note: See the description of the [Fast Handover](#), [Management VLAN Settings](#), and [Cross Band VLAN Pass Through](#) areas (on page 206) for detailed information about the options in this area.



Figure 60: Wireless window - Fast Handover, Management VLAN Settings, and Cross Band VLAN Pass Through areas

13. In the **Fast Handover** area:
 - a. Select the **Enable** option button to activate the **Fast Handover** feature in the WP201-100.
 - b. In the **RSSI** text box, enter the Received Signal Strength Index (RSSI) to determine when the handover procedure terminates the current wireless link.
14. In the **Management VLAN Settings** area:
 - a. Select the **Enable** option button to assign a VLAN tag to packets sent over the network or to access a computer with the same VLAN tag.
 - b. In the **Management VLAN** text box enter the VLAN tag number.
15. Click the **Cross Band VLAN Pass Through** list box arrow and select **Enable** to allow VLAN traffic on either band to pass through a network.
16. Click **Save** to save the changes.
The [Wireless window](#) refreshes.
The [Changes tab](#) shows the accumulated number of pending changes ready to apply.



Figure 61: Changes tab showing the number of changes to apply.

17. Click the **Changes** tab.
The [Unsaved window](#) opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.

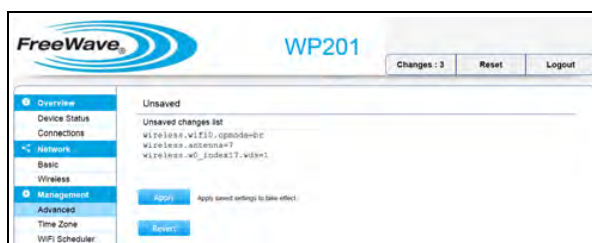


Figure 62: Unsaved window showing changes to apply.

18. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the [Device Status window](#) opens.
19. Optional: In the [WP201-100 Access Panel](#), click **Wireless** to view the changes in the [Wireless window](#).
20. If applicable, continue with other changes for the WP201-100.

3.5. WDS - Station Configuration

This procedure configures the WP201-100 as a Wireless Distribution System (WDS) - Station.

Important! WDS Station mode does NOT connect to a regular Access Point. WDS Station mode uses an SSID, not MAC, to connect to Mesh AP or WDS Access Point.

Example: If a pair of units were previously configured as WDS-AP (Mesh-AP) to WDS-AP (Mesh-AP), change them to WDS-Station to WDS-AP (Mesh-AP) and reboot both the units after saving the configurations. The reboot will pick up the saved configurations.

Note: See [Wireless Distribution System \(WDS\) - Station Mode \(on page 139\)](#) for an example of an WDS - Station network setup.

Procedure

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. Change the [Setup the Computer IP Address Configuration \(on page 21\)](#).
3. [Access the WP201-100 \(on page 24\)](#).
4. In the [WP201-100 Access Panel](#), click **Wireless**. The [Wireless window](#) opens.

Note: See the description of the [Wireless window \(on page 191\)](#) for detailed information about the options in the window.

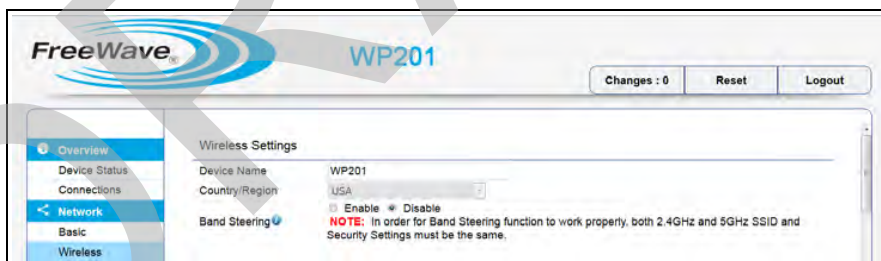


Figure 63: Wireless window - Wireless Settings area

5. In the **Device Name** text box, enter a name for the WP201-100.

Important! The **Country / Region** is set at the factory and cannot be changed by the user.

Note: The **Band Steering** option is not available for **WDS Station**.

6. Scroll to the [Operation Mode area](#).

Note: See the description of the [Operation Mode area \(on page 193\)](#) for detailed information about the options in this area.



Figure 64: Wireless window - Operation Mode area

7. In the **Operation Mode** area:
 - a. For either the 2.4GHz or 5GHz frequency, click the **Operation Mode** list box arrow and select **WDS Station**.
 - b. Click the **Wireless Mode** list box arrow and select:
 - 802.11 B/G/N** for 2.4GHz or
 - 802.11 AC/N** for 5GHz.

Important! The **Channel HT Mode**, **Extension Channel**, **Channel**, and **Transmit Power** list boxes are NOT available for WDS Station networks.

- c. Click the **Antenna Selection** list box arrow and select the number of antennas used on this WP201-100.
- d. Click the **Data Rate** list box arrow and select a data rate for the upload and download speed.



The lower the data rate selected, the lower the throughput.
Transmission distance may be increased.

- e. If applicable, select the **Enable** option button to activate the **Client Limit** restriction in the WP201-100.
- f. In the **Client Limit** text box, enter the maximum number of clients allowed to connect to the WP201-100.
- g. Select the **Aggregation - Disable** option button to NOT use the **Aggregation** area.
- h. In the **RTS/CTS Threshold** text box, enter the threshold package size for RTS/CTS.

3. Configuring the WP201-100

Important! The **RTS/CTS Threshold** text box is not available for **5GHz** WP201-100 WDS networks.

- i. In the **Distance** text box, enter the distance between the WP201-100 Access Points and clients.
 - j. Click the **AP Detection Scan** button to open the [Site Survey window \(on page 178\)](#) showing the nearby Access Points.
8. Scroll to the [Wireless Settings area](#).

Note: See the description of the [Wireless Settings area \(on page 197\)](#) for detailed information about the options in this area.

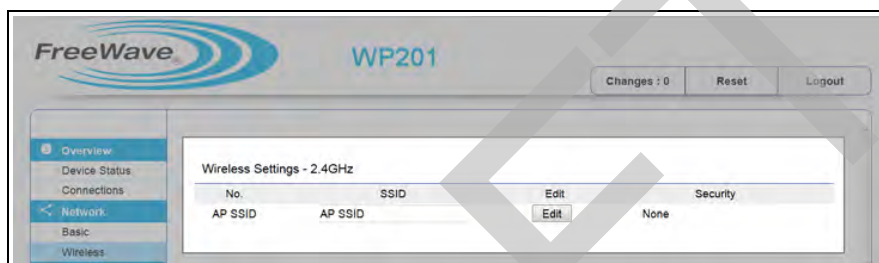


Figure 65: Wireless window - Wireless Settings area - Operation Mode = WDS Station

9. In the **Wireless Settings** area:
- a. In the **SSID** text box, enter a descriptive SSID name for the current WP201-100 profile.
- Important!** For a **WDS Station** configuration, enter the SSID the station is to connect to.
- b. Optional: Click the **Edit** button to open the [Wireless Edit dialog box - WDS Station Mode \(on page 216\)](#).
 - c. Follow the procedures to [Define a WPA-PSK Security Mode \(on page 107\)](#) to match the security settings of the AP SSID.
10. If applicable, scroll to and complete the procedure: [Guest Network Settings - Activate and Define \(on page 100\)](#).

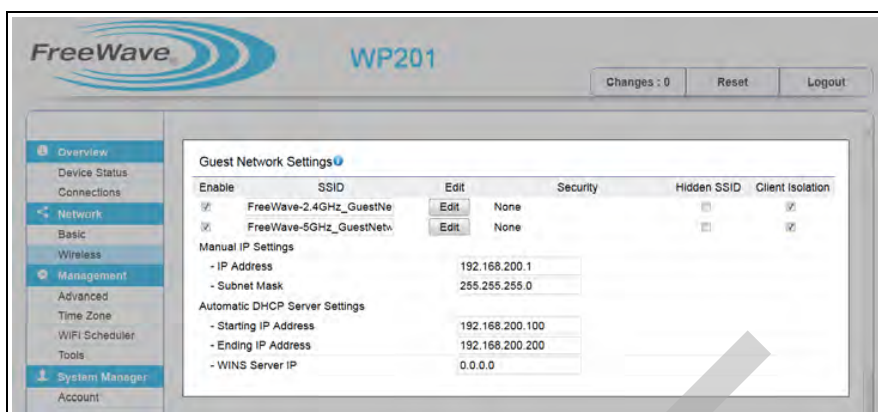


Figure 66: Wireless window - Guest Network Settings area

11. If applicable, scroll to the [Fast Handover](#), [Management VLAN Settings](#), and [Cross Band VLAN Pass Through](#) areas.

Note: See the description of the [Fast Handover](#), [Management VLAN Settings](#), and [Cross Band VLAN Pass Through](#) areas (on page 206) for detailed information about the options in this area.



Figure 67: Wireless window - Fast Handover, Management VLAN Settings, and Cross Band VLAN Pass Through areas

12. Optional: In the **Fast Handover** area:
 - a. Select the **Enable** option button to activate the **Fast Handover** feature in the WP201-100.
 - b. In the **RSSI** text box, enter the Received Signal Strength Index (RSSI) to determine when the handover procedure terminates the current wireless link.
13. Optional: In the **Management VLAN Settings** area:
 - a. Select the **Enable** option button to assign a VLAN tag to packets sent over the network or to access a computer with the same VLAN tag.

3. Configuring the WP201-100

- b. In the **Management VLAN** text box enter the VLAN tag number.

Important! The **Cross Band VLAN Pass Through** list box is not available for a WDS Station network.

14. Click **Save** to save the changes.
The **Wireless window** refreshes.
The **Changes tab** shows the accumulated number of pending changes ready to apply.



Figure 68: Changes tab showing the number of changes to apply.

15. Click the **Changes** tab.
The **Unsaved window** opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.



Figure 69: Unsaved window showing changes to apply.

16. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the **Device Status window** opens.
17. Optional: In the **WP201-100 Access Panel**, click **Wireless** to view the changes in the **Wireless window**.
18. If applicable, continue with other changes for the WP201-100.

4. Testing and Discovery

This section provides procedure information about testing the WP201-100 and discovering devices connected to the WP201-100.

- [Discover Devices Connected to the WP201-100 \(on page 67\)](#).
- [Run a Ping Test \(on page 68\)](#).
- [Run a Speed Test \(on page 69\)](#).
- [Run a Traceroute Test \(on page 70\)](#).

4.1. Discover Devices Connected to the WP201-100

This procedure discovers devices on the WP201-100 network and shows their Operation Mode, IP Address, System MAC Address and Firmware version.

Procedure

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Tools**.
The [Tools window \(on page 181\)](#) opens.

Note: See the description of the [Tools window \(on page 181\)](#) for detailed information about the options in the window.

4. Scroll to the [Device Discovery area \(on page 185\)](#).
5. Click the **Scan** button to scan for devices connected to the WP201-100.
The scan results appear in the **Device Discovery** table.

Note: This information is read-only.

The screenshot shows the FreeWave WP201 web interface. The 'Tools' menu is selected, and the 'Device Discovery' section is active. A 'Start' button is visible above the table. The table lists three discovered devices:

Device Name	Operation Mode	IP Address	System MAC Address	Firmware Version
OAP-24	AP/WDS AP	192.168.1.24	88:DC:96:34:76:ED	2.0.77
OAP-23	AP/WDS AP	192.168.1.23	88:DC:96:34:76:E9	2.0.77
OAP-22	AP/WDS AP	192.168.1.22	88:DC:96:34:76:D9	2.0.77

Additional interface elements include a 'Scan' button at the bottom of the table, a 'Changes: 0' indicator, and 'Reset' and 'Logout' buttons in the top right corner.

Figure 70: Tools window - Device Discovery area with example information

4.2. Run a Ping Test

This procedure analyzes the connection quality of the WP201-100.

Procedure

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the **WP201-100 Access Panel**, click **Tools**.
The **Tools window (on page 181)** opens.

Note: See the description of the [Tools window \(on page 181\)](#) for detailed information about the options in the window.

4. In the **Ping Test Parameters area (on page 182)**:
 - a. In the **Target IP / Domain Name** text box, enter the IP address to ping.
 - b. In the **Ping Packet Size** text box, enter the packet size of each ping.
 - c. In the **Number of Pings** text box, enter the number of times to ping.
 - d. Click the **Start** button to begin the ping test.

The **Results** scroll box shows the ping results as they occur during the test.

Note: This information is read-only.

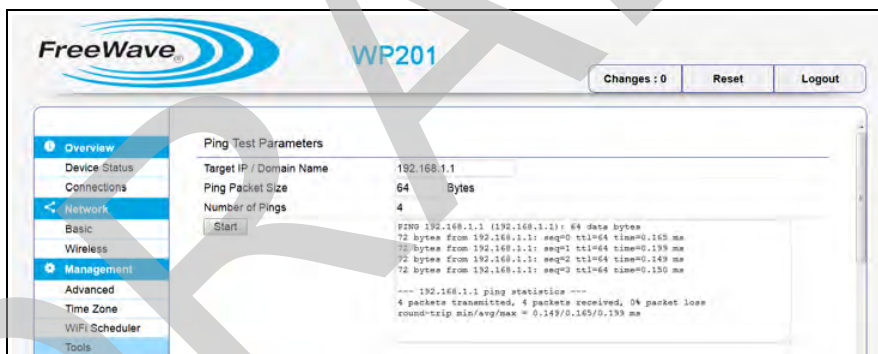


Figure 71: Tools window - Ping Test Parameters area with Ping results

4.3. Run a Speed Test

1. [Connect to the WP201-100 Access Point \(on page 19\).](#)
2. [Access the WP201-100 \(on page 24\).](#)
3. In the [WP201-100 Access Panel](#), click **Tools**.
The [Tools window \(on page 181\)](#) opens.

Note: See the description of the [Tools window \(on page 181\)](#) for detailed information about the options in the window.

4. Scroll to the [Speed Test Parameters area \(on page 184\).](#)
5. In the **Target IP / Domain Name** text box, enter the IP address to send data packets from a client to a server OR from one WP201-100 to another.
6. In the **Time Period** text box, enter the length of time (in seconds) to run the speed test.

Note: The default is 20 seconds.

Example: Enter 120 for a 2 minute speed test.

7. In the **Check Interval** text box, enter how often the data is reported in the log file.
8. Click the **Start** button to begin the speed test.

The **Results** scroll box shows the speed test results as they occur during the test. This information is read-only.

Note: The default in the **IPv4** text box is 5001. It cannot be changed.

Note: The default in the **IPv6** text box is 5002. It cannot be changed.

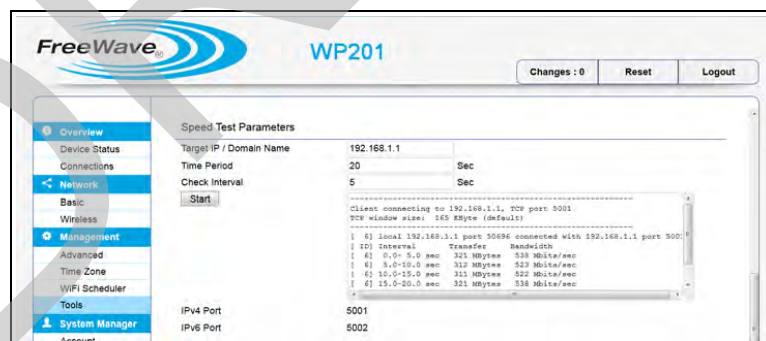


Figure 72: Tools window - Speed Test Parameters area with speed results information

4.4. Run a Traceroute Test

This procedure runs a trace on the routing table to a target in the network in the event of an issue.

Procedure

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Tools**.
The [Tools window \(on page 181\)](#) opens.

Note: See the description of the [Tools window \(on page 181\)](#) for detailed information about the options in the window.

4. Scroll to the [Traceroute Test Parameters area \(on page 183\)](#).
5. In the **Target IP / Domain Name** text box, enter the WP201-100 IP address to trace.
6. Click the **Start** button to begin the trace route operation.
7. If needed, click the **Stop** button to stop the trace route operation.

The **Results** scroll box shows the trace results as they occur during the test.

Note: This information is read-only.

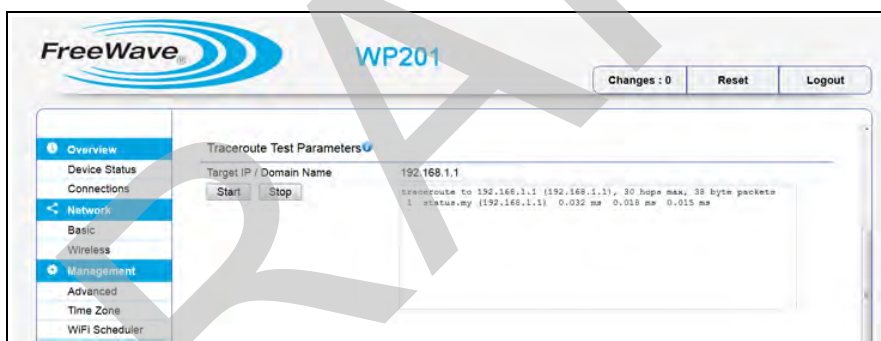


Figure 73: Tools window - Traceroute Test Parameters area with traceroute information

5. Backup, Restore, and Upgrade the WP201-100

This section provides procedure information about back up, restore factory defaults, and upgrade of the WP201-100.

5.1. Reset tab Procedures

These procedures use the [Reset tab \(on page 141\)](#) and the [Reboot or Restore window \(on page 177\)](#):

- [Reboot the WP201-100 \(on page 72\)](#).
- [Restore the WP201-100 Factory Defaults \(on page 73\)](#).
- [Restore to User Defaults \(on page 75\)](#).

5.2. Firmware window Procedures

These procedures use the [Firmware window \(on page 173\)](#):

- [Backup WP201-100 Factory Settings \(on page 76\)](#).
- [Backup the WP201-100 User Settings as the Default \(on page 78\)](#).
- [Reset to the WP201-100 Defaults \(on page 79\)](#).
- [Restore the WP201-100 to Factory New Settings \(on page 81\)](#).
- [Restore the WP201-100 to the User Default \(on page 83\)](#).
- [Upgrade the WP201-100 Firmware \(on page 84\)](#).

5.3. Reboot the WP201-100

Important! The WP201-100 is NOT available during the upgrade, reboot, or restore process. The WP201-100 must restart when the upgrade, reboot, or restore is completed. Connections to or through the device are restored when the WP201-100 is re-booted.

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. Click the [Reset tab](#).
The [Reboot or Restore window](#) opens.

Note: See the description of the [Reboot or Restore window \(on page 177\)](#) for detailed information about the options in the window.

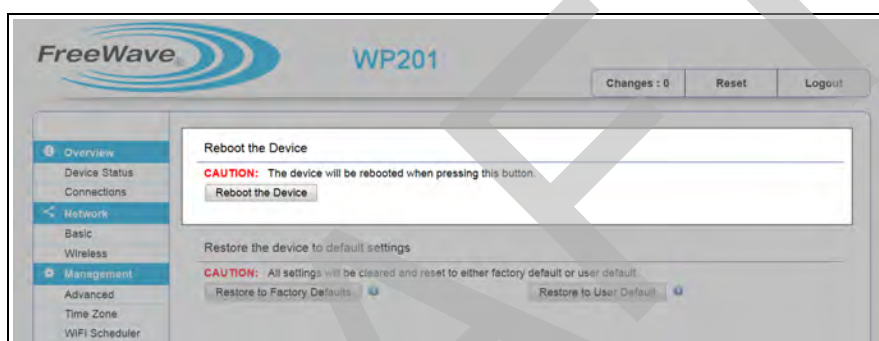


Figure 74: Reboot or Restore window

4. Click the **Reboot the Device** button to initiate a reboot of the WP201-100.
A confirmation message appears.

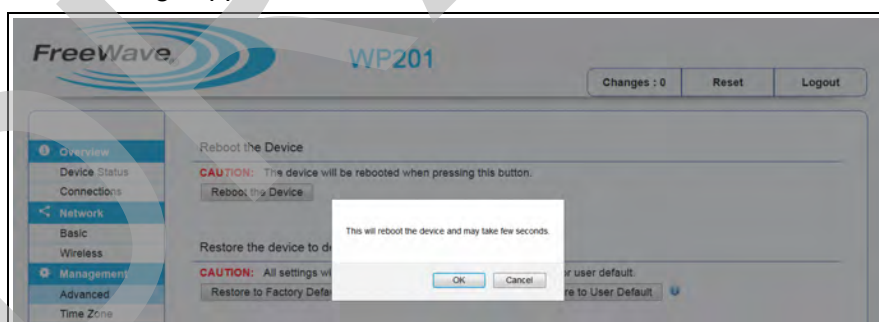


Figure 75: Reboot Confirmation message

5. Click **OK** to confirm starting the reboot process.
The **Reboot Countdown** window opens.
6. Wait while the WP201-100 reboots.
The WP201-100 **Login** window opens.
7. Log back into the WP201-100.

5.4. Restore the WP201-100 Factory Defaults



Caution: Using the **Restore to (Factory) Defaults** option deletes the current configuration and returns the WP201-100 to its factory default settings.

Important!: The WP201-100 is NOT available during the upgrade, reboot, or restore process. The WP201-100 must restart when the upgrade, reboot, or restore is completed. Connections to or through the device are restored when the WP201-100 is re-booted.

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. Click the [Reset](#) tab.
The [Reboot or Restore](#) window opens.

Note: See the description of the [Reboot or Restore window \(on page 177\)](#) for detailed information about the options in the window.

4. Click **Restore to Factory Defaults** to initiate a restoration of the factory default settings to the WP201-100.

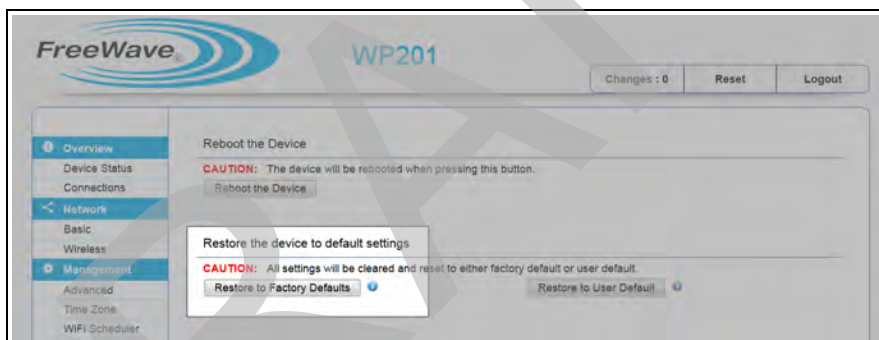


Figure 76: Reboot or Restore window

A confirmation message appears.

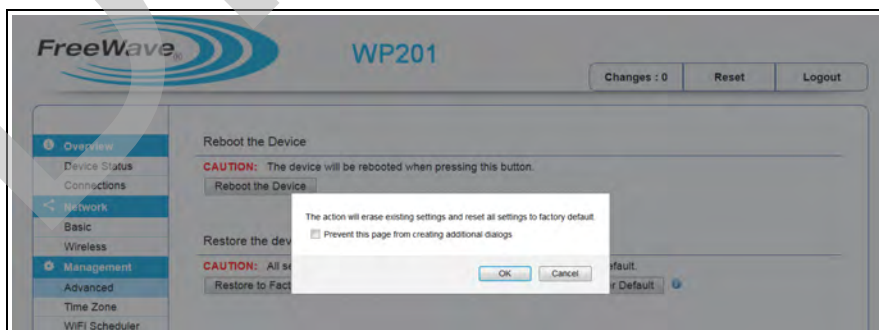


Figure 77: Restore to Factory Default Confirmation message

5. Click **OK** to confirm starting the restore process.
The **Reboot Countdown** window opens.

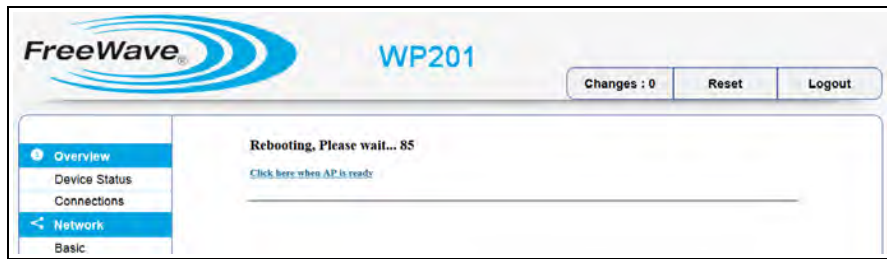


Figure 78: Reboot Countdown window

6. Wait while the WP201-100 reboots.
The WP201-100 **Login** window opens.

7. Log back into the WP201-100.

The WP201-100 returns to the default IP Address of 192.168.1.1.

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5.5. Restore to User Defaults

Important! The WP201-100 is NOT available during the upgrade, reboot, or restore process. The WP201-100 must restart when the upgrade, reboot, or restore is completed. Connections to or through the device are restored when the WP201-100 is re-booted.

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. Click the [Reset](#) tab.
The [Reboot or Restore](#) window opens.

Note: See the description of the [Reboot or Restore window \(on page 177\)](#) for detailed information about the options in the window.

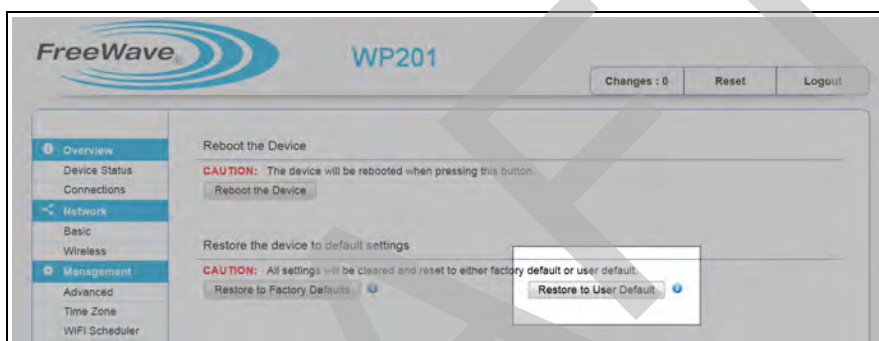


Figure 79: Reboot or Restore window

4. Click the **Restore (to User Default)** button to erase existing settings and upload the settings defined when the **Back Up Setting as Default - Backup** button was selected in the [Firmware](#) window.
A confirmation message appears.

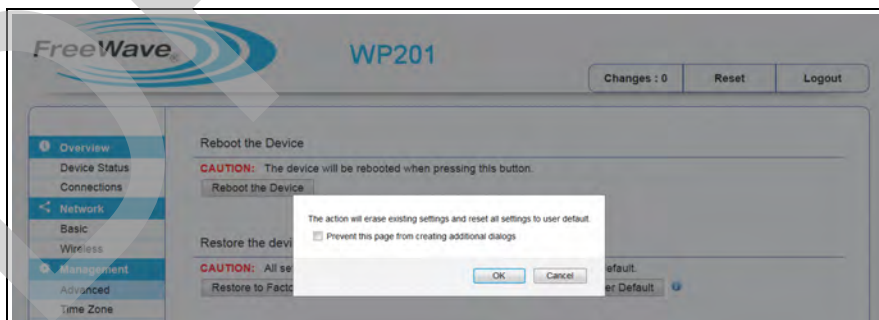


Figure 80: Restore to User Default Confirmation message

5. Click **OK** to confirm starting the restore process.
The **Reboot Countdown** window opens.
6. Wait while the WP201-100 reboots.
The WP201-100 **Login** window opens.
7. Log back into the WP201-100.

5.6. Backup WP201-100 Factory Settings

1. [Connect to the WP201-100 Access Point \(on page 19\).](#)
2. [Access the WP201-100 \(on page 24\).](#)
3. In the [WP201-100 Access Panel](#), click **Firmware**.
The [Firmware window](#) opens.

Note: See the description of the [Firmware window \(on page 173\)](#) for detailed information about the options in the window.



4.

Figure 81: Firmware window

5. In the **Factory Setting** area, click the **Backup Setting - Export** button.
The [Microsoft® Opening Backup dialog box \(on page 224\)](#) opens.

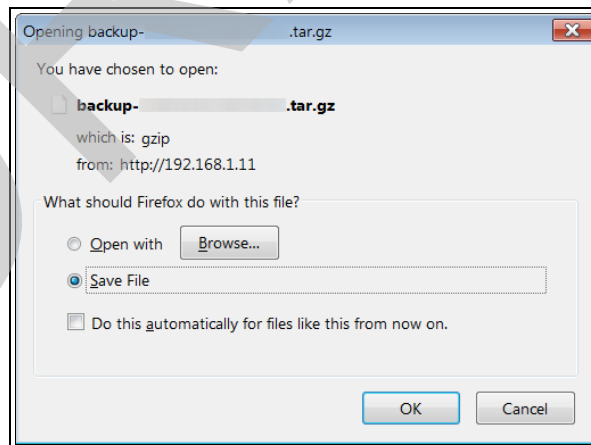


Figure 82: Microsoft® Opening Backup dialog box

6. Verify the **Save File** option button is selected and click **OK**.
The [Microsoft® Enter name of file to save to dialog box \(on page 222\)](#) opens.

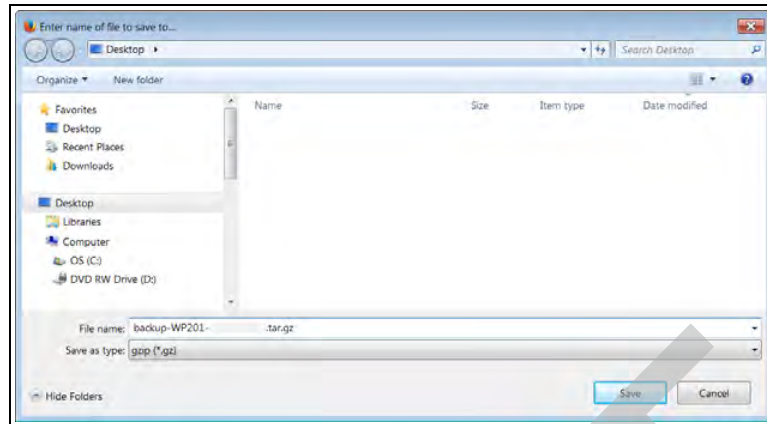


Figure 83: Microsoft® Enter name of file to save to dialog box

7. In the **File name** text box, enter a descriptive name for the **tar.gz** file and click **Save**.
8. Search for and select a location for the backup **tar.gz** file.
9. Click **Save**.
The **Opening Backup dialog box** dialog box closes and the **Firmware window** returns.

5.7. Backup the WP201-100 User Settings as the Default

1. [Connect to the WP201-100 Access Point \(on page 19\).](#)
2. [Access the WP201-100 \(on page 24\).](#)
3. In the [WP201-100 Access Panel](#), click **Firmware**.
The [Firmware window](#) opens.

Note: See the description of the [Firmware window \(on page 173\)](#) for detailed information about the options in the window.

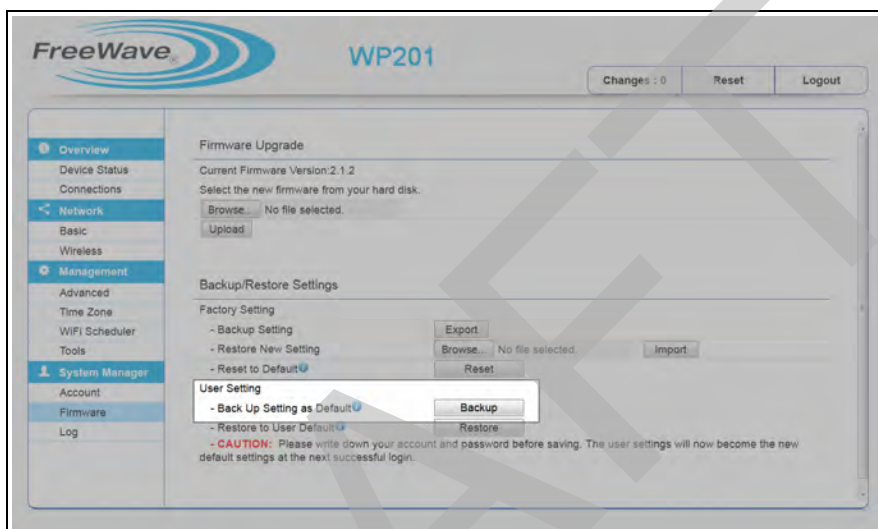


Figure 84: Firmware window

4. In the **User Setting** area, click the **Back Up Setting as Default - Backup** button.
The window flickers briefly as the information is saved.

Note: The **User Setting** backup remains until a new **User Setting** backup is made.

5.8. Reset to the WP201-100 Defaults



Caution: Using the **Restore to (Factory) Defaults** option deletes the current configuration and returns the WP201-100 to its factory default settings.

Important! The WP201-100 is NOT available during the upgrade, reboot, or restore process. The WP201-100 must restart when the upgrade, reboot, or restore is completed. Connections to or through the device are restored when the WP201-100 is re-booted.

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Firmware**. The [Firmware window](#) opens.

Note: See the description of the [Firmware window \(on page 173\)](#) for detailed information about the options in the window.



Figure 85: Firmware window

4. In the **Factory Setting** area, click the **Reset to Default - Reset** button. A confirmation message appears.

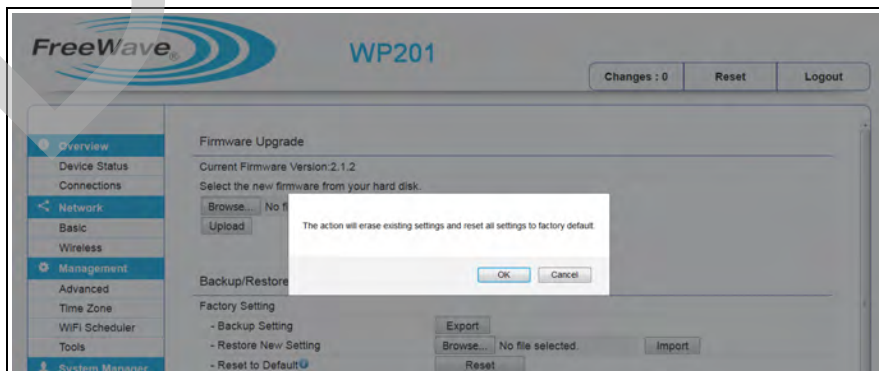


Figure 86: Restore to Factory Default Confirmation message

5. Backup, Restore, and Upgrade the WP201-100

5. Click **OK** to confirm starting the restore process.
The **Reboot Countdown** window opens.

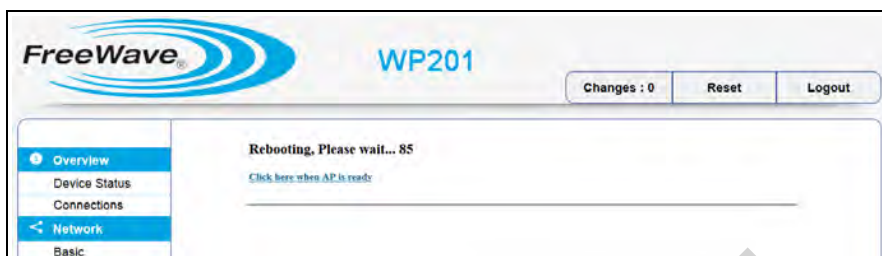


Figure 87: Reboot Countdown window

6. Wait while the WP201-100 reboots.
The WP201-100 **Login** window opens.
 7. Log back into the WP201-100.
- The WP201-100 returns to the default IP Address of 192.168.1.1.

5.9. Restore the WP201-100 to Factory New Settings

Important! The WP201-100 is NOT available during the upgrade, reboot, or restore process. The WP201-100 must restart when the upgrade, reboot, or restore is completed. Connections to or through the device are restored when the WP201-100 is re-booted.

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Firmware**. The [Firmware window](#) opens.

Note: See the description of the [Firmware window \(on page 173\)](#) for detailed information about the options in the window.



Figure 88: Firmware window

4. In the **Factory Setting** area, click the **Restore New Setting - Browse** button. The [Microsoft® File Upload dialog box \(on page 223\)](#) opens.
5. Search for and select the **tar.gz** file to restore.

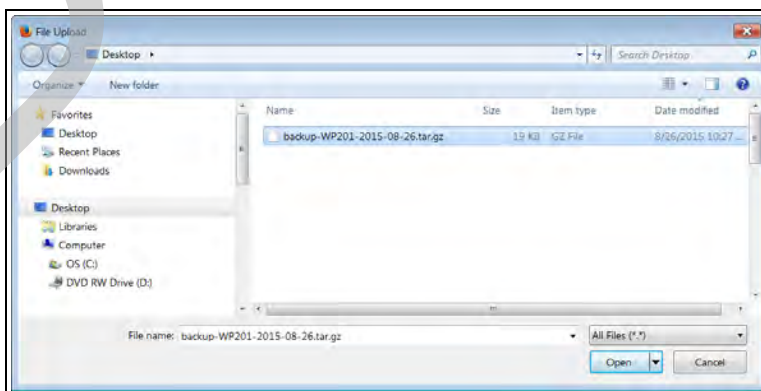


Figure 89: Firmware window with Backup File Selected

5. Backup, Restore, and Upgrade the WP201-100

6. Click **Open**.

The **Microsoft® File Upload** dialog box closes and the **Firmware** window returns showing the selected backup file.

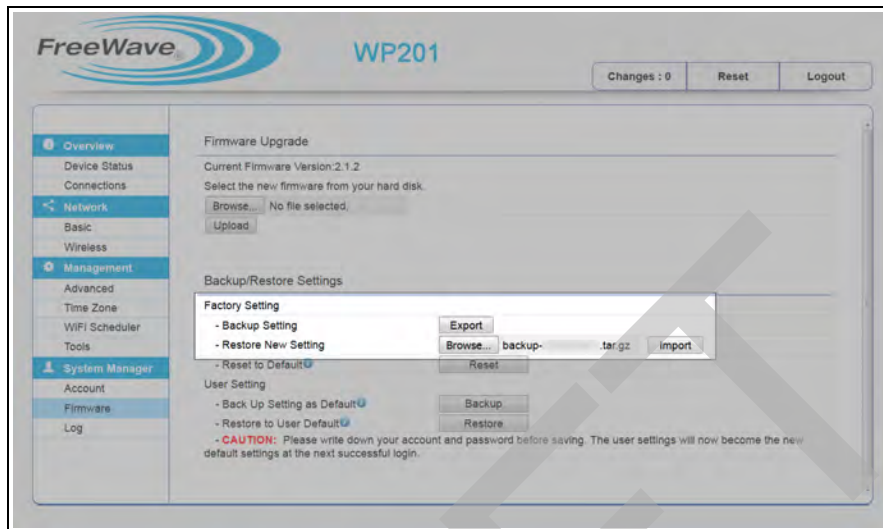


Figure 90: Firmware window with backup file selected

7. Click the **Import** button.

The **Firmware** window shows the rebooting countdown.



Figure 91: Reboot Countdown window

8. Wait while the WP201-100 reboots.

The WP201-100 **Login** window opens.

9. Log back into the WP201-100.

5.10. Restore the WP201-100 to the User Default

When the WP201-100 configuration is saved, it can be reloaded into the WP201-100 using the **Restore Saved Settings** from a file saved on the computer.

Important! The WP201-100 is NOT available during the upgrade, reboot, or restore process. The WP201-100 must restart when the upgrade, reboot, or restore is completed. Connections to or through the device are restored when the WP201-100 is re-booted.

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Firmware**.
The [Firmware window](#) opens.

Note: See the description of the [Firmware window \(on page 173\)](#) for detailed information about the options in the window.

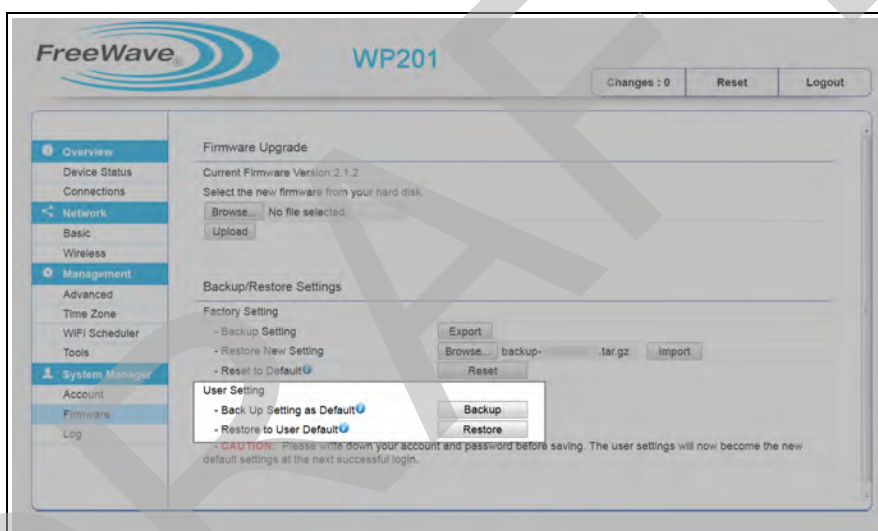


Figure 92: Firmware window

4. Click the **Restore (to User Default)** button to erase existing settings and upload the settings defined when the **Back Up Setting as Default - Backup** button was selected in the [Firmware window](#).
5. Wait while the WP201-100 reboots.
The WP201-100 **Login** window opens.
6. Log back into the WP201-100.

