PEPWAVE

Broadband Possibilities

User Manual

Pepwave AP One Series:

AP One Enterprise / AP One AC mini / AP One In-Wall / AP One 300M / AP One Flex 300M

Pepwave AP Pro Series:

AP Pro / AP Pro 300M / AP Pro Duo

April 2016

COPYRIGHT & TRADEMARKS

Specifications are subject to change without notice. Copyright © 2016 Pepwave Ltd. All Rights Reserved. Pepwave and the Pepwave logo are trademarks of Pepwave Ltd. Other brands or products mentioned may be trademarks or registered trademarks of their respective owners.

Table of Contents

1 Introduction and Scope 4
2 Product Features and Benefits 5
3 Package Contents 6
3.1 AP One Enterprise 6
3.2 AP One AC mini 6
3.3 AP One In-Wall 6
3.4 AP One 300M 6
3.5 AP One Flex 300M 6
3.6 AP Pro / AP Pro 300M / AP Pro Duo 6
4 Hardware Overview 7
4.1 AP One Enterprise 7
4.2 AP One AC mini 8
4.3 AP One In-Wall 9
4.4 AP One 300M 10
4.5 AP One Flex 300M 11
4.6 AP Pro / AP Pro 300M / AP Pro Duo 12
5 Installation 13
5.1 Installation Procedures 14
6 Using the Dashboard 15
6.1 General 15
6.2 AP 17
7 Configuration 19
7.1 System 19
7.1.1 Admin Security 19
7.1.2 Firmware 21
7.1.3 Time 21
7.1.4 Event Log 22
7.1.5 SNMP 23
7.1.6 Controller 25
7.1.7 Configuration 26
7.1.8 Reboot 27

 Copyright © 2015 Pepwave

7.2 AP 27
7.2.1 Wireless SSID 27
7.2.2 Settings 37
7.2.3 WDS 40
7.3 Network 41
7.3.1 WAN 41
7.3.2 LAN 43
7.3.3 PepVPN 46
8 Tools 49
8.1 Ping 49
8.2 Traceroute 49
8.3 Nslookup 50
9 Monitoring Device Status 51
9.1 Device 51
9.2 Client List 51
9.3 WDS Info 52
9.4 Portal 52
9.5 Rogue AP 53
9.6 Event Log 53
10 Restoring Factory Defaults 54
11 Appendix 55
12 Datasheets 55

 Copyright © 2015 Pepwave

1 Introduction and Scope

Our AP Series of enterprise-grade 802.11b/g/n Wi-Fi access points is engineered to provide fast, dependable, and flexible operation in a variety of environments, all controlled by an easy-to-use centralized management system. From the small but powerful AP One AC mini to the top-of-the-line AP One 300M our AP Series offers wireless networking solutions to suit any business need, and every access point is loaded with essential features such as multiple SSIDs, VLAN, WDS, and Guest Protect.

A single access point provides as many as 32 virtual access points (16 on single-radio models), each with its own security policy (WPA, WPA2, etc.) and authentication mechanism (802.1x, open, captive portal, etc.), allowing faster, easier, and more cost-effective network builds. Each member of the AP Series family also features a high-powered Wi-Fi transmitter that greatly enhances coverage and performance while reducing equipment costs and maintenance.

 Copyright © 2015 Pepwave

2 Product Features and Benefits

Key features and benefits of AP Series access points:

- High-powered Wi-Fi transmitter enhances coverage and lowers cost of ownership.
- Independent security policies and encryption mechanisms for each virtual access point allow fast, flexible, cost-effective network builds.
- Centralized management via InControl reduces maintenance expense and time.
- WDS support allows secure and fast network expansion.
- Guest Protect support guards sensitive business data and subnetworks.
- WMM (Wi-Fi Multimedia) and QoS (Quality of Service) support keeps video and other bandwidth-intensive data flowing fast and lag-free.

 Copyright © 2015 Pepwave

3 Package Contents

3.1 AP One Enterprise

1x AP One Enterprise

1 x Power supply

1 x Instruction sheet

3.2 AP One AC mini

1 x AP One mini

1 x Omni-directional antenna

1 x Power supply

1 x Instruction sheet

3.3 AP One In-Wall

1 x AP One In-Wall

1 x Mounting kit

1 x Instruction sheet

3.4 AP One 300M

1 x AP One 300M

2 x Omni-directional antennas

1 x Power supply

1 x Instruction sheet

3.5 AP One Flex 300M

1 x AP One Flex 300M

1 x Instruction sheet

3.6 AP Pro / AP Pro 300M / AP Pro Duo

1 x AP Pro / AP Pro 300M / AP Pro Duo

1 x Instruction sheet

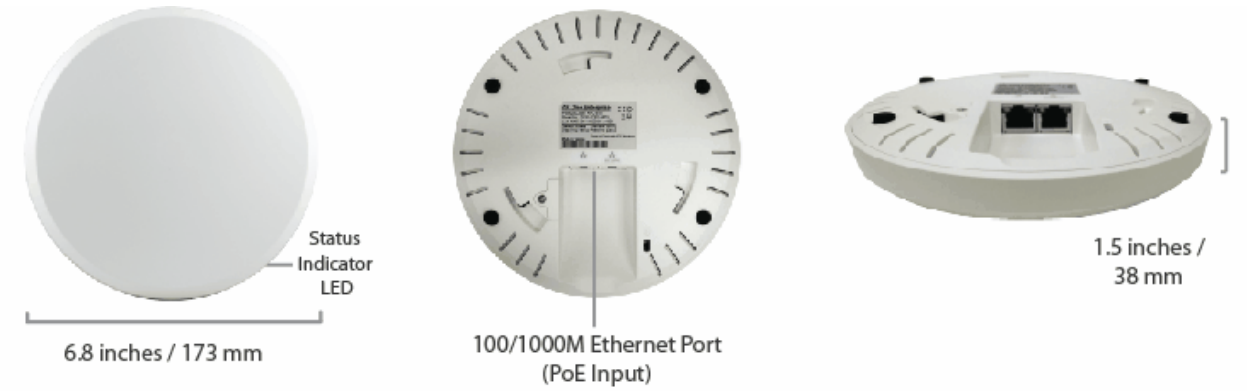
1 x Installation guide

 Copyright © 2015 Pepwave

4 Hardware Overview

4.1 AP One Enterprise

Bottom View **Top View** **Front View**



LED Indicators	
Status	RED – Access point initializing GREEN – Access point ready
LAN 1-2	OFF – No device connected to Ethernet port BLINKING – Ethernet port sending/receiving data ON – Powered-on device connected to Ethernet port Note that LAN 5 displays the status of the uplink connection

 Copyright © 2015 Pepwave

4.2 AP One AC mini

Front View

Rear Panel View

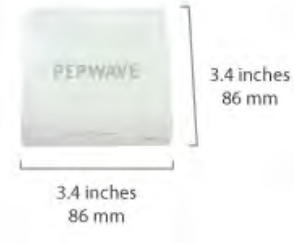
LED Indicators	
Status	RED – Access point initializing GREEN – Access point ready
Wi-Fi	OFF – 2.4/5GHz Wi-Fi radio off BLINKING – AP sending/receiving data GREEN – 2.4/5GHz Wi-Fi radio on Note that this model includes a 2.4GHz Wi-Fi radio and a 5GHz Wi-Fi radio that can operate simultaneously to increase speed and reduce interference.

 Copyright © 2015 Pepwave

4.3 AP One In-Wall

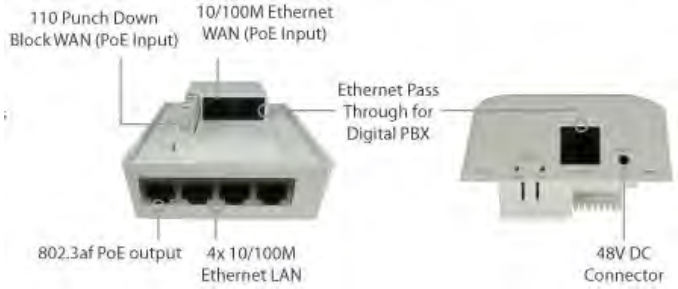
Front View (US)

Front View (International)



Rear Panel View

Top View



LED Indicators	
Status	RED – Access point initializing GREEN – Access point ready
WLAN 1/2	OFF – 2.4/5GHz Wi-Fi radio off BLINKING – AP sending/receiving data GREEN – 2.4/5GHz Wi-Fi radio on Note that this model includes a 2.4GHz Wi-Fi radio and a 5GHz Wi-Fi radio that can operate simultaneously to increase speed and reduce interference. WLAN1 displays the status of the 2.4GHz Wi-Fi radio, while WLAN2 displays the status of the 5GHz Wi-Fi radio.
LAN 1-5	OFF – No device connected to Ethernet port BLINKING – Ethernet port sending/receiving data ON – Powered-on device connected to Ethernet port Note that LAN 5 displays the status of the uplink connection

 Copyright © 2015 Pepwave

4.4 AP One 300M

Front View

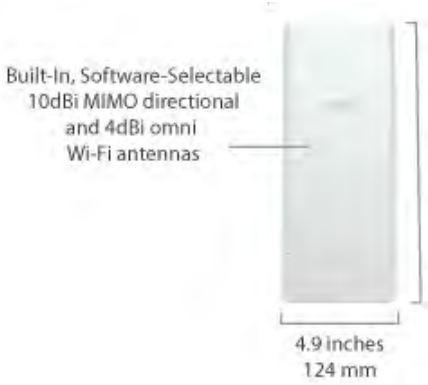
Rear Panel View

LED Indicators	
Power	On – Power On OFF – Power Off
Status	RED – Access point initializing GREEN – Access point ready
Wireless	OFF – 2.4/5GHz Wi-Fi radio off BLINKING – AP sending/receiving data GREEN – 2.4/5GHz Wi-Fi radio on Note that this model can operate in either 2.4GHz or 5GHz mode, depending on Wi-Fi radio settings.

 Copyright © 2015 Pepwave

4.5 AP One Flex 300M

Front View



Rear Panel View

Connector Panel (Inside the Lid)

Accessory – Wall/Pole Mount with Ball Joint for IP55 Outdoor Products ^

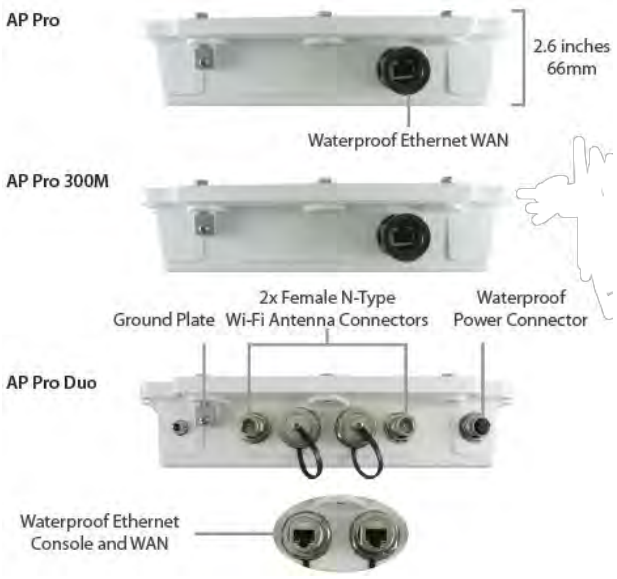
LED Indicators	
Status	RED – Access point initializing GREEN – Access point ready
LAN	OFF – No device connected to Ethernet port BLINKING – Ethernet port sending/receiving data ON – Powered-on device connected to Ethernet port
	Number of connected clients (1-10, 11-20, 21-30, 31-40)

 Copyright © 2015 Pepwave

4.6 AP Pro / AP Pro 300M / AP Pro Duo

Front/Top View

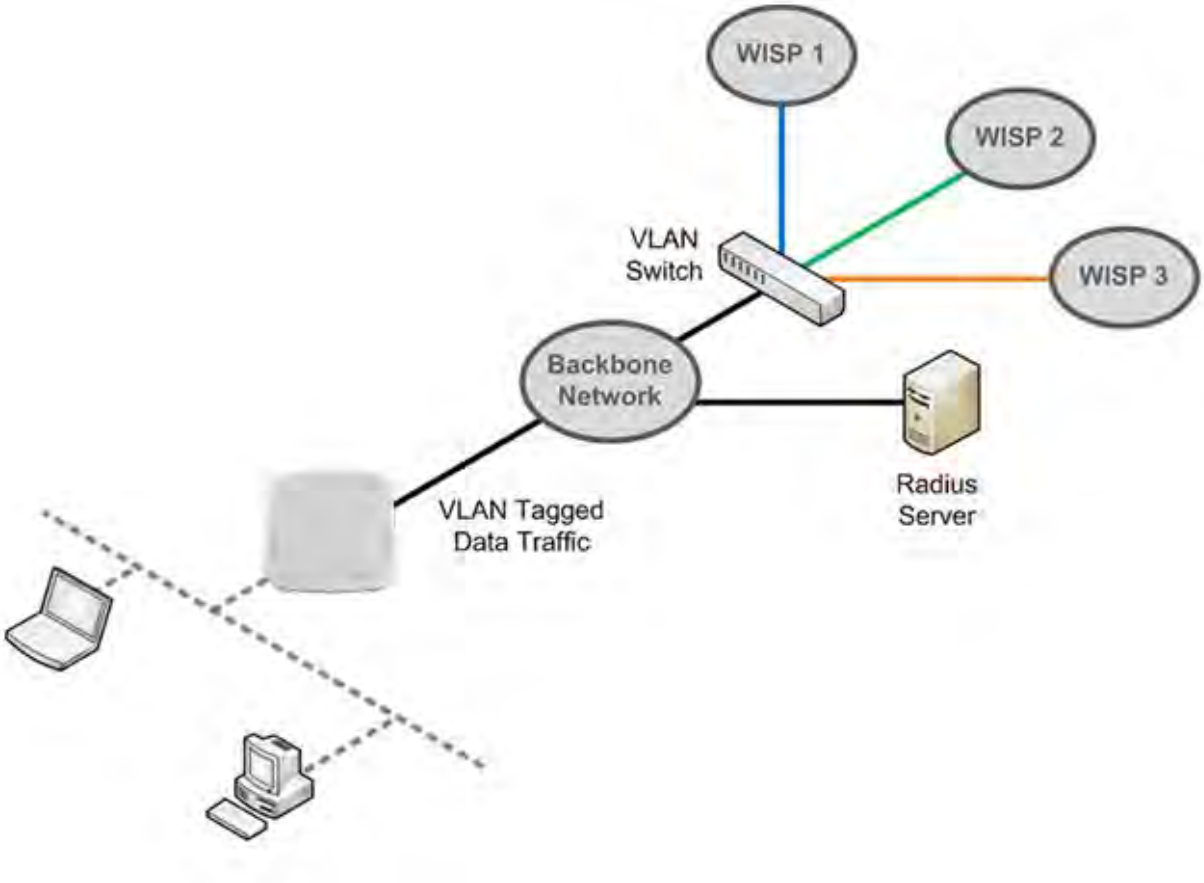
Rear Panel View



 Copyright © 2015 Pepwave

5 Installation

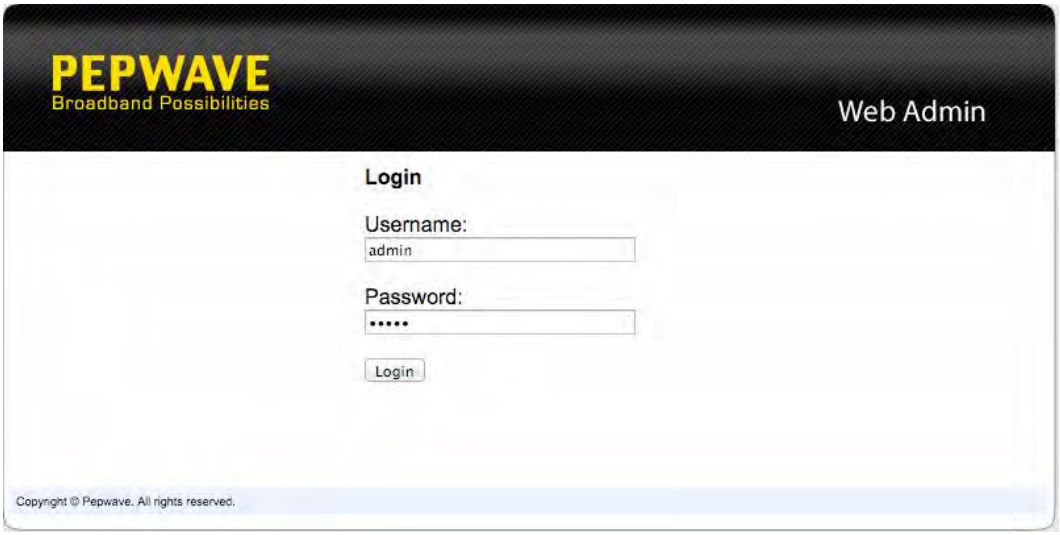
Your access point acts as a bridge between wireless and wired Ethernet interfaces. A typical setup follows:



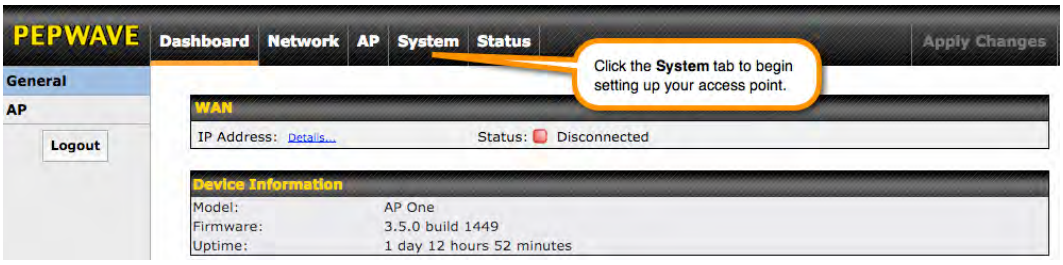
 Copyright © 2015 Pepwave

5.1 Installation Procedures

1. Connect the Ethernet port on the unit to the backbone network using an Ethernet cable. The port should auto sense whether the cable is straight-through or crossover.
2. Connect the power adapter to the power connector of the unit. Plug the power adapter into a power source.
3. Wait for the status LED to turn green.
4. Connect a PC to the backbone network. Configure the IP address of the PC to be any IP address between 192.168.0.4 and 192.168.0.254, with a subnet mask of 255.255.255.0.
5. Using Microsoft Internet Explorer 6 or above, Mozilla Firefox 2.0 or above, or Google Chrome 2.0 or above, connect to https://192.168.0.3.
6. Enter the default admin login ID and password, **admin** and **public** respectively.



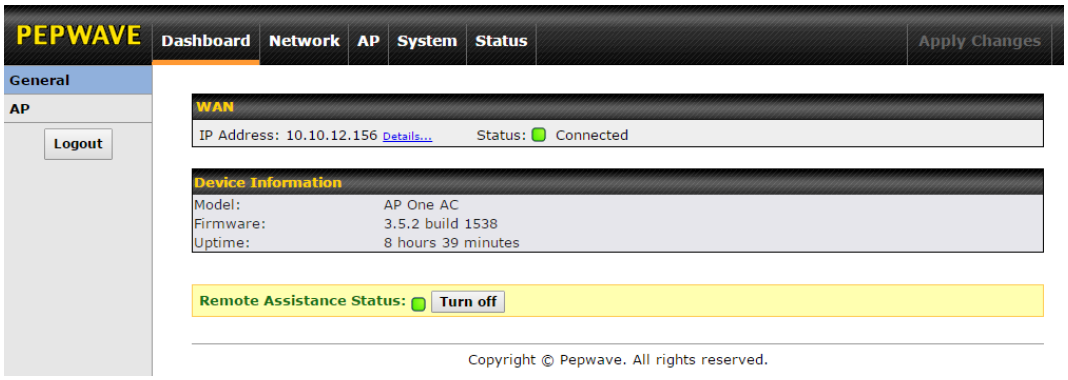
7. After logging in, the Dashboard appears. Click the **System** tab to begin setting up your access point.



 Copyright © 2015 Pepwave

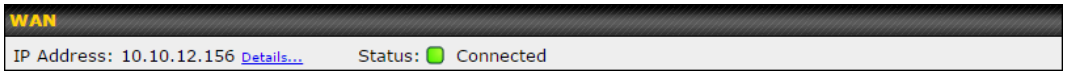
6 Using the Dashboard

The **Dashboard** section contains a number of displays to keep you up-to-date on your access point's status and operation. Remote assistance can also be enabled here.



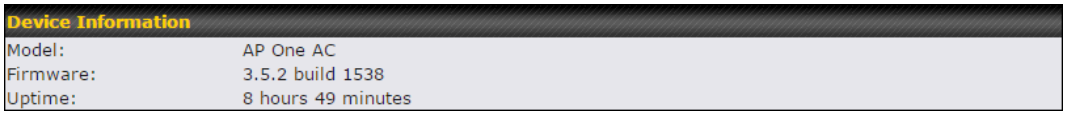
6.1 General

This section contains WAN status and general device information.



WAN	
IP Address	When your access point is connected to a WAN, this field displays the WAN IP address. For more information, click the **Details…** link, which displays the following: **Details of WAN** Close Connection Type: DHCP IP Address: 10.10.12.156 Subnet Mask: 255.255.0.0 Default Gateway: 10.10.10.1 DNS Servers: 10.10.10.1
Status	This field displays the current WAN connection status.