5.11. Upgrade the WP201-100 Firmware

Note: This procedure requires the user to download the upgrade file from <http://www.freewave.com/support/>. Registration is required to use this login.

The WP201-100 upgrade process requires these basic steps:

- [Download the Upgrade File \(on page 84\)](#).
- [Install the Upgrade File \(on page 87\)](#).

Important! The WP201-100 is NOT available during the upgrade, reboot, or restore process. The WP201-100 must restart when the upgrade, reboot, or restore is completed. Connections to or through the device are restored when the WP201-100 is re-booted.

5.11.1. Download the Upgrade File

1. Click <http://www.freewave.com/support/>. The **Login** window opens.

Important! Registration is required to use this login.

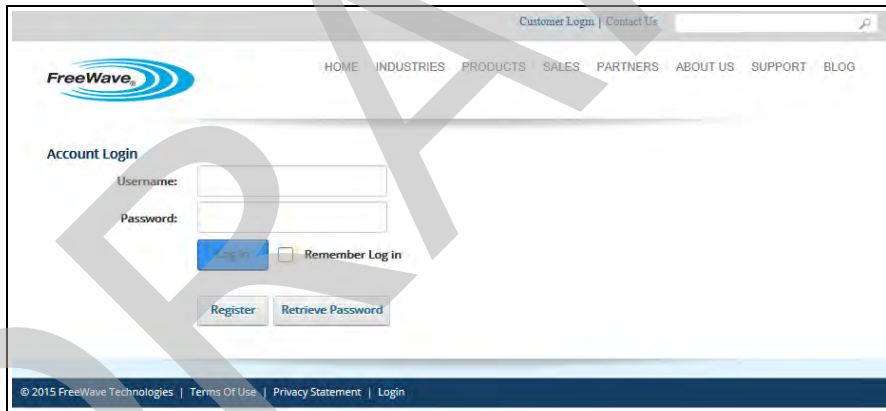


Figure 93: FreeWave Login window

2. Enter the **User Name** and **Password**.

3. Click .

The FreeWave **Downloads** window opens.

4. Scroll to the WP201-100 area and click the [Download Options >](#) link.



Figure 94: FreeWave Downloads window

The WavePro **Downloads** window opens.

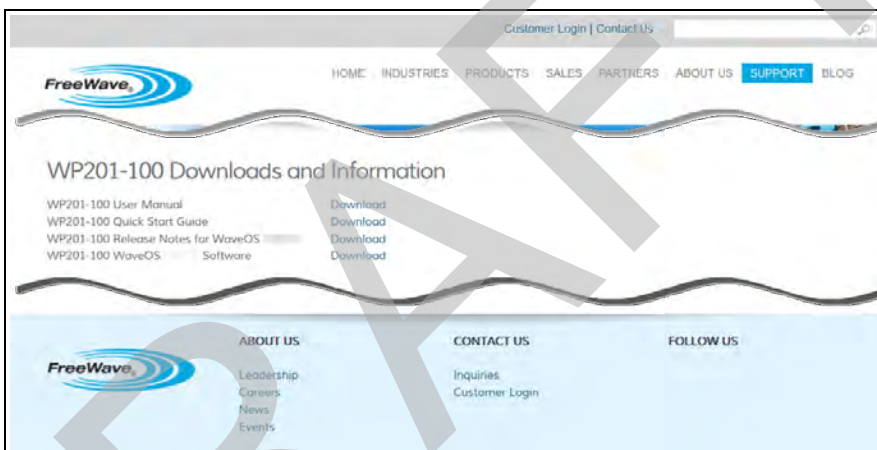


Figure 95: WavePro Downloads window

5. Click the **Download** link for the latest software version of the applicable WP201-100 model. The **Opening** dialog box opens.

Note: This procedure shows Firefox® dialog boxes. If using Windows® Explorer, different dialog boxes appear with different procedures.

5. Backup, Restore, and Upgrade the WP201-100

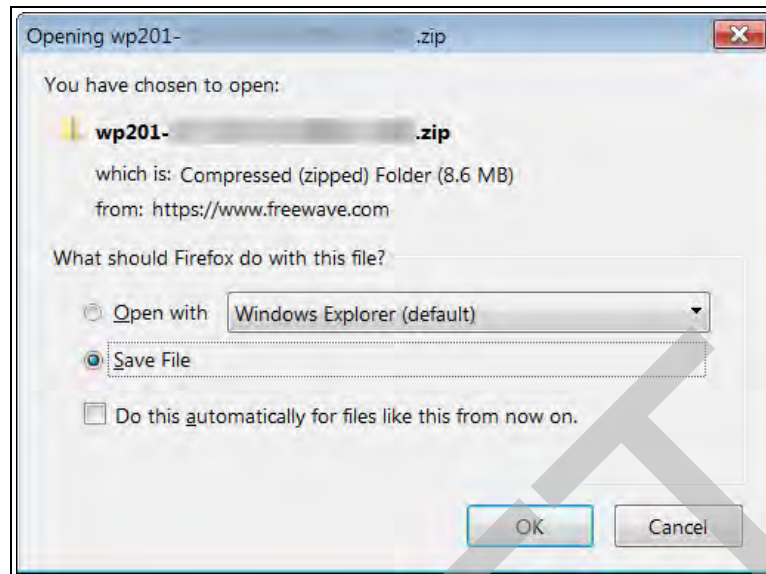


Figure 96: Microsoft® Opening dialog box

6. Click **OK**.
The **Enter name of file to save to** dialog box opens.

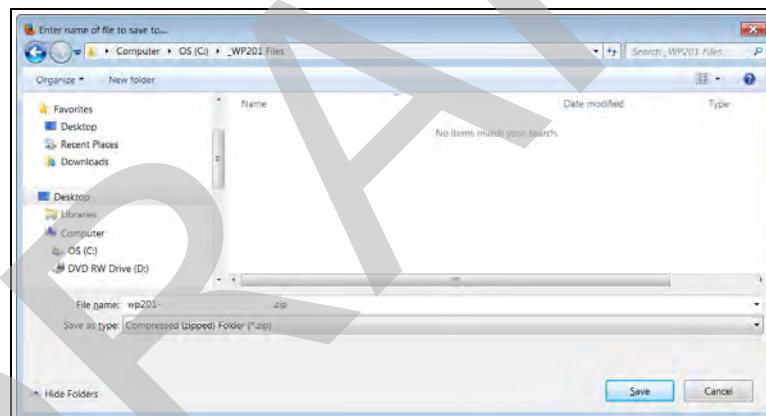


Figure 97: Microsoft® Enter name of file to save to dialog box

7. Search for and select a location to save the WP201-100 **.zip** file to and click **Save**.
The **Enter name of file to save to** dialog box closes.

5.11.2. Install the Upgrade File

Important! The WP201-100 is NOT available during the upgrade, reboot, or restore process. The WP201-100 must restart when the upgrade, reboot, or restore is completed. Connections to or through the device are restored when the WP201-100 is re-booted.

1. [Connect to the WP201-100 Access Point \(on page 19\).](#)
2. [Access the WP201-100 \(on page 24\).](#)
3. In the [WP201-100 Access Panel](#), click **Firmware**. The [Firmware window](#) opens.

Note: See the description of the [Firmware window \(on page 173\)](#) for detailed information about the options in the window.

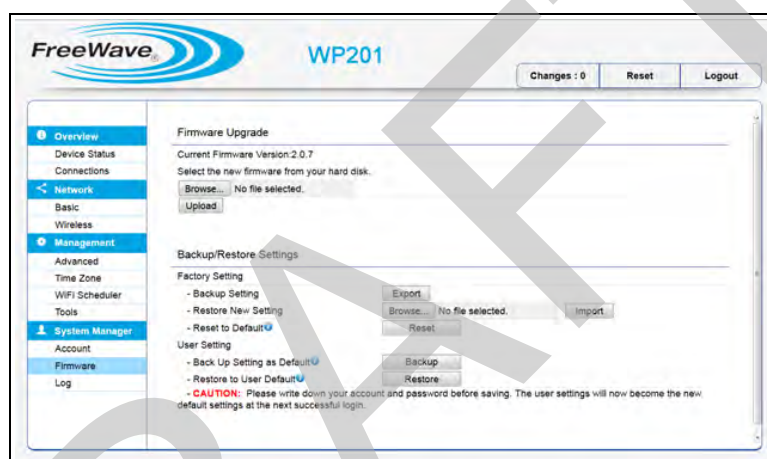


Figure 98: WP201-100 Firmware window

4. Click the **Browse** button to open the [Microsoft® File Upload dialog box \(on page 223\)](#).

Note: This is a Microsoft® dialog. Press <F1> for assistance.

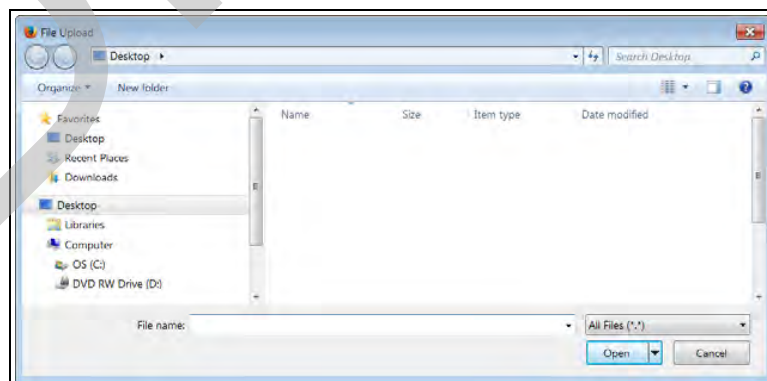


Figure 99: Microsoft® File Upload dialog box

5. Locate and select the upgrade file downloaded from the FreeWave website.

5. Backup, Restore, and Upgrade the WP201-100

6. Click **Open**.

The **File Upload** dialog box closes and the **Firmware** window returns.
The selected file is shown in the window.

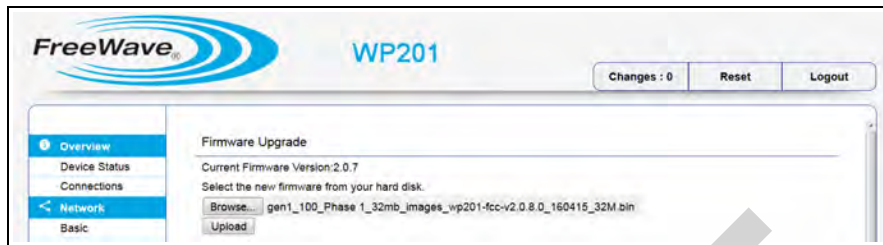


Figure 100: WP201-100 Firmware window

7. Click the **Upload** button to start the WP201-100 upgrade process. An **Upgrade** confirmation window opens.

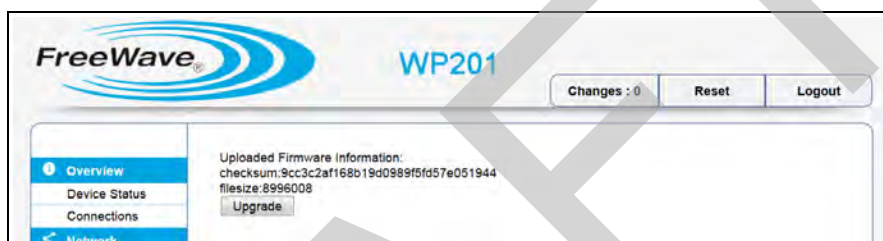


Figure 101: Upgrade Confirmation window

8. Click **Upgrade** to start the upgrade process. A **Processing** bar appears.

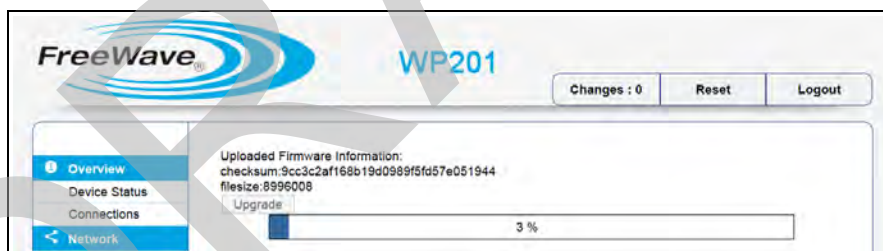


Figure 102: Upgrade Processing bar



Caution: Do NOT turn off the WP201-100 in the middle of upgrade process.
Terminating the WP201-100 during the upgrade process will damage the device and may cause the device to fail.



Figure 103: System Restart window

9. In the **Restarting** window, wait for the restart countdown to complete. The **Login** window opens.
10. Enter the default **Username** and **Password** (**admin** for both) and click **Login**. The **Device Status window** opens. The new firmware version is identified in the **Device Information** area.

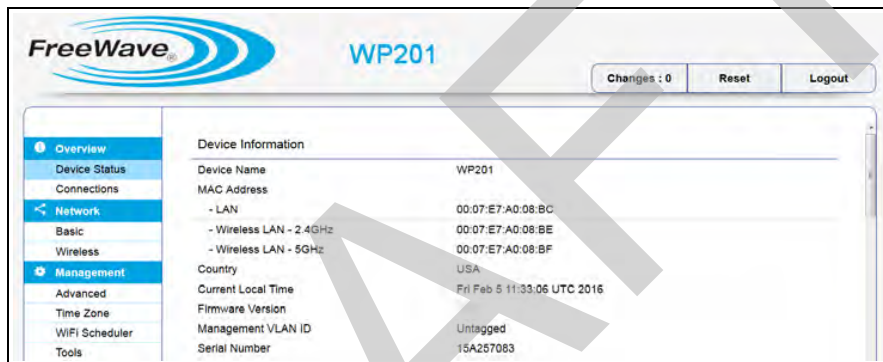


Figure 104: Device Status window - Device Information area

11. If applicable, continue with other changes for the WP201-100.
12. When the WP201-100 changes are completed, logout of the WP201-100.
13. Return the computer back to its original IP Address by **reversing** the steps in [Setup the Computer IP Address Configuration \(on page 21\)](#).
14. Disconnect the Ethernet cable from the **Network** port of the **PoE+ Injector** and the Ethernet port on the computer.

6. Viewing Information

This section provides procedure information about viewing information about the WP201-100.

- [Scanning for Access Points \(on page 91\)](#).
- [View the WP201-100 Log Information \(on page 92\)](#).
- [Viewing WP201-100 Connection Information \(on page 93\)](#).
- [View the WP201-100 Device Status \(on page 94\)](#).

6.1. Scanning for Access Points

1. Connect to the WP201-100 Access Point (on page 19).
2. Access the WP201-100 (on page 24).
3. In the WP201-100 Access Panel, click **Wireless**.
The **Wireless** window opens.
4. Scroll to the **Operation Mode** area.

Note: See the description of the [Operation Mode area \(on page 193\)](#) for detailed information about the options in this area.



Figure 105: Wireless window - Operation Mode area

5. Click the **AP Detection Scan** button to open the [Site Survey window \(on page 178\)](#) showing the nearby Access Points.
A new browser window opens showing the scan.
When the scan is completed, the available Access Points are listed in the browser window.

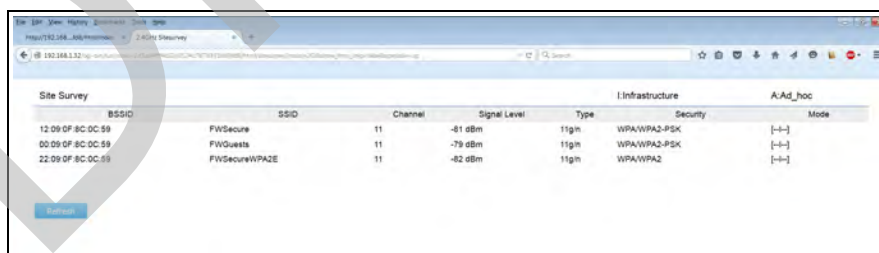


Figure 106: Browser window showing located Access Points

Note: This information is read-only.

6.2. View the WP201-100 Log Information

1. Connect to the WP201-100 Access Point (on page 19).
2. Access the WP201-100 (on page 24).
3. In the WP201-100 Access Panel, click **Log**.
The **Log** window opens.

Note: See the description of the **Log** window (on page 175) for detailed information about the options in the window.

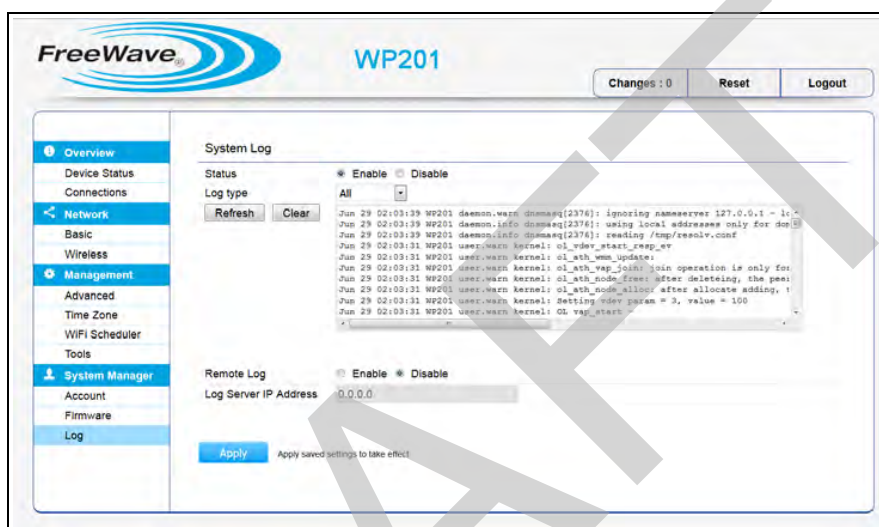


Figure 107: WP201-100 Log window

4. Select the **Enable** button to activate the **Log** function for the WP201-100.
5. Click the **Log Type** list box arrow and select the type of information to log.

Note: The default is **All**.

6. Click the **Refresh** button to clear the **Log** scroll box and start a new log with the specific information designated by the selection made in the **Log Type** list box.
The **Results** scroll box shows the log results as they occur in the WP201-100.
7. Click the **Clear** button to erase the existing log information and start recording new log information.

Note: This information is read-only.

6.3. Viewing WP201-100 Connection Information

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Connections**.
The [Connections window](#) opens.

Note: See the description of the [Connections window \(on page 158\)](#) for detailed information about the options in the window.
This information is read-only.



Figure 108: Connections window - Default

4. Scroll through the window to view the WP201-100 connections.
5. Click the **Refresh** button to update the connection information.

6.4. View the WP201-100 Device Status

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Device Status**.
The [Device Status window](#) opens.

Note: See the description of the [Device Status window \(on page 165\)](#) for detailed information about the options in the window.
This information is read-only.

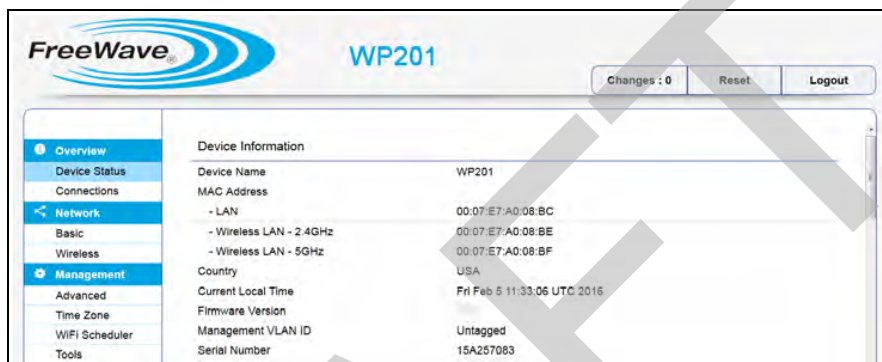


Figure 109: Device Status window - Device Information area

4. Scroll through the window to view the WP201-100
5. Click the **Refresh** button to update the WP201-100 **Device Status** information.

7. Administration

This section provides procedure information about administering the WP201-100 settings.

- [Changing the WP201-100 Account Password \(on page 96\)](#).
- [Fast Roaming Activation \(on page 97\)](#).
- [Guest Network Settings - Activate and Define \(on page 100\)](#).
- [Define a Guest Network Security Mode \(on page 102\)](#).
- [Define a WPA-Enterprise Security Mode \(on page 105\)](#).
- [Define a WPA-PSK Security Mode \(on page 107\)](#).
- [Email Alert - Activate and Define \(on page 109\)](#).
- [Reboot Schedule - Activate and Define \(on page 111\)](#).
- [Remote Log Activation \(on page 113\)](#).
- [Set the WP201-100 Time \(on page 114\)](#).
- [Setup IPv4 Static IP Settings \(on page 117\)](#).
- [Setup of IPv6 Settings \(on page 119\)](#).
- [SNMP Settings - Activate and Define \(on page 121\)](#).
- [Spanning Tree Settings - Activate and Define \(on page 123\)](#).
- [SSH and HTTPS Settings Activation \(on page 125\)](#).
- [WiFi Scheduler - Activate and Define \(on page 126\)](#).
- [Wireless MAC Filter - Activate and Define \(on page 128\)](#).
- [Wireless Traffic Shaping - Activate and Define \(on page 130\)](#).
- [Canceling Unsaved Changes in the WP201-100 \(on page 132\)](#).

7.1. Changing the WP201-100 Account Password

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Account**.
The [Account window](#) opens.

Note: See the description of the [Account window \(on page 143\)](#) for detailed information about the options in the window.

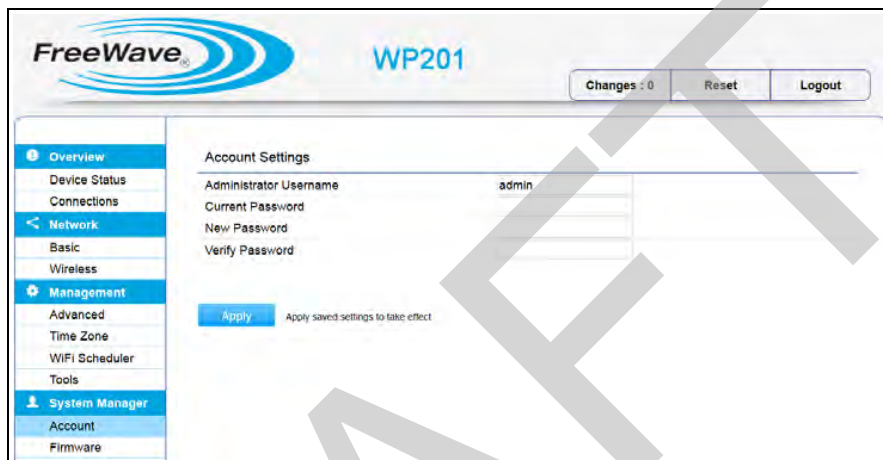


Figure 110: WP201-100 Account window

4. In the **Current Password** text box, enter the old Password for logging in to the WP201-100.
5. In the **New Password** text box, enter the new password for logging in to the WP201-100.
6. In the **Verify Password** text box, re-enter the new password for login confirmation.
7. Click **Apply** to save the changes.
The new password will be required the next time the WP201-100 is accessed.

7.2. Fast Roaming Activation

Important! Fast Roaming is only available when a WPA option is selected as the Security Mode of the WP201-100.

Procedure

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Wireless**.
The [Wireless window](#) opens.

Note: See the description of the [Wireless window \(on page 191\)](#) for detailed information about the options in the window.

4. Follow any of the [Configuring the WP201-100 \(on page 36\)](#) procedures.
5. In the [Wireless Settings area](#), click the **Edit** button.
The [Wireless Edit dialog box](#) opens.

Note: See the description of the [Wireless Edit dialog box \(on page 208\)](#) for detailed information about the options in the dialog box.

6. Click the **Security Mode** list box arrow and select one of these options:
 - **WPA-PSK** - This allows user authentication without enterprise network connection.
 - **WPA-PSK Mixed** - This allows user authentication without enterprise network connection.
 - **WPA-Mixed Enterprise** - This requires a RADIUS server to authenticate users.
 - **WPA2-PSK** - This allows user authentication without enterprise network connection.
 - **WPA2-Enterprise** - This requires a RADIUS server to authenticate users.

Note: This example procedure uses **WPA2-Enterprise**.

7. Click the **Encryption** list box arrow and select the encryption type to use.

Important! All wireless clients MUST use the same settings.

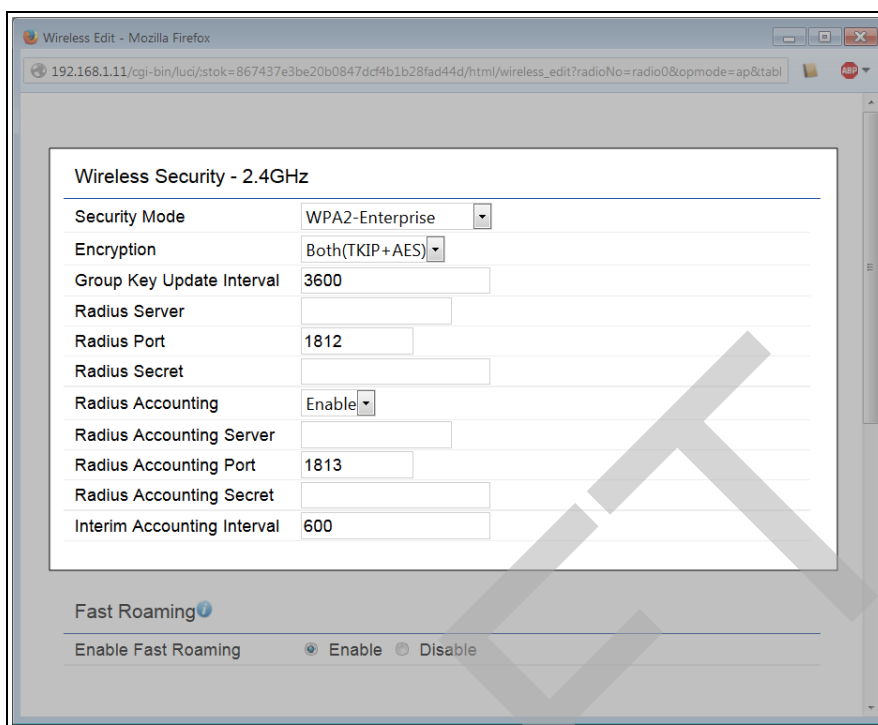


Figure 111: Wireless Edit dialog box with WPA2-Enterprise Security Mode selected

8. In the **Group Key Update Interval** text box, enter how often, in seconds, the **Group Key** changes.
9. In the **Radius Server** text box, enter the IP address of the **Radius** server.
10. In the **Radius Port** text box, enter the port number used for connections to the **Radius** server.
11. In the **Radius Secret** text box, enter the secret required to connect to the **Radius** server.
12. If applicable, Click the **Radius Accounting** list box arrow and select **Enable** to activate the accounting feature of the WP201-100.
13. If **Radius Accounting** is enabled:
 - a. In the **Radius Accounting Server** text box, enter the IP address of the **Radius Accounting** server.
 - b. In the **Radius Accounting Port** text box, enter the port number used for connections to the Radius accounting server.
 - c. In the **Radius Accounting Secret** text box, enter the password required to connect to the **Radius Accounting** server.
 - d. In the **Interim Accounting Interval** text box, enter how often, in seconds, the accounting data is sent to the RADIUS server.
14. Scroll to the [Fast Roaming area \(on page 213\)](#).
15. Select the **Enable** option button to serve mobile client devices that roam from Access Point to Access Point.

Note: Some applications running on client devices require fast re-association when they roam to a different Access Point.

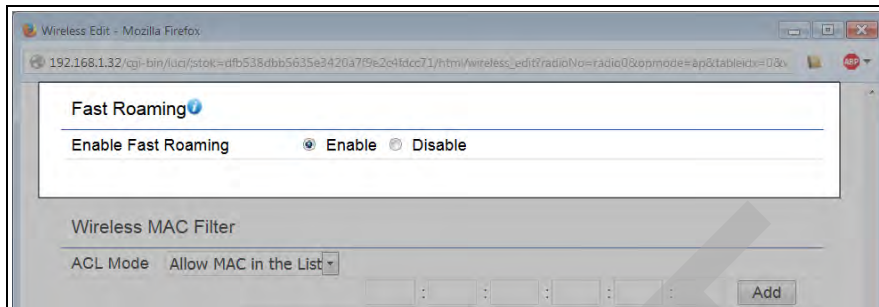


Figure 112: Wireless Edit dialog box - Fast Roaming area

16. If required, scroll to the bottom of the **Wireless Edit** dialog box.
17. Click **Save** to save the changes.
The **Wireless Edit dialog box** closes.
The **Wireless window** returns.
The **Changes tab** shows the accumulated number of pending changes ready to apply.



Figure 113: Changes tab showing the number of changes to apply.

18. Click the **Changes** tab.
The **Unsaved window** opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.



Figure 114: Unsaved window showing changes to apply.

19. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the **Device Status window** opens.
20. If applicable, continue with other changes for the WP201-100.

7.3. Guest Network Settings - Activate and Define

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#)
3. In the [WP201-100 Access Panel](#), click **Wireless**.
The [Wireless window](#) opens.

Note: See the description of the [Wireless window \(on page 191\)](#) for detailed information about the options in the window.

4. Scroll to the [Guest Network Settings area](#).

Note: See the description of the [Guest Network Settings area \(on page 204\)](#) for detailed information about the options in that area.

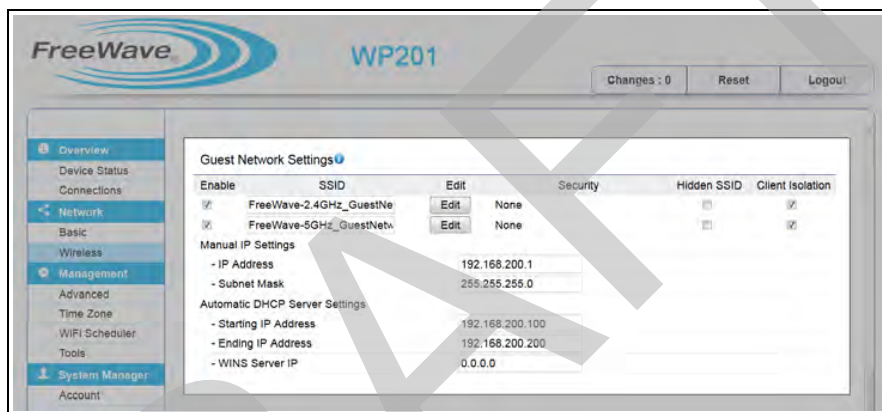


Figure 115: Wireless window - Guest Network Settings area

5. Select the **Enable** check box to activate the **Guest Network Settings** area in the WP201-100.
6. In the **SSID** text box, enter a descriptive SSID name for the current WP201-100 profile.
7. Optional: Click the **Edit** button to open the [Wireless Edit dialog box - Guest Network \(on page 220\)](#).

Note: See [Define a Guest Network Security Mode \(on page 102\)](#).
The information in the **Security** text box shows the **Security Mode** selected in the [Wireless Edit dialog box - Guest Network \(on page 220\)](#).

8. Optional: Select the **Hidden SSID** check box to hide the selected SSID from clients.

Important! If the **Hidden SSID** check box is selected, the SSID does NOT appear in the site survey.

9. Optional: Select the **Client Isolation** check box to prevent communication between client devices.

10. In the **Manual IP Settings** area:
 - a. In the **IP Address** text box, enter an IP Address that is **in the same subnet range but a DIFFERENT IP Address** than the WP201-100 AND **different than the computer IP Address**.
 - b. In the **Subnet Mask** text box, enter the IP Subnet Mask address of the WP201-100.
11. In the **Automatic DHCP Server Settings** area:
 - a. In the **Starting IP Address** text box, enter the first IP Address in the range of the addresses used by the DHCP server in the WP201-100.
 - b. In the **Ending IP Address** text box, enter the last IP Address in the range of addresses assigned by the DHCP server in the WP201-100.
 - c. In the **WINS Server IP** text box, enter the IPv4 address of the server.
12. Scroll to the bottom of the **Wireless** window.
13. Click **Save** to save the changes.
The [Wireless window](#) refreshes.
The [Changes tab](#) shows the accumulated number of pending changes ready to apply.



Figure 116: Changes tab showing the number of changes to apply.

14. Click the **Changes** tab.
The [Unsaved window](#) opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.

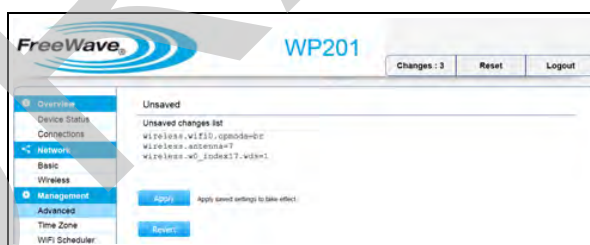


Figure 117: Unsaved window showing changes to apply.

15. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the [Device Status window](#) opens.
16. If applicable, continue with other changes for the WP201-100.

7.4. Define a Guest Network Security Mode

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Wireless**.
The [Wireless window](#) opens.

Note: See the description of the [Wireless window \(on page 191\)](#) for detailed information about the options in the window.

4. Scroll to the [Guest Network Settings area](#).

Note: See the description of the [Guest Network Settings area \(on page 204\)](#) for detailed information about the options in that area.

5. Click the **Edit** button to open the [Wireless Edit dialog box - Guest Network \(on page 220\)](#).

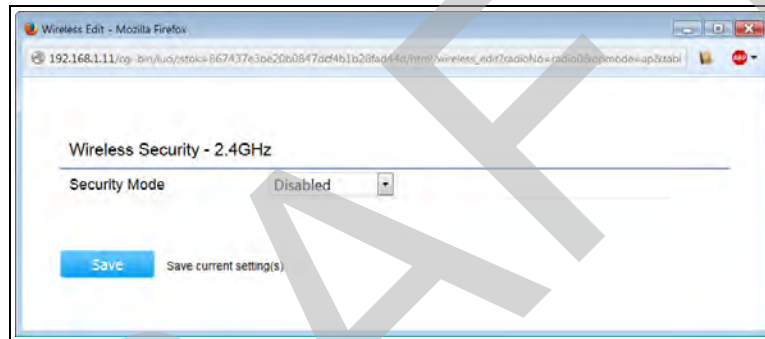


Figure 118: Wireless Edit dialog box for a Guest Network

6. Click the **Security Mode** list box arrow and select one of these options:
 - **WPA-PSK** - This allows user authentication without enterprise network connection.
 - **WPA2-PSK** - This allows user authentication without enterprise network connection.
 - **WPA-PSK Mixed** - This allows user authentication without enterprise network connection.

Note: This example image shows the options for the **WPA-PSK Mixed Security Mode**. The options are the same for the **WPA-PSK** and **WPA2-PSK Security Modes**.

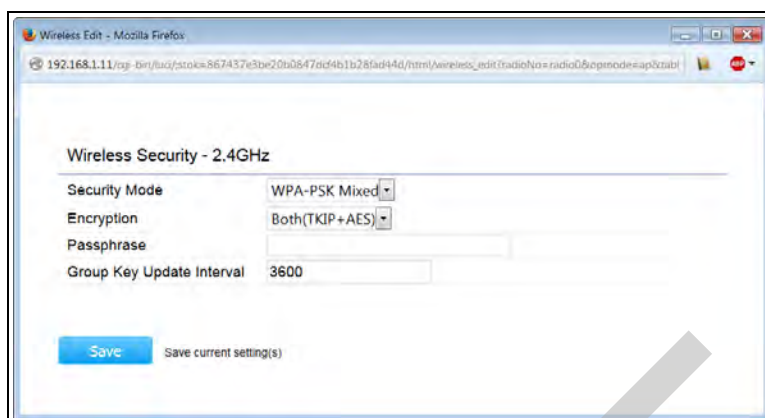


Figure 119: Wireless Edit dialog box for a Guest Network

- Click the **Encryption** list box arrow and select the encryption type to use.

Note: The default is **Both (TKIP + AES)**.

Important!: All wireless clients **MUST** use the same settings.

- In the **Passphrase** text box, enter the phrase wireless clients must use to access the WP201-100.

Important!: All clients **MUST** use the same Passphrase to connect with the WP201-100.

- If using an ASCII format, the **Passphrase** must have a minimum of 8 characters and a maximum of 63 characters in length.
 - If using a HEX format, the **Passphrase** must be 64 HEX characters in length.
- In the **Group Key Update Interval** text box, enter how often, in seconds, the **Group Key** changes.
 - Click **Save** to save the changes.
The [Wireless Edit dialog box](#) closes.
The [Wireless window](#) returns.
The [Changes tab](#) shows the accumulated number of pending changes ready to apply.



Figure 120: Changes tab showing the number of changes to apply.

- Click the **Changes** tab.
The [Unsaved window](#) opens.

Important!: The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.



Figure 121: Unsaved window showing changes to apply.

12. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the [Device Status window](#) opens.
13. If applicable, continue with other changes for the WP201-100.

7.5. Define a WPA-Enterprise Security Mode

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Wireless**.
The [Wireless window](#) opens.

Note: See the description of the [Wireless window \(on page 191\)](#) for detailed information about the options in the window.

4. In the [Wireless Settings area](#), click the **Edit** button.
The [Wireless Edit dialog box](#) opens.

Note: See the description of the [Wireless Edit dialog box \(on page 208\)](#) for detailed information about the options in the dialog box.

5. Click the **Security Mode** list box arrow and select **WPA-Enterprise**.

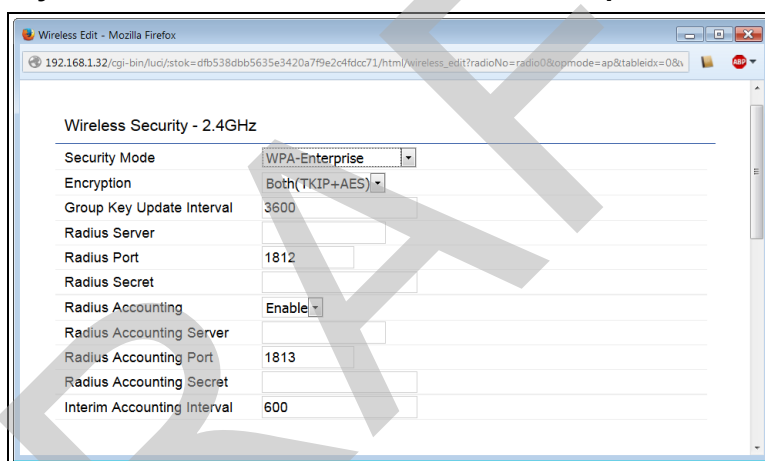


Figure 122: Wireless Edit dialog box - Security Mode = WPA-Enterprise

6. Click the **Encryption** list box arrow and select the encryption type to use.

Important! All wireless clients MUST use the same settings.

7. In the **Group Key Update Interval** text box, enter how often, in seconds, the **Group Key** changes.
8. In the **Radius Server** text box, enter the IP address of the **Radius** server.
9. In the **Radius Port** text box, enter the port number used for connections to the **Radius** server.
10. In the **Radius Secret** text box, enter the secret required to connect to the **Radius** server.
11. Click the **Radius Accounting** list box arrow and select **Enable** to activate the accounting feature of the WP201-100.
 - a. In the **Radius Accounting Server** text box, enter the IP address of the **Radius Accounting** server.

- b. In the **Radius Accounting Port** text box, enter the port number used for connections to the Radius accounting server.
 - c. In the **Radius Accounting Secret** text box, enter the password required to connect to the **Radius Accounting** server.
 - d. In the **Interim Accounting Interval** text box, enter how often, in seconds, the accounting data is sent to the RADIUS server.
12. If required, scroll to the bottom of the **Wireless Edit** dialog box.
 13. Click **Save** to save the changes.
The **Wireless Edit dialog box** closes.
The **Wireless window** returns.
The **Changes tab** shows the accumulated number of pending changes ready to apply.



Figure 123: Changes tab showing the number of changes to apply.

14. Click the **Changes** tab.
The **Unsaved window** opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.



Figure 124: Unsaved window showing changes to apply.

15. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears. When the processing is completed, the **Device Status window** opens.
16. If applicable, continue with other changes for the WP201-100.

7.6. Define a WPA-PSK Security Mode

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Wireless**.
The [Wireless window](#) opens.

Note: See the description of the [Wireless window \(on page 191\)](#) for detailed information about the options in the window.

4. In the [Wireless Settings area](#), click the **Edit** button.
The [Wireless Edit dialog box](#) opens.

Note: See the description of the [Wireless Edit dialog box \(on page 208\)](#) for detailed information about the options in the dialog box.

5. Click the **Security Mode** list box arrow and select **WPA-PSK**.

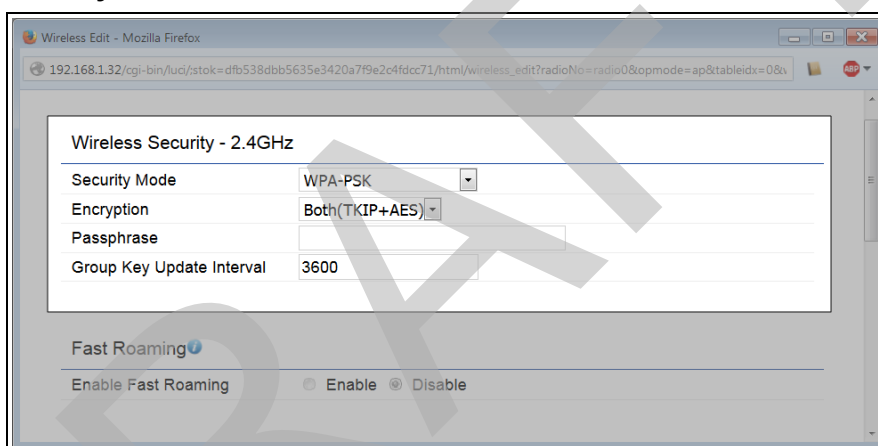


Figure 125: Wireless Edit dialog box - Security Mode = WPA-PSK

6. Click the **Encryption** list box arrow and select the encryption type to use.

Important! All wireless clients MUST use the same settings.

7. In the **Passphrase** text box, enter the phrase wireless clients must use to access the WP201-100.

Important! All clients MUST use the same Passphrase to connect with the WP201-100.

- If using an ASCII format, the **Passphrase** must have a minimum of 8 characters and a maximum of 63 characters in length.
 - If using a HEX format, the **Passphrase** must be 64 HEX characters in length.
8. In the **Group Key Update Interval** text box, enter how often, in seconds, the **Group Key** changes.
 9. If required, scroll to the bottom of the **Wireless Edit** dialog box.

- Click **Save** to save the changes.
The **Wireless Edit dialog box** closes.
The **Wireless window** returns.
The **Changes tab** shows the accumulated number of pending changes ready to apply.



Figure 126: Changes tab showing the number of changes to apply.

- Click the **Changes** tab.
The **Unsaved window** opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.

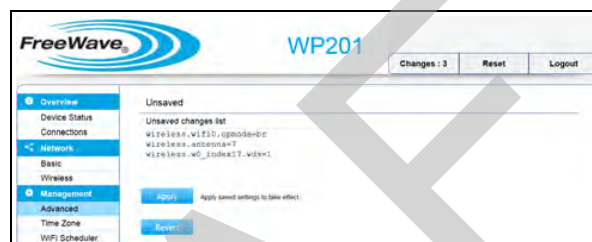


Figure 127: Unsaved window showing changes to apply.

- Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the **Device Status window** opens.
- If applicable, continue with other changes for the WP201-100.

7.7. Email Alert - Activate and Define

Use the **Email Alert** feature to send messages to the designated e-mail address when important system events occur.

Procedure

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the **WP201-100 Access Panel**, click **Advanced**.
The [Advanced window](#) opens.

Note: See the description of the [Advanced window \(on page 144\)](#) for detailed information about the options in the window.

4. Scroll to the [Email Alert area](#).

Note: See the description of the [Email Alert area \(on page 150\)](#) for detailed information about the options in that area.

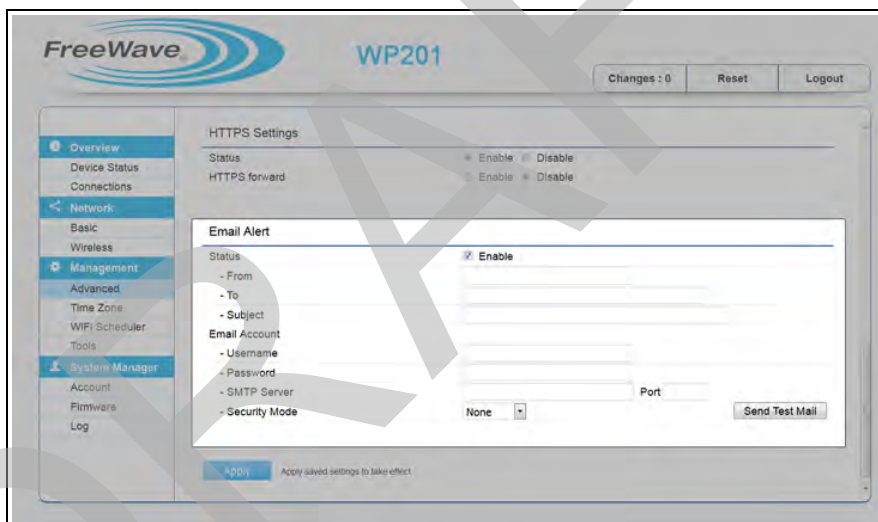


Figure 128: Advanced window - Email Alert area

5. In the **Email Alert** area:
 - a. Select the **Enable** check box to activate the **Email Alert** feature in the WP201-100.
 - b. In the **From** text box, enter the e-mail address to show the sender of the e-mail.
 - c. In the **To** text box, enter the e-mail address to receive e-mail alerts.

Important! Do NOT use a personal e-mail address.
This can unnecessarily expose the personal e-mail login credentials.
Instead, create and use a separate e-mail account specifically for this feature.

- d. In the **Subject** text box, enter the text to appear in the e-mail subject line.

- e. In the **Username** text box, enter the username for the e-mail account used to send e-mails.
 - f. In the **Password** text box, enter the password for the e-mail account used to send e-mails.
 - g. In the **SMTP Server** text box, enter the IP address or host name of the outgoing SMTP server.
 - h. In the **SMTP Server Port** text box, enter the SMTP port number to use for outbound e-mails.
 - i. Click the **Security Mode** list box arrow and select either **None**, **SSL/TSL**, or **STARTTLS**.
 - j. Click the **Send Test Email** button to send a test e-mail to the e-mail address in the **Status - To** text box.
 - k. Click **Apply** to save the changes.
6. Scroll to the bottom of the **Advanced** window.
 7. Click **Apply** to save the changes.
The [Advanced window](#) returns.
The [Changes tab](#) shows the accumulated number of pending changes ready to apply.



Figure 129: Changes tab showing the number of changes to apply.

8. Click the **Changes** tab.
The [Unsaved window](#) opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.

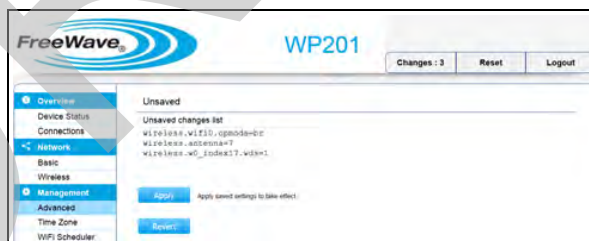


Figure 130: Unsaved window showing changes to apply.

9. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the [Device Status window](#) opens.
10. If applicable, continue with other changes for the WP201-100.

7.8. Reboot Schedule - Activate and Define

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **WiFi Scheduler**.
The [WiFi Scheduler window](#) opens.

Note: See the description of the [WiFi Scheduler window \(on page 187\)](#) for detailed information about the options in the window.

4. Select the **Enable** option button to activate the **Auto Reboot** feature in the WP201-100.
5. Select the designated **Sunday to Saturday** check box to reboot the WP201-100 automatically on the selected days.

Note: More than one day may be selected.

6. In the **Timer** text boxes, enter the **Hour** and **Minute** of the selected days to reboot the WP201-100.

Note: The **Timer** setting of **Hour** and **Minute** is the same for all days selected.

Example: This example image shows a 1am, Sunday and Wednesday reboot schedule. If the schedule is 1pm, the **Timer Hour** text box would have 13.

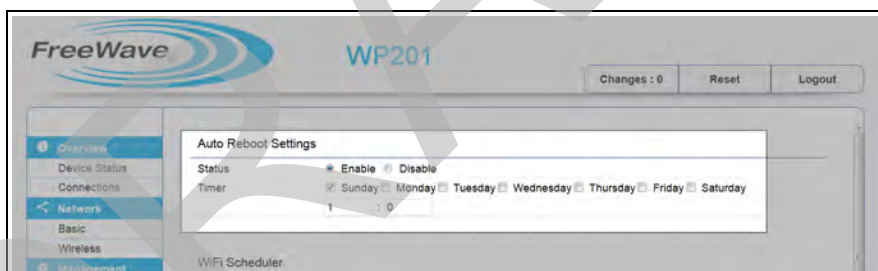


Figure 131: WiFi Scheduler window - Auto Reboot Settings area with Sunday and Wednesday at 1am selection

7. Scroll to the bottom of the **WiFi Scheduler** window.
8. Click **Save** to save the changes.
The [WiFi Scheduler window](#) returns.
The [Changes tab](#) shows the accumulated number of pending changes ready to apply.



Figure 132: Changes tab showing the number of changes to apply.

9. Click the **Changes** tab.
The [Unsaved window](#) opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.



Figure 133: Unsaved window showing changes to apply.

10. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the **Device Status window** opens.
11. If applicable, continue with other changes for the WP201-100.

7.9. Remote Log Activation

1. Connect to the WP201-100 Access Point (on page 19).
2. Access the WP201-100 (on page 24).
3. In the WP201-100 Access Panel, click **Log**.
The **Log window** opens.

Note: See the description of the **Log window** (on page 175) for detailed information about the options in the window.

4. Click the **Remote Log Enable** button to activate the **Remote Log** service for the WP201-100.
5. In the **Log Server IP Address** text box, enter the IP address of the log server.

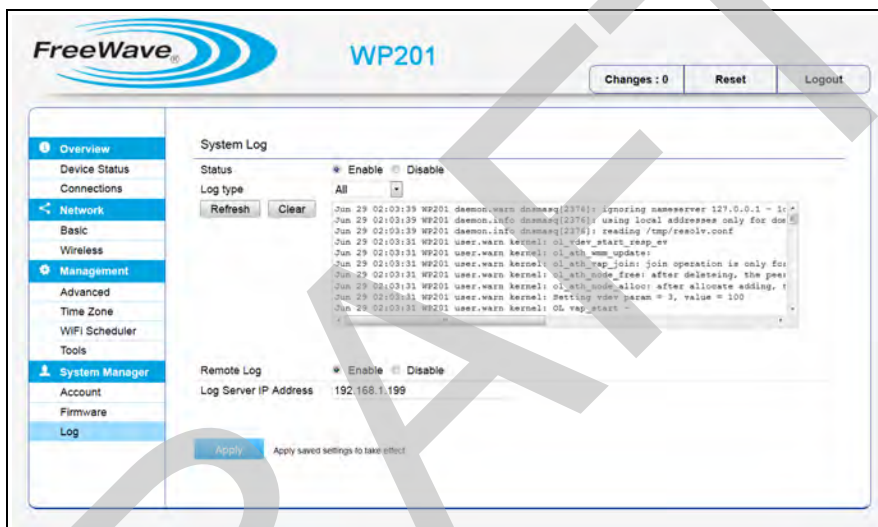


Figure 134: Log window

6. Click **Apply** to save the changes.
Log entries are sent to the syslog server.

7.10. Set the WP201-100 Time

The **Time Zone** window is used to set the internal clock of the WP201-100.

- [Manually Set the Date and Time](#) (on page 114).
- [Automatically Set the Date and Time](#) (on page 115).
- [Set the WP201-100 Time Zone](#) (on page 115).

7.10.1. Manually Set the Date and Time

1. [Connect to the WP201-100 Access Point](#) (on page 19).
2. [Access the WP201-100](#) (on page 24).
3. In the [WP201-100 Access Panel](#), click **Time Zone**.

The [Time Zone window](#) opens.

Note: See the description of the [Time Zone window](#) (on page 179) for detailed information about the options in the window.

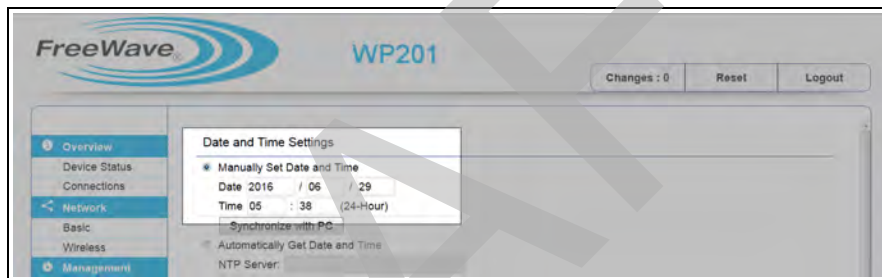


Figure 135: Time Zone window with Manually Set Date and Time



Click the **Synchronize with PC** button to use the current time of the computer the WP201-100 is connected to.

4. Select the **Manually Set Date and Time** option button to manually specify the date and time of the WP201-100.
5. In the **Date** text boxes, enter the **Year**, **Month**, and **Day** in their respective text boxes.
6. In the **Time** text boxes, enter the **Hour** and **Minutes** in their respective text boxes.

Example: The Time is in 24-Hours. 3:30pm would be 15:30.

7. Click **Apply** to save the changes.

7.10.2. Automatically Set the Date and Time

Important! This procedure REQUIRES a connection to an NTP Server.

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Time Zone**.
The [Time Zone window](#) opens.

Note: See the description of the [Time Zone window \(on page 179\)](#) for detailed information about the options in the window.

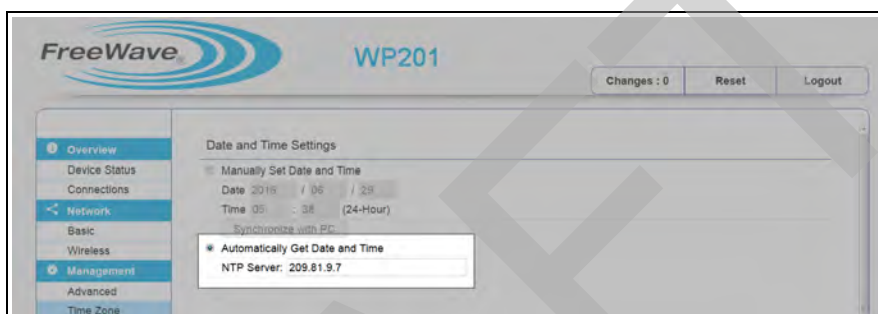


Figure 136: Time Zone window

4. Click the **Automatically Get Date and Time** option button.
5. In the **NTP Server** text box, enter the IP address or domain name of an NTP server to have the WP201-100 internal clock automatically synchronize to it.
6. Click **Apply** to save the changes.

7.10.3. Set the WP201-100 Time Zone

This procedure is used to select the time zone the WP201-100 is located in and, if applicable, activate Daylight Savings Time.

Important! This procedure REQUIRES a connection to an NTP Server.

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Time Zone**.
The [Time Zone window](#) opens.

Note: See the description of the [Time Zone window \(on page 179\)](#) for detailed information about the options in the window.

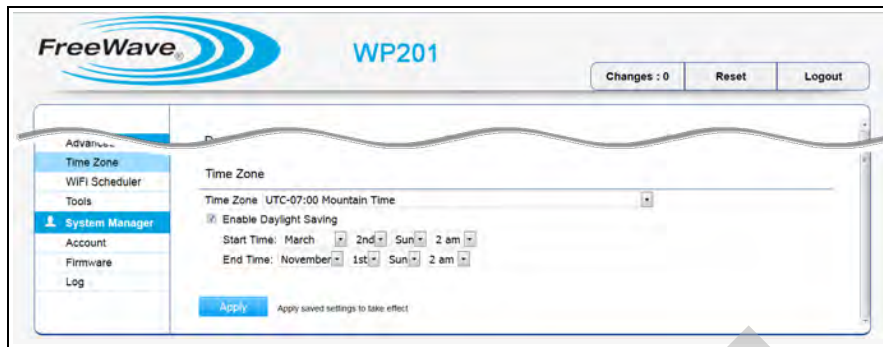


Figure 137: Time Zone window

4. Click the **Time Zone** list box arrow and select the time zone the WP201-100 is located in.
5. If applicable, select the **Enable Daylight Saving** check box if daylight savings applies to the area the WP201-100 is located in.

Note: If the **Enable Daylight Saving** check box is selected, the **Daylight Savings Time - Start Time** and **End Time** are required.

6. Click the respective **Start Time** list box arrows and select the Month, week of the month, Day of the week, and Time when **Daylight Savings Time** starts in the selected **Time Zone**.

Example: If Daylight Saving Time starts at midnight on the first Monday of March, the selections are: **March, 1st, Mon, 12am**.

7. Click the respective **End Time** list box arrows and select the Month, week of the month, Day of the week, and Time when **Daylight Savings Time** ends in the selected **Time Zone**.

Example: If Daylight Saving Time ends at midnight on the first Sunday of November, the selections are: **November, 1st, Sun, 12am**.

8. Click **Apply** to save the changes.

7.11. Setup IPv4 Static IP Settings

1. [Connect to the WP201-100 Access Point](#) (on page 19).
2. [Access the WP201-100](#) (on page 24).
3. In the [WP201-100 Access Panel](#), click **Basic**.
The [Basic window](#) opens.

Note: See the description of the [Basic window](#) (on page 152) for detailed information about the options in the window.

4. Select the **Static IP** option button to use the IP address specified in the **IP Address** text box.



Figure 138: Basic window - IPv4 Settings area > Static IP option

5. In the **IPv4 Settings** area:
 - a. In the **IP Address** text box, enter an IP Address that is **in the same subnet range but a DIFFERENT IP Address** than the WP201-100 AND **different than the computer IP Address**.

Example: Enter an **IP Address** from **192.168.1.1 to 192.168.1.254** (but NOT **192.168.1.1**) and the **Subnet Mask** to **255.255.255.0**.

- b. In the **Subnet Mask** text box, enter the IP Subnet Mask address of the WP201-100.
 - c. In the **Gateway** text box, enter the **Default Gateway** of the WP201-100.

FREEWAVE Recommends: Leave the **Gateway** text box blank if this setting is not known.

- d. In the **Primary DNS** text box, enter the primary DNS address for either the IPv4 or IPv6 WP201-100.
 - e. In the **Secondary DNS** text box, enter the secondary DNS address for either the IPv4 or IPv6 WP201-100.
6. Scroll to the bottom of the **Basic** window.
7. Click **Save** to save the changes.
The [Basic window](#) refreshes.
The [Changes tab](#) shows the accumulated number of pending changes ready to apply.



Figure 139: Changes tab showing the number of changes to apply.

8. Click the **Changes** tab.
The **Unsaved window** opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.

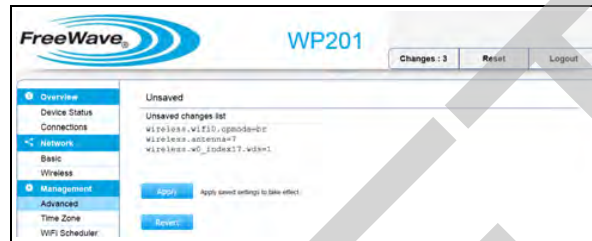


Figure 140: Unsaved window showing changes to apply.

9. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the **Device Status window** opens.
10. If applicable, continue with other changes for the WP201-100.

7.12. Setup of IPv6 Settings

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Basic**.
The [Basic window](#) opens.

Note: See the description of the [Basic window \(on page 152\)](#) for detailed information about the options in the window.

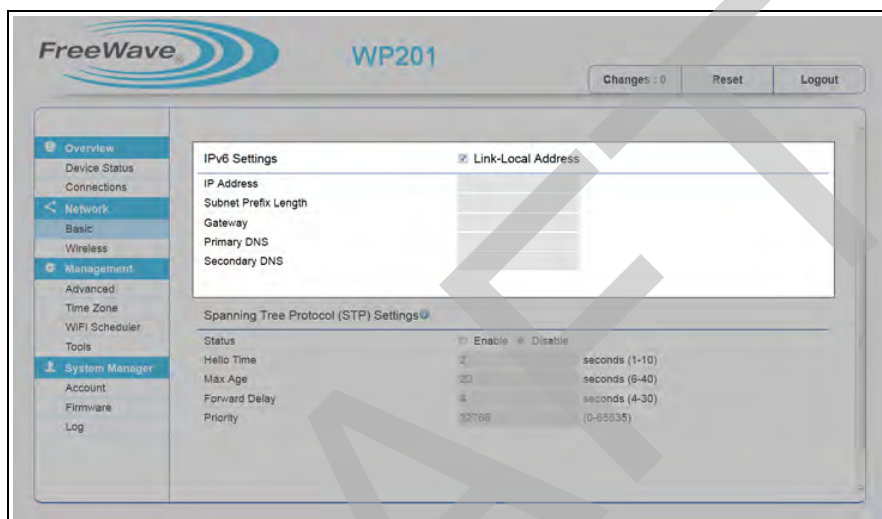


Figure 141: Basic window - IPv6 Settings area

4. In the **IPv6 Settings** area:
 - a. Clear the **Link - Local Address** check box to activate the **IPv6 Settings** area.
 - b. In the **IP Address** text box, enter an IP Address that is **in the same subnet range but a DIFFERENT IP Address** than the WP201-100 **AND different than the computer IP Address**.

Note: Specify a routable IPv6 IP Address.

- c. In the **Subnet Prefix Length** text box, enter the slash number (e.g., /23).
- d. In the **Gateway** text box, enter the **Default Gateway** of the WP201-100.

FREEWAVE Recommends: Leave the **Gateway** text box blank if this setting is not known.

- e. In the **Primary DNS** text box, enter the primary DNS address for either the IPv4 or IPv6 WP201-100.
 - f. In the **Secondary DNS** text box, enter the secondary DNS address for either the IPv4 or IPv6 WP201-100.
5. Scroll to the bottom of the **Basic** window.

6. Click **Save** to save the changes.
The **Basic window** refreshes.
The **Changes tab** shows the accumulated number of pending changes ready to apply.



Figure 142: Changes tab showing the number of changes to apply.

7. Click the **Changes** tab.
The **Unsaved window** opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.

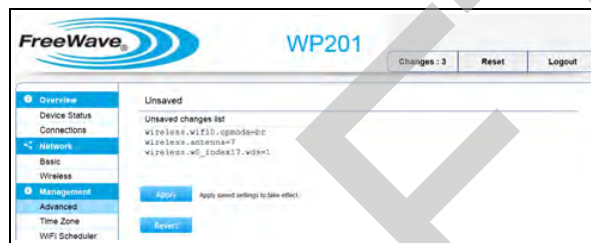


Figure 143: Unsaved window showing changes to apply.

8. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the **Device Status window** opens.
9. If applicable, continue with other changes for the WP201-100.

7.13. SNMP Settings - Activate and Define

The **SNMP Settings** area is used to assign the Contact Details, Location, Community Name, and Trap Settings for a Simple Network Management Protocol (SNMP).

- SNMP is used to monitor devices attached to the network.
 - This allows the local network device monitoring software to also monitor the WP201-100.
- SNMP allows messages (i.e., protocol data units) to be sent to various parts of the network.
 - When these messages are received, SNMP compatible devices (i.e., agents) return the data stored in their Management Information Bases.

Procedure

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the **WP201-100 Access Panel**, click **Advanced**.
The **Advanced window** opens.

Note: See the description of the [Advanced window \(on page 144\)](#) for detailed information about the options in the window.



Figure 144: Advanced window - SNMP Settings area

4. Select the **Enable** option button to activate the SNMP feature in the WP201-100.
5. In the **Contact** text box, enter the name of the person administering the computer configuring the WP201-100.
6. In the **Location** text box, enter the location of the SNMP server for the WP201-100.
7. In the **Port** text box, enter the SNMP or FTP Server port.
8. In the **Community Name (Read Only)** text box, enter the password the SNMP community uses for read-only access.

9. In the **Community Name (Read Write)** text box, enter the password the SNMP community uses for read/write access.
10. In the **Trap Destination** area:
 - a. In the **Port** text box, enter the port for the SNMP server.
 - b. In the **IP Address** text box, enter the IP address of the computer that will receive the SNMP traps.
 - c. In the **Community Name** text box, enter the password for the SNMP trap community.
11. In the **SNMPv3 Settings** area:
 - a. Select the **Enable** option button to activate the SNMPv3 feature in the WP201-100.
 - b. In the **Username** text box, enter the Username for SNMPv3.
 - c. Click the **Authorized Protocol** list box arrow and select the authentication protocol type.
 - d. In the **Authorized Key** text box, enter the authentication key for SNMPv3.
 - e. Click the **Private Protocol** list box arrow and select the **DES** privacy protocol.
 - f. In the **Private Key** text box, enter the privacy key for the SNMPv3.
 - g. In the **Engine ID** text box, enter the engine ID for SNMPv3.
12. Scroll to the bottom of the **Advanced** window.
13. Click **Apply** to save the changes.
14. If applicable, continue with other changes for the WP201-100.

7.14. Spanning Tree Settings - Activate and Define

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Basic**.
The [Basic window](#) opens.

Note: See the description of the [Basic window \(on page 152\)](#) for detailed information about the options in the window.

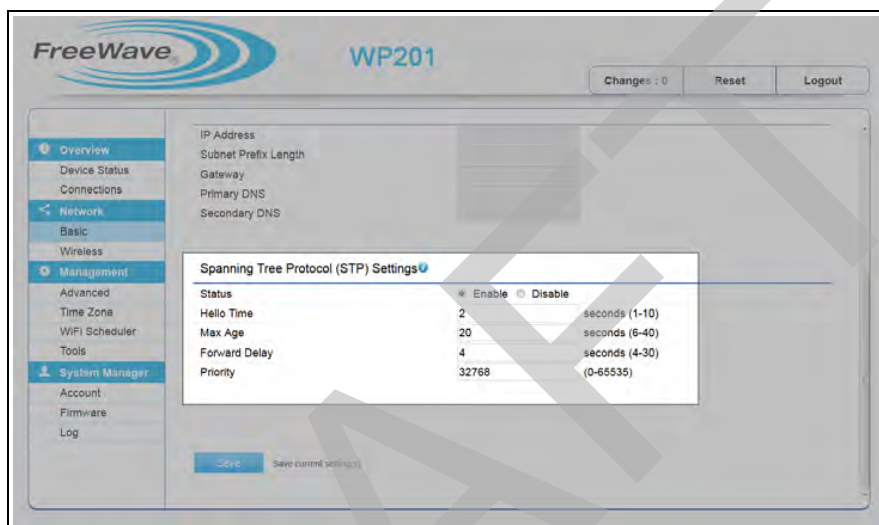


Figure 145: Basic window - Spanning Tree Protocol (STP) Settings area

4. Scroll to the [Spanning Tree Protocol \(STP\) Settings area \(on page 156\)](#).
 - a. Select the **Enable** option button to activate the **Spanning Tree** feature in the WP201-100.
 - b. In the **Hello Time** text box, enter the **Bridge Hello Time** in seconds.
 - c. In the **Max Age** text box, enter the number of seconds for the **Bridge Max Age**.

Important! If another bridge in the **Spanning Tree** does NOT send a hello packet for a long period of time, it is assumed to be inactive.

- d. In the **Forward Delay** text box, enter the number of seconds for the Bridge Forward Delay.
- e. In the **Priority** text box, enter the bridge priority number.



A smaller number has a greater priority than a larger number.

5. Click **Save** to save the changes.
The [Wireless window](#) returns.
The [Changes tab](#) shows the accumulated number of pending changes ready to apply.



Figure 146: Changes tab showing the number of changes to apply.

6. Click the **Changes** tab.
The **Unsaved window** opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.

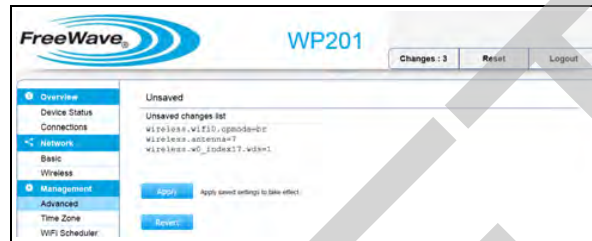


Figure 147: Unsaved window showing changes to apply.

7. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the **Device Status window** opens.
8. If applicable, continue with other changes for the WP201-100.

7.15. SSH and HTTPS Settings Activation

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Advanced**.
The [Advanced window](#) opens.

Note: See the description of the [Advanced window \(on page 144\)](#) for detailed information about the options in the window.

4. Select the applicable **Enable** option button to activate either the **Telnet Setting**, **SSH Setting**, or **HTTPS Settings** areas.
 - a. Use the **Telnet** to type commands instead of choosing them from a menu or selecting an icon to perform an action.

Note: See [WP201-100 CLI List \(on page 225\)](#) for CLI command details.

- b. Use the **SSH** feature to make secure, encrypted connections in the WP201-100 network.
- c. Use the **HTTPS** feature to transfer and view web content securely.



Figure 148: Advanced window - Telnet, SSH, HTTPS Setting areas

5. Scroll to the bottom of the **Advanced** window.
6. Click **Apply** to save the changes.
7. If applicable, continue with other changes for the WP201-100.

7.16. WiFi Scheduler - Activate and Define

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **WiFi Scheduler**.
The [WiFi Scheduler window](#) opens.

Note: See the description of the [WiFi Scheduler window \(on page 187\)](#) for detailed information about the options in the window.

4. Select the **Enable** option button to activate the WiFi Scheduler feature in the WP201-100.
5. Click the **Wireless Radio** list box arrow and select either 2.4GHz or 5GHz for the preferred band type to regulate.
6. Click the **SSID Selection** list box arrow and select an SSID to regulate.
7. Click the **Schedule Templates** list box arrow and select a schedule template.

Example: Select **Available 8-17 daily** to create a schedule specifically for normal business hours.

8. Click the **Availability** list box arrow for each designated day and select **Available**.
9. For each of the selected **Availability** days, enter the time in the **Duration** text boxes.
The **Start Time** and **End Time** have two boxes.

- The first box is for hours.
- The second box is for minutes.

Note: This example image shows the 8-17 (8am to 5pm) template selected.

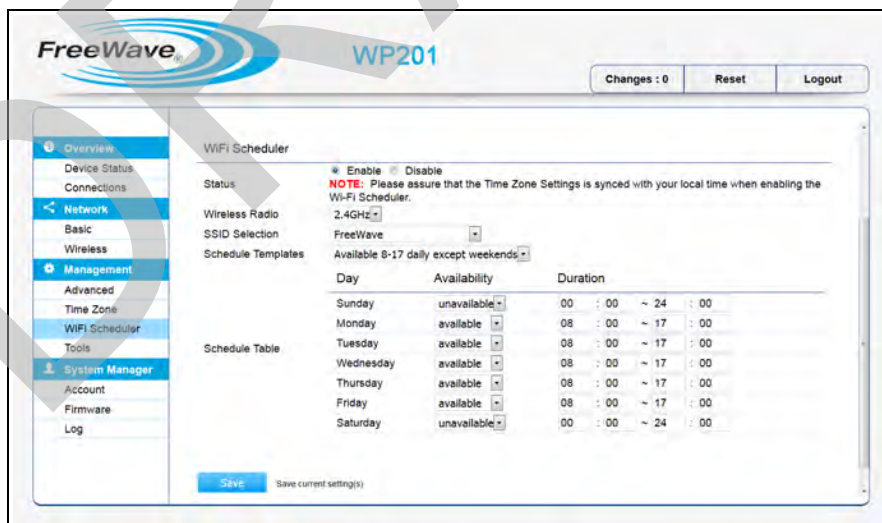


Figure 149: WiFi Scheduler window - WiFi Scheduler area with the Available 8-17 daily except weekends template selection

10. Click **Save** to save the changes.
The **WiFi Scheduler** window returns.
The **Changes** tab shows the accumulated number of pending changes ready to apply.



Figure 150: Changes tab showing the number of changes to apply.

11. Click the **Changes** tab.
The **Unsaved** window opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.



Figure 151: Unsaved window showing changes to apply.

12. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the **Device Status** window opens.
13. If applicable, continue with other changes for the WP201-100.

7.17. Wireless MAC Filter - Activate and Define

1. [Connect to the WP201-100 Access Point \(on page 19\)](#).
2. [Access the WP201-100 \(on page 24\)](#).
3. In the [WP201-100 Access Panel](#), click **Wireless**.
The [Wireless window](#) opens.

Note: See the description of the [Wireless window \(on page 191\)](#) for detailed information about the options in the window.

4. In the [Wireless Settings area](#), click the **Edit** button.
The [Wireless Edit dialog box](#) opens.
5. Scroll to the [Wireless MAC Filter area](#).

Note: See the description of the [Wireless MAC Filter area \(on page 214\)](#) for detailed information about the options in that area.

6. Click the **ACL Mode** list box arrow and select **Allow MAC in the list** to activate Wireless MAC Filter in the WP201-100.

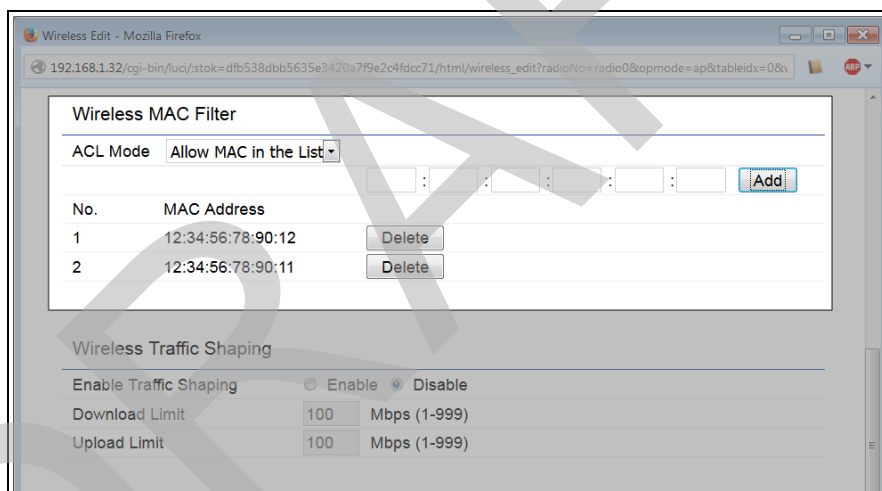


Figure 152: Wireless Edit dialog box - Wireless MAC Filter area

7. In the **MAC Address** text box, enter the MAC address of the other WDS nodes.
8. Click the **Add** button to add the MAC address to the MAC address table.
The **Wireless Edit** dialog box refreshes showing the added MAC address in the **Wireless MAC** table.
9. Click **Save** to save the changes.
The [Wireless Edit dialog box](#) closes.
The [Wireless window](#) returns.
The [Changes tab](#) shows the accumulated number of pending changes ready to apply.



Figure 153: Changes tab showing the number of changes to apply.

10. Click the **Changes** tab.
The **Unsaved window** opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.

**Figure 154: Unsaved window showing changes to apply.**

11. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the **Device Status window** opens.
12. If applicable, continue with other changes for the WP201-100.

7.18. Wireless Traffic Shaping - Activate and Define

1. [Connect to the WP201-100 Access Point](#) (on page 19).
2. [Access the WP201-100](#) (on page 24).
3. In the [WP201-100 Access Panel](#), click **Wireless**.
The [Wireless window](#) opens.

Note: See the description of the [Wireless window](#) (on page 191) for detailed information about the options in the window.

4. In the [Wireless Settings area](#), click the **Edit** button.
The [Wireless Edit dialog box](#) opens.
5. Scroll to the [Wireless Traffic Shaping area](#).

Note: See the description of the [Wireless Traffic Shaping area](#) (on page 215) for detailed information about the options in that area.

6. Click the **Enable** option button to activate **Wireless Traffic Shaping** in the WP201-100.
7. In the **Download Limit** text box, enter the wireless transmission speed used for downloading.
8. In the **Upload Limit** text box, enter the wireless transmission speed used for uploading.

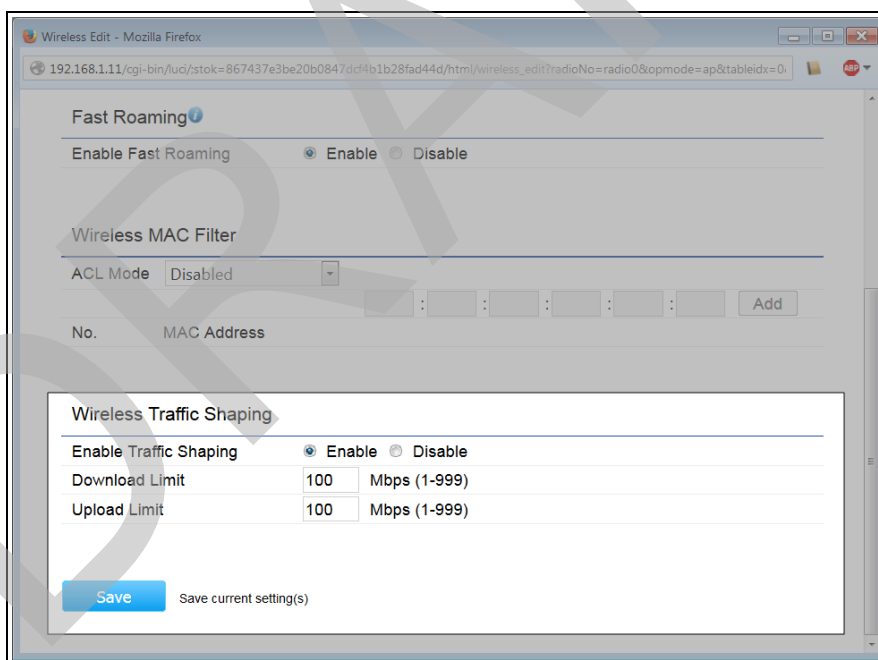


Figure 155: Wireless Edit dialog box - Wireless Traffic Shaping area

9. Click **Save** to save the changes.
The [Wireless Edit dialog box](#) closes.
The [Wireless window](#) returns.
The [Changes tab](#) shows the accumulated number of pending changes ready to apply.



Figure 156: Changes tab showing the number of changes to apply.

10. Click the **Changes** tab.
The **Unsaved window** opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.

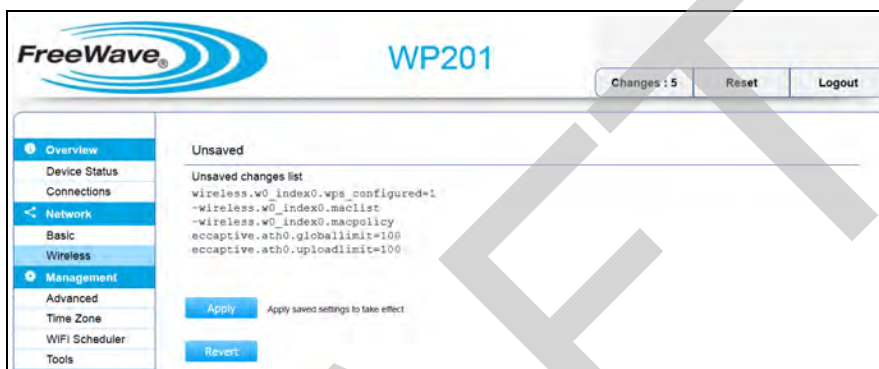


Figure 157: Unsaved window showing changes to apply.

11. Click **Apply** to integrate changes identified in the **Unsaved Changes List** to the WP201-100.
A **Processing** bar appears.
When the processing is completed, the **Device Status window** opens.
12. If applicable, continue with other changes for the WP201-100.

7.19. Canceling Unsaved Changes in the WP201-100



Caution: Configuration changes that have been made in the WP201-100 but have NOT been applied MUST BE canceled.
Logging out from the WP201-100 or opening a new window DOES NOT clear the changes from the **Unsaved** window.

Procedure

1. Click the **Changes** tab.
The **Unsaved window** opens.

Important! The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.



Figure 158: Unsaved window showing changes to apply.

2. Click the **Revert** button to clear the **Unsaved Changes List**.
The **Unsaved window** (on page 186) refreshes to show a cleared list.

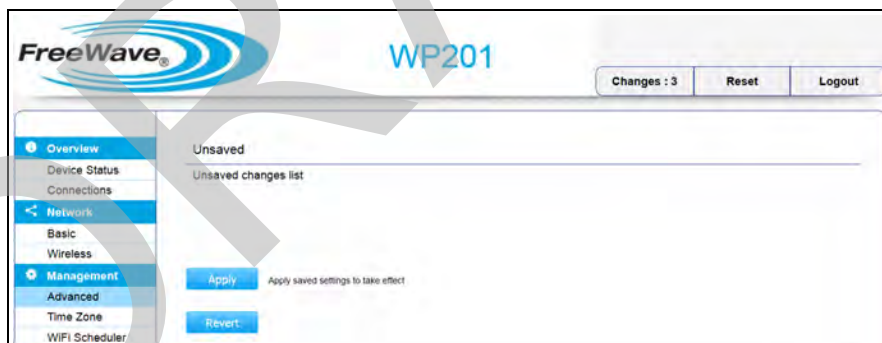


Figure 159: Revert cleared Unsaved window

3. Click **Apply** again (or navigate to another window) to NOT implement the changes and return the WP201-100 to the previous settings.