 Copyright © 2015 Pepwave

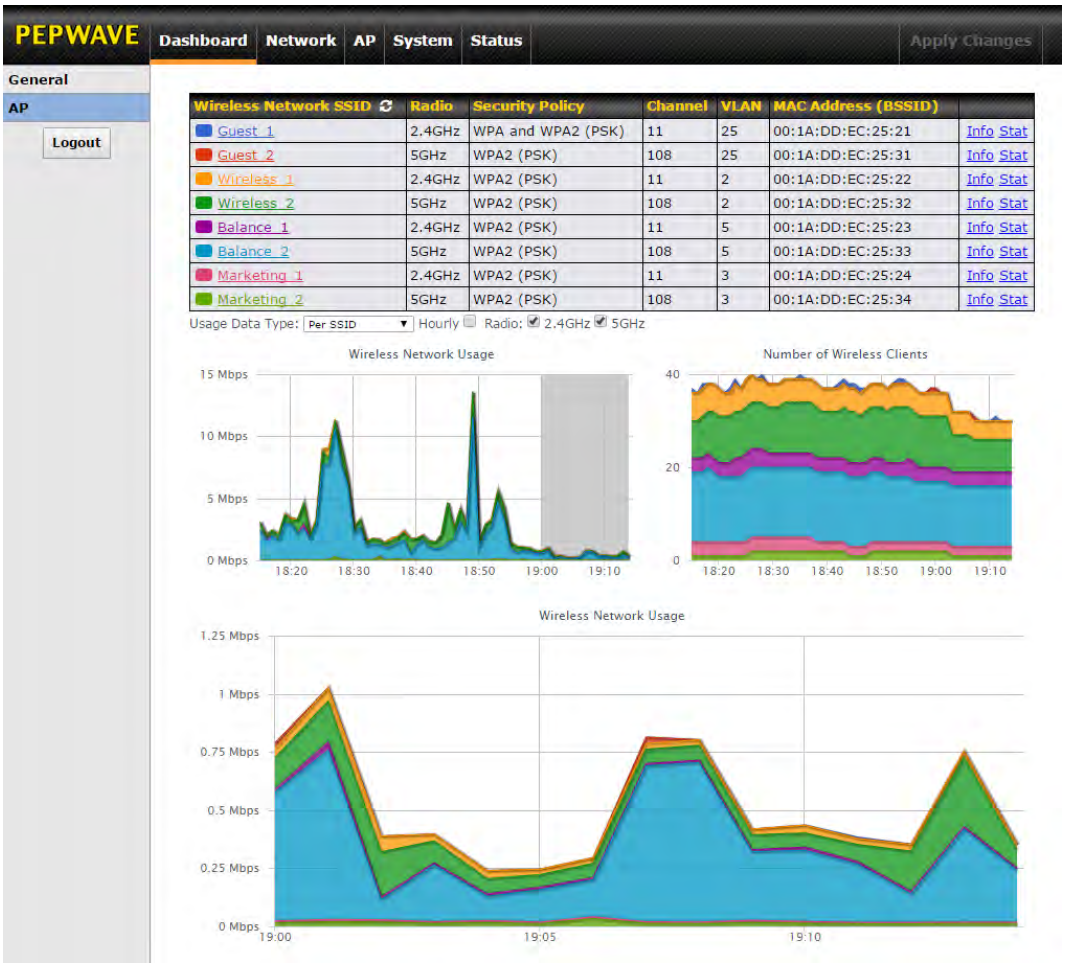


Device Information	
Model	This field displays your access point's model number.
Firmware	The firmware version currently running on your access point appears here.
Uptime	This field displays your access point's uptime since the last reboot or shutdown.

 Copyright © 2015 Pepwave

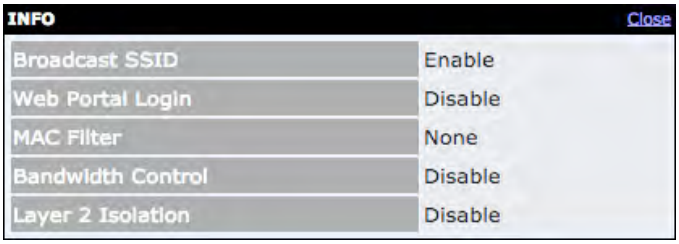
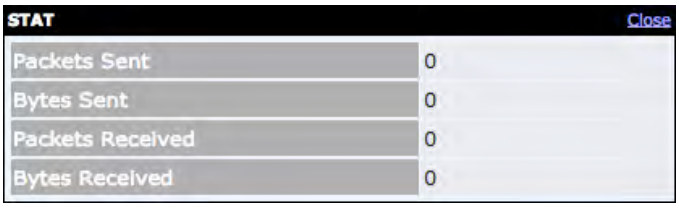
6.2 AP

This section displays a variety of information about your wireless network.



AP Status	
Wireless Network SSID	This field displays your access point's SSID.
Radio	The radio frequency currently used by your access point appears here. If you're using the AP One AC mini or the AP One In-Wall and have configured both radios, this displays both radios in use.
Security Policy	This field displays the security policy your access point is currently using. If you're using the AP One AC mini and have configured both radios, this displays channels in use for the 2.4GHz and 5GHz bands.
Channel	The channel currently used by your access point is displayed in this field.

 Copyright © 2015 Pepwave

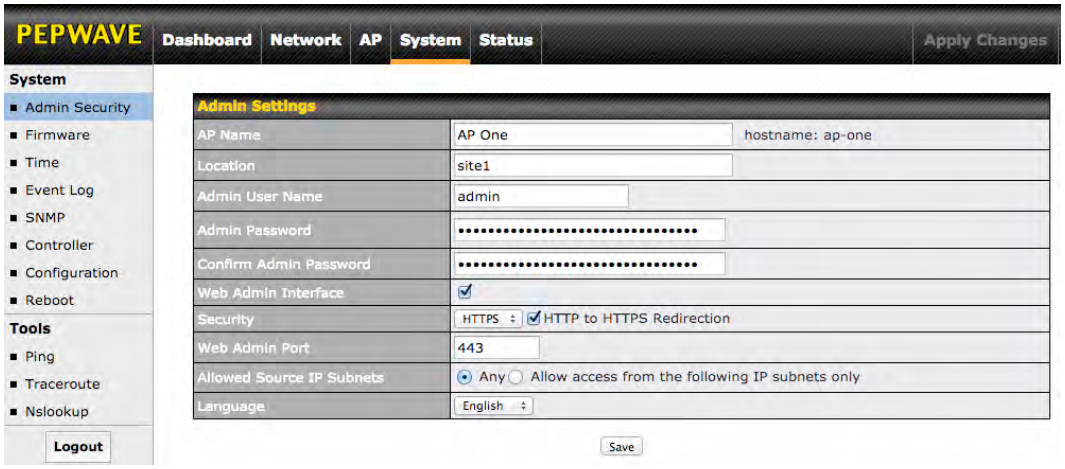
VLAN	If your access point is using a VLAN ID for management traffic, it will appear here. A value of **0** indicates that a VLAN ID is not being used.
MAC Address (BSSID)	Your access point's MAC address appears here. If you're using the AP One AC mini and have configured both radios, this displays a MAC address for both the 2.4GHz and 5GHz radio.
Info	Click this link to display the following information panel: 
Stat	Click this link to display the following statistics panel: 
Usage Data Type	Select **Per SSID** or **AP Send / Recv** to determine the data displayed in the graphs below.
Hourly	Check this box to graph wireless network usage on an hourly basis.
Wireless Network Usage/Number of Wireless Clients	These graphs detail recent wireless network usage.

 Copyright © 2015 Pepwave

7 Configuration

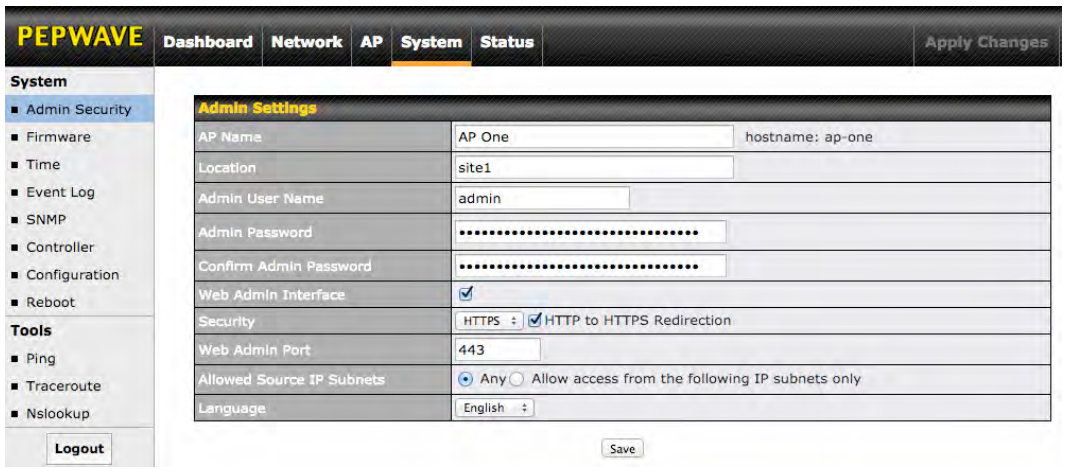
7.1 System

The options on the **System** tab control login and security settings, firmware upgrades, SNMP settings, and other settings.



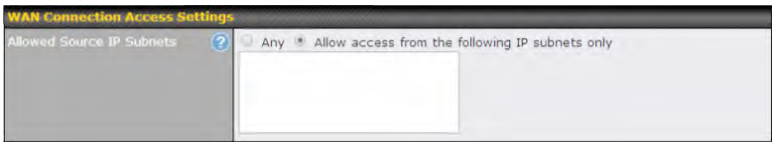
7.1.1 Admin Security

The **Admin Security** section allows you to set up your access point's name, password, security settings, and other options.



Admin Security	
AP Name	Enter a name to identify your access point. This name can be retrieved via SNMP.
Location	Enter a name to identify the location of your access point. This name can be retrieved via SNMP.
Admin User Name	This field specifies the administrator username of the web admin. It is set as *admin* by default.

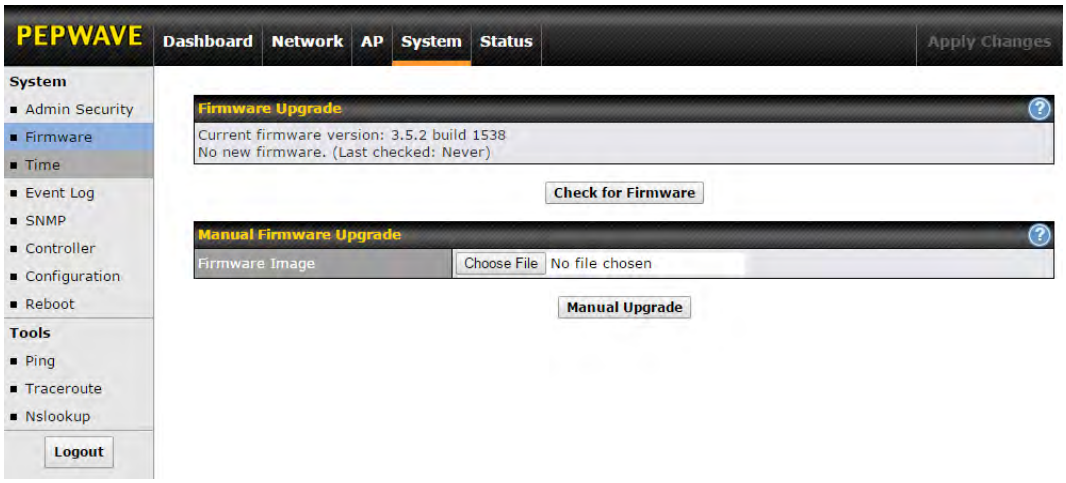
 Copyright © 2015 Pepwave

Admin Password	This field allows you to specify a new administrator password. The default password is *public*.
Confirm Admin Password	Re-enter the admin password.
Web Admin Interface	Check this box to turn on the web administration interface, which allows remote AP management.
Security	Choose **HTTP** or **HTTPS** as the protocol to use when accessing the web admin interface. To automatically redirect HTTP access to HTTPS, check **HTTP to HTTPS Redirection**.
Web Admin Port	Specify the port number on which the web admin interface can be accessed.
Allowed Source IP Subnets	This field allows you to restrict access to the web admin to only defined IP subnets. • **Any** - Allow web admin accesses from anywhere, without IP address restrictions. • **Allow access from the following IP subnets only** – Restricts the ability to access web admin to only defined IP subnets. When this option is chosen, a text input area will appear:  Enter your allowed IP subnet addresses into this text area. Each IP subnet must be in the form of *w.x.y.z/m*. *w.x.y.z* represents an IP address (e.g., *192.168.0.0*), and *m* represents the subnet mask in CIDR format, which is between 0 and 32 inclusively. For example: *192.168.0.0/24.* To define multiple subnets, separate each IP subnet, one per line. For example: *192.168.0.0/24* *10.8.0.0/16*
Language	Choose a language for the administration interface.