8. Examples of WP201-100 Networks

This section provides examples of different possible network setups using the WP201-100 Operation Modes.

- [Access Point Mode \(on page 134\)](#).
- [Mesh-AP Mode \(on page 135\)](#).
- [Mesh-Only Mode \(on page 136\)](#).
- [Wireless Distribution System \(WDS\) - AP Mode \(on page 137\)](#).
- [Wireless Distribution System \(WDS\) - Bridge Mode \(on page 138\)](#).
- [Wireless Distribution System \(WDS\) - Station Mode \(on page 139\)](#).

8.1. Access Point Mode

- In **Access Point** mode, the WP201-100 behaves like a central connection for stations or clients that support IEEE 802.11ac/a/b/g/n networks.
- The stations and clients must be configured to use the same Service Set Identifier (SSID) and security password to associate with the WP201-100.

Note: For secure access, the WP201-100 can simultaneously support a maximum of eight (8) SSIDs per band.

Example

Note: Use the [Access Point Configuration \(on page 37\)](#) procedure to setup a WP201-100 Access Point.

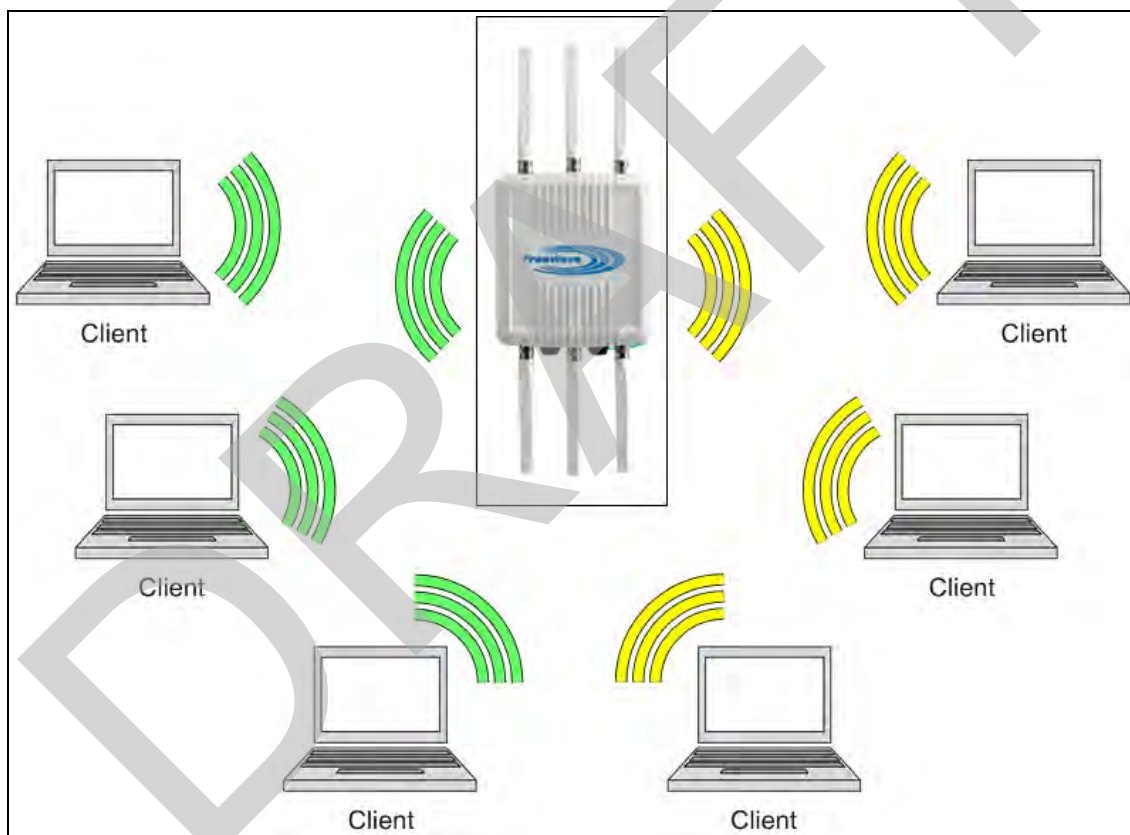


Figure 160: Access Point Mode

8.2. Mesh-AP Mode

Under the AP Mesh mode, the WP201-100 can be:

- Used as the central connection hub for station or clients that support IEEE 802.11:
 - b/g/n in a 2.4GHz network.
 - ac/n in a 5GHz network.
- Configured with the same Mesh SSID and security password in order to associate with other WP201-100s.
- Connect with clients under the same SSID and encryption signatures.

Example: Use one band to connect the WP201-100 Access Points in range with the Mesh mode and the other band to broadcast traffic on the network.

If meshing on 2.4GHz and to provide general clients access, **Mesh-AP** is appropriate as there are still clients that only support 2.4GHz.

Note: Use **Mesh-AP** to allow clients to join on the same band as the MESH backbone.

Example

Note: Use the [Mesh-AP or Mesh-Only Configuration \(on page 42\)](#) procedure to setup a WP201-100 Mesh AP network.

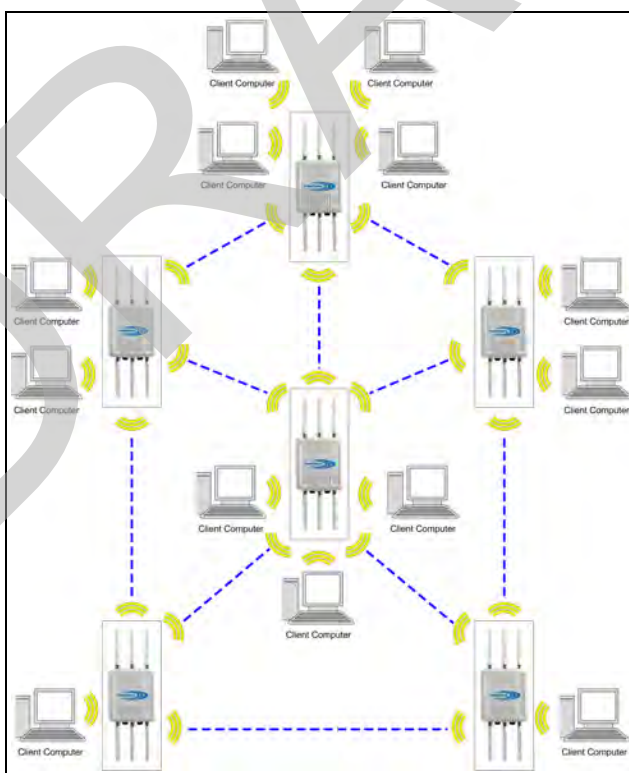


Figure 161: AP Mesh Mode

8.3. Mesh-Only Mode

Using the Mesh-only mode, the WP201-100 can be configured with the same Mesh SSID and security password to associate with other Mesh-enabled WP201-100s, instead of connecting with clients.

Note: Use **Mesh-Only** when NO wireless client will join on that band.

Example: If meshing on 5GHz, set up as MESH-only, so that no clients interfere or compete in the channels used to mesh.

Example

Note: Use the [Mesh-AP](#) or [Mesh-Only Configuration](#) (on page 42) procedure to setup a WP201-100 Mesh AP network.

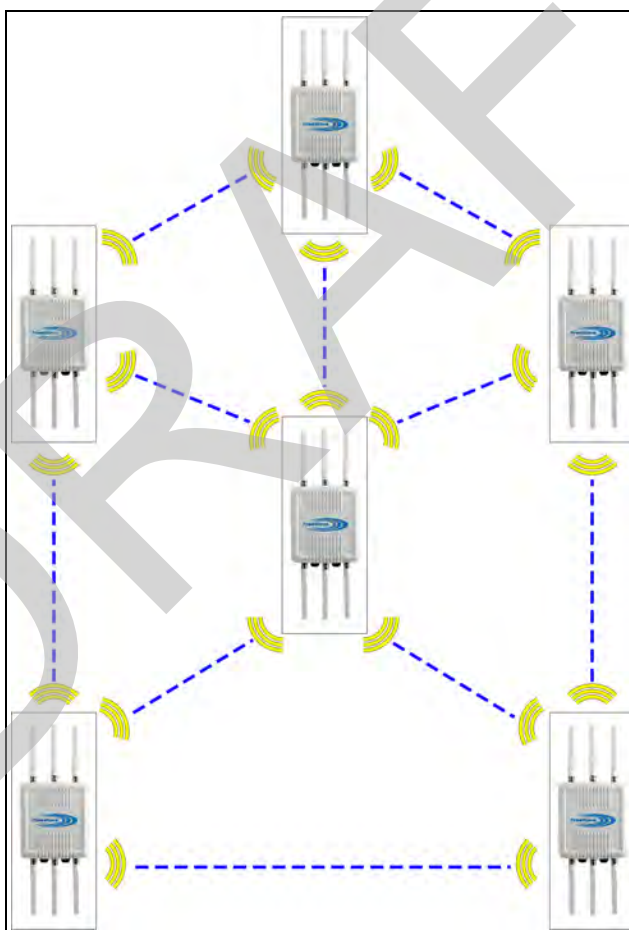


Figure 162: Mesh Only Mode

8.4. Wireless Distribution System (WDS) - AP Mode

The WP201-100 WDS AP mode allows wireless connections to the WP201-100 using WDS technology.

In this mode, configure the MAC addresses in both WP201-100 Access Points to enlarge the wireless area by enabling WDS Link settings.

Available connection options could be:

- WDS-AP to WDS-AP
- WDS-Bridge to WDS-Bridge
- WDS-AP to WDS-Bridge

Important! WDS supports a maximum of four (4) AP MAC addresses. In a WDS network, the MAC addresses for direct connections must be in the MAC address tables of the devices that are to communicate directly.



Caution: DO NOT enter all MAC address in all the MAC address tables. This is to avoid creating a loop within the WDS WP201-100 network.

Example

Note: Use the [WDS - Access Point Configuration \(on page 48\)](#) procedure to setup a WP201-100 WDS Access Point network.

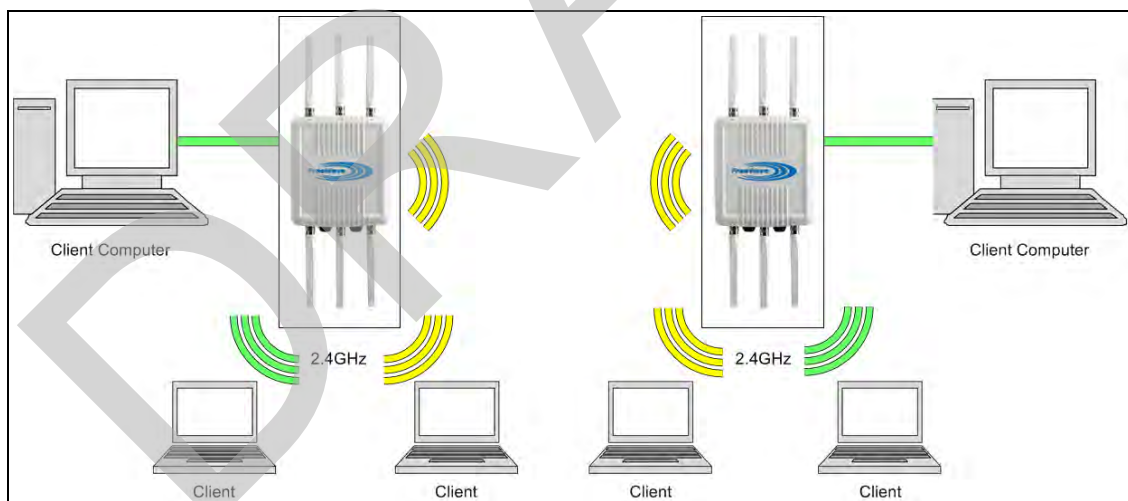


Figure 163: WDS AP Mode

8.5. Wireless Distribution System (WDS) - Bridge Mode

In **WDS Bridge** mode, the WP201-100 can wirelessly connect different LANs by configuring the MAC address and security settings of each WP201-100.

- Use this mode when two LANs are located a small distance apart and communicate with each other.
- The best solution is to use the WP201-100 to wirelessly connect two wired LANs (See the example).
- Access Points linked by WDS are using the same frequency channel.
 - More Access Points connected together may lower throughput.
 - This configuration can be susceptible to generate endless network loops in the network.

Important!: WDS supports a maximum of four (4) AP MAC addresses.

In a WDS network, the MAC addresses for direct connections must be in the MAC address tables of the devices that are to communicate directly.



Caution: DO NOT enter all MAC address in all the MAC address tables. This is to avoid creating a loop within the WDS WP201-100 network.

Example

Note: Use the [WDS - Bridge Configuration \(on page 55\)](#) procedure to setup a WP201-100 WDS Bridge network.

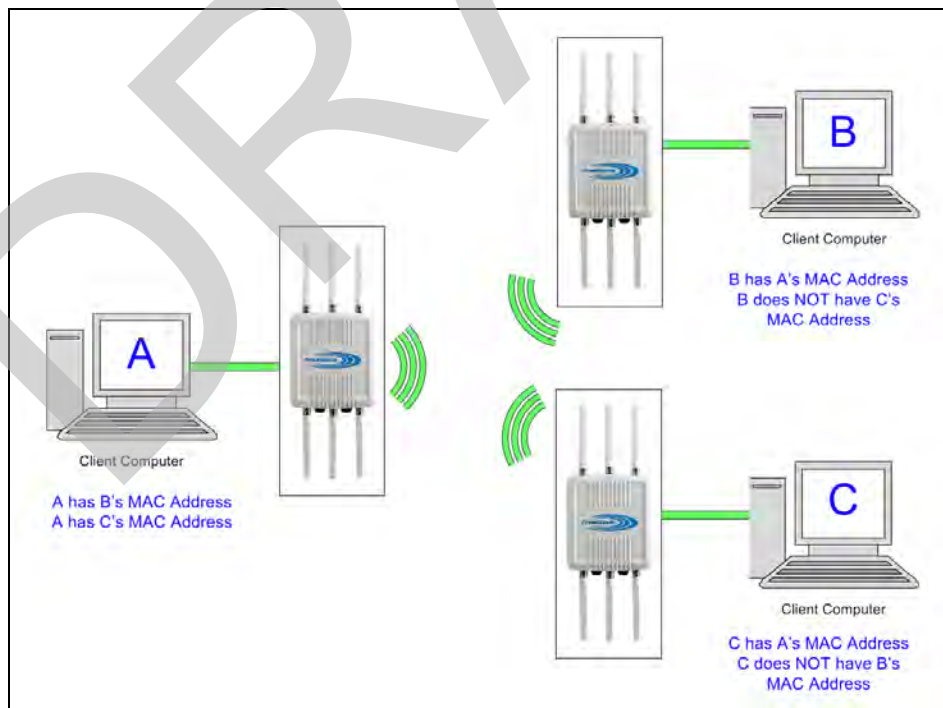


Figure 164: WDS Bridge Mode

8.6. Wireless Distribution System (WDS) - Station Mode

WDS Station Mode gives the option to treat WP201 as a client to another WP201 which set to be either WDS-AP or Mesh-AP mode.

Example

Note: Use the [WDS - Station Configuration \(on page 61\)](#) procedure to setup a WP201-100 WDS Station network.

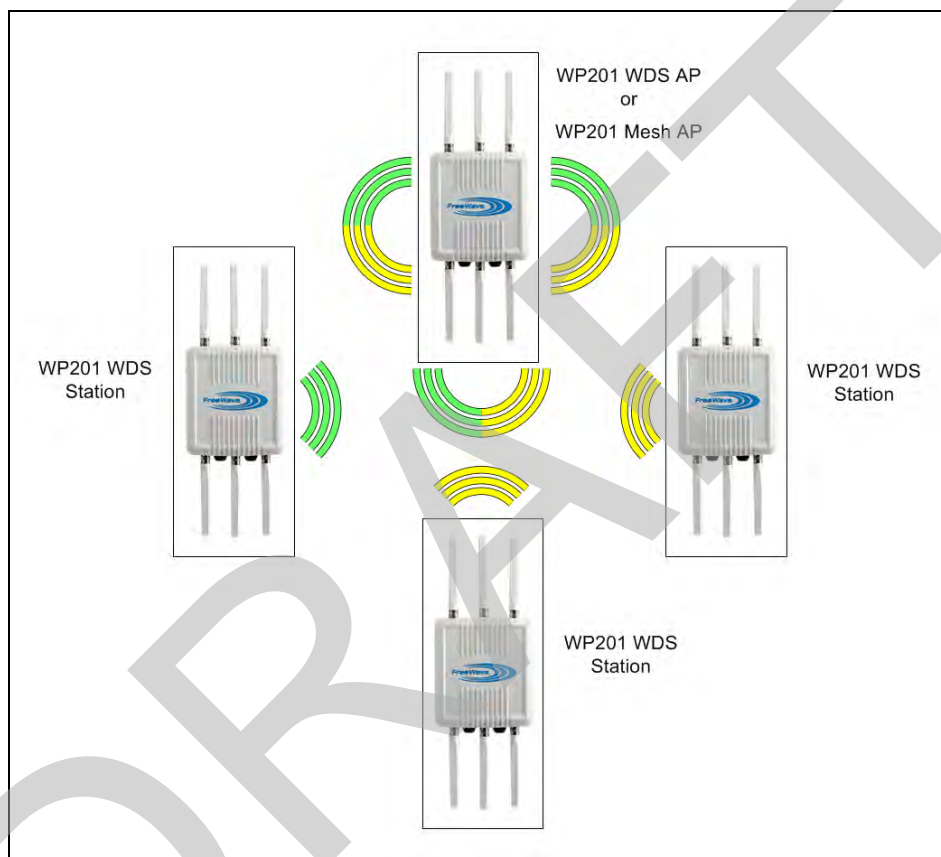


Figure 165: WDS Station Mode

9. WP201-100 Software Environment

The WP201-100 software environment uses these windows and dialog boxes to setup and provide information about the connected WP201-100:

Alphabetically, the primary windows are:

- [Account window \(on page 143\).](#)
- [Advanced window \(on page 144\).](#)
- [Basic window \(on page 152\).](#)
- [Connections window \(on page 158\).](#)
- [Device Status window \(on page 165\).](#)
- [Firmware window \(on page 173\).](#)
- [Log window \(on page 175\).](#)
- [Time Zone window \(on page 179\).](#)
- [Tools window \(on page 181\).](#)
- [WiFi Scheduler window \(on page 187\).](#)
- [Wireless window \(on page 191\).](#)

Additional Dialog boxes and Windows

- [Wireless Edit dialog box \(on page 208\).](#)
- [Reboot or Restore window \(on page 177\).](#)
- [Unsaved window \(on page 186\).](#)
- [Microsoft® Enter name of file to save to dialog box \(on page 222\)](#)
- [Microsoft® File Upload dialog box \(on page 223\)](#)
- [Microsoft® Opening Backup dialog box \(on page 224\)](#)

9.1. WP201-100 Window Components

The WP201-100 uses these components to manage its configuration:

- [Tabs \(on page 141\)](#)
- [WP201-100 Access Panel \(on page 142\)](#)

9.1.1. Tabs

The tabs are actually buttons that provide these functions for the WP201-100:

- [Changes tab \(on page 141\)](#)
- [Reset tab \(on page 141\)](#)
- [Logout tab \(on page 141\)](#)

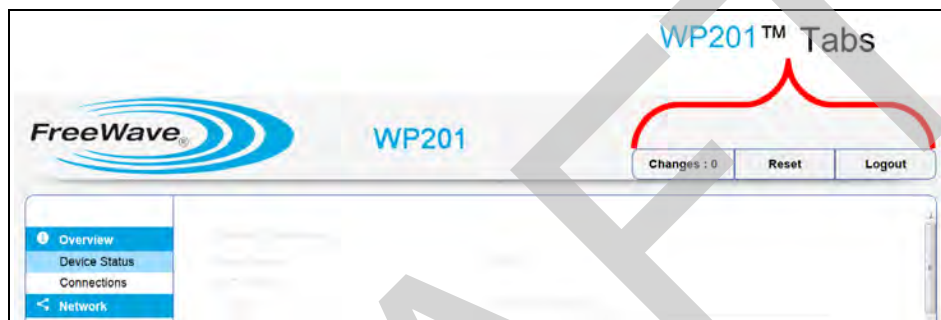


Figure 166: WP201-100 Window Components - Tabs

Changes tab

When some changes are made in the WP201-100, the number of changes are identified in the **Changes** tab when the **Apply** button is clicked.

Click the **Changes** tab to open the [Unsaved window \(on page 186\)](#) and continue with implementing the changes or [Canceling Unsaved Changes in the WP201-100 \(on page 132\)](#).

Reset tab

In some circumstances, it may be required to force the WP201-100 to reboot.

Click the **Reset** tab to open the [Reboot or Restore window \(on page 177\)](#) and reboot or restore the WP201-100.

Note: See [Backup, Restore, and Upgrade the WP201-100 \(on page 71\)](#) for more information.

Logout tab

Click the **Logout** tab to exit the WP201-100.

9.1.2. WP201-100 Access Panel

The **Access Panel** is used to open the configuration windows of the WP201-100.

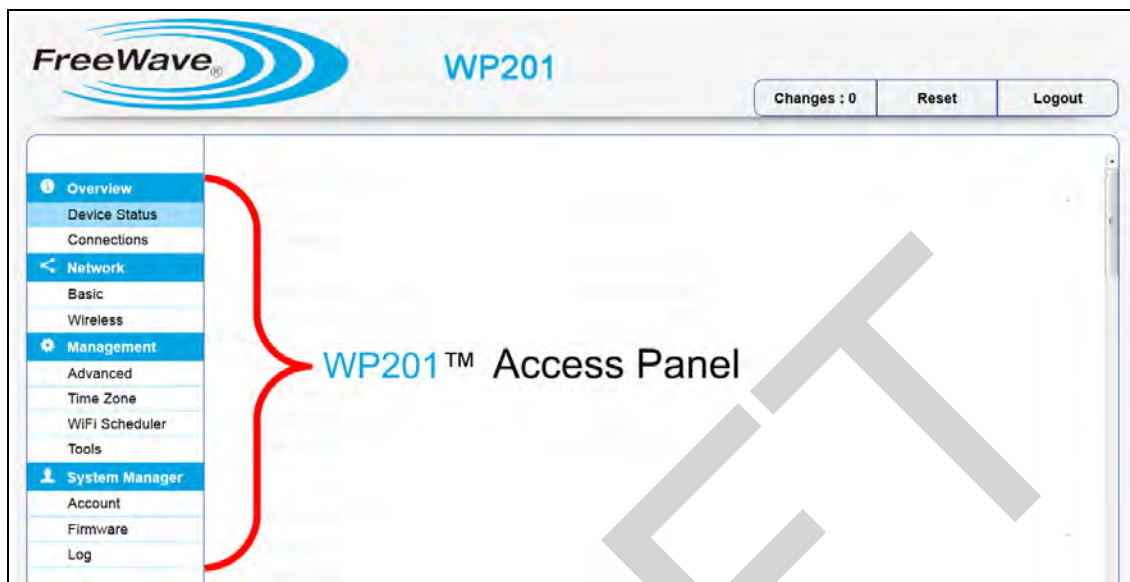


Figure 167: WP201-100 Window Components - Access Panel

9.2. Account window

The **Account** window is used to change the WP201-100 **Username** and **Password**.

- By default, the **Username** is: **admin** and the **Password** is: **admin**.
- The **Password** can contain a maximum of 12, case-sensitive, alphanumeric characters.

Note: See [Changing the WP201-100 Account Password \(on page 96\)](#).

Access and Window Description

In the [WP201-100 Access Panel](#), click **Account**.

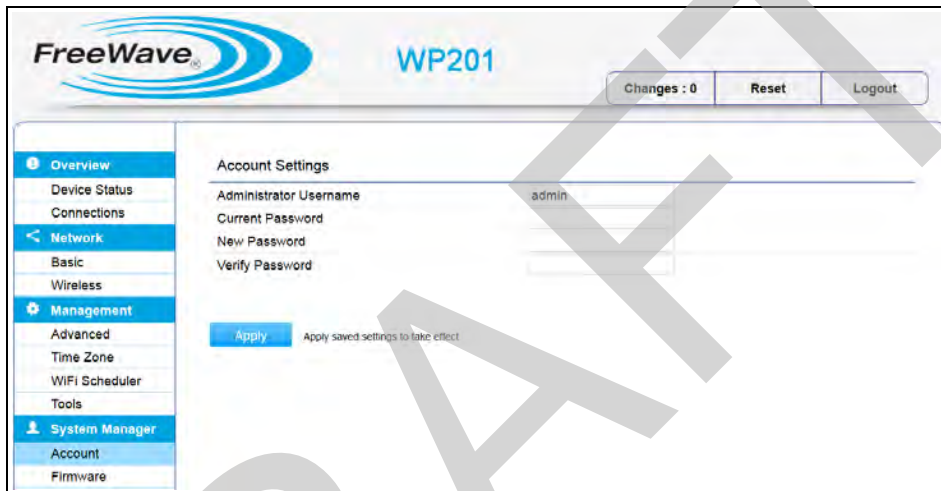


Figure 168: WP201-100 Account window

Account window	
Control Title	Control Description
Administrator Username text box	In the Administrator Username text box, enter a new Username for logging in to the WP201-100.
Current Password text box	In the Current Password text box, enter the old Password for logging in to the WP201-100.
New Password text box	In the New Password text box, enter the new password for logging in to the WP201-100.
Verify Password text box	In the Verify Password text box, re-enter the new password for login confirmation.
Apply button	Click Apply to save the changes.

9.3. Advanced window

The **Advanced** window is used to:

- [SNMP Settings - Activate and Define \(on page 121\)](#).
- [SSH and HTTPS Settings Activation \(on page 125\)](#).
- [Email Alert - Activate and Define \(on page 109\)](#).

Access and Window Description

In the [WP201-100 Access Panel](#), click **Advanced**.

The **Advanced** window has these areas:

- [SNMP Settings area \(on page 145\)](#).
- [Telnet, SSH and HTTPS Setting areas \(on page 148\)](#).
- [Email Alert area \(on page 150\)](#).

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9.3.1. SNMP Settings area

The **SNMP Settings** area is used to assign the Contact Details, Location, Community Name, and Trap Settings for a Simple Network Management Protocol (SNMP).

- SNMP is used to monitor devices attached to the network.
 - This allows the local network device monitoring software to also monitor the WP201-100.
- SNMP allows messages (i.e., protocol data units) to be sent to various parts of the network.
 - When these messages are received, SNMP compatible devices (i.e., agents) return the data stored in their Management Information Bases.

Note: By default, this area is NOT activated.

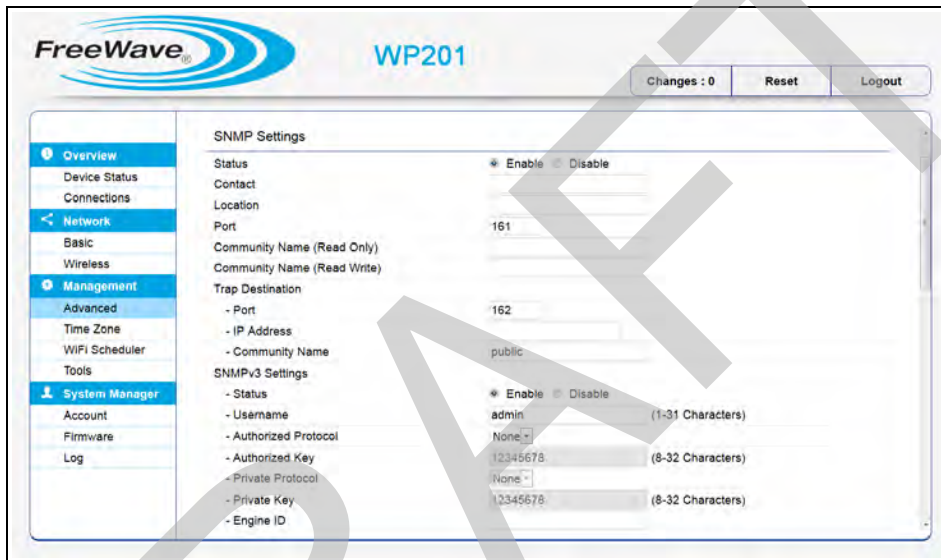


Figure 169: Advanced window - SNMP Settings area

Advanced window - SNMP Settings area		
Control Area	Control Title	Control Description
	Status Enable or Disable option buttons	Select the Enable option button to activate the SNMP feature in the WP201-100.
	Contact text box	In the Contact text box, enter the name of the person administering the computer configuring the WP201-100.
	Location text box	In the Location text box, enter the location of the SNMP server for the WP201-100.


Advanced window - SNMP Settings area		
Control Area	Control Title	Control Description
	Port text box	In the Port text box, enter the SNMP or FTP Server port. Note: Port 161 is the default for the WP201-100. Traps are sent to the manager on Port 161. Typically, SNMP agents listen for UDP messages on port 162.
	Community Name (Read Only) text box	In the Community Name (Read Only) text box, enter the password the SNMP community uses for read-only access.
	Community Name (Read Write) text box	In the Community Name (Read Write) text box, enter the password the SNMP community uses for read/write access.
Trap Destination area	Port text box	In the Port text box, enter the SNMP or FTP Server port. Note: Port 161 is the default for the WP201-100. Traps are sent to the manager on Port 161. Typically, SNMP agents listen for UDP messages on port 162.
Trap Destination area	IP Address text box	In the IP Address text box, enter the IP address of the computer that will receive the SNMP traps.
Trap Destination area	Community Name text box	In the Community Name text box, enter the password for the SNMP trap community. Note: The Community Name functions like a password. It allows for communication to occur between the SNMP manager and agent.
SNMPv3 Settings area	Status Enable or Disable option buttons	Select the Enable option button to activate the SNMPv3 feature in the WP201-100.
SNMPv3 Settings area	Username text box	In the Username text box, enter the Username for SNMPv3.
SNMPv3 Settings area	Authorized Protocol list box	Click the Authorized Protocol list box arrow and select the authentication protocol type. The options are: <ul style="list-style-type: none"> • None (the default) • MD5 • SHA
SNMPv3 Settings area	Authorized Key text box	In the Authorized Key text box, enter the authentication key for SNMPv3.

Advanced window - SNMP Settings area		
Control Area	Control Title	Control Description
SNMPv3 Settings area	Private Protocol list box	<p>Click the Private Protocol list box arrow and select the DES privacy protocol.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Note: The default is None.</p> </div>
SNMPv3 Settings area	Private Key text box	<p>In the Private Key text box, enter the privacy key for the SNMPv3.</p> <ul style="list-style-type: none"> • The Private Key enables SNMP managers and agents to encrypt messages and avoid eavesdropping from third parties. • It adds an extra layer of security. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Important! Only the manager entity and agent entity must know the secret key.</p> </div>
SNMPv3 Settings area	Engine ID text box	<p>In the Engine ID text box, enter the engine ID for SNMPv3.</p> <ul style="list-style-type: none"> • The Engine ID identifies the SNMP agent in the WP201-100. • It allows for unique identification of the MIB objects in a domain. • It acts as a verification tool for when the SNMP server sends of pings to the WP201-100.

9.3.2. Telnet, SSH and HTTPS Setting areas



Figure 170: Advanced window - Telnet, SSH, HTTPS Setting areas

Advanced window - Telnet, SSH and HTTPS Setting areas		
Control Area	Control Title	Control Description
Telnet area	Status Enable or Disable option buttons	<p>Select the Enable option button to activate the Telnet feature in the WP201-100.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Important! When using Telnet , the changes made in the CLI MUST be saved using the save command and the WP201-100 MUST reboot to allow the configuration changes to be applied.</p> </div> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p> Use the Telnet to type commands instead of choosing them from a menu or selecting an icon to perform an action.</p> </div>
SSH area	Status Enable or Disable option buttons	<p>Select the Enable option button to activate the Secure Shell (SSH) feature in the WP201-100.</p> <ul style="list-style-type: none"> • Use the SSH feature to make secure, encrypted connections in the WP201-100 network. • The Secure Shell is a network protocol that allows data to be exchanged using a secure channel between two network devices. <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Note: This selection determines access to the WP201-100 using either Telnet or Secure Shell.</p> </div>

Advanced window - Telnet, SSH and HTTPS Setting areas		
Control Area	Control Title	Control Description
HTTPS area	Status Enable or Disable option buttons	Select the Enable option button to activate the HTTPS feature in the WP201-100. <ul style="list-style-type: none">• Use the HTTPS feature to transfer and view web content securely.• The Hypertext Transfer Protocol over SSL (Secure Socket Layer) is a TCP/IP protocol used by web servers to transfer and display web content securely.
HTTPS area	HTTPS Forward Enable or Disable option buttons	Select the Enable option button to activate the HTTPS Forward feature in the WP201-100. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Note: Enabling HTTPS Forward causes all requests to be directed to secure HTTP (HTTPS, port 443). This assures that all GUI traffic is encrypted.</div>

9.3.3. Email Alert area

Note: By default, this area is NOT activated.

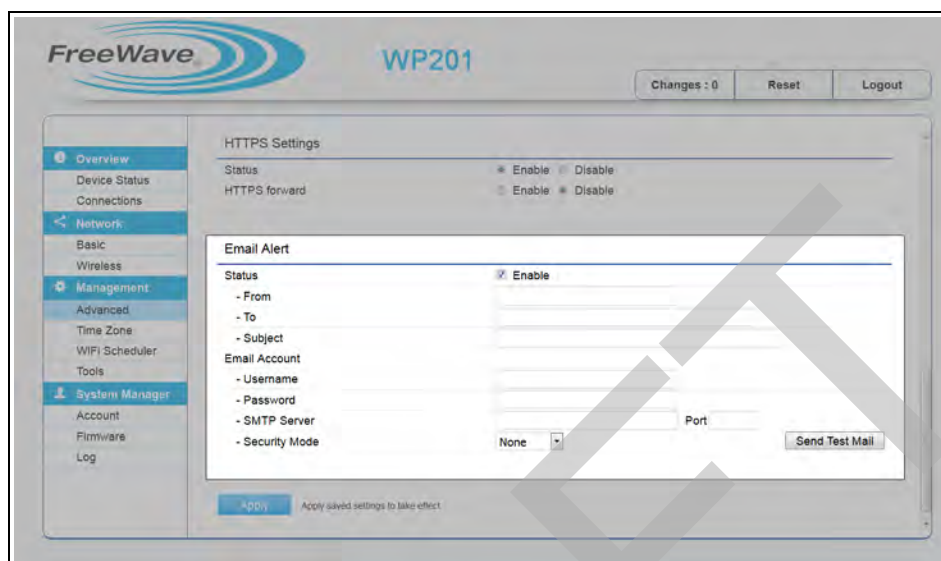


Figure 171: Advanced window - Email Alert area

Advanced window - Email Alert area		
Control Area	Control Title	Control Description
	Status - Enable check box	<p>Select the Enable check box to activate the Email Alert feature in the WP201-100.</p> <p>Use the Email Alert feature to send messages to the designated e-mail address when important system events occur.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Important!: Do NOT use a personal e-mail address. This can unnecessarily expose the personal e-mail login credentials. Instead, create and use a separate e-mail account specifically for this feature.</p> </div>
	Status - From text box	In the From text box, enter the e-mail address to show the sender of the e-mail.
	Status - To text box	In the To text box, enter the e-mail address to receive e-mail alerts.
	Status - Subject text box	In the Subject text box, enter the text to appear in the e-mail subject line.
Email Account area	Username text box	In the Username text box, enter the username for the e-mail account used to send e-mails.

Advanced window - Email Alert area		
Control Area	Control Title	Control Description
Email Account area	Password text box	In the Password text box, enter the password for the e-mail account used to send e-mails.
Email Account area	SMTP Server text box	In the SMTP Server text box, enter the IP address or host name of the outgoing SMTP server.
Email Account area	SMTP Server Port text box	In the SMTP Server Port text box, enter the SMTP port number to use for outbound e-mails.
Email Account area	Security Mode list box	<p>Click the Security Mode list box arrow and select either None, SSL/TSL, or STARTTLS.</p> <ul style="list-style-type: none"> • None (the default) - no security is used for the e-mail account. • SSL/TSL <ul style="list-style-type: none"> • Secure Sockets Layer (SSL)/ Transport Layer Security (TLS)/mode is a cryptographic protocol designed to provide communication security over a network. • STARTTLS <ul style="list-style-type: none"> • STARTTLS is an extension for plain text communication protocols. • It is a way to upgrade a plain text connection to an encrypted (TLS or SSL) connection without the need for a separate port for encryption.
Email Account area	Send Test Email button	Click the Send Test Email button to send a test e-mail to the e-mail address in the Status - To text box.
	Apply button	Click Apply to save the changes.

9.4. Basic window

The **Basic** window is used to:

- [Setup IPv4 Static IP Settings \(on page 117\)](#).
- [Setup of IPv6 Settings \(on page 119\)](#).
- [Spanning Tree Settings - Activate and Define \(on page 123\)](#).

Note: Enabling the **Spanning Tree** protocol prevents network loops in the LAN network.

Access and Window Description

In the [WP201-100 Access Panel](#), click **Basic**.

The **Basic** window has these areas:

- [IPv4 Settings area \(on page 153\)](#).
- [IPv6 Settings area \(on page 154\)](#).
- [Spanning Tree Protocol \(STP\) Settings area \(on page 156\)](#).

9.4.1. IPv4 Settings area

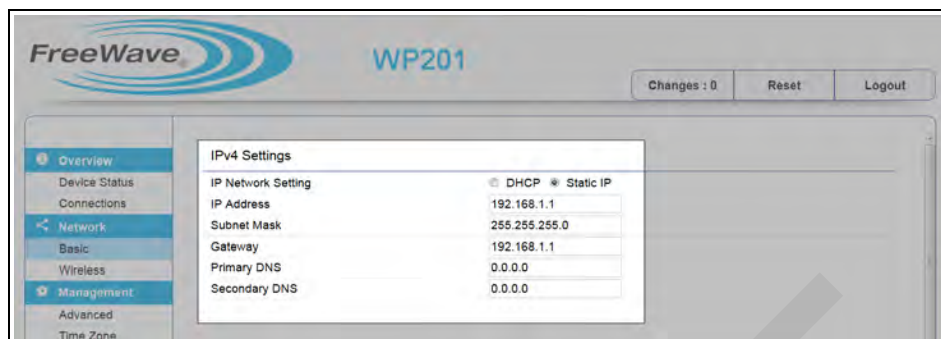



Figure 172: Basic window - IPv4 Settings area > Static IP option

Basic window - IPv4 Settings - IP Network Setting - Static IP option	
Control Title	Control Description
IP Network Settings - DHCP option button Static IP option button	<ul style="list-style-type: none"> Select the Static IP option button to use the IP address specified in the IP Address text box. Select the DHCP option button to automatically obtained the IP address when the WP201-100 connects to a DHCP server. <hr/> <p>Warning! There must be a DHCP server to use the IPv4 DHCP option.  If there is no DHCP server, there is NO ACCESS to the WP201-100.</p>
IP Address text box	In the IP Address text box, enter an IP Address that is in the same subnet range but a DIFFERENT IP Address than the WP201-100 AND different than the computer IP Address.
Subnet Mask text box	In the Subnet Mask text box, enter the IP Subnet Mask address of the WP201-100.
Gateway text box	In the Gateway text box, enter the Default Gateway of the WP201-100.
Primary DNS text box	In the Primary DNS text box, enter the primary DNS address for either the IPv4 or IPv6 WP201-100.
Secondary DNS text box	In the Secondary DNS text box, enter the secondary DNS address for either the IPv4 or IPv6 WP201-100.

9.4.2. IPv6 Settings area

FREEWAVE Recommends: By default, this area is NOT activated and not used by the WP201-100.
Use the selected **Link-Local Address** check box.



Figure 173: Basic window - IPv6 Settings - IP Network Setting - Static IP option

Basic window - IPv6 Settings - IP Network Setting - Static IP option	
Control Title	Control Description
Link - Local Address check box	<ul style="list-style-type: none"> Select the Link - Local Address check box to ensure no IPv6 traffic can be routed beyond the local subnet. This selection is recommended when IPv6 is NOT used. Clear the Link - Local Address check box to activate the IPv6 Settings area.
IP Address text box	In the IP Address text box, enter an IP Address that is in the same subnet range but a DIFFERENT IP Address than the WP201-100 AND different than the computer IP Address .
Subnet Prefix Length text box	In the Subnet Prefix Length text box, enter the slash number (e.g., /23).
Gateway text box	In the Gateway text box, enter the Default Gateway of the WP201-100. FREEWAVE Recommends: Leave the Gateway text box blank if this setting is not known.
Primary DNS text box	In the Primary DNS text box, enter the primary DNS address for either the IPv4 or IPv6 WP201-100.

Basic window - IPv6 Settings - IP Network Setting - Static IP option	
Control Title	Control Description
Secondary DNS text box	In the Secondary DNS text box, enter the secondary DNS address for either the IPv4 or IPv6 WP201-100.

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9.4.3. Spanning Tree Protocol (STP) Settings area

Note: By default, this area is NOT activated.

Important!: The Spanning Tree Protocol (STP) Settings area is only available when the WP201-100 is in Access Point mode (selected in the [Operation Mode area \(on page 193\)](#) of the [Wireless window](#)).

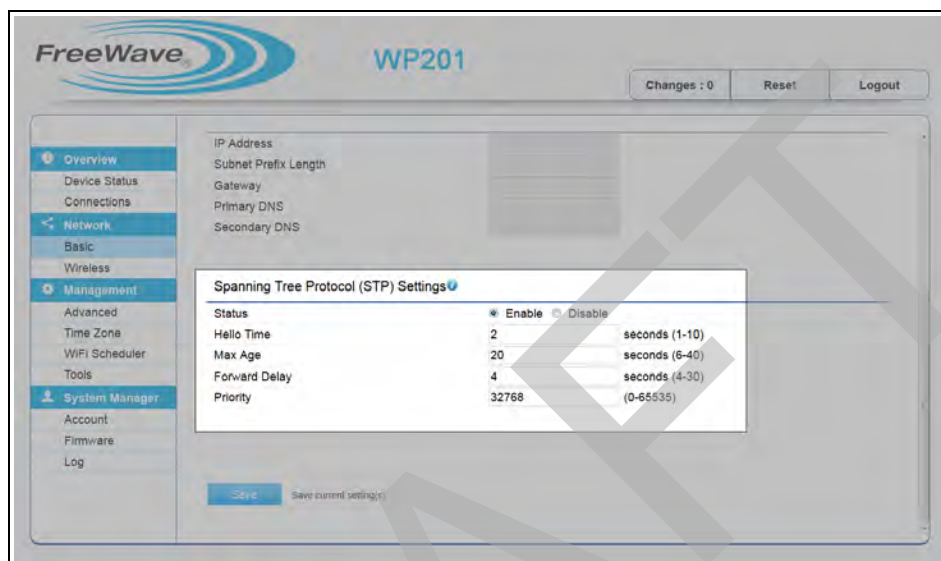



Figure 174: Basic window - Spanning Tree Protocol (STP) Settings area

Basic window - Spanning Tree Protocol (STP) Settings area	
Control Title	Control Description
Status Enable or Disable option buttons	Select the Enable option button to activate the Spanning Tree feature in the WP201-100.
Hello Time text box	In the Hello Time text box, enter the Bridge Hello Time in seconds. Note: This value determines how often the WP201-100 sends handshake packets to communicate information about the topology throughout the entire Bridged LAN.
Max Age text box	In the Max Age text box, enter the number of seconds for the Bridge Max Age . Important!: If another bridge in the Spanning Tree does NOT send a hello packet for a long period of time, it is assumed to be inactive.

Basic window - Spanning Tree Protocol (STP) Settings area	
Control Title	Control Description
Forward Delay text box	<p>In the Forward Delay text box, enter the number of seconds for the Bridge Forward Delay.</p> <ul style="list-style-type: none">• The Forward Delay time is the time spent in each of the Listening and Learning states before the Forward state is entered.• When a new bridge comes onto a busy network, this delay time allows the bridge to analyze the data traffic before participating in the network.
Priority text box	<p>In the Priority text box, enter the bridge priority number.</p> <ul style="list-style-type: none">• The bridge priority aids in preventing looping in the networking scheme.• The default priority for switches is 32768.• In STP, the method of determining the root bridge is based on the bridge priority. (BID).• The number 32768 represents the default bridge priority value in bits. <div data-bbox="488 758 1365 842"> A smaller number has a greater priority than a larger number.</div>
Save button	Click Save to save the changes.

9.5. Connections window

The **Connections** window is used to view information of devices connected to the WP201-100, including:

- Connection list of clients associated to the WP201-100's 2.4GHz / 5GHz bands.
- The MAC addresses and signal strength for each client.

Note: See [Viewing WP201-100 Connection Information \(on page 93\)](#).

Access and Window Description

In the [WP201-100 Access Panel](#), click **Connections**.

Important! The images are examples only. The visible **Connections** are dependent upon the WP201-100 network.

- [Connections window - Mesh \(on page 160\)](#)
- [Connections window - WDS Access Point \(AP\) \(on page 161\)](#)
- [Connections window - WDS Bridge \(on page 162\)](#)
- [Connections window - WDS Station \(on page 164\)](#)

9.5.1. Connection window - Default

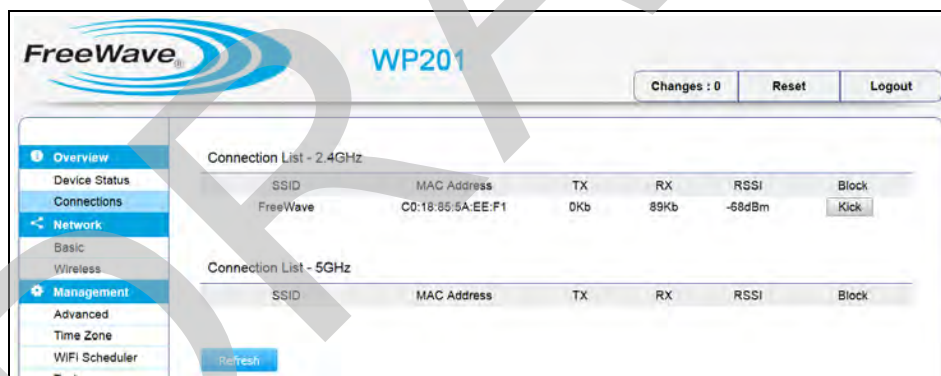


Figure 175: Connections window - Default

Note: This default example shows both bands (2.4GHz and 5GHz) set to Access Points with a client connected on 2.4GHz.

Connections window - Default	
Control Title	Control Description
SSID column	<p>The SSID column or text box shows the service set identifier.</p> <ul style="list-style-type: none"> • The SSID is a case sensitive, 32-character identifier. • It is attached to the header of packets sent over a wireless local-area network (WLAN). • The SSID acts as an identifier when a mobile device tries to connect to the basic service set (BSS) that is part of the WLAN structure. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Note: The Connection List tables are only visible when the Access Point or WDS AP mode is selected as the Operation Mode in the Wireless window.</p> </div>
MAC Address column	The MAC Address column shows the MAC address of the devices found during the scan by the WP201-100.
TX column	The TX column shows the transmit packets (in bytes) to the server.
RX column	The RX column shows the received packets (in bytes) from the server.
RSSI column	<p>The RSSI (dBm) column or Signal Strength text box shows the received signal strength.</p> <ul style="list-style-type: none"> • It is a measurement of the power present in a received radio signal. • The closer to -45 the better the connectivity. • An RSSI of -80 to -95 could be unreliable.
Block column	<p>The Block column allows the WP201-100 to block a client from association with the SSID.</p> <p>Click the Kick button to block the client.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Important! Using this option adds this MAC address to the Deny MAC Address list in the Wireless MAC Filter area (on page 214) of the Wireless Edit dialog box. This MAC address remains in the list until the user deletes the address from the list.</p> </div>
Refresh button	Click the Refresh button to update the connection information.

9.5.2. Connections window - Mesh

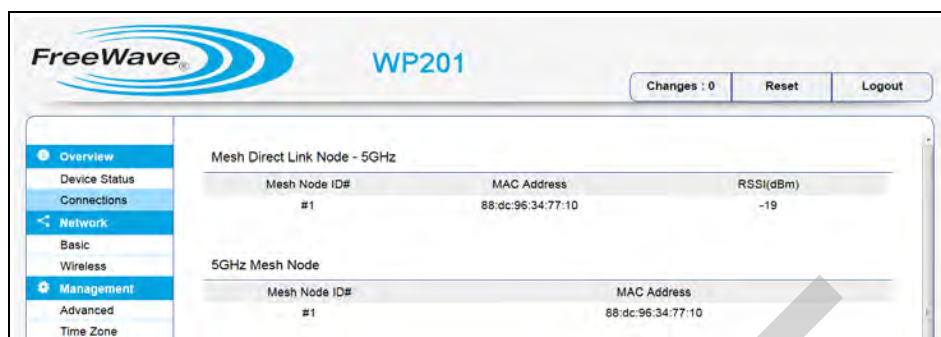


Figure 176: Connections window - Mesh

- Use the **Mesh Direct Link Node** table to monitor the **Mesh Link List** in the [Wireless Mesh Information areas \(on page 171\)](#) of the [Device Status window](#).
- Use the **Mesh Node** table to view all Mesh links in the network.

Note: This table is only visible when the **Mesh AP** or the **Mesh Only** mode is selected as the **Operation Mode** in the [Wireless window](#).

Connections window - Mesh		
Control Area	Control Title	Control Description
Mesh Direct Link Node table	Mesh Node ID# column	The Mesh Node ID# column is a number assigned by the WP201-100 to identify a MAC Address.
Mesh Direct Link Node table	MAC Address column	The MAC Address column shows the MAC address of the devices found during the scan by the WP201-100.
Mesh Direct Link Node table	RSSI (dBm) column	The RSSI (dBm) column or Signal Strength text box shows the received signal strength. <ul style="list-style-type: none"> • It is a measurement of the power present in a received radio signal. • The closer to -45 the better the connectivity. • An RSSI of -80 to -95 could be unreliable.
Mesh Node table	Mesh Node ID# column	The Mesh Node ID# column is a number assigned by the WP201-100 to identify a MAC Address.
Mesh Node table	MAC Address column	The MAC Address column shows the MAC address of the devices found during the scan by the WP201-100.

9.5.3. Connections window - WDS Access Point (AP)

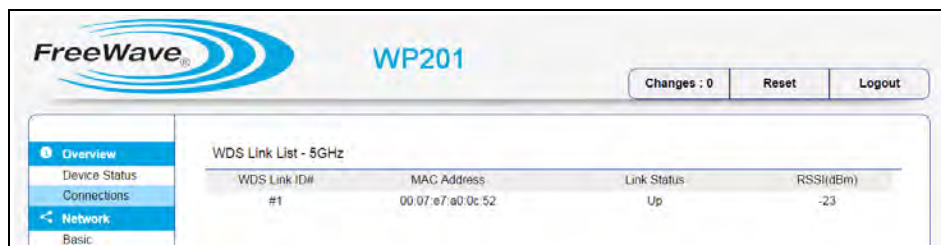


Figure 177: Connections window - WDS Access Point (AP)

Note: This table is only visible when the **WDS AP** or the **WDS Bridge** mode is selected as the **Operation Mode** in the [Wireless window](#).

Connections window - WDS Access Point (AP)	
Control Title	Control Description
WDS Link ID # column	The WDS Link ID # column is a number assigned by the WP201-100 to identify a MAC Address.
MAC Address column	The MAC Address column shows the MAC address of the devices found during the scan by the WP201-100.
Link Status column	The Link Status column shows whether the connection is Up (connected) or Down (not connected).
RSSI (dBm) column	The RSSI (dBm) column or Signal Strength text box shows the received signal strength. <ul style="list-style-type: none"> • It is a measurement of the power present in a received radio signal. • The closer to -45 the better the connectivity. • An RSSI of -80 to -95 could be unreliable.

9.5.4. Connections window - WDS Bridge



Figure 178: Connections window - WDS Bridge

Connections window - WDS Bridge		
Control Area	Control Title	Control Description
WDS Link List table	WDS Link ID # column	The WDS Link ID # column is a number assigned by the WP201-100 to identify a MAC Address.
WDS Link List table	MAC Address column	The MAC Address column shows the MAC address of the devices found during the scan by the WP201-100.
WDS Link List table	Link Status column	The Link Status column shows whether the connection is Up (connected) or Down (not connected).
WDS Link List table	RSSI (dBm) column	<p>The RSSI (dBm) column or Signal Strength text box shows the received signal strength.</p> <ul style="list-style-type: none"> It is a measurement of the power present in a received radio signal. The closer to -45 the better the connectivity. An RSSI of -80 to -95 could be unreliable.
Connection List table	SSID column	<p>The SSID column or text box shows the service set identifier.</p> <ul style="list-style-type: none"> The SSID is a case sensitive, 32-character identifier. It is attached to the header of packets sent over a wireless local-area network(WLAN). The SSID acts as an identifier when a mobile device tries to connect to the basic service set (BSS) that is part of the WLAN structure. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Note: The Connection List tables are only visible when the Access Point or WDS AP mode is selected as the Operation Mode in the Wireless window.</p> </div>
Connection List table	MAC Address column	The MAC Address column shows the MAC address of the devices found during the scan by the WP201-100.

Connections window - WDS Bridge		
Control Area	Control Title	Control Description
Connection List table	TX column	The TX column shows the transmit packets (in bytes) to the server.
Connection List table	RX column	The RX column shows the received packets (in bytes) from the server.
Connection List table	RSSI column	<p>The RSSI (dBm) column or Signal Strength text box shows the received signal strength.</p> <ul style="list-style-type: none"> • It is a measurement of the power present in a received radio signal. • The closer to -45 the better the connectivity. • An RSSI of -80 to -95 could be unreliable.
Connection List table	Block column	<p>The Block column allows the WP201-100 to block a client from association with the SSID.</p> <p>Click the Kick button to block the client.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Important! Using this option adds this MAC address to the Deny MAC Address list in the Wireless MAC Filter area (on page 214) of the Wireless Edit dialog box. This MAC address remains in the list until the user deletes the address from the list.</p> </div>
	Refresh button	Click the Refresh button to update the connection information.

9.5.5. Connections window - WDS Station



Figure 179: Connections window - WDS Station

Connections window - WDS Station	
Control Title	Control Description
SSID text box	<p>The SSID column or text box shows the service set identifier.</p> <ul style="list-style-type: none"> The SSID is a case sensitive, 32-character identifier. It is attached to the header of packets sent over a wireless local-area network (WLAN). The SSID acts as an identifier when a mobile device tries to connect to the basic service set (BSS) that is part of the WLAN structure.
BSSID text box	<p>The BSSID text box shows the basic service set identifier MAC Address of the Access Point the WP201-100 is connected to.</p>
Connection Status text box	<p>The Connection Status text box shows whether the connection is Associated (connected) or Not Associated (not connected).</p>
Wireless Mode text box	<p>The Wireless Mode text box identifies the 802.11 mode selected in the Operation Mode area (on page 193) of the Wireless window.</p>
Current Channel text box	<p>The Current Channel text box shows Channel selected in the Operation Mode area (on page 193) of the Wireless window.</p>
Security text box	<p>The Security text box shows the security chosen for the SSID in the Wireless Security area (on page 209) of the Wireless Edit dialog box.</p>
Tx Data Rates (Mbps) text box	<p>The TX Data Rates (Mbps) text box shows the rate of transmission of packets to the server.</p>
Current Noise Level text box	<p>The Current Noise Level text box shows what the WP201-100 senses as the noise level.</p>
Signal Strength text box	<p>The RSSI (dBm) column or Signal Strength text box shows the received signal strength.</p> <ul style="list-style-type: none"> It is a measurement of the power present in a received radio signal. The closer to -45 the better the connectivity. An RSSI of -80 to -95 could be unreliable.

9.6. Device Status window

The **Device Information** window is used to view information about the current operating mode of the connected WP201-100.

Note: See [View the WP201-100 Device Status \(on page 94\)](#).

Access and Window Description

In the [WP201-100 Access Panel](#), click **Device Status**.

These are the areas of the **Device Information** window:

- [Device Information area \(on page 165\)](#).
- [LAN Information area \(on page 167\)](#).
- [Wireless LAN Information area \(on page 169\)](#).
- [Wireless Mesh Information areas \(on page 171\)](#).
- [Statistics area \(on page 172\)](#).

9.6.1. Device Information area

Note: Information in this window is read-only.

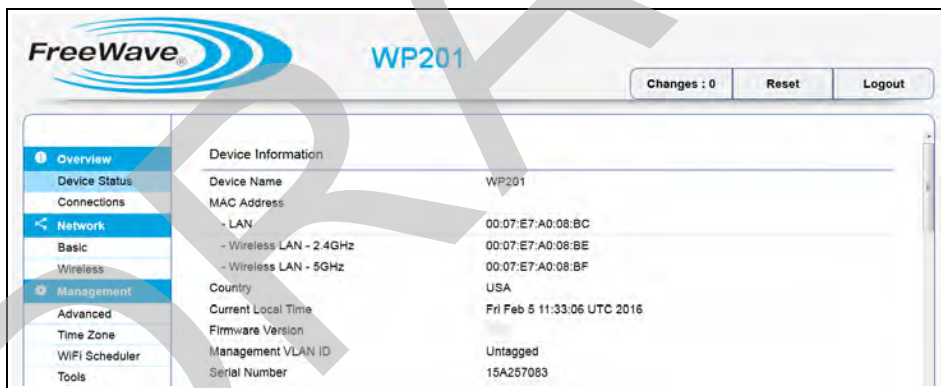


Figure 180: Device Status window - Device Information area

Device Status window - Device Information area		
Control Area	Control Title	Control Description
	Device Name text box	The Device Name text box shows the name given to the unit by the user on the Wireless window (on page 191) .
MAC Address area	LAN text box	The MAC Address - LAN text box shows the MAC address for the WP201-100 for the LAN.

Device Status window - Device Information area		
Control Area	Control Title	Control Description
MAC Address area	Wireless LAN - 2.4GHz text box	The MAC Address - Wireless LAN - 2.4GHz text box shows the unique MAC address for each WP201-100 in the 2.4GHz frequency.
MAC Address area	Wireless LAN - 5GHz text box	The MAC Address - Wireless LAN - 5GHz text box shows the unique MAC address for each WP201-100 in the 5GHz frequency.
	Country text box	The Country text box shows the country identified in the Country / Region list box in the Wireless Settings area (on page 192) of the Wireless window .
	Current Local Time text box	The Current Local Time text box shows the day of the week, month, military time, time zone, and year of the WP201-100. Note: This information can be changed in the Time Zone window (on page 179) .
	Firmware Version text box	The Firmware Version text box shows the version of firmware currently installed on the WP201-100.
	Management VLAN ID text box	The Management VLAN ID text box shows the VLAN tag for the Management VLAN. Note: Management VLAN ID is configured in the Wireless Settings area (on page 197) of the Wireless window (on page 191) .
	Serial Number text box	The Serial Number text box shows the serial number of the connected WP201-100.

9.6.2. LAN Information area

Note: Information in this window is read-only.

Important!: As of the Feb-2017 release, the IPv6 is NOT used in the WP201-100.



Figure 181: Device Status window - LAN Information IPv4 and IPv6 areas

Device Status window - LAN Information IPv4 and IPv6 areas		
Control Area	Control Title	Control Description
LAN Information - IPv4 area	IP Address text box	The IP Address text box shows the assigned IP address of the WP201-100.
LAN Information - IPv4 area	Subnet Mask text box	The Subnet Mask text box shows the assigned IP Subnet Mask address of the WP201-100.
LAN Information - IPv4 area	Gateway text box	The Gateway text box shows the Default Gateway of the WP201-100.
LAN Information - IPv4 area	Primary DNS text box	The Primary DNS text box shows the primary DNS address assigned for either the IPv4 or IPv6 WP201-100.
LAN Information - IPv4 area	Secondary DNS text box	The Secondary DNS text box shows the secondary DNS address assigned for either the IPv4 or IPv6 WP201-100.
LAN Information - IPv4 area	DHCP Client text box	The DHCP Client text box shows whether the WP201-100 has DHCP Client enabled or not.
<p>Note: DHCP Client is enabled in the Basic window (on page 152).</p>		

Device Status window - LAN Information IPv4 and IPv6 areas		
Control Area	Control Title	Control Description
LAN Information - IPv4 area	Spanning Tree Protocol (STP) text box	The Spanning Tree Protocol (STP) text box shows whether the WP201-100 has the STP enabled or not. Note: Spanning Tree Protocol (STP) is enabled in the Basic window (on page 152) .
LAN Information - IPv6 area	IP Address text box	The IP Address text box shows the assigned IP address of the WP201-100.
LAN Information - IPv6 area	Link - Local Address text box	The Link - Local Address text box shows the IPv6 router Unicast address..
LAN Information - IPv6 area	Gateway text box	The Gateway text box shows the Default Gateway of the WP201-100.
LAN Information - IPv6 area	Primary DNS text box	The Primary DNS text box shows the primary DNS address assigned for either the IPv4 or IPv6 WP201-100.
LAN Information - IPv6 area	Secondary DNS text box	The Secondary DNS text box shows the secondary DNS address assigned for either the IPv4 or IPv6 WP201-100.

9.6.3. Wireless LAN Information area

Note: Information in this window is read-only.
This information changes with different **Operation Modes**.

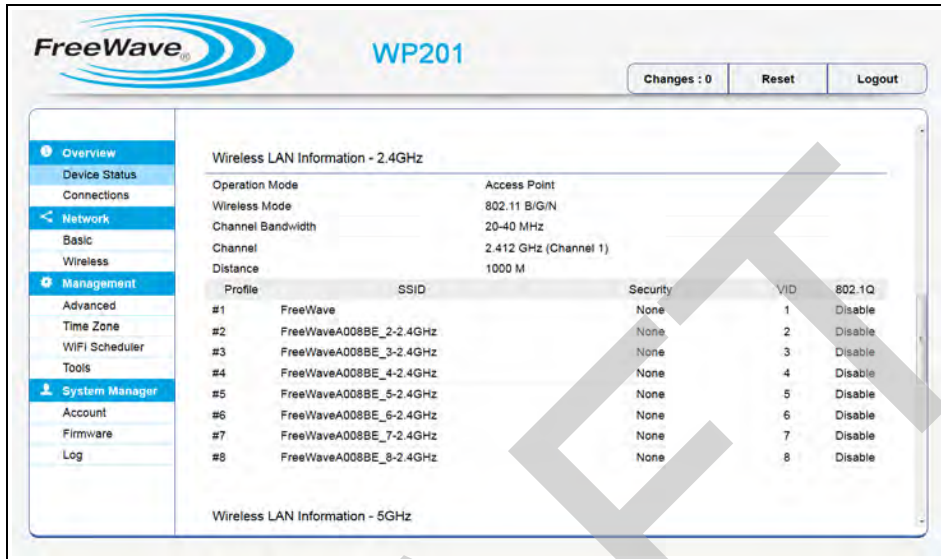


Figure 182: Device Status window - Wireless LAN Information - 2.4GHz area

Device Status window - Wireless LAN Information - 2.4GHz area		
Control Area	Control Title	Control Description
	Operation Mode text box	The Operation Mode column or text box shows the information from the selection made in the Operation Mode list box of the Operation Mode area (on page 193) . Note: Profile Settings are only applicable in Access Point or WDS AP mode.
	Wireless Mode text box	The Wireless Mode text box shows the information from the selection made in the Wireless Mode list box of the Operation Mode area (on page 193) .
	Channel Bandwidth text box	The Channel Bandwidth text box shows the information from the selection made in the Channel HT Mode list box of the Operation Mode area (on page 193) .
	Channel text box	The Channel text box shows the information from the selection made in the Channel list box of the Operation Mode area (on page 193) .
	Distance text box	The Distance text box shows the information from the Distance text box of the Operation Mode area (on page 193) .

Device Status window - Wireless LAN Information - 2.4GHz area		
Control Area	Control Title	Control Description
Wireless LAN Information table	Profile # column	The Profile # column reflects the SSID numbers in the Wireless Settings area (on page 197) .
Wireless LAN Information table	SSID column	The SSID column is the SSID of the Profile # in the Wireless Settings area (on page 197) .
Wireless LAN Information table	Security column	The Security column shows the security selection made in the Wireless Edit dialog box (on page 208) .
Wireless LAN Information table	VID column	The VID column is the VLAN ID of the Profile # in the Wireless Settings area (on page 197) .
Wireless LAN Information table	802.1Q column	The 802.1Q column shows whether the VLAN Isolation check box has been selected in the Profile # in the Wireless Settings area (on page 197) .

9.6.4. Wireless Mesh Information areas

Note: Information in this window is read-only.

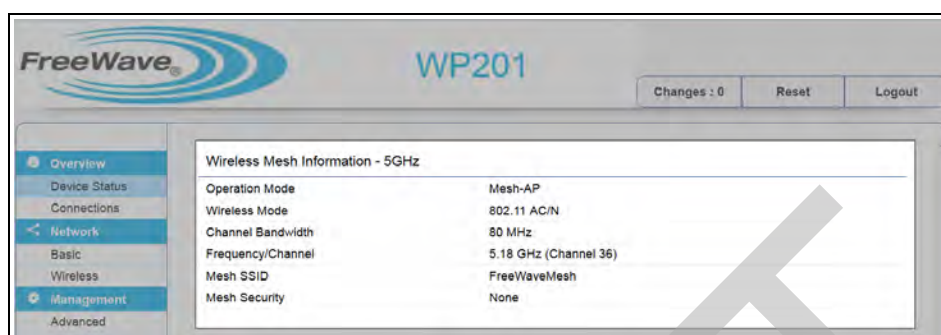


Figure 183: Device Status window - Wireless Mesh Information - 5GHz area

Device Status window- Wireless Mesh Information - 5GHz area	
Control Title	Control Description
Operation Mode text box	The Operation Mode column or text box shows the information from the selection made in the Operation Mode list box of the Operation Mode area (on page 193) .
Wireless Mode text box	The Wireless Mode text box shows the information from the selection made in the Wireless Mode list box of the Operation Mode area (on page 193) .
Channel Bandwidth text box	The Channel Bandwidth text box shows the information from the selection made in the Channel HT Mode list box of the Operation Mode area (on page 193) .
Frequency / Channel text box	The Frequency / Channel text box shows the information from the selection made in the Channel list box of the Operation Mode area (on page 193) .
Mesh SSID text box	The Mesh SSID text box shows the unique header attached to the Mesh mode packets sent over WLAN.
Mesh Security text box	The Mesh Security text box shows the security selection made in the Wireless Edit dialog box (on page 208) .

9.6.5. Statistics area

The **Statistics** area shows the MAC information of the WP201-100 including SSID, MAC address, RX and TX.

Note: Information in this window is read-only.

The screenshot shows the FreeWave WP201 web interface. The top navigation bar includes the FreeWave logo, the device name 'WP201', and buttons for 'Changes : 0', 'Reset', and 'Logout'. The left sidebar contains a navigation menu with the following items: Overview, Device Status, Connections, Networks, Basic, Wireless, Management, and System Manager. The main content area is divided into two sections. The upper section is a table listing device profiles with columns for profile number, SSID, MAC address, and status. The lower section is a 'Statistics' table with columns for SSID, MAC, RX (Packets), and TX (Packets). A 'Refresh' button is located at the bottom left of the statistics table.

Profile #	SSID	MAC	RX (Packets)	TX (Packets)	Status
#1	FreeWave		None	51	Disable
#2	FreeWaveA008BF_2-5GHz		None	52	Disable
#3	FreeWaveA008BF_3-5GHz		None	53	Disable
#4	FreeWaveA008BF_4-5GHz		None	54	Disable
#5	FreeWaveA008BF_5-5GHz		None	55	Disable
#6	FreeWaveA008BF_6-5GHz		None	56	Disable
#7	FreeWaveA008BF_7-5GHz		None	57	Disable
#8	FreeWaveA008BF_8-5GHz		None	58	Disable

SSID	MAC	RX(Packets)	TX(Packets)
Ethernet	00:07:E7:A0:08:BC	181.391KB(1167 PKts.)	1187.069KB(1405 PKts.)
FreeWave	00:07:E7:A0:08:BE	0KB(0 PKts.)	0KB(0 PKts.)
FreeWave	00:07:E7:A0:08:BF	0KB(0 PKts.)	0.042KB(1 PKts.)

Figure 184: Device Status window - Statistics area

Device Status window - Statistics area	
Control Title	Control Description
SSID column	The SSID column is the SSID of the Profile # in the Wireless Settings area (on page 197) .
MAC column	The MAC Address column shows the MAC address of the devices found during the scan by the WP201-100.
RX (Packets) column	The RX column shows the received packets (in bytes) from the server.
TX (Packets) column	The TX column shows the transmit packets (in bytes) to the server.
Refresh button	Click the Refresh button to update the WP201-100 Device Status information.

9.7. Firmware window

The **Firmware** window is used to:

- [Backup WP201-100 Factory Settings \(on page 76\).](#)
- [Backup the WP201-100 User Settings as the Default \(on page 78\).](#)
- [Reset to the WP201-100 Defaults \(on page 79\).](#)
- [Restore the WP201-100 to Factory New Settings \(on page 81\).](#)
- [Restore the WP201-100 to the User Default \(on page 83\).](#)
- [Upgrade the WP201-100 Firmware \(on page 84\).](#)

Access and Window Description

In the [WP201-100 Access Panel](#), click **Firmware**.

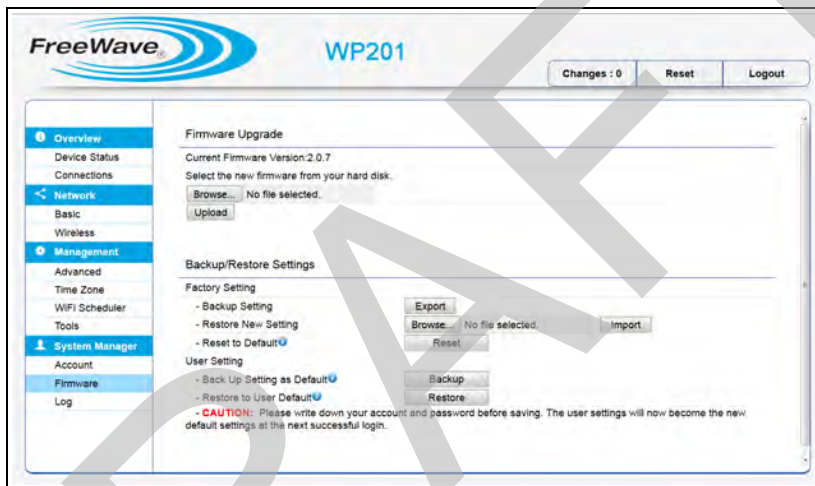


Figure 185: WP201-100 Firmware window

WP201-100 Firmware window		
Control Area	Control Title	Control Description
Firmware Upgrade area	Current Firmware Version text box	This identifies the firmware version currently installed on the WP201-100. Note: This information is read-only.
Firmware Upgrade area	Browse button	Click the Browse button to open the Microsoft® File Upload dialog box (on page 223) .
Firmware Upgrade area	Upload button	Click the Upload button to start the WP201-100 upgrade process. .

WP201-100 Firmware window		
Control Area	Control Title	Control Description
Backup / Restore Settings area - Factory Setting area	Backup Setting - Export button	Click the Export button to open the Microsoft® Opening Backup dialog box (on page 224) . The Microsoft® Opening Backup dialog box is used to save the current WP201-100 configured settings to a tar.gz file in a designated location.
Backup / Restore Settings area - Factory Setting area	Restore New Setting - Browse button	Click the Browse button to open the Microsoft® File Upload dialog box (on page 223) to search for and select a previously saved tar.gz file.
Backup / Restore Settings area - Factory Setting area	Restore New Setting - Import button	Click the Import button to use the file selected in the Restore New Setting text box to the WP201-100.
Backup / Restore Settings area - Factory Setting area	Reset to Default - Reset button	Click the Reset button to restore the WP201-100 to its factory default settings. A confirmation message appears. Click Yes to continue.
Backup / Restore Settings area - User Setting area	Back Up Setting as Default - Backup button	Click the Backup button to backup the current configuration settings as the default settings internally on the WP201-100. <div style="border: 1px solid black; padding: 5px;">Note: If a factory default is needed, then the original configuration can be backed up to a file, selected after factory default, and uploaded again.</div>
Backup / Restore Settings area - User Setting area	Restore to User Default - Restore button	Click the Restore (to User Default) button to erase existing settings and upload the settings defined when the Back Up Setting as Default - Backup button was selected in the Firmware window .

9.8. Log window

The WP201-100 automatically logs (records) events in its internal memory. The **Log** window is used to:

- [View the WP201-100 Log Information \(on page 92\).](#)
- [Remote Log Activation \(on page 113\).](#)

Note: If there is not enough internal memory to log all events, older events are deleted from the log. When the WP201-100 is powered down or rebooted, the log is cleared.

Access and Window Description

In the [WP201-100 Access Panel](#), click **Log**.



Figure 186: Log window

Log window		
Control Area	Control Title	Control Description
System Log area	Status Enable or Disable option buttons	Select the Enable button to activate the Log function for the WP201-100.

Log window		
Control Area	Control Title	Control Description
System Log area	Log Type list box	<p>Click the Log Type list box arrow and select the type of information to log.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Note: The list is in the SNMP importance order on the WP201-100.</p> </div> <p>Alphabetically, the options are:</p> <ul style="list-style-type: none"> • Alert • All (the default) • Critical • Debug • Emergency • Error • Information • Notice • Warning
System Log area	Refresh button	Click the Refresh button to clear the Log scroll box and start a new log with the specific information designated by the selection made in the Log Type list box.
System Log area	Clear button	Click the Clear button to erase the existing log information and start recording new log information.
System Log area	Log Results scroll box	The Results scroll box shows the log results as they occur in the WP201-100.
Remote Log area	Enable or Disable option buttons	Click the Remote Log Enable button to activate the Remote Log service for the WP201-100.
Remote Log area	Log Server IP Address text box	In the Log Server IP Address text box, enter the IP address of the log server.
	Apply button	Click Apply to save the changes.

9.9. Reboot or Restore window

The **Reboot or Restore** window is used to:

- [Reboot the WP201-100 \(on page 72\)](#).
- [Restore the WP201-100 Factory Defaults \(on page 73\)](#).
- [Restore to User Defaults \(on page 75\)](#).
- When the WP201-100 configuration is saved, it can be reloaded into the WP201-100 using the **Restore Saved Settings** from a file saved on the computer.

Access and Window Description

Click the [Reset tab \(on page 141\)](#) from any WP201-100 window.

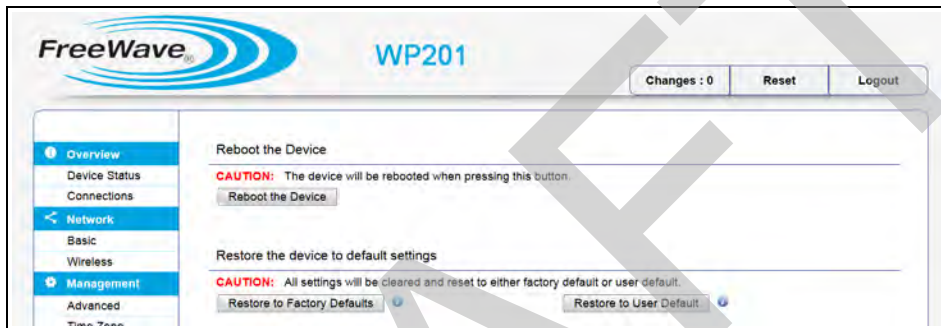


Figure 187: Reboot or Restore window

Reboot or Restore window		
Control Area	Control Title	Control Description
Reboot the Device area	Reboot the Device button	Click the Reboot the Device button to initiate a reboot of the WP201-100.
Restore the Device area	Restore to Factory Defaults button	Click Restore to Factory Defaults to initiate a restoration of the factory default settings to the WP201-100.
Restore the Device area	Restore to User Default button	Click the Restore (to User Default) button to erase existing settings and upload the settings defined when the Back Up Setting as Default - Backup button was selected in the Firmware window .

9.10. Site Survey window

The **Site Survey** window shows the available Access Points.

Access and Window Description

On the [Wireless window](#), in the [Operation Mode area \(on page 193\)](#), click the **AP Detection - Scan** button.

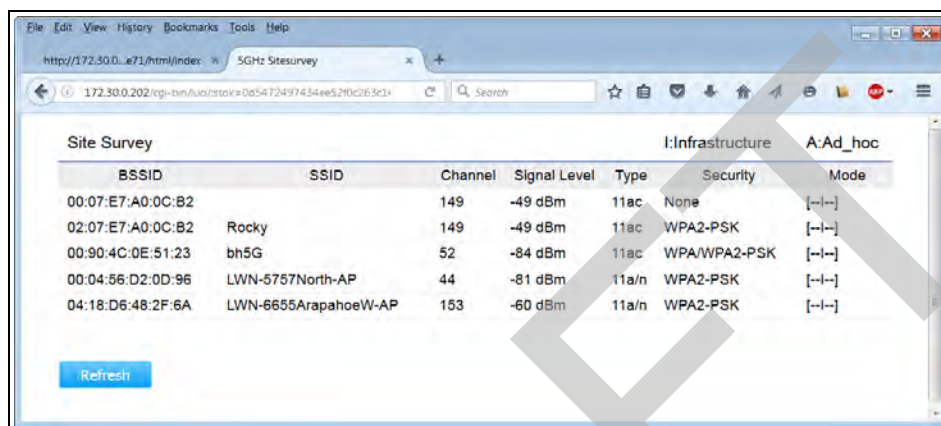


Figure 188: Site Survey window

Site Survey window	
Control Title	Control Description
BSSID column	The BSSID column shows the MAC address of the discovered Access Point device.
SSID column	The SSID column or text box shows the service set identifier.
Channel column	The Channel column shows the channel the Access Point device is operating on.
Signal Level column	The Signal Level column shows the RSSI of the Access Point device.
Type column	The Type column shows the Wireless Mode selected in the Operation Mode area of the Wireless window (on page 191) .
Security column	The Security column shows the type of security enabled on the Access Point device's SSID.
Mode column	Note: This information is read-only.
Refresh button	Click Refresh to update the information in the table.

9.11. Time Zone window

The **Time Zone** window is used to:

- [Manually Set the Date and Time \(on page 114\)](#).
- [Automatically Set the Date and Time \(on page 115\)](#).
- [Set the WP201-100 Time Zone \(on page 115\)](#).

Note: By default, the **Date** and **Time** are set automatically using the designated NTP server.

Access and Window Description

In the [WP201-100 Access Panel](#), click **Time Zone**.

Note: By default, the WP201-100 time is set manually.

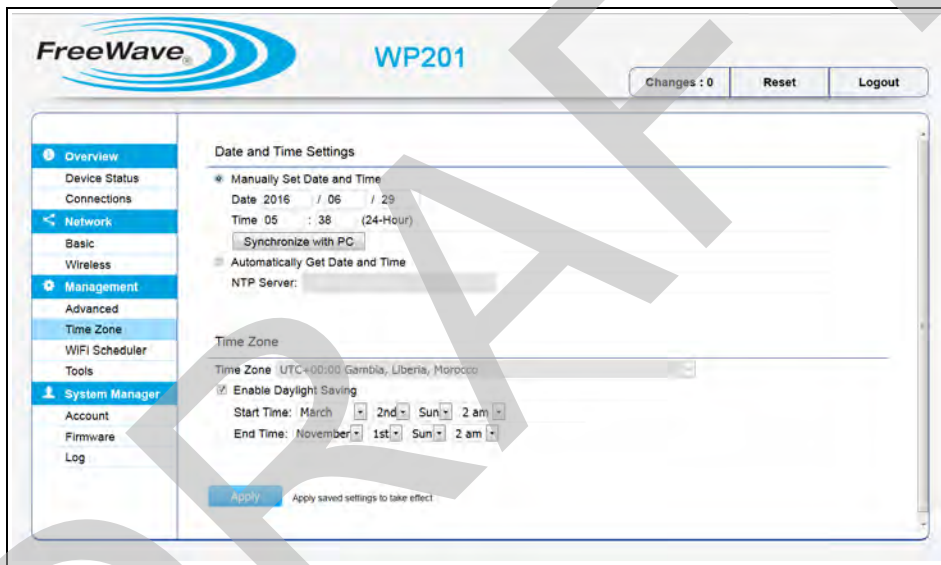


Figure 189: Time Zone window

Time Zone window		
Control Area	Control Title	Control Description
Date and Time Settings area	Manually Set Date and Time option button	Select the Manually Set Date and Time option button to manually specify the date and time of the WP201-100. Note: If there is no NTP server or PC synchronization is not available, then manually set the date and time.
Date and Time Settings area	Date text boxes	In the Date text boxes, enter the Year , Month , and Day in their respective text boxes.