 Copyright © 2015 Pepwave

7.1.2 Firmware

The **Firmware** section lets you check the firmware version currently used by your access point, as well as check for and install new firmware via online download. You can also upgrade your firmware using a firmware file stored locally.



To check for new firmware, click the **Check for Firmware** button. If new firmware is available, your access point will automatically download and install it.

To upgrade your access point using a firmware file on your network, click **Choose File** to select the firmware file. Then click **Manual Upgrade** to initiate the firmware upgrade process using the selected file.

Note that your access point can store two different firmware versions in two different partitions. A firmware upgrade will always replace the inactive partition. If you want to keep the inactive firmware, simply reboot your device with the inactive firmware and then perform the firmware upgrade.

7.1.3 Time

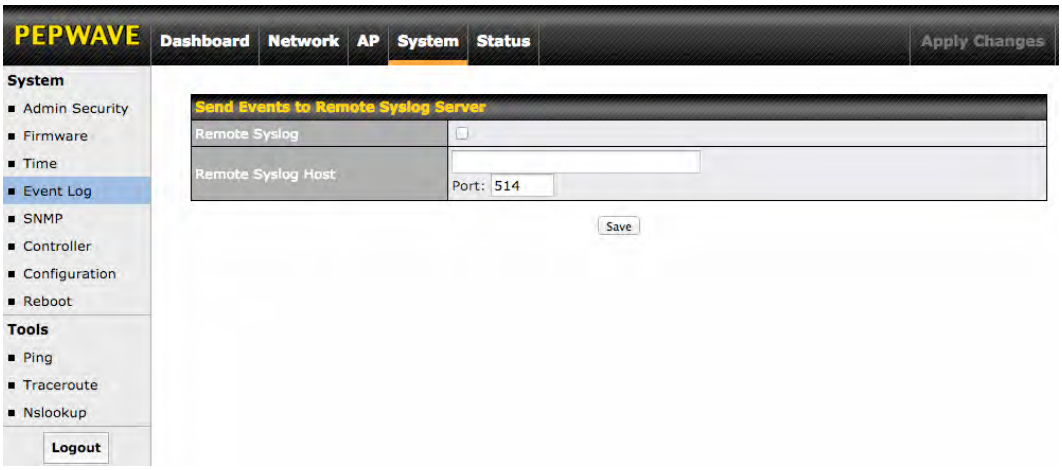
The settings in this section govern the access point's system time zone and allow you to specify a custom timeserver.

Time	
Time Zone	Time region used by the system. All choices are based on UTC.
Time Server	To choose a time server other than the default, enter the URL here. To restore the default time server, click the **Default** button.

 Copyright © 2015 Pepwave

7.1.4 Event Log

The section allows you to turn on event logging at a specified remote syslog server.

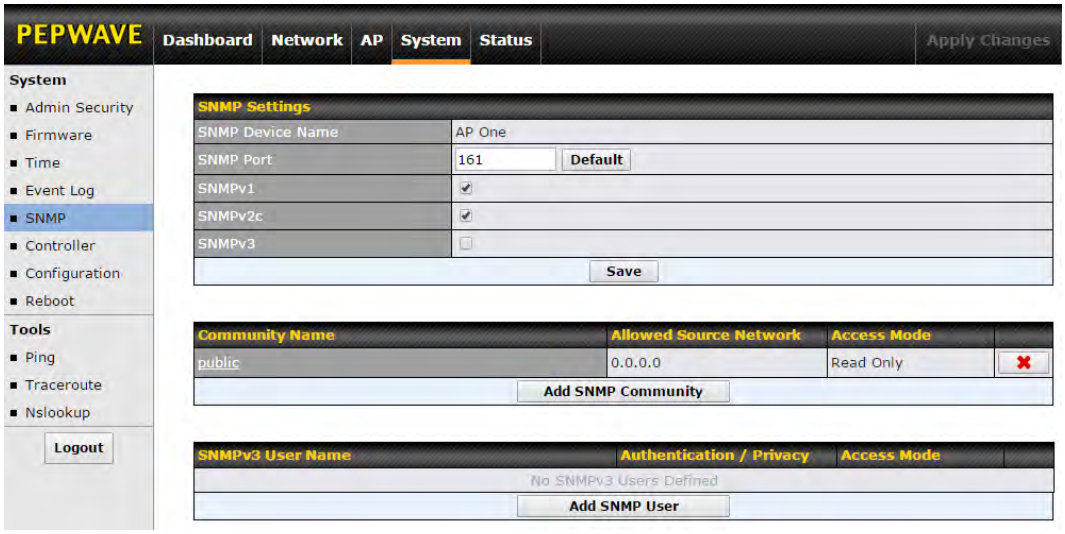


Event Log	
Remote Syslog	Check this box to turn on remote system logging.
Remote Syslog Host	Enter the IP address or hostname of the remote syslog server, as well as the port number.

 Copyright © 2015 Pepwave

7.1.5 SNMP

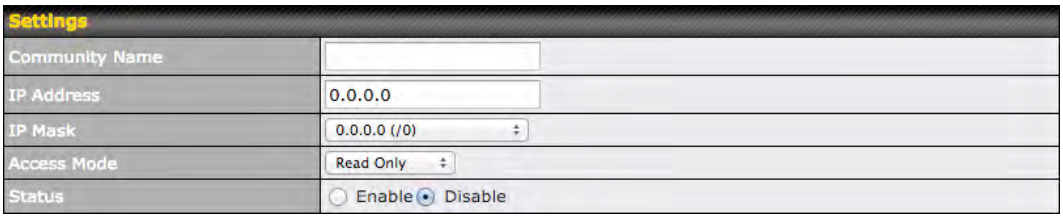
SNMP, or simple network management protocol, is an open standard that can be used to collect information about your access point. The **SNMP** section offers a range of settings to control simple network management protocol access.



SNMP Settings	
SNMP Device Name	This field shows the AP name defined at **System>Admin Security**.
SNMP Port	This option specifies the port which SNMP will use. The default port is **161**.
SNMPv1	This option allows you to enable SNMP version 1.
SNMPv2c	This option allows you to enable SNMP version 2c.
SNMPv3	This option allows you to enable SNMP version 3.

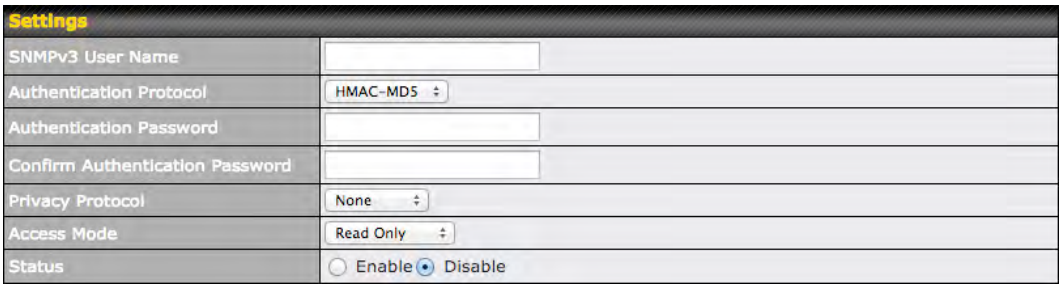
 Copyright © 2015 Pepwave

To add a community for either SNMPv1 or SNMPv2c, click the **Add SNMP Community** button in the **Community Name** table, which displays the following screen:



SNMP Community Settings	
Community Name	Enter a name for the SNMP community.
IP Address/IP Mask	These settings specify a subnet from which access to the SNMP server is allowed. Enter the subnet address here (e.g., *192.168.1.0*) and select the appropriate subnet mask.
Access Mode	Select **Read Only** or **Read and Write** as the SNMP community access mode.
Status	Use these controls to enable or disable SNMP community access.

To define a user name for SNMPv3, click **Add SNMP User** in the **SNMPv3 User Name** table, which displays the following screen:



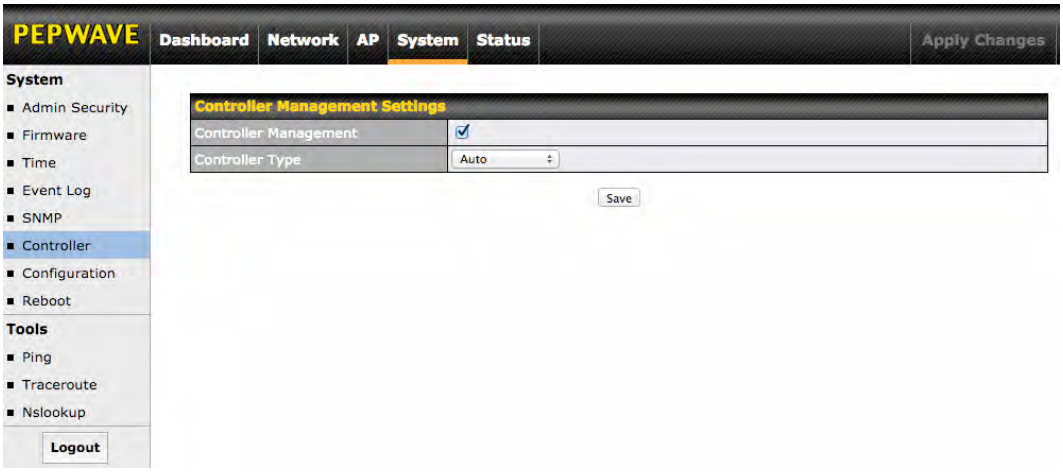
SNMPv3 User Settings	
SNMPv3 User Name	Enter a user name to be used in SNMPv3.
Authentication Protocol	Select one of the following valid authentication protocols: • NONE • HMAC-MD5 • HMAC-SHA When **HMAC-MD5** or **HMAC-SHA** is selected, an entry field will appear for the password.
Authentication Password	Enter a password to use with the selected authentication protocol.

 Copyright © 2015 Pepwave

Confirm Authentication Password	Re-enter the authentication password.
Privacy Protocol	Select **None** or **CBC-DES** as the SNMPv3 privacy protocol. When **CBC-DES** is selected, an entry field will appear for the password.
Access Mode	Select **Read Only** or **Read and Write** as the SNMPv3 access mode.
Status	Use these controls to enable or disable SNMPv3 access.

7.1.6 Controller

In the **Controller** section, you can set up Peplink InControl or AP Controller remote management.