Time Zone window		
Control Area	Control Title	Control Description
Date and Time Settings area	Time text boxes	In the Time text boxes, enter the Hour and Minutes in their respective text boxes. Example: The Time is in 24-Hours. 3:30pm would be 15:30.
Date and Time Settings area	Synchronize with PC button	Click the Synchronize with PC button to use the current time of the computer the WP201-100 is connected to.
Date and Time Settings area	Automatically Get Date and Time option button	Select the Automatically Get Date and Time option button to use the default NTP server.
Date and Time Settings area	NTP Server text box	In the NTP Server text box, enter the IP address or domain name of an NTP server to have the WP201-100 internal clock automatically synchronize to it.
Time Zone area	Time Zone list box	Click the Time Zone list box arrow and select the time zone the WP201-100 is located in.
Time Zone area	Enable Daylight Saving check box	If applicable, select the Enable Daylight Saving check box if daylight savings applies to the area the WP201-100 is located in. Note: If the Enable Daylight Saving check box is selected, the Daylight Savings Time - Start Time and End Time are required.
Time Zone area	Start Time list boxes	Click the respective Start Time list box arrows and select the Month, week of the month, Day of the week, and Time when Daylight Savings Time starts in the selected Time Zone . Example: If Daylight Saving Time starts at midnight on the first Monday of March, the selections are: March, 1st, Mon, 12am .
Time Zone area	End Time list boxes	Click the respective End Time list box arrows and select the Month, week of the month, Day of the week, and Time when Daylight Savings Time ends in the selected Time Zone . Example: If Daylight Saving Time ends at midnight on the first Sunday of November, the selections are: November, 1st, Sun, 12am .
	Apply button	Click Apply to save the changes.

9.12. Tools window

The **Tools** window is used to:

- [Run a Ping Test \(on page 68\)](#).
- [Run a Traceroute Test \(on page 70\)](#).
- [Run a Speed Test \(on page 69\)](#).
- [Discover Devices Connected to the WP201-100 \(on page 67\)](#).

Access and Window Description

In the [WP201-100 Access Panel](#), click **Tools**.

The **Tools** window has these areas:

- [Ping Test Parameters area \(on page 182\)](#).
- [Traceroute Test Parameters area \(on page 183\)](#).
- [Speed Test Parameters area \(on page 184\)](#).
- [Device Discovery area \(on page 185\)](#).

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9.12.1. Ping Test Parameters area

The Ping Test Parameters area is used to setup and ping the WP201-100.

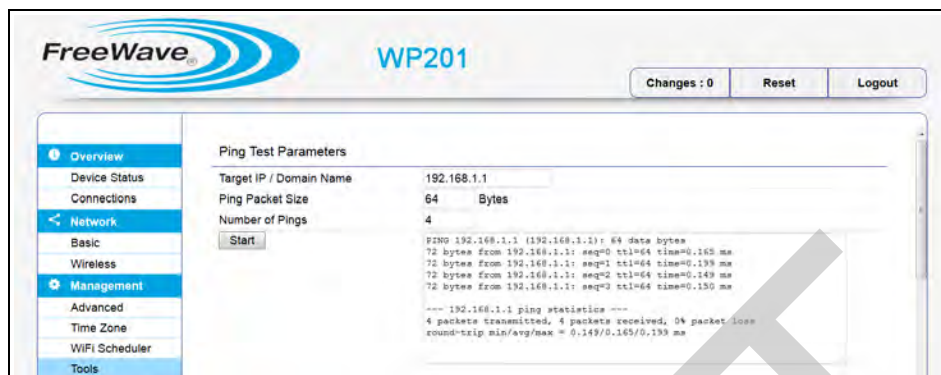


Figure 190: Tools window - Ping Test Parameters area

Tools window - Ping Test Parameters area	
Control Title	Control Description
Target IP / Domain Name text box	In the Target IP / Domain Name text box, enter the IP address to ping.
Ping Packet Size text box	In the Ping Packet Size text box, enter the packet size of each ping.
Number of Pings text box	In the Number of Pings text box, enter the number of times to ping.
Start button	Click the Start button to begin the ping test.
Ping Results scroll box	The Results scroll box shows the ping results as they occur during the test. Note: This information is read-only.

9.12.2. Traceroute Test Parameters area

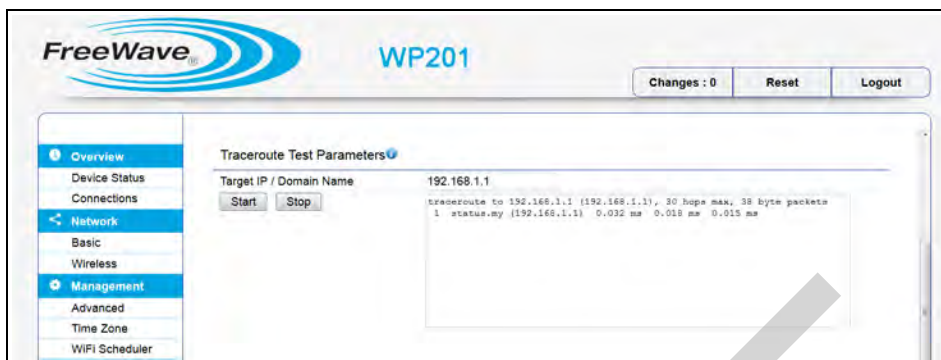


Figure 191: Tools window - Traceroute Test Parameters area

Tools window - Traceroute Test Parameters area	
Control Title	Control Description
Target IP / Domain Name text box	In the Target IP / Domain Name text box, enter the WP201-100 IP address to trace.
Start button	Click the Start button to begin the trace route operation.
Stop button	If needed, click the Stop button to stop the trace route operation.
Traceroute Results scroll box	The Results scroll box shows the trace results as they occur during the test. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Note: This information is read-only.</p> </div>

9.12.3. Speed Test Parameters area

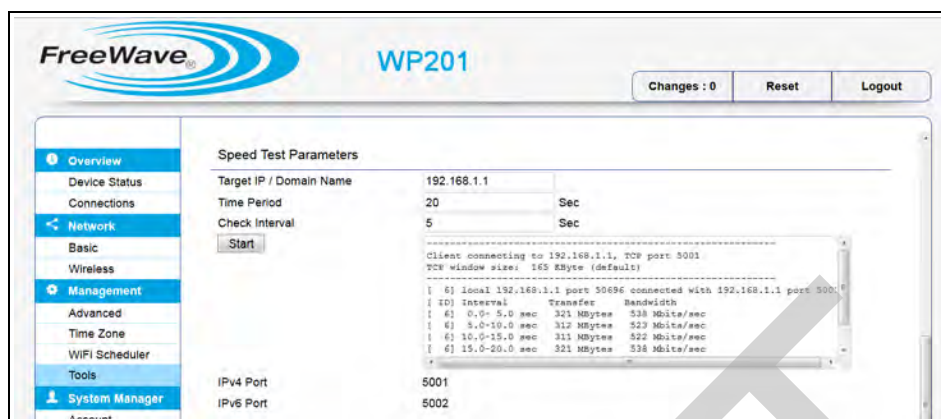


Figure 192: Tools window - Speed Test Parameters area

Tools window - Speed Test Parameters area	
Control Title	Control Description
Target IP / Domain Name text box	In the Target IP / Domain Name text box, enter the IP address to send data packets from a client to a server OR from one WP201-100 to another. <ul style="list-style-type: none"> The target IP is the one designated as the server IP address or of another WP201-100. This is a one-directional speed measurement.
Time Period text box	In the Time Period text box, enter the length of time (in seconds) to run the speed test. The default is 20 seconds. Example: Enter 120 for a 2 minute speed test.
Check Interval text box	In the Check Interval text box, enter how often the data is reported in the log file. FREEWAVE Recommends: A good interval is 5 seconds.
Start button	Click the Start button to begin the speed test.
Speed Results scroll box	The Results scroll box shows the speed test results as they occur during the test. Note: This information is read-only.
IPv4 Port text box	Note: The default in the IPv4 text box is 5001. It cannot be changed.
IPv6 Port text box	Important!: The default in the IPv6 text box is 5002. It cannot be changed.

9.12.4. Device Discovery area

The **Device Discovery** area scans the devices that are shown in the [Connections window](#) (on page 158).

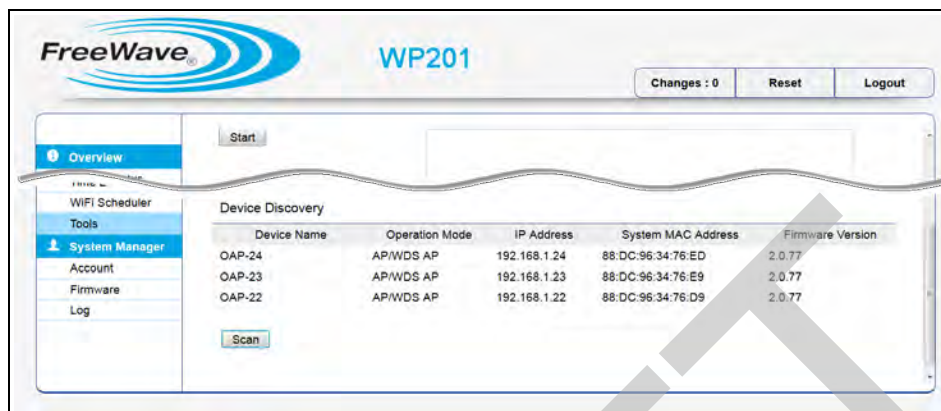


Figure 193: Tools window - Device Discovery area with information

Note: This information is read-only.

Tools window - Device Discovery area	
Control Title	Control Description
Device Name column	The Device Name column shows the name entered in the Wireless Settings area (on page 192) of the Wireless window .
Operation Mode column	The Operation Mode column or text box shows the information from the selection made in the Operation Mode list box of the Operation Mode area (on page 193).
IP Address column	The IP Address column shows the IP address of the devices found during the scan by the WP201-100.
System MAC Address column	The MAC Address column shows the MAC address of the devices found during the scan by the WP201-100.
Firmware Version column	The Firmware Version column shows the version of firmware currently installed on the devices found during the scan by the WP201-100.
Scan button	Click the Scan button to scan for devices connected to the WP201-100. The scan results appear in the Device Discovery table.

9.13. Unsaved window

The **Unsaved** window lists all the changes made in the other WP201-100 windows.

Note: Information in this window is read-only.

Access and Window Description

When some changes are made and saved in the other WP201-100 windows, the **Changes** tab identifies the number of changes.

Click the **Changes** tab to open the **Unsaved** window.

Important!: The change count and the changes listed in the image are examples only. The list identifies different information depending on the changes applied to the WP201-100.



Figure 194: Unsaved window showing changes to apply.

Unsaved window	
Control Title	Control Description
Unsaved Changes List	The Unsaved Changes List shows all the changes that will be implemented.
Apply button	Click Apply to integrate changes identified in the Unsaved Changes List to the WP201-100.
Revert button	Click the Revert button to clear the Unsaved Changes List . Click Apply again (or navigate to another window) to NOT implement the changes and return the WP201-100 to the previous settings.

Note: See [Canceling Unsaved Changes in the WP201-100 \(on page 132\)](#).

9.14. WiFi Scheduler window

The **WiFi Scheduler** window is used to:

- [Reboot Schedule - Activate and Define \(on page 111\)](#).
- [WiFi Scheduler - Activate and Define \(on page 126\)](#).

Example: To restrict web access to Monday to Friday, from 3pm to 8pm, create a schedule selecting Mon, Tue, Wed, Thu and Fri. Enter a Start time of 15:00 and an End Time of 20:00 to limit access to these times.

Access and Window Description

In the [WP201-100 Access Panel](#), click **WiFi Scheduler**.

The **WiFi Scheduler** window has these areas:

- [Auto Reboot Settings area \(on page 188\)](#).
- [WiFi Scheduler area \(on page 189\)](#).

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9.14.1. Auto Reboot Settings area

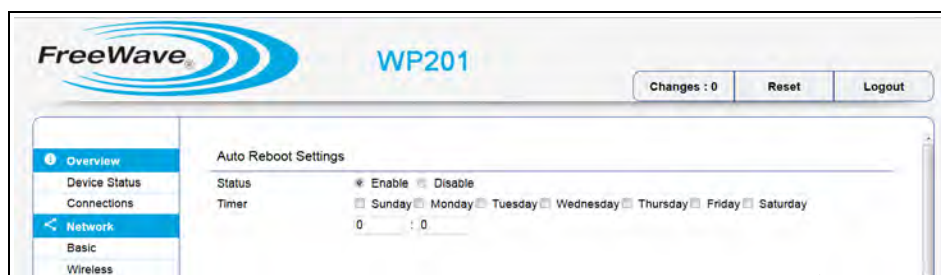


Figure 195: WiFi Scheduler window - Auto Reboot Settings area

WiFi Scheduler window - Auto Reboot Settings area	
Control Title	Control Description
Status Enable or Disable option buttons	Select the Enable option button to activate the Auto Reboot feature in the WP201-100.
Timer - Sunday to Saturday check boxes	Select the designated Sunday to Saturday check box to reboot the WP201-100 automatically on the selected days. Note: More than one day may be selected.
Timer text boxes	In the Timer text boxes, enter the Hour and Minute of the selected days to reboot the WP201-100. <ul style="list-style-type: none"> The first box is for hours. The second box is for minutes. Example: 3pm would be 15 in the first box and 00 in the second box. Note: The Timer setting of Hour and Minute is the same for all days selected.

9.14.2. WiFi Scheduler area

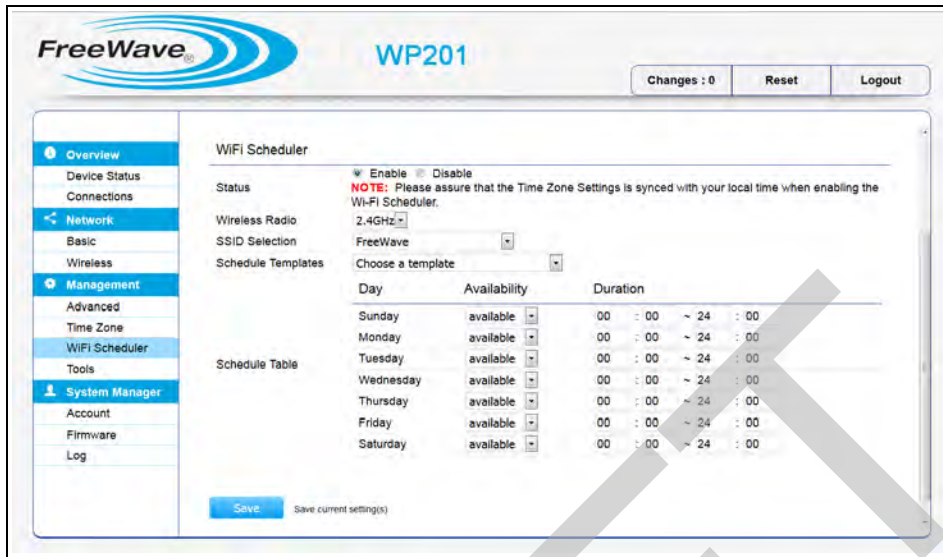


Figure 196: WiFi Scheduler window - WiFi Scheduler area

WiFi Scheduler window - WiFi Scheduler area		
Control Area	Control Title	Control Description
	Status Enable or Disable option buttons	Select the Enable option button to activate the WiFi Scheduler feature in the WP201-100.
	Wireless Radio list box	Click the Wireless Radio list box arrow and select either 2.4GHz or 5GHz for the preferred band type to regulate.
	SSID Selection list box	Click the SSID Selection list box arrow and select an SSID to regulate. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Note: The available selections depend on the selection made in the Operation Mode list box.</p> </div>
	Schedule Templates list box	Click the Schedule Templates list box arrow and select a schedule template. <div style="border: 1px solid black; padding: 5px; margin-top: 10px; background-color: #e6f2ff;"> <p>Example: Select Available 8-17 daily to create a schedule specifically for normal business hours.</p> </div> <p>The options are:</p> <ul style="list-style-type: none"> • Always available • Available 8-17 daily • Available 8-17 daily except weekends • Custom Schedule

WiFi Scheduler window - WiFi Scheduler area		
Control Area	Control Title	Control Description
Schedule Table	Availability list boxes	Click the Availability list box arrow for each designated day and select Available . Available activates the schedule for the selected day and entered time.
Schedule Table	Duration text boxes	For each of the selected Availability days, enter the time in the Duration text boxes. <ul style="list-style-type: none">• The Start Time and End Time have two boxes.• The first box is for hours.• The second box is for minutes.
	Save button	Click Save to save the changes.

9.15. Wireless window

The **Wireless** window is used to:

- [Configuring the WP201-100 \(on page 36\)](#).
- [Guest Network Settings - Activate and Define \(on page 100\)](#).

Access and Window Description

In the [WP201-100 Access Panel](#), click **Wireless**.

The **Wireless** window has these areas:

- [Wireless Settings area \(on page 192\)](#).
- [Operation Mode area \(on page 193\)](#).

Note: Different options are available depending on the selected **Operation Mode**.

- [Wireless Settings area \(on page 197\)](#).
- [Wireless Settings area - Operation Mode = WDS Station \(on page 199\)](#)
- [Mesh and Mesh Advanced Settings areas \(on page 200\)](#).
- [WDS Link Settings area \(on page 202\)](#).
- [WDS Link Settings area for WDS Bridge with WEP Security \(on page 203\)](#).
- [Guest Network Settings area \(on page 204\)](#).
- [Fast Handover, Management VLAN Settings, and Cross Band VLAN Pass Through areas \(on page 206\)](#).

9.15.1. Wireless Settings area

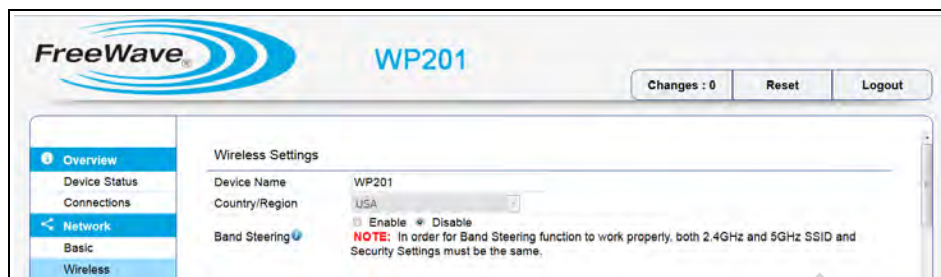


Figure 197: Wireless window - Wireless Settings area


Wireless window - Wireless Settings area	
Control Title	Control Description
Device Name text box	<p>In the Device Name text box, enter a name for the WP201-100. The entered name appears in the Device Status window (on page 165).</p> <p>Important! The Device Name is NOT the SSID and is NOT broadcast to other devices.</p>
Country / Region list box	<p>Important! The Country / Region is set at the factory and cannot be changed by the user.</p>
Band Steering - Enable or Disable option buttons	<p>If applicable, select the Band Steering Enable option button to activate this feature in the WP201-100.</p> <ul style="list-style-type: none"> • Band Steering works within the Access Point by directing 5GHz-capable clients to that band. • The Band Steering sends 802.11n clients to the 5GHz band where 802.11b/g clients cannot go and leave 802.11b/g clients in the 2.4GHz band to maintain optimal data traffic flow. <p>When the Band Steering option is enabled:</p> <ul style="list-style-type: none"> • The WP201-100 hides the SSID information carried in 2.4GHz beacon frames. • SSID information in 5GHz beacon frames is still retained. • Dual-band capable clients find the available SSIDs from only the 5GHz beacon frames for connection by this method. <p>Important! Per the Band Steering Note, the SSID and Security Settings in the Wireless Edit dialog box (on page 208) MUST be the same for 2.4GHz and 5GHz WP201-100s.</p>


9.15.2. Operation Mode area



Figure 198: Wireless window - Operation Mode area

Wireless window - Operation Mode area		
Control Area	Control Title	Control Description
	Operation Mode list box	<p>For either the 2.4GHz or 5GHz frequency, click the Operation Mode list box arrow and select the applicable mode for the designated frequency.</p> <p>The options are:</p> <ul style="list-style-type: none"> • Access Point • Mesh-AP • Mesh-Only • Wireless Distribution System (WDS) • Access Point • Bridge • Station
	Wireless Mode list box	<p>Click the Wireless Mode list box arrow and select: 802.11 B/G/N for 2.4GHz or 802.11 AC/N for 5GHz.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Note: The available selections depend on the selection made in the Operation Mode list box.</p> </div> <p>The WP201-100 supports:</p> <ul style="list-style-type: none"> • 802.11b/g/n mixed mode in .2.4GHz. • 802.11ac/n mixed mode in 5GHz.

Wireless window - Operation Mode area		
Control Area	Control Title	Control Description
	Channel HT Mode list box	<p>Click the Channel HT Mode list box arrow and select the size of the channel for each frequency band.</p> <p>FREEWAVE Recommends: Use a lower Channel HT Mode bandwidth if network signals are not strong.</p> <p>Note: The available selections depend on the selection made in the Operation Mode list box.</p> <p>The options are:</p> <ul style="list-style-type: none"> • 2.4GHz <ul style="list-style-type: none"> • 20 MHz (the default) • 20/40 MHz • 40 MHz • 5GHz <ul style="list-style-type: none"> • 80MHz (AC Only) • 40MHz • 20MHz (the default) <p> Tip The larger the channel, the greater the transmission quality and speed.</p>
	Extension Channel list box	<p>Click the Extension Channel list box arrow and select either the Upper Channel or Lower Channel for the designated frequency of the WP201-100.</p> <p>Note: The Extension Channel option is NOT available if 20MHz is selected as the Channel HT Mode.</p>
	Channel list box	<p>Click the Channel list box arrow and select the channel to use for the Wi-Fi from the WP201-100.</p>
	Transmit Power list box	<p>Click the Transmit Power list box arrow and select the power output of the wireless signal from the WP201-100.</p> <p>Note: The Transmit Power list box is not available if the Channel list box selection is Auto.</p> <p>Important! The maximum output is 23dBm even though a larger output can be selected in the list box.</p>

Wireless window - Operation Mode area		
Control Area	Control Title	Control Description
	Antenna Selection list box	<p>Click the Antenna Selection list box arrow and select the number of antennas used on this WP201-100.</p> <p>The options are:</p> <ul style="list-style-type: none"> • 1T1R • 2T2R • 3T3R
	Data Rate list box	<p>Click the Data Rate list box arrow and select a data rate for the upload and download speed.</p> <ul style="list-style-type: none"> • The data rate affects throughput of data in the WP201-100. • Select the best balance for the network. <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;">  <p>The lower the data rate selected, the lower the throughput. Transmission distance may be increased.</p> </div>
Client Limit area	Client Limit text box	<p>in the Client Limit text box, enter the maximum number of clients allowed to connect to the WP201-100.</p> <ul style="list-style-type: none"> • A maximum of 64 clients are allowed when using WEP or TKIP encryption. • A maximum of 127 clients are allowed when using AES encryption or non-security. <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p>FREEWAVE Recommends: Use 80% maximum number of clients for optimal connectivity.</p> </div>
Client Limit area	Enable or Disable option buttons	<p>If applicable, select the Enable option button to activate the Client Limit restriction in the WP201-100.</p>

Wireless window - Operation Mode area		
Control Area	Control Title	Control Description
Aggregation area	Enable or Disable option buttons	<p>Important! The Aggregation area is only applicable to 2.4GHz.</p> <ul style="list-style-type: none"> If applicable, select the Enable option button to activate the Aggregation area in the WP201-100. Select the Aggregation - Disable option button to NOT use the Aggregation area. <p>Note: Frame aggregation is a feature of the IEEE 802.11e and 802.11n wireless LAN standards. Using frame aggregation increases throughput by sending two or more data frames in a single transmission.</p>
Aggregation area	Frames text box	In the Frames text box, enter the amount of frames. This option reduces the number of packets, but also increases packet sizes.
Aggregation area	Bytes text box	In the Bytes text box, enter the maximum amount of bytes allowed in each frame.
	RTS/CTS Threshold text box	In the RTS/CTS Threshold text box, enter the threshold package size for RTS/CTS. The default is 2346.
	Distance text box	In the Distance text box, enter the distance between the WP201-100 Access Points and clients.
	AP Detection Scan button	Click the AP Detection Scan button to open the Site Survey window (on page 178) showing the nearby Access Points.

9.15.3. Wireless Settings area

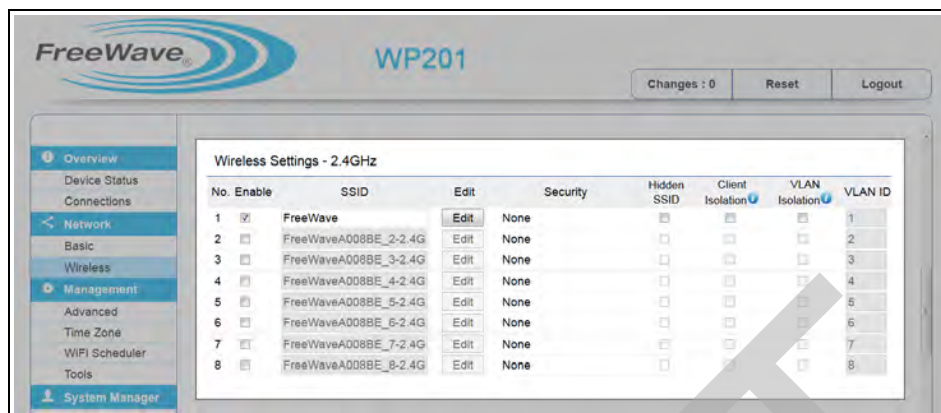



Figure 199: Wireless window - Wireless Settings area - 2.4GHz and 5GHz

Note: This information is the same for 2.4GHz and 5GHz.

Wireless window - Wireless Settings area - 2.4GHz and 5GHz

Control Title	Control Description
Enable check box	<p>Select the Enable check box to activate an SSID profile.</p> <p>Note: A maximum of sixteen (16) different SSID profiles (eight (8) per band) can be activated and configured.</p> <p> Tip If multiple client devices are accessing the network, arrange the devices into SSID groups.</p>
SSID text box	<p>In the SSID text box, enter a descriptive SSID name for the current WP201-100 profile.</p> <p>Note: This information is used by the WiFi user to locate and access the WP201-100.</p>
Edit button	<p>Click the Edit button to open the Wireless Edit dialog box (on page 208) and select the appropriate security for the WP201-100.</p>
Security column	<p>The Security column information is from the Wireless Edit dialog box, Security Mode list box selection.</p>
Hidden SSID check box	<p>Select the Hidden SSID check box to hide the selected SSID from clients.</p> <p>Note: If checked, the SSID will not appear in the site survey.</p>
Client Isolation check box	<p>Select the Client Isolation check box to prevent communication between client devices.</p>

Wireless window - Wireless Settings area - 2.4GHz and 5GHz	
Control Title	Control Description
VLAN Isolation check box	<p>Select the VLAN Isolation check box to restrict clients from communicating with different VLAN IDs.</p> <p>Important! This option is NOT recommended.</p>
VLAN ID text box	<p>Note: The VLAN ID text box is only available if the VLAN Isolation check box is selected.</p> <p>The VLAN ID text box identifies the VLAN tag for each profile. If the network includes VLANs, designate a VLAN ID for packets from this SSID to be tagged with on the WP201-100.</p>

9.15.4. Wireless Settings area - Operation Mode = WDS Station

Note: This **Wireless Settings** area is only visible when the **Operation Mode** (for either 2.4GHz or 5GHz), in the [Operation Mode area](#), is set to **WDS Station**.

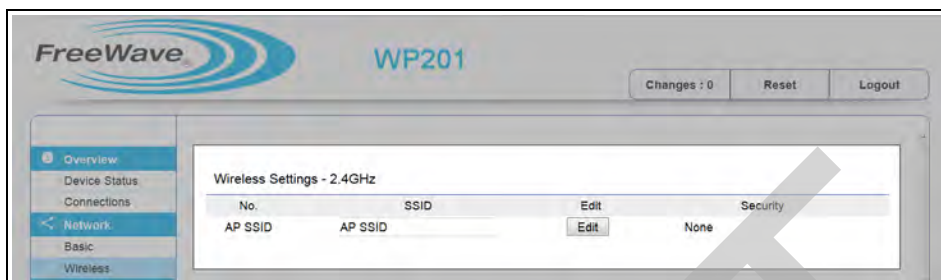


Figure 200: Wireless window - Wireless Settings area - Operation Mode = WDS Station

Note: This information is the same for 2.4GHz and 5GHz.

Wireless window - Wireless Settings area - Operation Mode = WDS Station

Control Title	Control Description
No. column	The No. column is a profile identifying number.
SSID text box	In the SSID text box, enter a descriptive SSID name for the current WP201-100 profile. <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Note: This information is used by the WiFi user to locate and access the WP201-100.</p> </div>
Edit button	Click the Edit button to open the Wireless Edit dialog box - WDS Station Mode (on page 216) .
Security column	The Security column information is from the Wireless Edit dialog box - WDS Station Mode (on page 216) , Security Mode list box selection.

9.15.5. Mesh and Mesh Advanced Settings areas

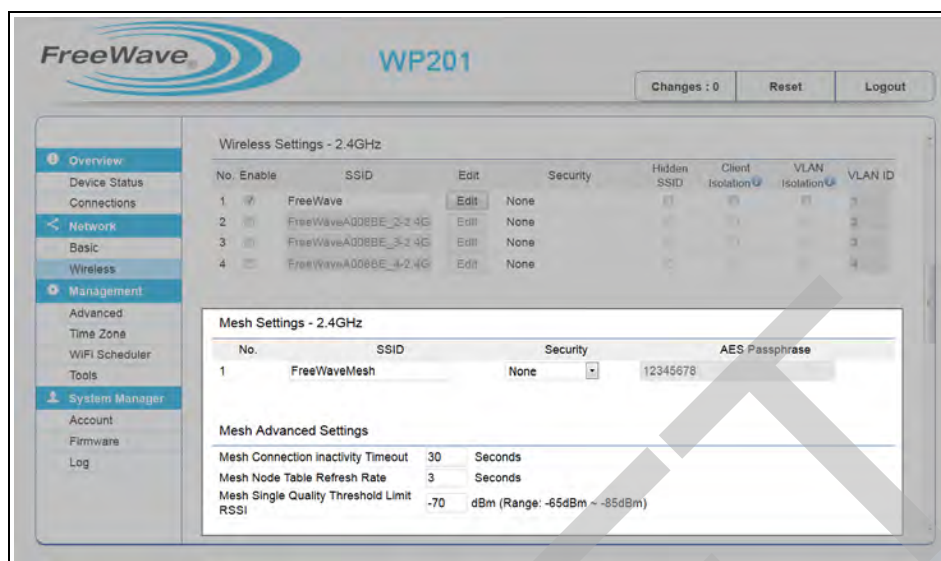


Figure 201: Wireless window - Mesh and Mesh Advanced Settings areas - 2.4GHz or 5GHz

Note: This information is the same for 2.4GHz and 5GHz.

Wireless window - Mesh and Mesh Advanced Settings areas - 2.4GHz or 5GHz

Control Area	Control Title	Control Description
Mesh Settings table	No. column	The No. column is a profile identifying number. Note: This information is read-only.
Mesh Settings table	SSID text box	In the SSID text box, enter the Mesh SSID of the WP201-100 to include in the Mesh network.
Mesh Settings table	Security list box	Click the Security list box arrow and select WPA2-PSK AES . Note: The default is None .
Mesh Settings table	AES Passphrase text box	In the AES Passphrase text box, enter the key the other WP201-100s must use to establish a Mesh Link.
Mesh Advanced Settings area	Mesh Connection Inactivity Timeout text box	In the Mesh Connection Inactivity Timeout text box, enter the number of seconds before a node is considered timed out.
Mesh Advanced Settings area	Mesh Node Table Refresh Rate text box	In the Mesh Node Table Refresh Rate text box, enter the number of seconds for the interval in which the network discovery packets are transmitted.

Wireless window - Mesh and Mesh Advanced Settings areas - 2.4GHz or 5GHz		
Control Area	Control Title	Control Description
Mesh Advanced Settings area	Mesh Single Quality Threshold Limit RSSI text box	In the Mesh Single Quality Threshold Limit RSSI text box, enter the RSSI value where a receive signal is considered weak and unacceptable.

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9.15.6. WDS Link Settings area

Important! The **WDS Link Settings** area is only visible when a **WDS Operation Mode** is selected in the **Operation Mode** area (on page 193).

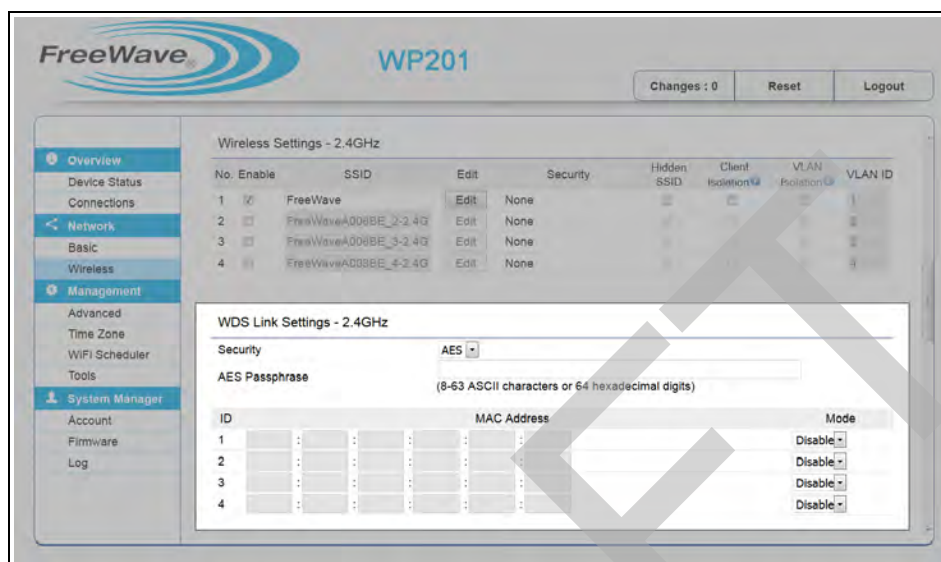


Figure 202: Wireless window - WDS Link Settings area

Note: This information is the same for 2.4GHz and 5GHz.

Wireless window - WDS Link Settings area		
Control Area	Control Title	Control Description
WDS Link Settings area	Security list box	Click the Security list box arrow and select AES for the security of the WP201-100. Note: The default is None .
WDS Link Settings area	AES Passphrase text box	In the AES Passphrase text box, enter a STRONG Passphrase that is known by and shared only with network devices, WDS nodes in WDS configurations, or Mesh nodes in Mesh configurations.
WDS Link Settings table	ID column	The ID column is a profile identifying number. Note: This information is read-only.
WDS Link Settings table	MAC Address text boxes	In the MAC Address text box, enter the MAC address of the other WDS nodes.
WDS Link Settings table	Mode list box	Click the Mode list box arrow and select Enable to activate the designated profile.

WDS Link Settings area for WDS Bridge with WEP Security

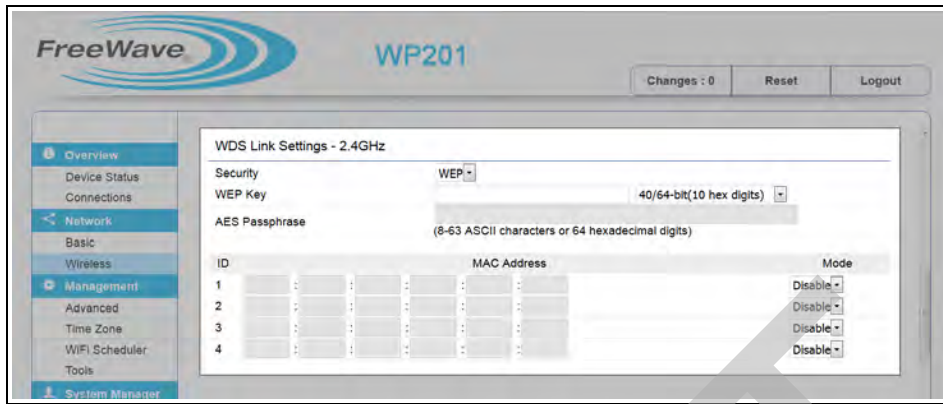


Figure 203: Wireless window - WDS Link Settings area for WDS Bridge - WEP Security

Note: This information is the same for 2.4GHz and 5GHz.
If **AES** is selected as the **Security**, the **AES Passphrase** text box is activated.

Wireless window - WDS Link Settings area for WDS Bridge - WEP Security		
Control Area	Control Title	Control Description
WDS Link Settings area	Security list box	Click the Security list box arrow and select AES for the security of the WP201-100. Note: The default is None .
WDS Link Settings area	WEP Key text box	Important!: This option is NOT recommended.
WDS Link Settings area	WEP Key list box	Important!: This option is NOT recommended.
WDS Link Settings table	ID column	The ID column is a profile identifying number. Note: This information is read-only.
WDS Link Settings table	MAC Address text boxes	In the MAC Address text box, enter the MAC address of the other WDS nodes.
WDS Link Settings table	Mode list box	Click the Mode list box arrow and select Enable to activate the designated profile.

9.15.7. Guest Network Settings area

Note: By default, this area is NOT activated.

Note: See [Guest Network Settings - Activate and Define \(on page 100\)](#) and [Define a Guest Network Security Mode \(on page 102\)](#).

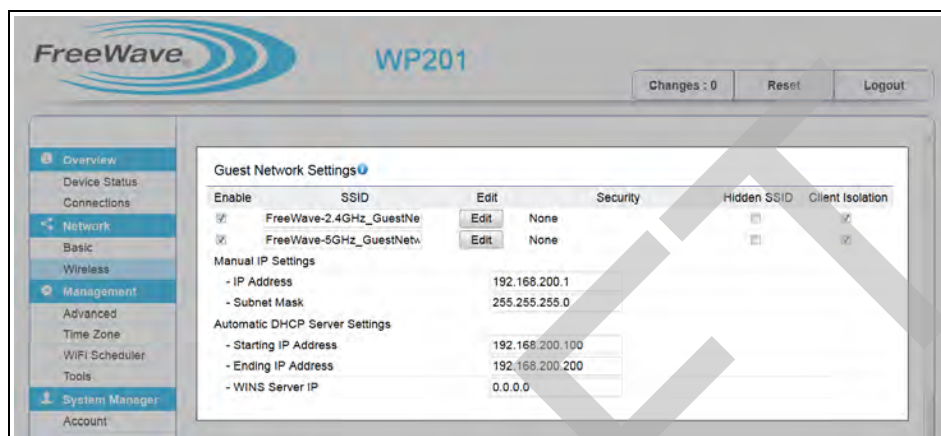


Figure 204: Wireless window - Guest Network Settings area

Wireless window - Guest Network Settings area		
Control Area	Control Title	Control Description
	Enable check box	Select the Enable check box to activate the Guest Network Settings area in the WP201-100. Note: Adding a guest network allows visitors to use the Internet without giving out the wireless security key.
	SSID text box	In the SSID text box, enter a descriptive SSID name for the current WP201-100 profile.
	Edit button	Click the Edit button to open the Wireless Edit dialog box - Guest Network (on page 220) .
	Security text box	The information in the Security text box shows the Security Mode selected in the Wireless Edit dialog box - Guest Network (on page 220) .
	Hidden SSID check box	Select the Hidden SSID check box to hide the selected SSID from clients. Important!: If the Hidden SSID check box is selected, the SSID does NOT appear in the site survey.

Wireless window - Guest Network Settings area		
Control Area	Control Title	Control Description
	Client Isolation check box	Select the Client Isolation check box to prevent communication between client devices.
Manual IP Settings area	IP Address text box	In the IP Address text box, enter an IP Address that is in the same subnet range but a DIFFERENT IP Address than the WP201-100 AND different than the computer IP Address .
Manual IP Settings area	Subnet Mask text box	In the Subnet Mask text box, enter the IP Subnet Mask address of the WP201-100.
Automatic DHCP Server Settings area	Starting IP Address text box	In the Starting IP Address text box, enter the first IP Address in the range of the addresses used by the DHCP server in the WP201-100.
Automatic DHCP Server Settings area	Ending IP Address text box	In the Ending IP Address text box, enter the last IP Address in the range of addresses assigned by the DHCP server in the WP201-100.
Automatic DHCP Server Settings area	WINS Server IP text box	In the WINS Server IP text box, enter the IPv4 address of the server.

9.15.8. Fast Handover, Management VLAN Settings, and Cross Band VLAN Pass Through areas



Figure 205: Wireless window - Fast Handover, Management VLAN Settings, and Cross Band VLAN Pass Through areas

Wireless window - Fast Handover and Management VLAN Settings areas		
Control Area	Control Title	Control Description
Fast Handover area	Enable or Disable option buttons	<p>Select the Enable option button to activate the Fast Handover feature in the WP201-100.</p> <ul style="list-style-type: none"> Activating this option ensures each client is served by at least one Access Point at any time. Access Points continuously monitor the connectivity quality of any client in their range and efficiently share this information with other Access Points in the vicinity of that client to coordinate which of them would serve the client best. In the Operation Mode area (on page 193), if the Operation Mode is set to: <ul style="list-style-type: none"> Access Point: If the RSSI of data from clients is lower than the threshold, it will disconnect the clients. Mesh-AP: If the RSSI of beacons from other Mesh-APs is lower than the threshold, it will NOT connect.