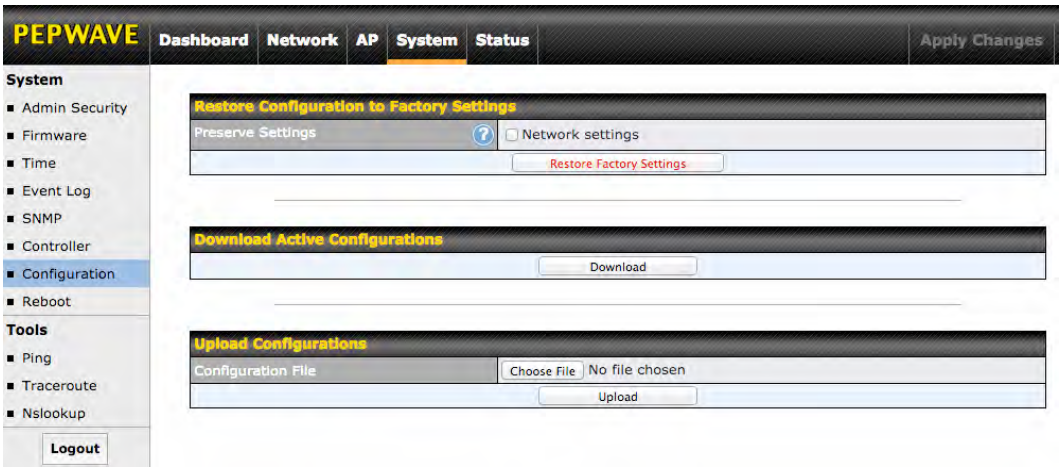


Controller Management Settings	
Controller Management	Check this box to enable remote management.
Controller Type	Select **Auto**, **InControl**, or **AP Controller** as your remote AP management method. When **Auto** is selected, your access point will automatically choose the appropriate mode.

 Copyright © 2015 Pepwave

7.1.7 Configuration

In section, you can manage and backup access point configurations, as well as reset your access point to its factory configuration. Backing up your access point's settings immediately after successful initial setup is strongly recommended.



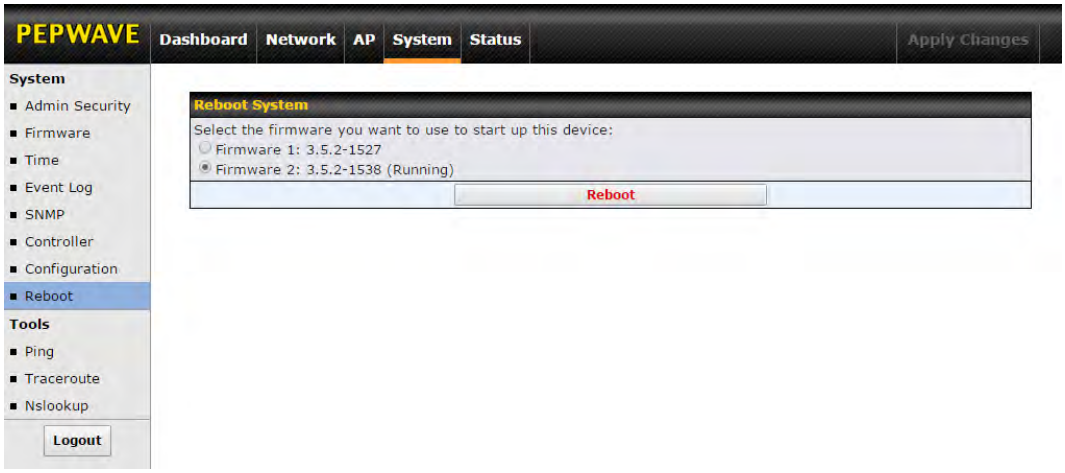
Configuration	
Restore Configuration to Factory Settings	The **Restore Factory Settings** button resets the configuration to factory default settings. After clicking the button, click the **Apply Changes** button on the top right corner to make the settings effective. To save existing network settings when restoring factory settings, check the **Network Setting**s box before clicking **Restore Factory Settings**.
Download Active Configurations	Click **Download** to backup the current active settings.
Upload Configurations	To restore or change settings based on a configuration file, click **Choose File** to locate the configuration file on the local computer, and then click **Upload**. The new settings can then be applied by clicking the **Apply Changes** button on the page header, or you can cancel the procedure by pressing **discard** on the main page of the web admin interface.

 Copyright © 2015 Pepwave

7.1.8 Reboot

This section provides a reboot button for restarting the system. For maximum reliability, your access point can equip with two copies of firmware, and each copy can be a different version. You can select the firmware version you would like to reboot the device with. The firmware marked with **(Running)** is the current system boot up firmware.

Please note that a firmware upgrade will always replace the inactive firmware partition.

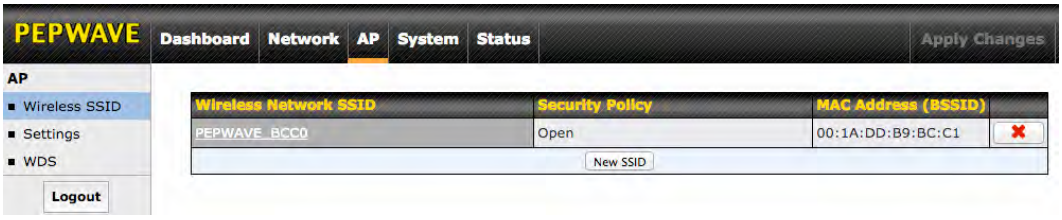


7.2 AP

Use the controls on the **AP** tab to set the wireless SSID and AP settings, as well as wireless distribution system (WDS) settings.

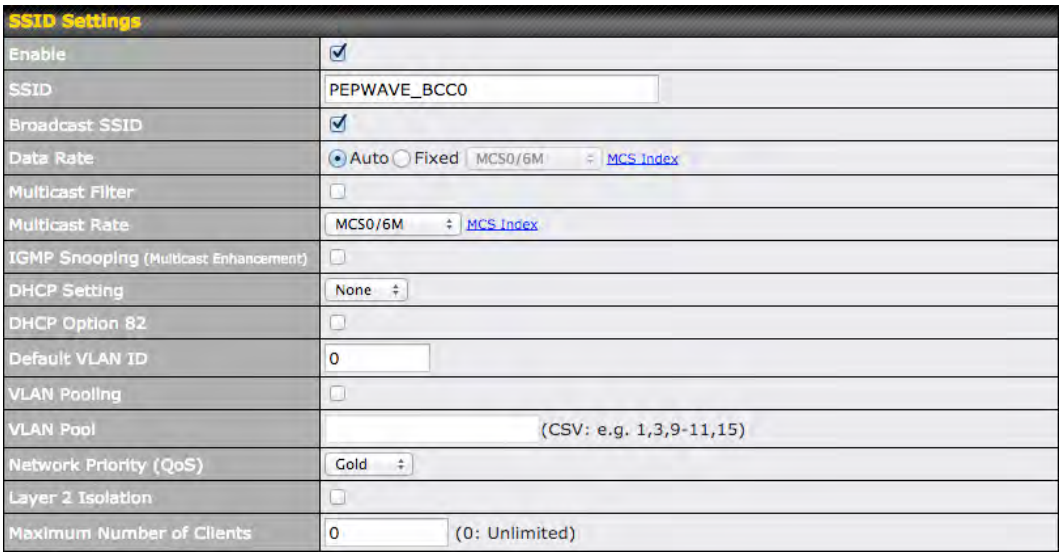
7.2.1 Wireless SSID

Wireless network settings, including the name of the network (SSID) and security policy, can be defined and managed in this section.



 Copyright © 2015 Pepwave

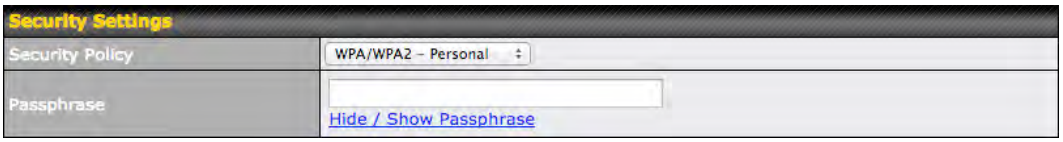
Click **New SSID** to create a new network profile, or click the existing network profile to modify its settings.



SSID Settings	
Enable	Check this box to enable wireless SSID.
Radio Selection	Available only on the AP One AC mini, this setting, shown below, allows you to enable or disable either of the two on-board radios.
SSID	This setting specifies the AP SSID that Wi-Fi clients will see when scanning.
Broadcast SSID	This setting specifies whether or not Wi-Fi clients can scan the SSID of this wireless network. **Broadcast SSID** is enabled by default.
Data Rate	Select **Auto** to allow your access point to set the data rate automatically, or select **Fixed** and choose a rate from the drop-down menu. Click the **MCS Index** link to display a reference table containing MCS and matching HT20 and HT40 values.
Multicast Filter	This setting enables the filtering of multicast network traffic to the wireless SSID.
Multicast Rate	This setting specifies the transmit rate to be used for sending multicast network traffic.
IGMP Snooping	To allow your access point to convert multicast traffic to unicast traffic for associated clients, select this option.
DHCP Setting	To set your access point as a DHCP server or relay, select **Server** or **Relay**. Otherwise, select **None**.
DHCP Option 82	If you use a distributed DHCP server/relay environment, you can enable this option to provide additional information on the manner in which clients are physically

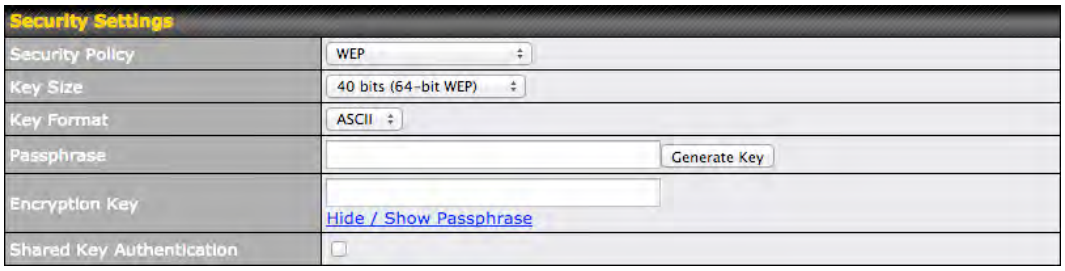
 Copyright © 2015 Pepwave

	connected to the network.
Default VLAN ID	This setting specifies the VLAN ID to be tagged on all outgoing packets generated from this wireless network (i.e., packets that travel from the Wi-Fi segment through your access point to the Ethernet segment via the LAN port). If 802.1x is enabled and a per-user VLAN ID is specified in **authentication reply from the Radius server**, then the value specified by **Default VLAN ID** will be overridden. The default value of this setting is **0**, which means VLAN tagging is disabled (instead of tagged with zero).
VLAN Pooling	Check this box to enable VLAN pooling using the values specified in **VLAN Pool**.
VLAN Pool	If VLAN pooling is enabled, enter VLAN pool values separated by commas.
Network Priority (QoS)	Select from **Gold**, **Silver**, and **Bronze** to control the QoS priority of this wireless network's traffic.
Layer 2 Isolation	**Layer 2** refers to the second layer in the ISO Open System Interconnect model. When this option is enabled, clients on the same VLAN, SSID, or subnet are isolated to that VLAN, SSID, or subnet, which can enhance security. Traffic is passed to upper communication layer(s). By default, the setting is disabled.
Maximum Number of Clients	Enter the maximum number of clients that can simultaneously connect to your access point, or enter **0** to allow unlimited Wi-Fi clients.

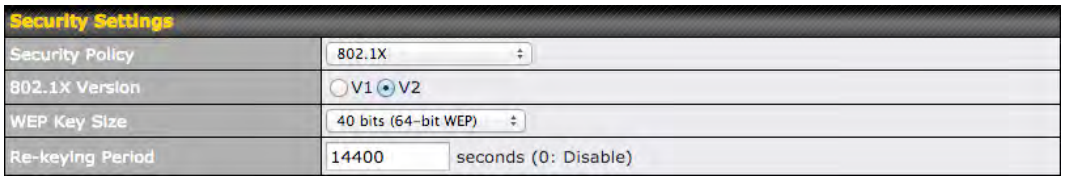


Security Settings	
Security Policy	This setting configures the wireless authentication and encryption methods. Available options are **Open (No Encryption)**, **WEP**, **802.1X, WPA2 – Personal**, **WPA2 – Enterprise**, **WPA/WPA2 - Personal**, and **WPA/WPA2 – Enterprise**. To allow any Wi-Fi client to access your AP without authentication, select **Open (No Encryption)**. Details on each of the available authentication methods follow.

 Copyright © 2015 Pepwave

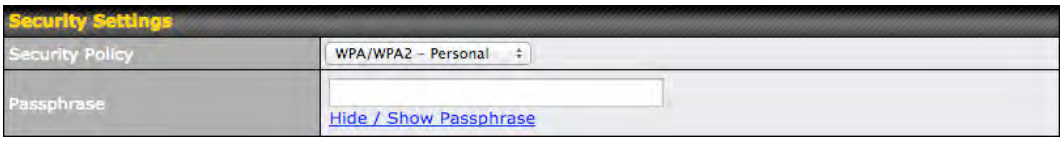


WEP	
Key Size	Select **40 bits (64-bit WEP)** or **104 bits (128-bit WEP)**.
Key Format	Choose **ASCII** or **Hex** format for the WEP key. ASCII can be applied only to encryption keys that are manually entered. Hex can be applied to encryption keys that are manually entered or automatically generated.
Passphrase	Enter a series of alphanumeric characters, and then click **Generate Key** to create a WEP key using the passphrase.
Encryption Key	The generated WEP key appears here. Click **Hide / Show Passphrase** to toggle visibility.
Shared Key Authentication	Check to **enable** shared key authentication. The default is disabled, meaning open authentication is used.

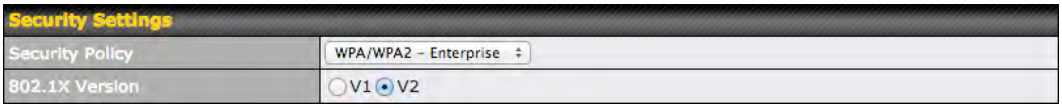


802.1X	
802.1X Version	Choose **v1** or **v2** of the 802.1x EAPOL. When **v1** is selected, both v1 and v2 clients can associate with the access point. When **v2** is selected, only v2 clients can associate with the access point. Most modern wireless clients support v2. For stations that do not support v2, select **v1**. The default is **v2**.
WEP Key Size	Select **40 bits (64-bit WEP)** or **104 bits (128-bit WEP)**.
Re-keying Period	This option specifies the length of time throughout which the broadcast key remains valid. When the re-keying period expires, the broadcast key is no longer valid and broadcast key renewal is required. The default is **14400** seconds (four hours). **0** disables re-keying.

 Copyright © 2015 Pepwave

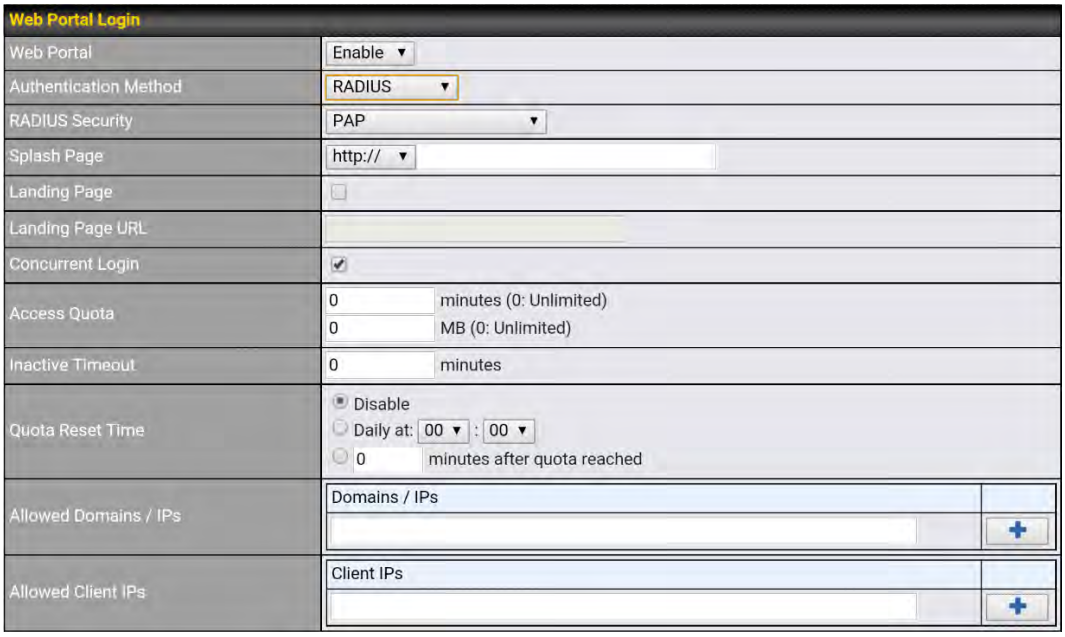


WPA/WPA2 – Personal	
Passphrase	Enter a passphrase of between 8 and 63 alphanumeric characters to create a passphrase used for data encryption and authentication. Click **Hide / Show Passphrase** to toggle visibility.



WPA/WPA2 – Enterprise	
802.1X Version	Choose **v1** or **v2** of the 802.1x EAPOL. When **v1** is selected, both v1 and v2 clients can associate with the access point. When **v2** is selected, only v2 clients can associate with the access point. Most modern wireless clients support v2. For stations that do not support v2, select **v1**. The default is **v2**.

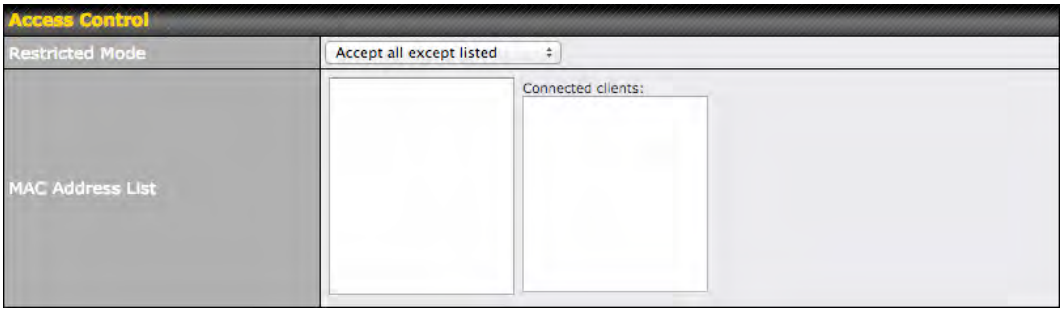
 Copyright © 2015 Pepwave



Web Portal Login	
Web Portal	Select **Enable** to turn on your access point's built-in web portal functionality.
Authentication Method	Choose **Open Access** to allow users to connect without authentication or **RADIUS** to require authentication. If **RADIUS** is selected, you'll be given the opportunity to select a RADIUS security method in the next field.
RADIUS Security	Select **PAP**, **EAP-TTLS PAP**, **EAP-TTLS MSCHAPv2**, or **PEAPv0 EAP-MSCHAPv2**.
Splash Page	If your web portal will use a splash page, choose **HTTP** or **HTTPS** and enter the splash page's URL.
Landing Page	If your web portal will use a landing page, check this box.
Landing Page URL	If you have checked **Landing Page**, enter your landing page's URL here.
Concurrent Login	Check this box to allow users to have more than one logged in session active at a time.
Access Quota	Enter a value in minutes to limit access time on a given login or enter **0** to allow unlimited use time on a single login. Likewise, enter a value in MB for the total bandwidth allowed or enter **0** to allow unlimited bandwidth on a single login.
Inactive Timeout	Enter a value in minutes to logout following the specified period of inactivity or enter **0** to disable inactivity logouts.
Quota Reset Time	This menu determines how your usage quota resets. Setting it to **Daily** will reset it at a specified time every day. Setting a number of **minutes after quota reached** establishes a timer for each user that begins after the quota has been reached.

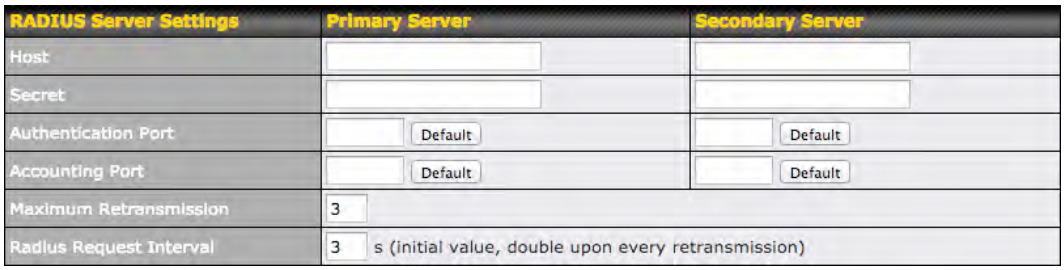
 Copyright © 2015 Pepwave

Allowed Domains / IPs	To whitelist a domain or IP address, enter the domain name / IP address here and click . To delete an existing entry, click the button next to it.
Allowed Client IPs	To whitelist a client IP address, enter the IP address here and click . To delete an existing entry, click the button next to it.



Access Control	
Restricted Mode	The settings allow administrator to control access using Mac address filtering. Available options are **None**, **Deny all except listed**, **Accept all except listed**, and **RADIUS MAC Authentication**.
MAC Address List	Connections coming from the MAC addresses in this list will be either denied or accepted based on the option selected in the previous field.

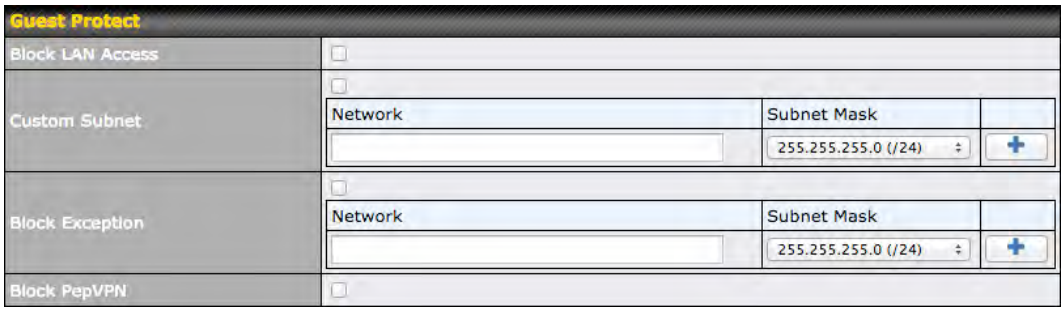
 Copyright © 2015 Pepwave



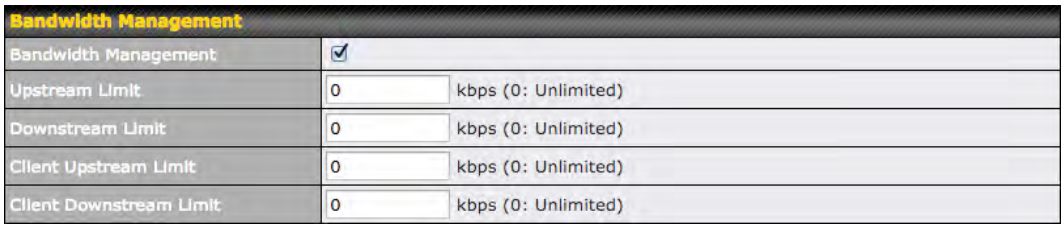
RADIUS Server Settings	Primary Server	Secondary Server
Host		
Secret		
Authentication Port	Default	Default
Accounting Port	Default	Default
Maximum Retransmission	3	
Radius Request Interval	3 s (initial value, double upon every retransmission)	

RADIUS Server Settings	
Host	Enter the IP address of the primary RADIUS server and, if applicable, the secondary RADIUS server.
Secret	Enter the RADIUS shared secret for the primary server and, if applicable, the secondary RADIUS server.
Authentication Port	Enter the UDP authentication port(s) used by your RADIUS server(s) or click the **Default** button to enter **1812**.
Accounting Port	Enter the UDP accounting port(s) used by your RADIUS server(s) or click the **Default** button to enter **1813**.
Maximum Retransmission	Enter the maximum number of allowed retransmissions.
RADIUS Request Interval	Enter a value in seconds to limit RADIUS request frequency. Note the initial value will double on each retransmission.