Wireless window - Fast Handover and Management VLAN Settings areas		
Control Area	Control Title	Control Description
Fast Handover area	RSSI text box	<p>In the RSSI text box, enter the Received Signal Strength Index (RSSI) to determine when the handover procedure terminates the current wireless link.</p> <p>RSSI is an indication of the power level being received by the antenna.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Note: The higher the RSSI number, the stronger the signal.</p> </div>
Management VLAN Settings area	Enable or Disable option buttons	<p>Select the Enable option button to assign a VLAN tag to packets sent over the network or to access a computer with the same VLAN tag.</p> <ul style="list-style-type: none"> A VLAN is a group of computers on a network whose software has been configured so that they behave as if they were on a separate Local Area Network (LAN). Computers on a VLAN do not have to be physically located next to one another on the LAN. <div style="border: 1px solid black; padding: 5px; margin-top: 10px; background-color: #ffffcc;"> <p>Caution: If the Management VLAN ID is reconfigured, the connection to the WP201-100 may be lost. Verify the DHCP server supports the reconfigured VLAN ID and then reconnect to the WP201-100 using the new IP address.</p> </div>
Management VLAN Settings area	Management VLAN text box	In the Management VLAN text box enter the VLAN tag number.
Cross Band VLAN Pass Through area	Cross Band VLAN Pass Through list box	<p>Click the Cross Band VLAN Pass Through list box arrow and select Enable to allow VLAN traffic on either band to pass through a network.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Important! The Management VLAN and the Cross Band VLAN Pass Through areas CANNOT be Enabled at the same time.</p> </div>
	Save button	Click Save to save the changes.

9.16. Wireless Edit dialog box

The **Wireless Edit** dialog box is used to:

- Configure the WP201-100 profile.
- Enable extra SSIDs for the WP201-100.
- Enable Wireless MAC Filtering used to allow or deny network access to wireless clients (e.g., computers, tablet PCs, NAS, smartphones, etc.) according to their MAC addresses.

Note: This option is only applicable for **Access Point**, **Mesh-AP**, and **WDS AP** modes.

Access and Dialog box Description

In the [Wireless window](#), in the [Wireless Settings area \(on page 197\)](#), click the **Edit** button.

The **Wireless Edit** dialog box areas are:

- [Wireless Security area \(on page 209\)](#)
- [Fast Roaming area \(on page 213\)](#)
- [Wireless MAC Filter area \(on page 214\)](#)
- [Wireless Traffic Shaping area \(on page 215\)](#)

Security Mode Options

Different options are available depending on the selected **Security Mode** in the **Wireless Edit** dialog box:

- [Security Mode = WEP \(on page 209\)](#)
- [Security Mode = WPA-PSK \(on page 209\)](#)
 - See also [Wireless Edit dialog box - Guest Network \(on page 220\)](#)
- [Security Mode = WPA-Enterprise \(on page 211\)](#)

Operation Mode = WDS Station

Note: The **Wireless Edit** dialog box has different options when opened from the [Wireless window - Wireless Settings area - Operation Mode = WDS Station \(on page 199\)](#).

- [Operation Mode = WDS Station / Security Mode = WEP \(on page 216\)](#)
- [Operation Mode = WDS Station / Security Mode = WPA\(2\)-PSK \(on page 216\)](#)
- [Operation Mode = WDS Station / Security Mode = WPA\(2\)-Enterprise \(on page 218\)](#)

9.16.1. Wireless Security area

Security Mode = WEP

Important!: This option is NOT recommended.

Security Mode = WPA-PSK

Note: The options listed here are the same for the **WPA2-PSK** and **WPA-PSK Mixed Security Modes**.
See also [Wireless Edit dialog box - Guest Network \(on page 220\)](#).

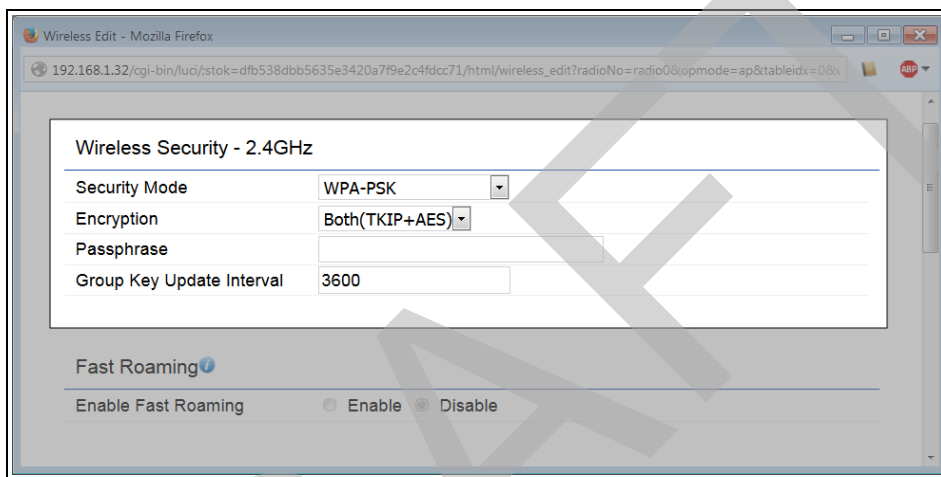


Figure 206: Wireless Edit dialog box - Security Mode = WPA-PSK

Wireless Edit dialog box - Security Mode = WPA-PSK	
Control Title	Control Description
Security Mode list box	<p>Click the Security Mode list box arrow and select the security mode to use in the WP201-100.</p> <p>The options are:</p> <ul style="list-style-type: none"> • Disabled (the default) • WEP • WPA-PSK • WPA2-PSK • WPA-PSK Mixed • WPA-Enterprise • WPA2-Enterprise • WPA-Mixed Enterprise
Encryption list box	<p>Click the Encryption list box arrow and select the encryption type to use.</p> <p>The options are:</p> <ul style="list-style-type: none"> • AES • Both (TKIP & AES) (the default) • TKIP

Wireless Edit dialog box - Security Mode = WPA-PSK	
Control Title	Control Description
Passphrase text box	<p>In the Passphrase text box, enter the phrase wireless clients must use to access the WP201-100.</p> <div style="border: 1px solid black; padding: 5px;"><p>Important! All clients MUST use the same Passphrase to connect with the WP201-100.</p></div> <ul style="list-style-type: none">• If using an ASCII format, the Passphrase must have a minimum of 8 characters and a maximum of 63 characters in length.• If using a HEX format, the Passphrase must be 64 HEX characters in length.
Group Key Update Interval text box	<p>In the Group Key Update Interval text box, enter how often, in seconds, the Group Key changes.</p> <div style="border: 1px solid black; padding: 5px;"><p>Note: After the initial association with the client, the key will change however often this is set to.</p></div>

Security Mode = WPA-Enterprise

Note: The options listed here are the same for the **WPA2-Enterprise** and **WPA-Mixed Enterprise Security Modes**.

See [Define a WPA-Enterprise Security Mode \(on page 105\)](#).

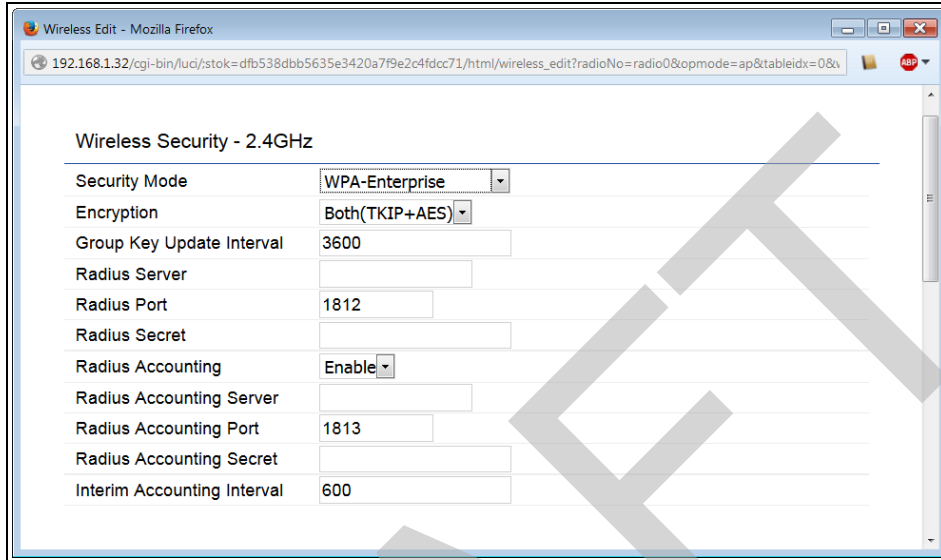


Figure 207: Wireless Edit dialog box - Security Mode = WPA-Enterprise

Wireless Edit dialog box - Security Mode = WPA-Enterprise	
Control Title	Control Description
Security Mode list box	<p>Click the Security Mode list box arrow and select the security mode to use in the WP201-100.</p> <p>The options are:</p> <ul style="list-style-type: none"> • Disabled (the default) • WEP • WPA-PSK • WPA2-PSK • WPA-PSK Mixed • WPA-Enterprise • WPA2-Enterprise • WPA Mixed-Enterprise
Encryption list box	<p>Click the Encryption list box arrow and select the encryption type to use.</p> <p>The options are:</p> <ul style="list-style-type: none"> • AES • Both (TKIP & AES) (the default) • TKIP <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Important! All wireless clients MUST use the same settings.</p> </div>

Wireless Edit dialog box - Security Mode = WPA-Enterprise	
Control Title	Control Description
Group Key Update Interval text box	<p>In the Group Key Update Interval text box, enter how often, in seconds, the Group Key changes.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Note: After the initial association with the client, the key will change however often this is set to.</p> </div>
Radius Server text box	In the Radius Server text box, enter the IP address of the Radius server.
Radius Port text box	In the Radius Port text box, enter the port number used for connections to the Radius server.
Radius Secret text box	In the Radius Secret text box, enter the secret required to connect to the Radius server.
Radius Accounting list box	Click the Radius Accounting list box arrow and select Enable to activate the accounting feature of the WP201-100.
Radius Accounting Server text box	In the Radius Accounting Server text box, enter the IP address of the Radius Accounting server.
Radius Accounting Port text box	In the Radius Accounting Port text box, enter the port number used for connections to the Radius accounting server.
Radius Accounting Secret text box	In the Radius Accounting Secret text box, enter the password required to connect to the Radius Accounting server.
Interim Accounting Interval text box	<p>In the Interim Accounting Interval text box, enter how often, in seconds, the accounting data is sent to the RADIUS server.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Important! 802.11n does NOT allow WEP, WPA-PSK, or WPA2-PSK security mode. The connection mode will automatically change from 802.11n to 802.11g.</p> </div>

9.16.2. Fast Roaming area

Note: See [Fast Roaming Activation \(on page 97\)](#).

The **Fast Roaming** feature is supported for the first SSID profile per radio with security types:

- **WPA-PSK** - This allows user authentication without enterprise network connection.
- **WPA-PSK Mixed** - This allows user authentication without enterprise network connection.
- **WPA-Mixed Enterprise** - This requires a RADIUS server to authenticate users.
- **WPA2-PSK** - This allows user authentication without enterprise network connection.
- **WPA2-Enterprise** - This requires a RADIUS server to authenticate users.

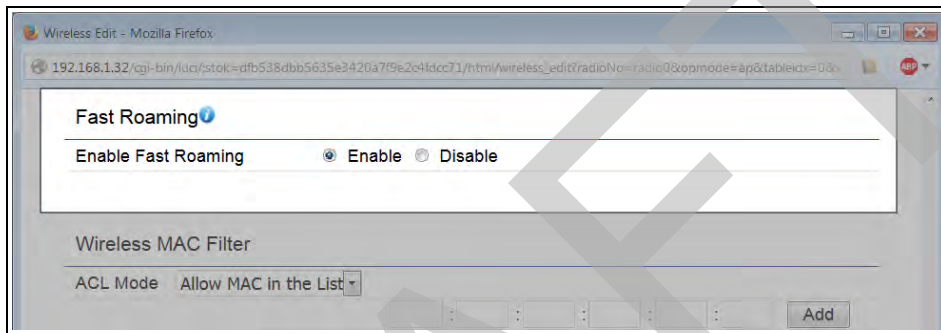


Figure 208: Wireless Edit dialog box - Fast Roaming area

Wireless Edit dialog box - Fast Roaming area	
Control Title	Control Description
Enable Fast Roaming Enable or Disable option buttons	<p>Select the Enable option button to serve mobile client devices that roam from Access Point to Access Point.</p> <p>To use this feature:</p> <ol style="list-style-type: none"> 1. Click the Security Mode list box arrow and select the security mode to use in the WP201-100. 2. Enter a Radius Server IP Address in the text box, and enter the Radius settings. This allows Fast Roaming to be enabled. 3. Set the Enterprise Encryption with the same SSID on other Access Points in the network and enable Fast Roaming. When the configuration is set on all the Access Points on the network, mobile client devices can run voice services that require fast roaming to prevent delay in conversation from Access Point to Access Point. 4. Select the Enable option button to serve mobile client devices that roam from Access Point to Access Point. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Note: Some applications running on client devices require fast re-association when they roam to a different Access Point. Clients must support 802.11r.</p> </div>

9.16.3. Wireless MAC Filter area

Note: See [Wireless MAC Filter - Activate and Define \(on page 128\)](#).

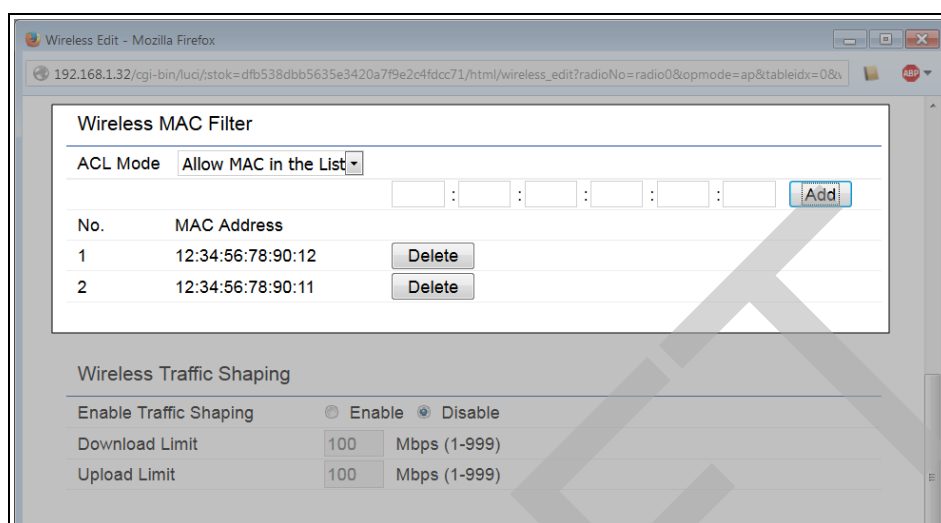


Figure 209: Wireless Edit dialog box - Wireless MAC Filter area

Wireless Edit dialog box - Wireless MAC Filter area		
Control Area	Control Title	Control Description
Wireless MAC Filter area	ACL Mode list box	Click the ACL Mode list box arrow and select Allow MAC in the list to activate Wireless MAC Filter in the WP201-100. When ACL Mode is enabled, it allows or denies network access to WP201-100 clients whose MAC addresses appear in the MAC address table. The options are: <ul style="list-style-type: none"> • Disabled (the default) • Deny MAC in the list • Allow MAC in the list
Wireless MAC Filter area	MAC Address text boxes	In the MAC Address text box, enter the MAC address of the other WDS nodes.
Wireless MAC Filter area	Add button	Click the Add button to add the MAC address to the MAC address table.
Wireless MAC Filter area	Delete button	Click the Delete button next to the MAC address to remove from the MAC Address list.
Wireless MAC table	No. column	The No. column is a profile identifying number.
Wireless MAC table	MAC Address column	The MAC Address column shows the MAC address of the devices found during the scan by the WP201-100.

9.16.4. Wireless Traffic Shaping area

Note: See [Wireless Traffic Shaping - Activate and Define \(on page 130\)](#).

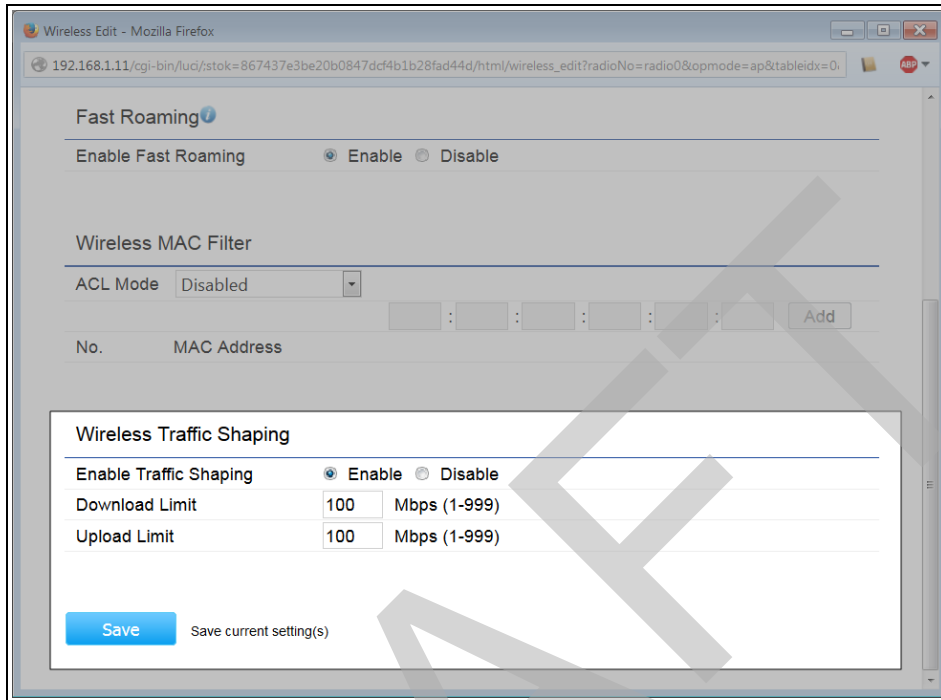


Figure 210: Wireless Edit dialog box - Wireless Traffic Shaping area

Wireless Edit dialog box - Wireless Traffic Shaping area	
Control Title	Control Description
Enable Traffic Shaping Enable or Disable option buttons	Traffic shaping regulates the flow of packets leaving an interface to deliver improved Quality of Service. Click the Enable option button to activate Wireless Traffic Shaping in the WP201-100.
Download Limit text box	In the Download Limit text box, enter the wireless transmission speed used for downloading.
Upload Limit text box	In the Upload Limit text box, enter the wireless transmission speed used for uploading.
Save button	Click Save to save the changes.

9.17. Wireless Edit dialog box - WDS Station Mode

The **Wireless Edit** dialog box has different options when opened from the [Wireless window - Wireless Settings area - Operation Mode = WDS Station](#) (on page 199).

Access and Dialog box Description

In the [Wireless window](#), in the [Wireless Settings area - Operation Mode = WDS Station](#) (on page 199), click the **Edit** button.

- [Operation Mode = WDS Station / Security Mode = WEP](#) (on page 216)
- [Operation Mode = WDS Station / Security Mode = WPA\(2\)-PSK](#) (on page 216)
- [Operation Mode = WDS Station / Security Mode = WPA\(2\)-Enterprise](#) (on page 218)

Operation Mode = WDS Station / Security Mode = WEP

Important! This option is NOT recommended.

Operation Mode = WDS Station / Security Mode = WPA(2)-PSK

Figure 211: Wireless Edit dialog box - Security Mode = WPA(2)-PSK

Wireless Edit dialog box - Security Mode = WPA(2)-PSK		
Control Area	Control Title	Control Description
Wireless Setting area	Preferred BSSID check box	Select the Preferred BSSID check box to activate the Wireless Setting area.
Wireless Setting area	Preferred BSSID MAC Address text boxes	In the Preferred BSSID MAC Address text boxes, enter the MAC address for the primary WDS Access Point.

Wireless Edit dialog box - Security Mode = WPA(2)-PSK		
Control Area	Control Title	Control Description
Wireless Security area	Security Mode list box	<p>Click the Security Mode list box arrow and select the security mode to use in the WP201-100.</p> <p>The options are:</p> <ul style="list-style-type: none"> • Disabled (the default) • WEP • WPA-PSK • WPA2-PSK • WPA-PSK Mixed • WPA-Enterprise • WPA2-Enterprise • WPA Mixed-Enterprise
Wireless Security area	Encryption list box	<p>Click the Encryption list box arrow and select the encryption type to use.</p> <p>The options are:</p> <ul style="list-style-type: none"> • AES • Both (TKIP & AES) (the default) • TKIP <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Important! All wireless clients MUST use the same settings.</p> </div>
Wireless Security area	Passphrase text box	<p>In the Passphrase text box, enter the phrase wireless clients must use to access the WP201-100.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Important! All clients MUST use the same Passphrase to connect with the WP201-100.</p> </div> <ul style="list-style-type: none"> • If using an ASCII format, the Passphrase must have a minimum of 8 characters and a maximum of 63 characters in length. • If using a HEX format, the Passphrase must be 64 HEX characters in length.
	Save button	Click Save to save the changes.

Operation Mode = WDS Station / Security Mode = WPA(2)-Enterprise
Figure 212: Wireless Edit dialog box - Security Mode = WPA(2)-Enterprise

Wireless Edit dialog box - Security Mode = WPA(2)-Enterprise		
Control Area	Control Title	Control Description
Wireless Setting area	Preferred BSSID check box	Select the Preferred BSSID check box to activate the Wireless Setting area.
Wireless Setting area	Preferred BSSID MAC Address text boxes	In the Preferred BSSID MAC Address text boxes, enter the MAC address for the primary WDS Access Point.
Wireless Security area	Security Mode list box	Click the Security Mode list box arrow and select the security mode to use in the WP201-100. The options are: <ul style="list-style-type: none"> • Disabled (the default) • WEP • WPA-PSK • WPA2-PSK • WPA-PSK Mixed • WPA-Enterprise • WPA2-Enterprise • WPA Mixed-Enterprise
Wireless Security area	EAP Method list box	Click the EAP Method list box arrow and select either PEAP or TTLS .
Wireless Security area	EAP Authentication list box	Click the EAP Authentication list box arrow and select either MS-CHAP or MS-CHAPV2 .

Wireless Edit dialog box - Security Mode = WPA(2)-Enterprise		
Control Area	Control Title	Control Description
Wireless Security area	Authentication Identity text box	In the Authentication Identity text box, enter the device identity.
Wireless Security area	Authentication Password text box	In the Authentication Password text box, enter the device password.
	Save button	Click Save to save the changes.

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9.18. Wireless Edit dialog box - Guest Network

The **Wireless Edit** dialog box for the **Guest Network Settings** area is used to select the **WPA-PSK Security Mode** options and the associated **Encryption**, **Passphrase**, and **Group Key Interval**.

Access and Dialog box Description

In the [Wireless window](#), in the [Guest Network Settings area \(on page 204\)](#), click the **Edit** button.

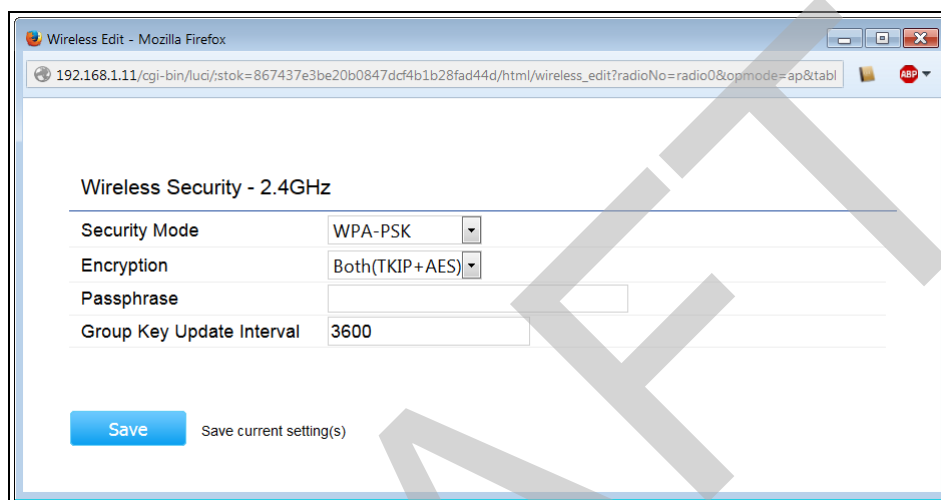


Figure 213: Wireless Edit dialog box - Security Mode

Note: All options are the same for all Security Modes.

Wireless Edit dialog box - Security Mode

Control Title	Control Description
Security Mode list box	<p>Click the Security Mode list box arrow and select the security mode to use in the WP201-100.</p> <p>The options are:</p> <ul style="list-style-type: none"> • Disabled (the default) • WPA-PSK • WPA2-PSK • WPA-PSK Mixed

Wireless Edit dialog box - Security Mode	
Control Title	Control Description
Encryption list box	<p>Click the Encryption list box arrow and select the encryption type to use.</p> <p>The options are:</p> <ul style="list-style-type: none"> • AES • Both (TKIP & AES) (the default) • TKIP <p>Important! All wireless clients MUST use the same settings.</p>
Passphrase text box	<p>In the Passphrase text box, enter the phrase wireless clients must use to access the WP201-100.</p> <p>Important! All clients MUST use the same Passphrase to connect with the WP201-100.</p> <ul style="list-style-type: none"> • If using an ASCII format, the Passphrase must have a minimum of 8 characters and a maximum of 63 characters in length. • If using a HEX format, the Passphrase must be 64 HEX characters in length.
Group Key Update Interval text box	<p>In the Group Key Update Interval text box, enter how often, in seconds, the Group Key changes.</p> <p>Note: After the initial association with the client, the key will change however often this is set to.</p>
Save button	Click Save to save the changes.

9.19. Microsoft® Enter name of file to save to dialog box

The Microsoft® **Enter name of file to save to dialog box** dialog box is used to:

- Search for and select a location for the backup **tar.gz** file.
- In the **File name** text box, enter a descriptive name for the **tar.gz** file and click **Save**.

Note: This is a Microsoft® dialog. Press <F1> for assistance.

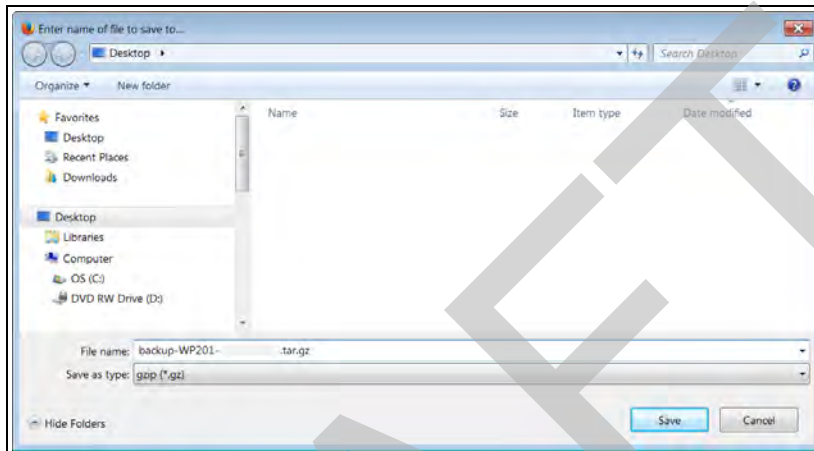


Figure 214: Microsoft® Enter name of file to save to dialog box

9.20. Microsoft® File Upload dialog box

The Microsoft® **File Upload** dialog box is used to locate and select a file to upload to the WP201-100.

Note: This is a Microsoft® dialog. Press <F1> for assistance.

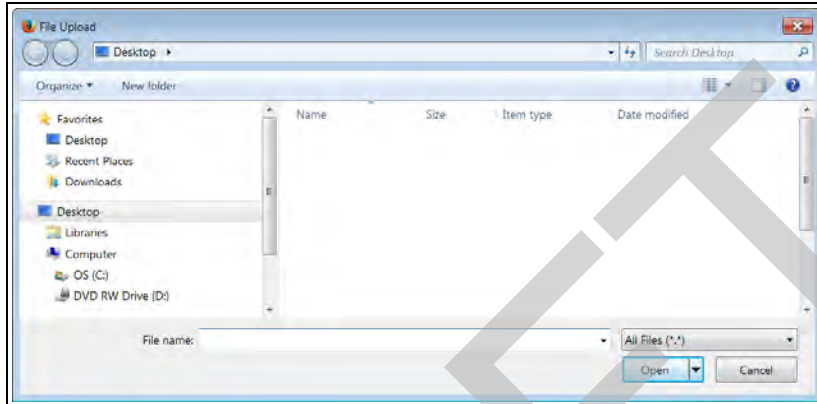


Figure 215: Microsoft® File Upload dialog box

9.21. Microsoft® Opening Backup dialog box

The Microsoft® **Opening Backup** dialog box is used to save the current WP201-100 configured settings to a **tar.gz** file in a designated location.

Access and Dialog box Description

On the [Firmware window \(on page 173\)](#), click **Export**.

Note: This is a Microsoft® dialog. Press <F1> for assistance.

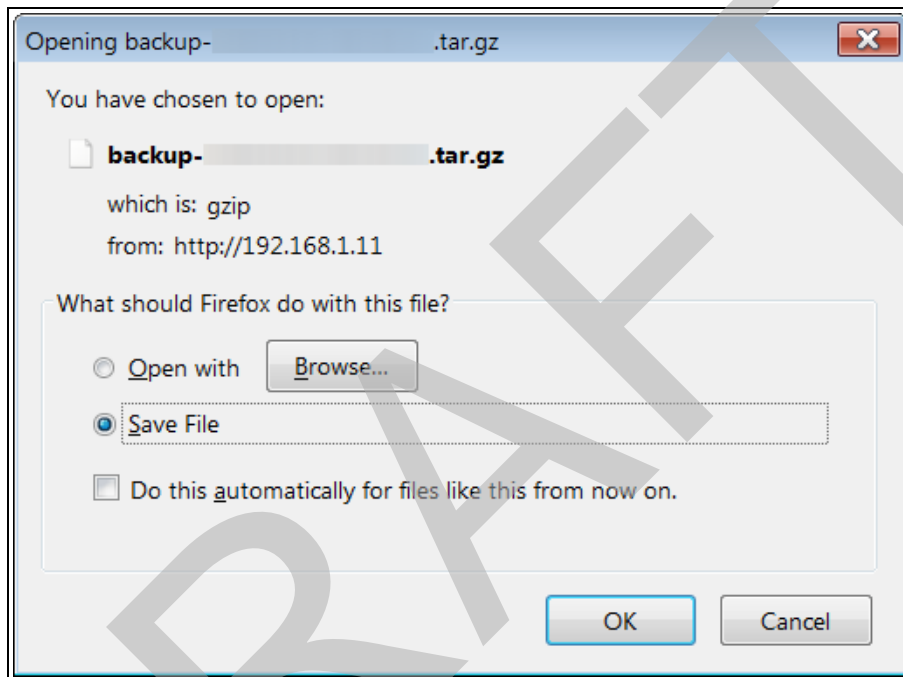


Figure 216: Microsoft® Opening Backup dialog box

10. WP201-100 CLI List

These tables provide a list of the CLI commands for the WP201-100:

- [Primary Commands \(on page 225\)](#)
- [Status Commands \(on page 226\)](#)
- [System Commands \(on page 227\)](#)
- [2.4GHz Wireless Commands \(on page 228\)](#)
- [5GHz Wireless Commands \(on page 231\)](#)
- [WP201-100 Management Commands \(on page 234\)](#)

10.1. Primary Commands

WP201-100 Primary Commands CLI List	
Command	Description
stat	Status
sys	System
wless2	2.4GHz Wireless
wless5	5GHz Wireless
mgmt	Management
tree	Tree
help	Help
reboot	Reboot
logout	Logout

10.2. Status Commands

WP201-100 Status Commands CLI List	
Command	Description
stat	Status
stat main	Main
stat client2	2.4GHz Wireless Client List
stat client2 kickclient (MAC Address)	Disconnect client
stat client2 help	Help
stat client2 exit	Exit
stat client5	5GHz Wireless Client List
stat client5 kickclient (MAC Address)	Disconnect Client
stat client5 help	Help
stat client5 exit	Exit
stat info	Status Information
stat info sysuptime	System Up Time
stat info cpuinfo	CPU Load
stat info meminfo	Memory Usage
stat info wlanint	WLAN Interface Status
stat info wlaninfo	WLAN Statistics
stat info etherinfo	Ethernet statistics
stat info channel2	2.4GHz Channel Utilization
stat info channel5	5GHz Channel Utilization
stat info help	Help
stat info exit	Exit
stat syslog	System log
stat help	Help
stat exit	Exit

10.3. System Commands

WP201-100 System Commands CLI List	
Command	Description
sys	System
sys-opmode	Operation Mode
sys opmode devname	Device Name
sys opmode ctry	Country / Region
sys opmode bsteer	Band Steering
sys opmode bsteer bsteeract	Band Steering Active
sys opmode bsteer help	Help
sys opmode bsteer exit	Exit
sys opmode opmode2	2.4GHz Operation Mode
sys opmode opmode5	5GHz Operation Mode
sys opmode help	Help
sys opmode exit	Exit
sys ip	IP Settings
sys ip dhcpatch	DHCP Active
sys ip help	Help
sys ip exit	Exit
sys stp	Spanning Tree Settings
sys stp stpstat	Spanning Tree Status
sys stp htime	Bridge Hello Time
sys stp mage	Bridge Max Age
sys stp fdelay	Bridge Forward Delay
sys stp prio	Priority
sys stp help	Help
sys stp exit	Exit
sys help	Help
sys exit	Exit

10.4. 2.4GHz Wireless Commands

WP201-100 2.4GHz Wireless Commands CLI List	
Command	Description
wless2	2.4GHz Wireless
wless2 network	Wireless Network
wless2 network mesh2	2.4GHz Mesh Settings
wless2 network mesh2 meshssid	Mesh SSID
wless2 network mesh2 meshsecu	Mesh Security
wless2 network mesh2 meshpassp	Mesh Passphrase
wless2 network mesh2 help	Help
wless2 network mesh2 exit	Exit
wless2 network mesh5	5GHz Mesh Settings
wless2 network mesh5 meshssid	Mesh SSID
wless2 network mesh5 meshsecu	Mesh Security
wless2 network mesh5 meshpassp	Mesh Passphrase
wless2 network mesh5 help	Help
wless2 network mesh5 exit	Exit
wless2 network wmode	Wireless Mode
wless2 network htmode	Channel HT Mode
wless2 network extch	Extension Channel
wless2 network ch	Channel / Frequency
wless2 network ssidp	SSID Profile
wless2 network apscan	Site Survey
wless2 network help	Help
wless2 network exit	Exit
wless2 guest	Wireless Guest Network
wless2 guest gnact	Guest Network Active
wless2 guest gnssid	Guest Network SSID
wless2 guest gnsupssid	Suppressed SSID
wless2 guest gnsepa	Station Separation
wless2 guest gnapsecu	Station Security
wless2 guest gnip	Guest Network IP Settings
wless2 guest gnip gnipaddr	Guest Network IP Address
wless2 guest gnip gnipsubn	Guest Network IP Subnet Mask
wless2 guest gnip accept	Accept Guest Network IP Setting

WP201-100 2.4GHz Wireless Commands CLI List	
Command	Description
wless2 guest gnip help	Help
wless2 guest gnip exit	Exit
wless2 guest gndhcp	Guest Network as DHCP Server
wless2 guest gndhcp gnsip	Starting IP Address
wless2 guest gndhcp gneip	Ending IP Address
wless2 guest gndhcp gnwip	WINS Server IP
wless2 guest gndhcp accept	Accept DHCP Setting
wless2 guest gndhcp help	Help
wless2 guest gndhcp exit	Exit
wless2 guest help	Help
wless2 guest exit	Exit
wless2 advset	Wireless Advanced Settings
wless2 advset drate	Data Rate
wless2 advset green	Green Power
wless2 advset txpower	Transmit Power
wless2 advset rts	RTS/CTS Threshold
wless2 advset dist	Distance
wless2 advset aggr	Aggregation
wless2 advset aggr aggract	Aggregation Active
wless2 advset aggr fram	Frames
wless2 advset aggr byte	Bytes (Max)
wless2 advset aggr help	Help
wless2 advset aggr exit	Exit
wless2 advset climit2	2.4GHz Client Limitation
wless2 advset climit2 limitact	Client Limit Active
wless2 advset climit2 max	Maximum Client Limit
wless2 advset climit2 help	Help
wless2 advset climit2 exit	Exit
wless2 advset climit5	5GHz Client Limitation
wless2 advset climit5 limitact	Client Limit Active
wless2 advset climit5 max	Maximum Client Limit
wless2 advset climit5 help	Help
wless2 advset climit5 exit	Exit

10. WP201-100 CLI List

WP201-100 2.4GHz Wireless Commands CLI List	
Command	Description
wless2 advset meshc	Mesh Config
wless2 advset meshc mtimeout	Mesh Connection Timeout
wless2 advset meshc mrefresh	Mesh Refresh Rate
wless2 advset meshc mrssi	Mesh RSSI Threshold Limit
wless2 advset meshc help	Help
wless2 advset meshc exit	Exit
wless2 advset help	Help
wless2 advset exit	Exit
wless2 fhandover	Fast Handover
wless2 fhandover fhact	Fast Handover Active
wless2 fhandover fhrssi	Fast Handover RSSI
wless2 fhandover help	Help
wless2 fhandover exit	Exit
wless2 selan	WiFi Antenna Selection
wless2 selan selectan	WiFi Antenna Selection
wless2 selan help	Help
wless2 selan exit	Exit
wless2 help	Help
wless2 exit	Exit

10.5. 5GHz Wireless Commands

WP201-100 5GHz Wireless Commands CLI List	
Command	Description
wless5	5GHz Wireless
wless5 network	wireless network
wless5 network mesh5	2.4GHz Mesh Settings
wless5 network mesh5 meshssid	Mesh SSID
wless5 network mesh5 meshsecu	Mesh Security
wless5 network mesh5 meshpassp	Mesh Passphrase
wless5 network mesh5 help	Help
wless5 network mesh5 exit	Exit
wless5 network mesh5	5GHz Mesh Settings
wless5 network mesh5 meshssid	Mesh SSID
wless5 network mesh5 meshsecu	Mesh Security
wless5 network mesh5 meshpassp	Mesh Passphrase
wless5 network mesh5 help	Help
wless5 network mesh5 exit	Exit
wless5 network wlmode	Wireless Mode
wless5 network htmode	Channel HT Mode
wless5 network extch	Extension Channel
wless5 network ch	Channel / Frequency
wless5 network ssidp	SSID Profile
wless5 network apscan	Site Survey
wless5 network help	Help
wless5 network exit	Exit
wless5 guest	Wireless Guest Network
wless5 guest gnact	Guest Network Active
wless5 guest gnssid	Guest Network SSID
wless5 guest gnsupssid	Suppressed SSID
wless5 guest gnsepa	Station Separation
wless5 guest gnapsecu	Station Security
wless5 guest gnip	Guest Network IP Settings
wless5 guest gnip gnipaddr	Guest Network IP Address
wless5 guest gnip gnipsubn	Guest Network IP Subnet Mask
wless5 guest gnip accept	Accept Guest Network IP Setting

10. WP201-100 CLI List

WP201-100 5GHz Wireless Commands CLI List	
Command	Description
wless5 guest gnip help	Help
wless5 guest gnip exit	Exit
wless5 guest gndhcp	Guest Network as DHCP Server
wless5 guest gndhcp gnsip	Starting IP Address
wless5 guest gndhcp gneip	Ending IP Address
wless5 guest gndhcp gnwip	WINS Server IP
wless5 guest gndhcp accept	Accept DHCP Setting
wless5 guest gndhcp help	Help
wless5 guest gndhcp exit	Exit
wless5 guest help	Help
wless5 guest exit	Exit
wless5 advset	Wireless Advanced Settings
wless5 advset drate	Data Rate
wless5 advset green	Green Power
wless5 advset txpower	Transmit Power
wless5 advset rts	RTS/CTS Threshold
wless5 advset dist	Distance
wless5 advset aggr	Aggregation
wless5 advset aggr aggract	Aggregation Active
wless5 advset aggr fram	Frames
wless5 advset aggr byte	Bytes (Max)
wless5 advset aggr help	Help
wless5 advset aggr exit	Exit
wless5 advset climit5	2.4GHz Client Limitation
wless5 advset climit5 limitact	Client Limit Active
wless5 advset climit5 max	Maximum Client Limit
wless5 advset climit5 help	Help
wless5 advset climit5 exit	Exit
wless5 advset climit5	5GHz Client Limitation
wless5 advset climit5 limitact	Client Limit Active
wless5 advset climit5 max	Maximum Client Limit
wless5 advset climit5 help	Help
wless5 advset climit5 exit	Exit