 Copyright © 2015 Pepwave



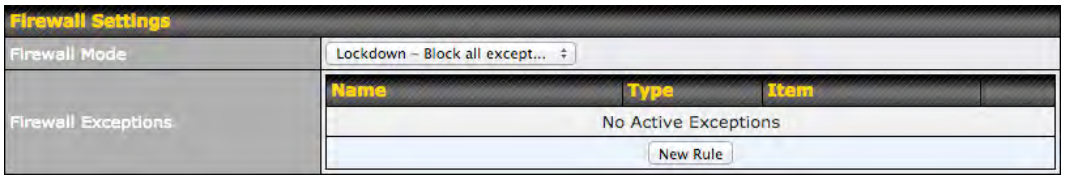
Guest Protect	
Block LAN Access	Check this box to block access from the LAN.
Custom Subnet	To specify a subnet to block, enter the IP address and choose a subnet mask from the drop-down menu. To add the blocked subnet, click +. To delete a blocked subnet, click ✖.
Block Exception	To create an exception to a blocked subnet (above), enter the IP address and choose a subnet mask from the drop-down menu. To add the exception, click +. To delete an exception, click ✖.
Block PepVPN	To block PepVPN access, check this box.



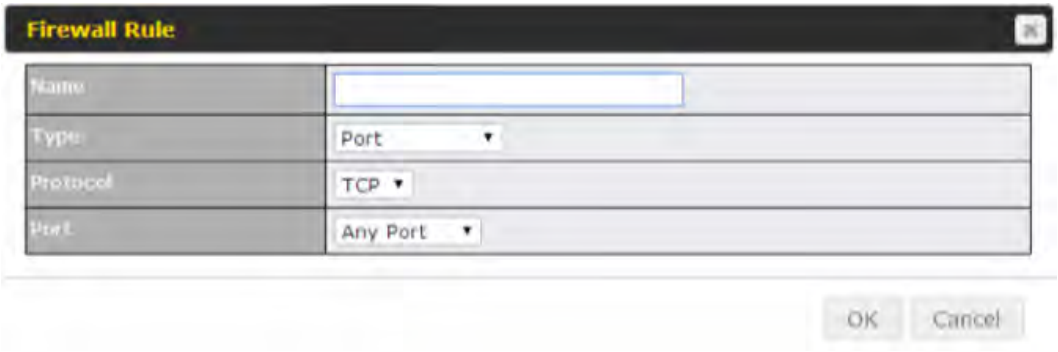
Bandwidth Management	
Bandwidth Management	Check this box to enable bandwidth management.
Upstream Limit	Enter a value in kpbs to limit the wireless network's upstream bandwidth. Enter **0** to allow unlimited upstream bandwidth.
Downstream Limit	Enter a value in kpbs to limit the wireless network's downstream bandwidth. Enter **0** to allow unlimited downstream bandwidth.
Client Upstream Limit	Enter a value in kpbs to limit connected clients' upstream bandwidth. Enter **0** to allow unlimited upstream bandwidth.
Client	Enter a value in kpbs to limit connected clients' downstream bandwidth. Enter **0** to allow

 Copyright © 2015 Pepwave

Downstream Limit	unlimited downstream bandwidth.



Firewall Settings	
Firewall Mode	Choose **Flexible – Allow all except…** or **Lockdown – Block all except…** to turn on the firewall, then create rules for the firewall exceptions by clicking **New Rule**. See the discussion below for details on creating a firewall rule. To delete a rule, click the associated ✖ button. To turn off the firewall, select **Disable**.

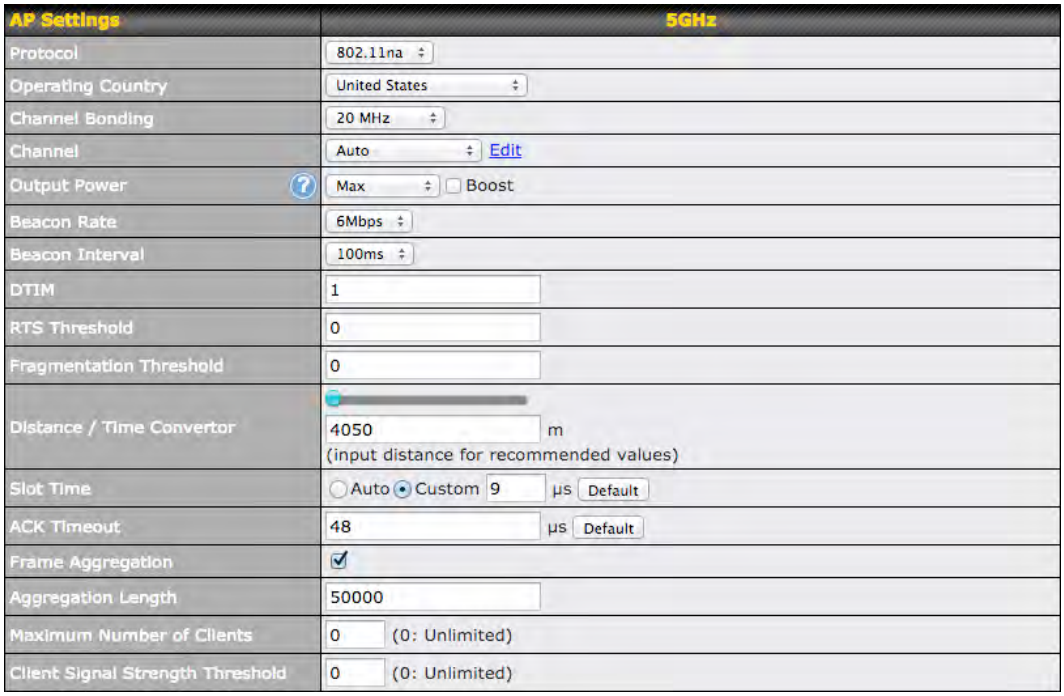


Firewall Rule	
Name	Enter a descriptive name for the firewall rule in this field.
Type	Choose **Port**, **Domain**, **IP Address**, or **MAC Address** to allow or deny traffic from any of those identifiers. Depending on the option chosen, the following fields will vary.
Protocol / Port	Choose **TCP** or **UDP** from the **Protocol** drop-down menu to allow or deny traffic using either of those protocols. From the **Port** drop-down menu, choose **Any Port** to allow or deny TCP or UDP traffic on any port. Choose **Single Port** and then enter a port number in the provided field to allow or block TCP or UDP traffic from that port only. You can also choose **Port Range** and enter a range of ports in the provided fields to allow or deny TCP or UDP traffic from the specified port range.
IP Address / Subnet Mask	If you have chosen **IP Address** as your firewall rule type, enter the IP address and subnet mask identifying the subnet to allow or deny.
MAC Address	If you have chosen **MAC Address** as your firewall rule type, enter the MAC address identifying the machine to allow or deny.

 Copyright © 2015 Pepwave

7.2.2 Settings

Basic access point operation settings, such as the protocol and channels used, as well as scanning interval and other advanced settings, can be defined and managed in this section.



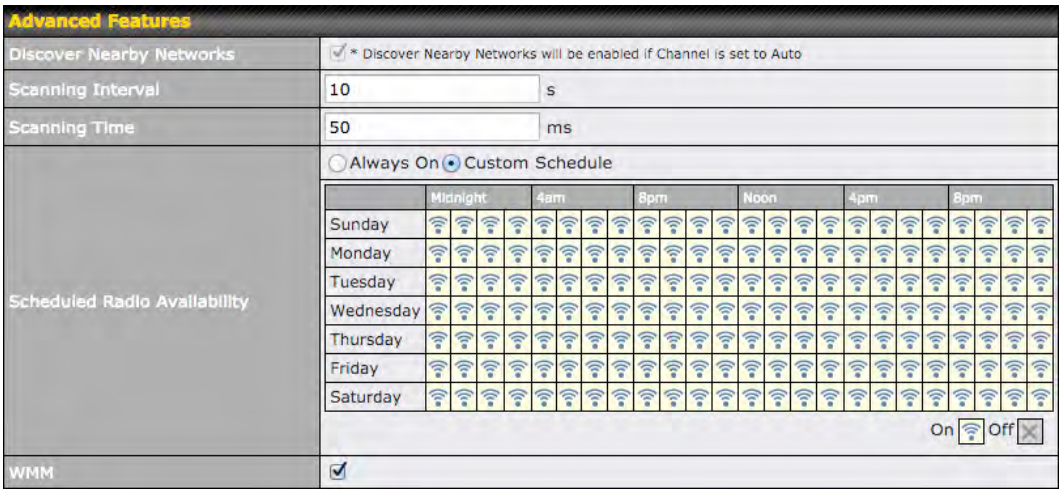
AP Settings	
Protocol	Choose **802.11ng** or **802.11na** as your access point's Wi-Fi protocol. The AP One AC mini provides the **802.11ng** protocol for the 2.4 GHz band and the **802.11ac** protocol for the 5GHz band, as shown below.
Operating Country	This drop-down menu specifies the national / regional regulations the AP should follow. If a North American region is selected, RF channels 1 to 11 will be available and the maximum transmission power will be 26 dBm (400 mW). If European region is selected, RF channels 1 to 13 will be available. The maximum transmission power will be 20 dBm (100 mW). NOTE: Users are required to choose an option suitable to local laws and regulations. Per FCC regulation, the country selection is not available on all models marketed in the US. All US models are fixed to US channels only.
Channel Bonding	There are three options: **20 MHz**, **40 MHz**, and **20/40 MHz**. With this feature enabled, the Wi-Fi system can use two channels at once. Using two channels improves the performance of the Wi-Fi connection. The AP One AC mini offers channel bonding options for the 2.4GHz and 5GHz bands, as shown below. In addition to **20 MHz**, **40 MHz**, and **20/40 MHz**, the 5Ghz band offers **80Mhz**, which is the default setting.