WP201-100 5GHz Wireless Commands CLI List	
Command	Description
wless5 advset meshc	Mesh Config
wless5 advset meshc mtimeout	Mesh Connection Timeout
wless5 advset meshc mrefresh	Mesh Refresh Rate
wless5 advset meshc mrssi	Mesh RSSI Threshold Limit
wless5 advset meshc help	Help
wless5 advset meshc exit	Exit
wless5 advset help	Help
wless5 advset exit	Exit
wless5 fhandover	Fast Handover
wless5 fhandover fhact	Fast Handover Active
wless5 fhandover fhrssi	Fast Handover RSSI
wless5 fhandover help	Help
wless5 fhandover exit	Exit
wless5 selan	WiFi Antenna Selection
wless5 selan selectan	WiFi Antenna Selection
wless5 selan help	Help
wless5 selan exit	Exit
wless5 help	Help
wless5 exit	Exit

10.6. WP201-100 Management Commands

WP201-100 Management Commands CLI List	
Command	Description
mgmt	Management
mgmt admin	Administration
mgmt admin login	Login Setting
mgmt admin login nname	New Name
mgmt admin login opw	Old Password
mgmt admin login npw	New Password
mgmt admin login cpw	Confirm Password
mgmt admin login accept	Accept Administration Setting
mgmt admin login help	Help
mgmt admin login exit	Exit
mgmt admin help	Help
mgmt admin exit	Exit
mgmt vlan2	2.4GHz Management VLAN
mgmt vlan2 vlanp	2.4GHz VLAN Profile Settings
mgmt vlan2 help	Help
mgmt vlan2 exit	Exit
mgmt e-mail	5GHz Management VLAN
mgmt e-mail vlanp	5GHz VLAN Profile Settings
mgmt e-mail help	Help
mgmt e-mail exit	Exit
mgmt mvlan	Management VLAN Settings
mgmt snmp	SNMP Settings
mgmt snmp snmpact	SNMP Active
mgmt snmp cont	Contact
mgmt snmp loca	Location
mgmt snmp rcom	Community Name (Read-only)
mgmt snmp wcom	Community Name (Read / Write)
mgmt snmp trapaddr	Trap Destination Address
mgmt snmp trapcom	Trap Destination Community Name
mgmt snmp snmpv3act	SNMPv3 Active
mgmt snmp username	User Name
mgmt snmp authp	Auth Protocol

WP201-100 Management Commands CLI List	
Command	Description
mgmt snmp authk	Auth Key
mgmt snmp privp	Private Protocol
mgmt snmp privk	Private Key
mgmt snmp engineid	Engine ID
mgmt snmp help	Help
mgmt snmp exit	Exit
mgmt e-mail	Email Alert
mgmt e-mail mailact	Email Alert Active
mgmt e-mail addrto	Email Address to Recipients
mgmt e-mail addrfrom	Email Address from Administrator
mgmt e-mail mailusr	Email Username
mgmt e-mail mailpwd	Email Password
mgmt e-mail smtpsvr	SMTP Server
mgmt e-mail smtpport	SMTP Port
mgmt e-mail mailsec	Security Mode
mgmt e-mail subject	Subject of System Event Alert
mgmt e-mail help	Help
mgmt e-mail exit	Exit
mgmt ssh	SSH Settings
mgmt https	HTTPS Settings
mgmt https hact	HTTPS Active
mgmt https hfwd	HTTPS Forward
mgmt https help	Help
mgmt https exit	Exit
mgmt backup	Backup / Restore Settings
mgmt backup savecp	Save a Copy of Current Settings
mgmt backup restore	Restore Saved Settings from a File
mgmt backup revertfac	Revert to Factory Default Settings
mgmt backup saveuser	Save to User Default
mgmt backup restoreuser	Restore to User Default
mgmt backup help	Help
mgmt backup exit	Exit
mgmt autorb	Auto Reboot Settings

10. WP201-100 CLI List

WP201-100 Management Commands CLI List	
Command	Description
mgmt autorb arbact	Auto Reboot Active
mgmt autorb arbdays	Days of Auto Reboot
mgmt autorb arbtime	Time of Auto Reboot
mgmt autorb help	Help
mgmt autorb exit	Exit
mgmt fwgrade	Firmware Upgrade
mgmt fwgrade fwup	Firmware Upgrade
mgmt fwgrade help	Help
mgmt fwgrade exit	Exit
mgmt time	Time Settings
mgmt time auto	Automatically get Date and Time
mgmt time dlsave	Daylight Saving Settings
mgmt time dlsave dlsact	Daylight Saving Active
mgmt time dlsave monthstart	Month Start Time
mgmt time dlsave weekstart	Week Start Time
mgmt time dlsave daystart	Day Start Time
mgmt time dlsave hourstart	Hour Start Time
mgmt time dlsave monthend	Month End Time
mgmt time dlsave weekend	Week End Time
mgmt time dlsave dayend	Day End Time
mgmt time dlsave hourend	Hour End Time
mgmt time dlsave help	Help
mgmt time dlsave exit	Exit
mgmt time help	Help
mgmt time exit	Exit
mgmt wifisch	WiFi Schedule
mgmt wifisch wsact	WiFi Schedule Active
mgmt wifisch radio	Wireless Radio
mgmt wifisch ssid	SSID Selection
mgmt wifisch template	Schedule Templates
mgmt wifisch custom	Customer Schedule
mgmt wifisch custom display	Display WiFi Schedule Table
mgmt wifisch custom setav	Set Availability

WP201-100 Management Commands CLI List	
Command	Description
mgmt wifisch custom setav av0	Set Availability of Sunday
mgmt wifisch custom setav av1	Set Availability of Monday
mgmt wifisch custom setav av2	Set Availability of Tuesday
mgmt wifisch custom setav av3	Set Availability of Wednesday
mgmt wifisch custom setav av4	Set Availability of Thursday
mgmt wifisch custom setav av5	Set Availability of Friday
mgmt wifisch custom setav av6	Set Availability of Saturday
mgmt wifisch custom setav help	Help
mgmt wifisch custom setav exit	Exit
mgmt wifisch custom setst	Set Start Time
mgmt wifisch custom setst st0	Set Start Time of Sunday
mgmt wifisch custom setst st1	Set Start Time of Monday
mgmt wifisch custom setst st2	Set Start Time of Tuesday
mgmt wifisch custom setst st3	Set Start Time of Wednesday
mgmt wifisch custom setst st4	Set Start Time of Thursday
mgmt wifisch custom setst st5	Set Start Time of Friday
mgmt wifisch custom setst st6	Set Start Time of Saturday
mgmt wifisch custom setst help	Help
mgmt wifisch custom setst exit	Exit
mgmt wifisch custom setet	Set End Time
mgmt wifisch custom setet et0	Set End Time of Sunday
mgmt wifisch custom setet et1	Set End Time of Monday
mgmt wifisch custom setet et2	Set End Time of Tuesday
mgmt wifisch custom setet et3	Set End Time of Wednesday
mgmt wifisch custom setet et4	Set End Time of Thursday
mgmt wifisch custom setet et5	Set End Time of Friday
mgmt wifisch custom setet et6	Set End Time of Saturday
mgmt wifisch custom setet help	Help
mgmt wifisch custom setet exit	Exit
mgmt wifisch custom accept	Accept WiFi Schedule Setting
mgmt wifisch custom help	Help
mgmt wifisch custom exit	Exit
mgmt wifisch help	Help

10. WP201-100 CLI List

WP201-100 Management Commands CLI List	
Command	Description
mgmt wifisch exit	Exit
mgmt log	Log
mgmt log syslog	Syslog Active
mgmt log logip	Log Server IP Address
mgmt log llog	Local Log Active
mgmt log help	Help
mgmt log exit	Exit
mgmt diag	Diagnostics
mgmt diag ping	Ping Testing
mgmt diag trace	Traceroute Testing
mgmt diag route	Route Information
mgmt diag arp	ARP Information
mgmt diag telnet	Telnet to Destination
mgmt diag sptest	Speed Test
mgmt diag help	Help
mgmt diag exit	Exit
mgmt diagv6	Diagnostics for IPv6
mgmt diagv6 ping6	Ping Testing for IPv6
mgmt diagv6 trace6	Traceroute Testing for IPv6
mgmt diagv6 telnet6	Telnet to Destination for IPv6
mgmt diagv6 sptest6	Speed Test for IPv6
mgmt diagv6 help	Help
mgmt diagv6 exit	Exit
mgmt disc	Device Discovery
mgmt logout	Logout
mgmt help	Help
mgmt exit	Exit

11. WP201-100 Factory Defaults

These are the factory defaults for the WP201-100:

- Account Settings (on page 240)
- Firmware Upgrade Settings (on page 240)
- Log Settings (on page 240)
- Management Settings (on page 240)
 - Email Alert (on page 240)
 - HTTPS Setting (on page 241)
 - SNMP Setting (on page 241)
 - SNMPv3 Settings (on page 241)
 - SSH Setting (on page 241)
 - Telnet Setting (on page 242)
 - Trap Destination (on page 242)
- Network - Basic Settings (on page 242)
- Time Zone Settings (on page 248)
- Tools Settings (on page 248)
- Network - Wireless Settings (on page 242)
 - 2.4GHz (on page 242)
 - 5GHz (on page 243)
 - Fast Handover (on page 244)
 - Guest Network Settings (on page 244)
 - Mesh Advanced Settings (on page 244)
 - 2.4GHz Mesh Settings (on page 244)
 - 5GHz Mesh Settings (on page 245)
 - WDS AP / Bridge (on page 245)
 - WDS Station (on page 245)
 - Wireless Settings (on page 245)
 - Wireless Setting - 2.4GHz (on page 246)
 - Wireless Setting - 5GHz (on page 247)
- WiFi Scheduler Settings (on page 249)

11.1. Account Settings

Account Settings	
Element	Default
Administrator User name	admin
Current Password	admin

11.2. Firmware Upgrade Settings

Firmware Upgrade Settings	
Element	Default
Browse Buttons	No file selected

11.3. Log Settings

Log Settings	
Element	Default
Status	Enabled
Log Type	All
Remote Log	Disabled
Log Server IP Address	0.0.0.0

11.4. Management Settings

11.4.1. Email Alert

Email Alert		
Element Section	Element	Default
Email Alert	Status	Not Enabled
Email Alert	From	Blank
Email Alert	To	Blank
Email Alert	Subject	[Email-Alert][WP201][88:DC:96:3A:57:9E] Configuration Changed
Email Account	Username	Blank
Email Account	Password	Blank
Email Account	SMTP Server	Blank
Email Account	Port	25
Email Account	Security Mode	None

11.4.2. HTTPS Setting

HTTPS Setting	
Element	Default
Status	Enabled
HTTPS forward	Disabled

11.4.3. SNMP Setting

SNMP Setting	
Element	Default
Status	Disable
Contact	Blank
Location	Blank
Port	161
Community Name RO	Blank
Community Name RW	Blank

11.4.4. SNMPv3 Settings

SNMPv3 Settings	
Element	Default
Status	Disabled
Username	admin
Authorized Protocol	None
Authorized Key	12345678
Private Protocol	None
Private Key	12345678
Engine ID	Blank

11.4.5. SSH Setting

SSH Setting	
Element	Default
Status	Enabled

11.4.6. Trap Destination

Trap Destination	
Element	Default
Port	162
IP Address	Blank
Community Name	Public

11.4.7. Telnet Setting

Telnet Setting	
Element	Default
Status	Disabled

11.5. Network - Basic Settings

Network - Basic Settings		
Element	Element	Default
IPv4	IP Network Setting	Static IP
IPv4	IP Address	192.168.1.1
IPv4	Subnet Mask	255.255.255.0
IPv4	Gateway	192.168.1.1
IPv4	Primary DNS	0.0.0.0
IPv4	Secondary DNS	0.0.0.0
IPv6	Link-Local Address	Enabled
Spanning Tree Protocol (STP) Settings	Status	Disable
Spanning Tree Protocol (STP) Settings	Hello Time	2
Spanning Tree Protocol (STP) Settings	Max Age	20
Spanning Tree Protocol (STP) Settings	Forward Delay	4
Spanning Tree Protocol (STP) Settings	Priority	32768

11.6. Network - Wireless Settings

11.6.1. 2.4GHz

2.4GHz - Network - Wireless Settings	
Element	Default
Operation Mode	Access Point
Wireless Mode	802.11 B/G/N

2.4GHz - Network - Wireless Settings	
Element	Default
Channel HT Mode	20Mhz
Extension Channel	(Upper Channel)
Channel	Auto
Transmit Power	Auto
Antenna Selection	3T3R
Data Rate	Auto
Client Limit	127
Client Limit Enable	Enabled
Aggregation Enable	Enabled
Aggr-Frames	32
Aggr-Bytes	50000
RTS/CTS Thresh	2346
Distance	1

11.6.2. 5GHz

5GHz	
Element	Default
Operation Mode	Access Point
Wireless Mode	802.11 AC/N
Channel HT Mode	20
Extension Channel	(Lower Channel)
Channel	Auto
Transmit Power	Auto
Antenna Selection	3T3R
Data Rate	Auto
Client Limit	127
Client Limit Enable	Enabled
RTS/CTS Thresh	-2346
Distance	1

11.6.3. Fast Handover

Fast Handover	
Element	Default
Status	Disable
RSSIA	-85

11.6.4. Guest Network Settings

Guest Network Settings		
Element Section	Element	Default
FreeWave - 2.4GHz_GuestNetwork	Enable	Disabled
FreeWave - 2.4GHz_GuestNetwork	Security	None
FreeWave - 2.4GHz_GuestNetwork	Hidden SSID	Disabled
FreeWave - 2.4GHz_GuestNetwork	Client Isolation	Enabled
FreeWave - 5GHz_GuestNetwork	Enable	Disabled
FreeWave - 5GHz_GuestNetwork	Security	None
FreeWave - 5GHz_GuestNetwork	Hidden SSID	Disabled
FreeWave - 5GHz_GuestNetwork	Client Isolation	Enabled
Manual IP Settings	IP Address	192.168.200.1
Manual IP Settings	Subnet Mask	255.255.255.0
Automatic DHCP Server Settings	Starting IP Address	192.168.200.100
Automatic DHCP Server Settings	Ending IP Address	192.168.200.200
Automatic DHCP Server Settings	WINS Server IP	0.0.0.0

11.6.5. Mesh Advanced Settings

Mesh Advanced Settings	
Element	Default
Mesh Connectivity Inactivity Timeout	30
Mesh Node Table Refresh Rate	3
Mesh Signal Quality Threshold Limit RSSI	-70

11.6.6. 2.4GHz Mesh Settings

2.4GHz Mesh Settings	
Element	Default
SSID	FreeWaveMesh

2.4GHz Mesh Settings	
Element	Default
Security	None
AES Passphrase	12345678

11.6.7. 5GHz Mesh Settings

5GHz Mesh Settings	
Element	Default
SSID	FreeWaveMesh
Security	None
AES Passphrase	12345678

11.6.8. WDS AP / Bridge

WDS AP / Bridge	
Element	Default
Security	None

11.6.9. WDS Station

With WDS STATION	
Element	Default
AP SSID	AP SSID
Security	None

11.6.10. Wireless Settings

Network - Wireless Settings	
Element	Default
Device Name	WP201
Country / Region	USA
Band Steering	Disable

11.6.11. Wireless Setting - 2.4GHz

Wireless Setting - 2.4GHz		
Element Section	Element	Default
Wireless Setting - 2.4GHz - No. 1	Enabled	Enabled
Wireless Setting - 2.4GHz - No. 1	SSID	FreeWave
Wireless Setting - 2.4GHz - No. 1	Security	None
Wireless Setting - 2.4GHz - No. 1	Hidden SSID	Disabled
Wireless Setting - 2.4GHz - No. 1	Client Isolation	Disabled
Wireless Setting - 2.4GHz - No. 1	VLAN Isolation	Disabled
Wireless Setting - 2.4GHz - No. 1	VLAN ID	1
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Enabled	Disabled
Numbers 2 - 8: (2 - 4 If a Mesh Network)	SSID	FreeWaveXXXXXX_N-2.4GHz Where: <ul style="list-style-type: none"> • XXXXXX is the last 3 octets of 2.4GHz Mac. • N is the SSID number.
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Security	None
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Hidden SSID	Disabled
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Client Isolation	Disabled
Numbers 2 - 8: (2 - 4 If a Mesh Network)	VLAN Isolation	Disabled
Numbers 2 - 8: (2 - 4 If a Mesh Network)	VLAN ID	N
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Fast Roaming	Disable
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Wireless MAC Filter	Disabled
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Wireless Traffic Shaping	Disable

Wireless Setting - 2.4GHz		
Element Section	Element	Default
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Download Limit	100
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Upload Limit	100

11.6.12. Wireless Setting - 5GHz

5GHz Wireless Settings		
Element Section	Element	Default
Wireless Setting - 5GHz - No. 1	Enabled	Enabled
Wireless Setting - 5GHz - No. 1	SSID	FreeWave
Wireless Setting - 5GHz - No. 1	Security	None
Wireless Setting - 5GHz - No. 1	Hidden SSID	Disabled
Wireless Setting - 5GHz - No. 1	Client Isolation	Disabled
Wireless Setting - 5GHz - No. 1	VLAN Isolation	Disabled
Wireless Setting - 5GHz - No. 1	VLAN ID	51
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Enabled	Disabled
Numbers 2 - 8: (2 - 4 If a Mesh Network)	SSID	FreeWaveXXXXXX_N-5GHz Where: <ul style="list-style-type: none"> • XXXXXX is the last 3 octets of 5GHz Mac. • N is the SSID number.
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Security	None
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Hidden SSID	Disabled
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Client Isolation	Disabled
Numbers 2 - 8: (2 - 4 If a Mesh Network)	VLAN Isolation	Disabled

5GHz Wireless Settings		
Element Section	Element	Default
Numbers 2 - 8: (2 - 4 If a Mesh Network)	VLAN ID	50+N
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Fast Roaming	Disabled
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Wireless MAC Filter	Disabled
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Wireless Traffic Shaping	Disabled
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Download Limit	100
Numbers 2 - 8: (2 - 4 If a Mesh Network)	Upload Limit	100

11.7. Time Zone Settings

Time Zone Settings		
Element Section	Element	Default
Date and Time Settings	Manually Set Date and Time	Enabled
Date and Time Settings	NTP Sever	None Set
Time Zone	Time Zone	UTC+00:00
Time Zone	Daylight Savings	Disabled
Time Zone	Start Time	Jan, 1st, Sun 12am
Time Zone	End Time	Jan, 1st, Mon, 12am

11.8. Tools Settings

Tools Settings		
Element Section	Element	Default
Ping Test Parameters	Target IP/Domain Name	Blank
Ping Test Parameters	Ping Packet Size	64
Ping Test Parameters	Number of Pings	4
Traceroute Test Parameters	Target IP/Domain Name	Blank
Speed Test Parameters	Target IP/Domain Name	Blank
Speed Test Parameters	Time Period	20
Speed Test Parameters	Check Interval	5
Speed Test Parameters	IPv4 Port	5001
Speed Test Parameters	IPv6 Port	5002

11.9. WiFi Scheduler Settings

WiFi Scheduler Settings		
Element Section	Element	Default
Auto Reboot	Status	Disabled
Auto Reboot	Timer	No day checked
Auto Reboot	(Time - no title on UI)	0:00
WiFi Scheduler	Status	Disabled
WiFi Scheduler	Wireless Radio	2.4GHz
WiFi Scheduler	SSID	FreeWave
WiFi Scheduler	Schedule Templates	Choose a template
WiFi Scheduler	Schedule Table	All day available, from 00:00 for 24hrs

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12. WP201-100 Release Notes

Thank you for purchasing the WavePro WP201 Access Point.

These sections describe the updates and known limitations in each software version for the WavePro WP201-100 Access Point. The most recent version is listed first.



The latest software versions and the most recent list of known limitations and workarounds are available at www.freewave.com.

12.1. Version 2.1.3

Release Date: December, 2016

Download Procedure

Download the WP201-100 User Manual from [WavePro™ WPV10™ Downloads](#) for the upgrade procedure.

Additions and Changes

Management

- Add HOST-RESOURCES-MIB-WP201.mib.
- Add UCD-SNMP-MIB-WP201.mib.
- Enable CLI setting and remove switch item in WebGUI.

Security Features and Enhancements

- Telnet is default disabled and the WebGUI can enable it.
- SSH is default enabled.

- MAC address filtering increased to 50 entries – white or black list.

PTP Link Performance and Operation

- Enable 5G RTS/CTS to enhance long distance PTP link performance
- Change Channel HT Mode default value to 20MHz to optimize for noise floor

Mesh Networking

- WMM support when WDS and Mesh networking
- VLAN support when WDS and Mesh networking
- Corrected cross band VLAN pass through – need to enable Cross Band VLAN Pass Through on Wireless page

Corrections

- Corrected the Connection Page operation and reporting.
- Corrected WDS-STA behavior change issue – cache clearing.
- Set Mesh RSSI range to be consistent with its warning message's range (-85dBm to -65dBm).
- Corrected Lua errors when applying changes and reloading WebGUI.
- Fixed low data rate over 5GHz link.
- Implemented a Reset Transmit Queue function to fix the WLAN transmit queue leak.
- RADIUS client now connects AP properly.
- Corrected operational inconsistencies when using Windows® Edge and Internet Explorer® 11.
- Corrected WebGUI so Microsoft® Edge can now upgrade/load software.

Known Limitations and Workarounds

- 2.4GHz MESH does NOT interoperate with v2.0.8.
- MESH supports either 2.4GHz or 5GHz at the same time.
 - WMM in MESH 2.4GHz HT40 does not work.
- When upgrading to new firmware, clear the browser cache.
 - If the cache of browser is not cleared, the word **Green** appears.
- OGM rate is still 54Mbps.
- After resetting to the default, the default value is changed for **TQ Assist** and **Link Timeout**.
- VLAN Tag through 5GHz AP has some problems.

12.2. Version 2.0.8.0

Release Date: June, 2016

Download Procedure

Download the WP201-100 User Manual from [WavePro™ WPV10™ Downloads](#) for the upgrade procedure.

Additions and Changes

- Corrected a link throughput issue for RF links longer than one mile or 1.6km.

Known Limitations and Workarounds

- MESH Networking supports either 2.4 GHz or 5 GHz at a time.
- When upgrading to new firmware, clean the browser cache.
- OGM rate is still 54Mbps.
- After resetting to default, the default value will be changed for TQ assist and Link timeout.
- If the cache of browser is not cleaned, the word “Green” will show.

12.3. Version 2.0.7.8

Release Date: March, 2016

Download Procedure

Download the WP201-100 User Manual from [WavePro™ WPV10™ Downloads](#) for the upgrade procedure.

Additions and Changes

- DFS is enabled for applicable U-NII bands.
- U-NII Band1 disabled for Canada. (IC outdoor does not include U-NII Band 1)
- Transmit Power set to “auto” and “greyed out” when “auto channel” is selected.
- Transmit Power Range selection list is dynamic, it depends on different channel band and antenna gain.
- Fixed NTP memory issue – fixed memory leak attributed to BusyBox crontab schedule.

Known Limitations and Workarounds

- MESH Networking supports either 2.4 GHz or 5 GHz at a time.
- When upgrading to new firmware, clean the browser cache.
- OGM rate is still 54Mbps.
- After resetting to default, the default value will be changed for TQ assist and Link timeout.
- If the cache of browser is not cleaned, the word “Green” will show.

13. WaveProWP201-100 IP Address Recovery

If the IP address of a WP201-100 is lost or forgotten, there are two possible methods for recovery. The options are:

- [Wireshark® - Network Sniffer IP Address Recovery \(on page 253\)](#)

FREEWAVE Recommends: Using a network sniffer is the more reliable method for IP Address recovery.

- [SuperScan v3.0 - Port-scan Tool IP Address Recovery \(on page 254\)](#)

Note: If the administered IP Address cannot be discovered, the WP201-100 can be returned to FreeWave to be reset to the default.

Important! These procedures assume the user is proficient in networking, subnets, IPv4, and routing.

13.1. Wireshark® - Network Sniffer IP Address Recovery

Note: This procedure uses the Wireshark® sniffer downloaded from www.wireshark.org.

1. On a computer, download and install Wireshark®.
2. Connect the second Ethernet cable to the **Network** port of the **PoE+ Injector** and to the Ethernet port on the computer with Wireshark®.
3. Setup Wireshark® to capture all traffic on the connected computer.
4. Power cycle the WP201-100.

13. WaveProWP201-100 IP Address Recovery

Note: Newer versions of Wireshark® may require a restart of the traffic capture after the WP201-100 power cycle.

5. Look for a gratuitous ARP from the WP201.
The MAC Address for the WP201-100 is on the WP201-100 label LAN1.
WP201-100 MAC addresses start with 00:07:E7.

The IP Address of the WP201-100 is in the **Sender IP Address** and the **Target IP Address** field of the Gratuitous ARP request.

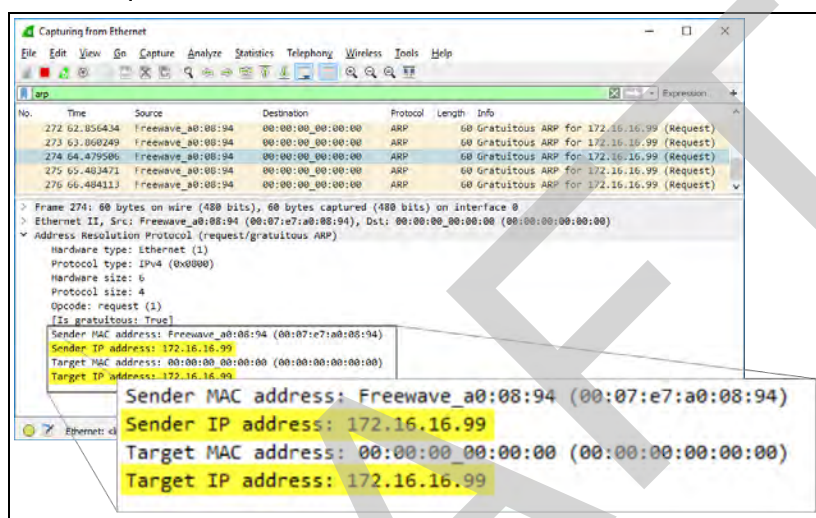


Figure 217: FreeWave IP Address in Wireshark®

13.2. SuperScan v3.0 - Port-scan Tool IP Address Recovery

Note: This procedure uses SuperScan v3.0 (available from <http://www.mcafee.com/us/downloads/free-tools/superscan3.aspx>) to scan a range.



Warning! SuperScan v3.0 is **REQUIRED** for this procedure.
DO NOT use newer versions of SuperScan v3.0.

Note: This port scan procedure does NOT require a power cycle.

1. Download and install SuperScan v3.0 on a computer.
2. Configure the computer Ethernet port to be in the same subnet as the range of addresses that the WP201-100 may be configured for.
3. Connect the second Ethernet cable to the **Network** port of the **PoE+ Injector** and to the Ethernet port on the computer with SuperScan v3.0.
4. Run SuperScan v3.0 across the range of possible addresses.

Note: The WP201-100 may have ports 23, 22, 80, or 443 open and should respond to ICMP (PING) requests.

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Appendix A: WP201-100 Technical Specifications

Specifications may change at any time without notice. For the most up-to-date specifications information, see the product's data sheet available at www.freewave.com.

WP201-100 Technical Specifications	
Specification	Description
Wireless Interfaces	
Network Configurations	<ul style="list-style-type: none">• PTP / PMP• Mobile Mesh• Access Point• Client Bridge• Client Router• IPv4 and IPv6 Addressing• WPA, WPA2 Encryption• SNMP v1/v2/v3, MIB I/II• Web GUI Interface

WP201-100 Technical Specifications	
Specification	Description
RF Frequency Support	<ul style="list-style-type: none"> • 2.4GHz, 802.11b/g/n (to a maximum of 450Mbps) <ul style="list-style-type: none"> • 2.41 to 2.47 GHz (ITU ISM band) • Europe and Japan product covering 2.400 to 2.484 GHz • Programmable for different country regulations • Maximum of 450 Mbps per radio • 5GHz, 802.11a/n/ac (to a maximum of 1300Mbps) <ul style="list-style-type: none"> • 5.15 to 5.825 GHz (U-NII & ISM bands) • 802.11a/n/ac 4.9GHz • 5.150 - 5.250 GHz • 5.250 - 5.350 GHz • 5.470 - 5.725 GHz • 5.725 - 5.850 GHz with DFS • Maximum of 1.3 Gbps
RF Modulation Technology	<p>OFDM:</p> <ul style="list-style-type: none"> • BPSK • QPSK • 16-QAM • 64-QAM with Adaptive Link
Over the Air Security	<ul style="list-style-type: none"> • WPA, WPA2, WPA-Enterprise • AES - 128, 802.11i
Error Correction	<ul style="list-style-type: none"> • ARQ • FEC
SSID	8 SSIDs per radio
RF Interface	6 N-type Connectors
Antennas	<p>6 External N-type Antennas</p> <ul style="list-style-type: none"> • 3 x detachable 5 dBi 2.4GHz omni-directional, Dipole antennas • 3 x detachable 7 dBi 5GHz omni-directional, Dipole antennas
Wired Interfaces	
Network Interface	<ul style="list-style-type: none"> • PoE+, 802.3at (PD, LAN1 Port) • PoE, 802.3af (PSE, LAN2 Port) • 2 - RJ45 for 10/100/1000 Gigabit Ethernet 802.3ab port with PoE support • 2 802.3ab (GigE) LAN Ports: <ul style="list-style-type: none"> • 1 - LAN 1 Port - PoE Input • 1 - LAN 2 Port - PSE Output

WP201-100 Technical Specifications	
Specification	Description
LAN / WAN	<ul style="list-style-type: none"> • IPv4: <ul style="list-style-type: none"> • 802.3 • 802.3u • 802.3ab • IPv6: <ul style="list-style-type: none"> • TCP • UDP • ICMP • DHCP Server and Client, NAT
VLAN	VLAN Pass-through
Security	<ul style="list-style-type: none"> • AES-128 • AES-256 • MAC Filtering with ACL • RADIUS, 802.1x • SSH • SSH-2 • HTTPS MAC Address filtering <ul style="list-style-type: none"> • A maximum of 50 address are allowed
Management	<ul style="list-style-type: none"> • Auto Channel Selection • Band Steering • BSSID • Clients Statistics • E-Mail Alert • Fast Handover • Fast Roaming • Guest Network <ul style="list-style-type: none"> • DHCP Server • Client NTP • Guest Network <ul style="list-style-type: none"> • Client NTP • DHCP Server • Client NTP • MIB: <ul style="list-style-type: none"> • MIB I and II • Private MIB • Multiple SSID: <ul style="list-style-type: none"> • 16 SSIDs, 8 SSIDs per Radio • RADIUS Accounting • Save Configuration as User Default • SNMP V1 / V2 / V3
QoS	WMM
Power	
Power Requirements	<ul style="list-style-type: none"> • External Power Adapter: <ul style="list-style-type: none"> • PoE+ Injector (EPE-48GR) • DC IN 48 V/0.8A • Power Supply: <ul style="list-style-type: none"> • 100 to 240VAC ± 10%, 50/60 Hz • Active Ethernet (Power-over-Ethernet, IEEE 802.3at) • PD: IEEE 802.3at+ (LAN 1 Port) • PSE: 802.3af (LAN 2 Port)
Power Consumption	System Power consumption <20W

WP201-100 Technical Specifications	
Specification	Description
Status LEDs	<ul style="list-style-type: none"> • Power • LAN 1 (Turned on if connected to device) • LAN 2 (Turned on if connected to device) • 2.4GHz (Turned on if enabled) • 5GHz (Turned on if enabled)
Environmental	
Operating Temperature	-40°C to 60°C -104°F to 140°F
Humidity	Maximum of 100 (condensing)
Dimensions (without antennas)	Width: 8.50" (22cm) Length: 11.00" (28cm) Depth: 2.00" (5cm)
Weight	4.17 lbs 1.89kg
Compliance Standards	
Safety	<ul style="list-style-type: none"> • EN60950-1, EN60950-22 (Capable but not certified) • UL/cUL 60950-1, 60950-22 (Capable but not certified)
Radio Approvals	<ul style="list-style-type: none"> • FCC Part 15.247, 15.407 • CE EN300.328, EN301.893
Material Compliance	<ul style="list-style-type: none"> • RoHS • IP67 Enclosure

Appendix B: WP201-100 Available Accessories

This is a list of accessories available from FreeWave for the WP201-100.

WP201-100 Accessory	FreeWave Part Number
3 - Omni, 2.4GHz, 5dBi, N-M Antennas	EAN0024KT
3 - Omni, 5GHz, 7dBi, N-M Antennas	EAN0050KT
0.5 foot Panel Antenna <ul style="list-style-type: none"> • 5.15GHz to 5.85GHz, 18dBi • Dual Feed 	EAN0058AA
1 foot Panel Antenna <ul style="list-style-type: none"> • 5.15GHz to 5.5GHz, 23dBi • Dual Feed 	EAN0060AA
2 foot Dish Antenna <ul style="list-style-type: none"> • 5.25GHz to 5.85GHz, 28.8dBi • Dual Feed, Standard Performance 	EAN2501AA
3 foot Dish Antenna <ul style="list-style-type: none"> • 5.25GHz to 5.5GHz, 32.5dBi • Dual Feed, Standard Performance 	EAN2502AA
2 foot Radome Dish Antenna	EAN2505AA
3 foot Radome Dish Antenna	EAN2506AA
WavePro WP201 User Manual	LUM0073AA
WavePro - WP201 Quick Start Guide	QSG0027AA

Appendix C: FreeWave Legal Information

Export Notification

FreeWave Technologies, Inc. products may be subject to control by the Export Administration Regulations (EAR) and/or the International Traffic in Arms Regulations (ITAR). Export, re-export, or transfer of these products without required authorization from the U.S. Department of Commerce, Bureau of Industry and Security, or the U.S. Department of State, Directorate of Defense Trade Controls, as applicable, is prohibited. Any party exporting, re-exporting, or transferring FreeWave products is responsible for obtaining all necessary U.S. government authorizations required to ensure compliance with these and other applicable U.S. laws. Consult with your legal counsel for further guidance.

FCC Notifications

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference and 2) this device must accept any interference received, including interference that may cause undesired operation.

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 to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into 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: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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

The content of this guide covers FreeWave Technologies, Inc. models sold under FCC ID: KNYPRW5000AA.

Appendix C: FreeWave Legal Information

All models sold under the FCC ID(s) listed above must be installed professionally. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This radio must not be co-located or operating in conjunction with any other antenna or radio.

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 52 cm between the radiator & your body. The safety distance for 34dBi antenna is 436.45cm.

FCC Notification of Power Warning

The WavePro WP201 covered in this document has a maximum combined transmitted output power of: 23dBm for FCC ID KNYPRW5000AA and 29dBm for FCC ID KNYPRW5000AB.

The antennas used MUST provide a separation distance of at least 52 cm from all persons and MUST NOT be co-located or operate in conjunction with any other antenna or transmitter.

IC Notifications

This device complies with RSS-247 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Ce dispositif est conforme à la norme CNR-247 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

IC 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 52 cm between the radiator and your body. The safety distance for a 34dBi antenna is 442.0cm.

Déclaration d'exposition aux radiations

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 52 cm de distance entre la source de rayonnement et votre corps. La distance de sécurité pour une antenne 34dBi est de 442.0cm.

Caution

(i) the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate; and

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

Avertissement

(i) le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5725 à 5 850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée pour l'exploitation point à point et l'exploitation non point à point, selon le cas;

(ii) 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 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

Professional Installation Instruction

1. Installation

This product is designed for specific application and needs to be installed by a qualified personal who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.

2. Installation Location

The product shall be installed at a location where the radiating antenna can be kept 52 cm from nearby person in normal operation condition to meet regulatory RF exposure requirement.

3. External Antenna

Use only the antennas which have been approved by the applicant. The non-approved antenna(s) may produce unwanted spurious or excessive RF transmitting power which may lead to the violation of IC limit and is prohibited.

4. Installation Procedure

Please refer to user's manual for the detail.

5. Warning

Please carefully select the installation position and make sure that the final output power does not exceed the limit set force in relevant rules. The violation of the rule could lead to serious federal penalty.

Instructions d'installation Professionnelle

1. Installation

Ce produit est destine a un usage specifique et doit etre installe par un personnel qualifie maitrisant les radiofrequences et les regles s'y rapportant. L'installation et les réglages ne doivent pas etre modifiés par l'utilisateur final.

2. Emplacement d'installation

En usage normal, afin de respecter les exigences reglementaires concernant l'exposition aux radiofrequences, ce produit doit etre installe de facon a respecter une distance de 52 cm entre l'antenne emettrice et les personnes.

3. Antenn externe.

Utiliser uniuquement les antennes approuvees par le fabricant. L'utilisation d'autres antennes peut conduire a un niveau de rayonnement essentiel ou non essentiel depassant les niveaux limites definis par IC, ce qui est interdit.

4. Procedure d'installation

Consulter le manuel d'utilisation.

5. Avertissement

Choisir avec soin la position d'installation et s'assurer que la puissance de sortie ne depasse pas les limites en vigueur. La violation de cette regle peut conduire a de serieuses penalites federales.

Detachable Antenna Usage

This radio transmitter (IC: 2329B-PRW5000AA / Model: WP201) has been approved by Industry Canada to operate with the antenna type listed below with maximum permissible gain 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.

Le présent émetteur radio (IC: 2329B-PRW5000AA / Model: WP201) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Approved Antenna(s) List

Type	Gain (dBi)							Connector
	2400 MHz	2450 MHz	2500 MHz	5550 MHz	5650 MHz	5750 MHz	5850 MHz	
Dipole	5.41	4.87	5.14	5.55	5.75	5.92	6.03	N-Type

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R & TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R & TTE Directive 1999/5/EC:

- EN60950-1 /A12:2011+A2:2013 - Safety of Information Technology Equipment.
- EN50385:2002 - Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40GHz) - General public.
- EN 300 328 V1.9.1:2015 - Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R & TTE Directive.
- EN 301 489-1 V1.9.2:2011 - Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements.
- EN 301 489-17 V2.2.1:2012 - Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2.4GHz wideband transmission systems and 5GHz high performance RLAN equipment.

This device is a 5GHz wideband transmission system (radio), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

CE 0560

Language	Description
Česky [Czech]	FreeWave Technologies, Inc. tímto prohlašuje, že tento WP201-100 je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede FreeWave Technologies, Inc. erklærer herved, at følgende udstyr WP201-100 overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erkläre FreeWave Technologies, Inc., dass sich das Gerät WP201-100 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Eesti [Estonian]	Käesolevaga kinnitab FreeWave Technologies, Inc. seadme WP201-100 vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

Language	Description
English	Hereby, FreeWave Technologies, Inc., declares that this WP201-100 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente FreeWave Technologies, Inc. declara que el WP201-100 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ FreeWave Technologies, Inc. ΔΗΛΩΝΕΙ ΟΤΙ WP201-100 ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Français [French]	Par la présente FreeWave Technologies, Inc. déclare que l'appareil WP201-100 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente FreeWave Technologies, Inc. dichiara che questo WP201-100 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo FreeWave Technologies, Inc. / izgatavotāja nosaukums] deklarē, ka WP201-100 atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo FreeWave Technologies, Inc. deklaruoja, kad šis WP201-100 atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart FreeWave Technologies, Inc. dat het toestel WP201-100 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, FreeWave Technologies, Inc., jiddikjara li dan WP201-100 jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, FreeWave Technologies, Inc. nyilatkozom, hogy a WP201-100 megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Polski [Polish]	Niniejszym FreeWave Technologies, Inc. oświadcza, że WP201-100 jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Português [Portuguese]	FreeWave Technologies, Inc. declara que este WP201-100 está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	FreeWave Technologies, Inc. izjavlja, da je ta WP201-100 v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	FreeWave Technologies, Inc. týmto vyhlasuje, že WP201-100 spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	FreeWave Technologies, Inc. vakuuttaa täten että WP201-100 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar FreeWave Technologies, Inc. att denna WP201-100 står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

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WP201-100 Access Point Product Safety / Conditions of Safe Use

- Provision shall be made to prevent the rated voltage from being exceeded by the transient disturbances of more than 140% of the peak rated voltage.
- The WP201-100 Access Point CANNOT be used in an environment greater than pollution degree 2.

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