 Copyright © 2015 Pepwave

Channel	This drop-down menu selects the 5GHz 802.11 channel to be used. If **Auto** is set, the system will perform channel scanning based on the scheduled time set and choose the most suitable channel automatically. The AP One AC mini allows setting channels on the 2.4GHz and 5GHz bands, as shown below.
Output Power	This drop-down menu determines the power at which your access point will broadcast. When fixed settings are selected, the AP will broadcast at the specified power level, regardless of context. When **Auto** is selected, the AP will adjust its power level based on surrounding APs to maximize performance. While single-radio models allow setting power output levels for one frequency band only, the AP One AC mini provide output power settings for both the 2.4GHz and 5GHz bands, as shown below.
Beacon Rate	This drop-down menu provides the option to send beacons in different transmit bit rates. The bit rates are **1Mbps**, **2Mbps**, **5.5Mbps**, **6Mbps**, and **11Mbps**.
Beacon Interval	Set the time between each beacon send. Available options are **100ms**, **250ms**, and **500ms**.
DTIM	Set the frequency for the beacon to include delivery traffic indication messages (DTIM). The interval unit is measured in milliseconds.
RTS Threshold	Set the minimum packet size for your access point to send an RTS using the RTS/CTS handshake. Setting **0** disables this feature.
Fragmentation Threshold	Enter a value to limit the maximum frame size, which can improve performance.
Distance / Time Convertor	This slider and text entry field can be used to interactively set slot time.
Slot Time	This field provides the option to modify the unit wait time before your access point transmits. The default value is **9µs**.
ACK Timeout	Set the wait time to receive an acknowledgement packet before retransmitting. The default value is **48µs**.
Frame Aggregation	With this feature enabled, throughput will be increased by sending two or more data frames in a single transmission.
Aggregation Length	This field is only available when **Frame Aggregation** is enabled. It specifies the frame length for frame aggregation. By default, it is set to **50000**.
Max number of Clients	Enter the maximum clients that can simultaneously connect to your access point or set the value to **0** to allow unlimited clients.

 Copyright © 2015 Pepwave

Client Signal Strength Threshold	This field determines the minimum acceptable client signal strength, specified in megawatts. If client signal strength does not meet this minimum, the client will not be allowed to connect.

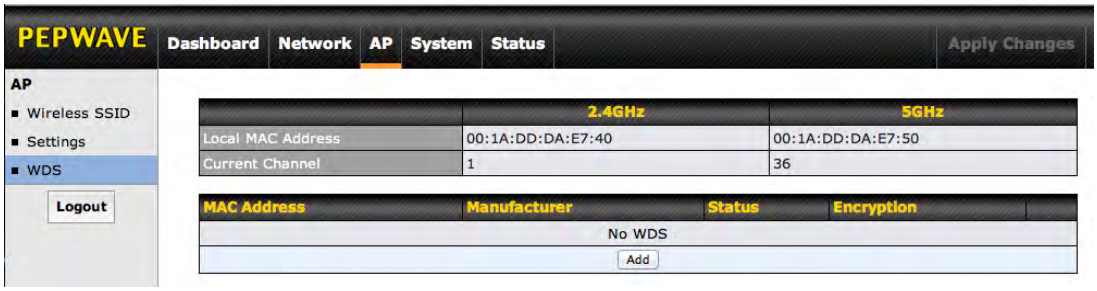


Advanced Features	
Discover Nearby Networks	Check this box to enable network discovery. Note that setting **Channel** to **Auto** will activate this feature automatically.
Scanning Interval	This setting controls the interval, in seconds, that your access point scans for nearby networks.
Scanning Time	This setting specifies the time, in milliseconds, that your access point scans any particular channel while searching for nearby networks.
Scheduled Radio Availability	Click **Custom Schedule** to specify radio availability schedule options or select **Always On** to make the radio continuously available.
WMM	This checkbox enables Wi-Fi Multimedia (WMM), also known as Wireless Multimedia Extensions (WME), on your access point. The default is **enabled**.

 Copyright © 2015 Pepwave

7.2.3 WDS

A wireless distribution system (WDS) provides a way to link access points when wires are not feasible or desirable. A WDS can also extend wireless network coverage for wireless clients. Note that your access point's channel setting should not be set to **Auto** when using WDS.



To create a new WDS, click **Add**.

WDS	
Enable	Check this box to enable WDS.
MAC Address	Enter the MAC address of the access point with which to form a WDS link.
Encryption	Select **AES** to enable encryption for WDS peer connections. Selecting **None** disables encryption.

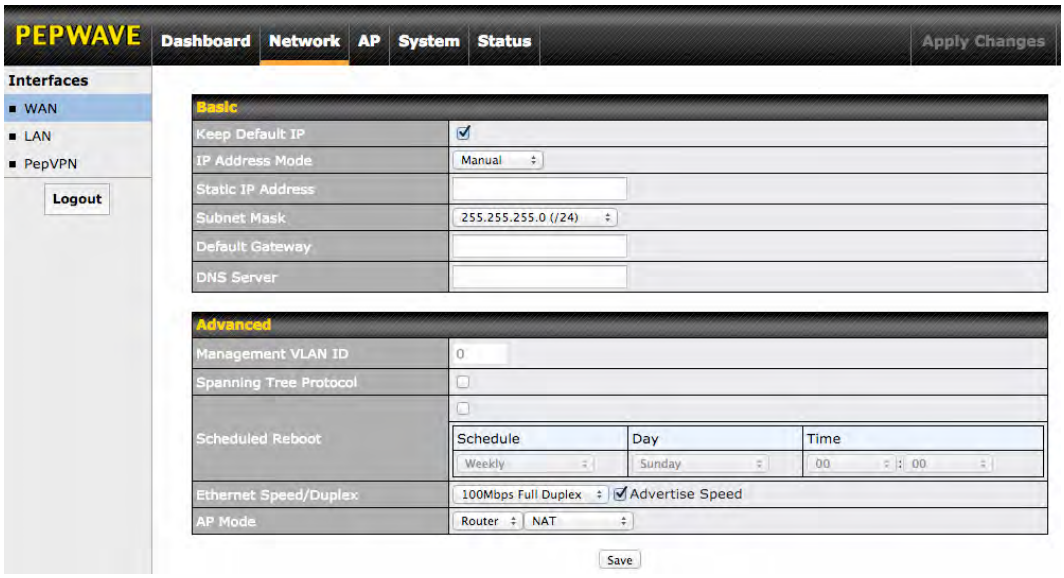
 Copyright © 2015 Pepwave

7.3 Network

The settings on the **AP** tab control WAN and LAN settings, as well as allow you to set up PepVPN profiles.

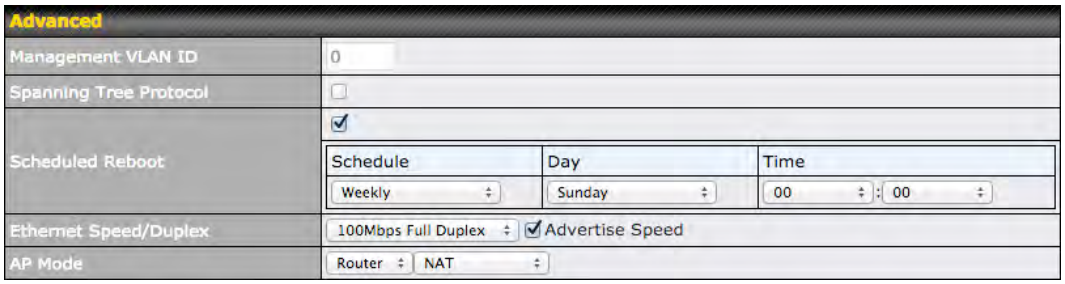
7.3.1 WAN

This section provides basic and advanced WAN settings.



Basic	
Keep Default IP	When enabled, this option maintains **192.168.0.3** as your access point's IP address.
IP Address Mode	**IP Address Mode** options are **Automatic** and **Manual**. In **Automatic** mode, the IP address of your access point is acquired from a DHCP server on the Ethernet segment. In **Manual** mode, a user-specified IP address is used for your access point, as described below.
Static IP Address / Subnet Mask	You can use these fields to specify a unique IP address that your access point will use to communicate on the Ethernet segment. This IP address is distinct from the admin IP address (192.168.0.3) on the Ethernet segment.
Default Gateway	Enter the IP address of the default gateway to the internet.
DNS Server	Enter the DNS server address that your access point will use to resolve host names.

 Copyright © 2015 Pepwave

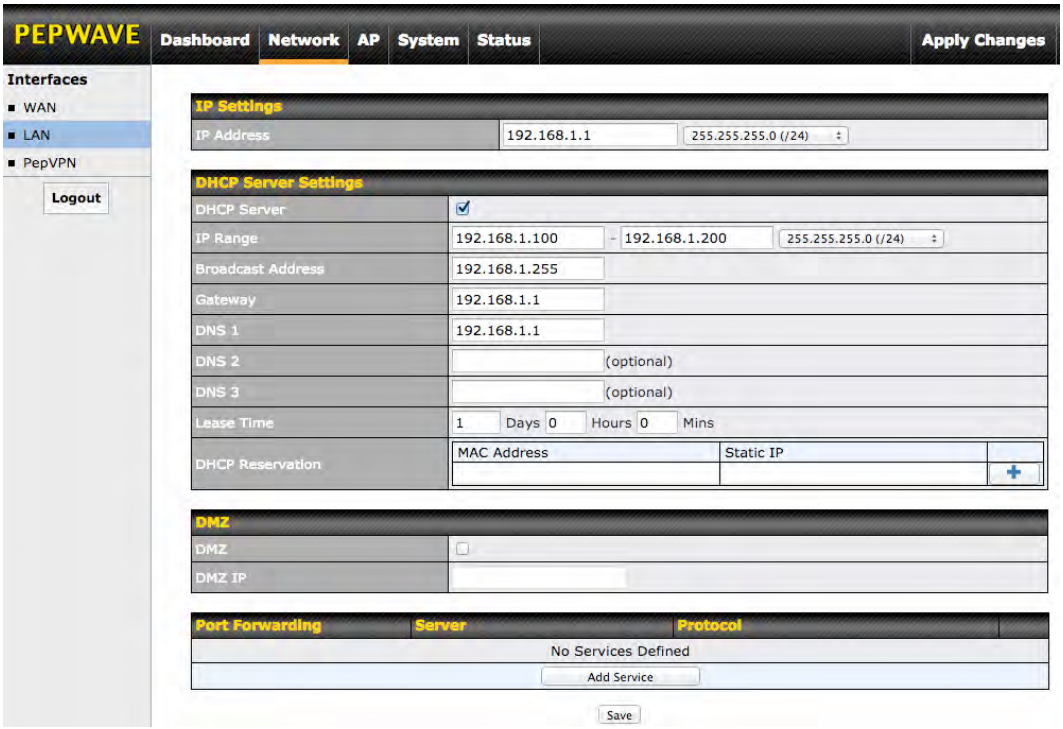


Advanced	
Management VLAN ID	This field specifies the VLAN ID to tag to management traffic, such as AP-to-AP controller communication traffic. The value is **0** by default, meaning that no VLAN tagging will be applied. NOTE: change this value with caution as alterations may result in loss of connection to the AP controller.
Spanning Tree Protocol	Checking this box enables spanning tree protocol, used to prevent loops in bridged Ethernet LANs
Scheduled Reboot	When this box is checked, your access point can be scheduled to reboot automatically on a recurring basis, as indicated by the values under the **Schedule**, **Day**, and **Time** headings.
Ethernet Speed/Duplex	Select a speed and duplex setting for sending and receiving. When selecting a speed manually, you can also control whether the access point's speed will be advertised on the network by checking or unchecking the **Advertise Speed** box. When **Auto** is selected, your access point will automatically negotiate speeds.
AP Mode	Your access point can act as a bridge or as a router, depending on your selection here. When **Router** is selected, you can additionally select whether the access point will function in **NAT** or **IP Forwarding** mode.

 Copyright © 2015 Pepwave

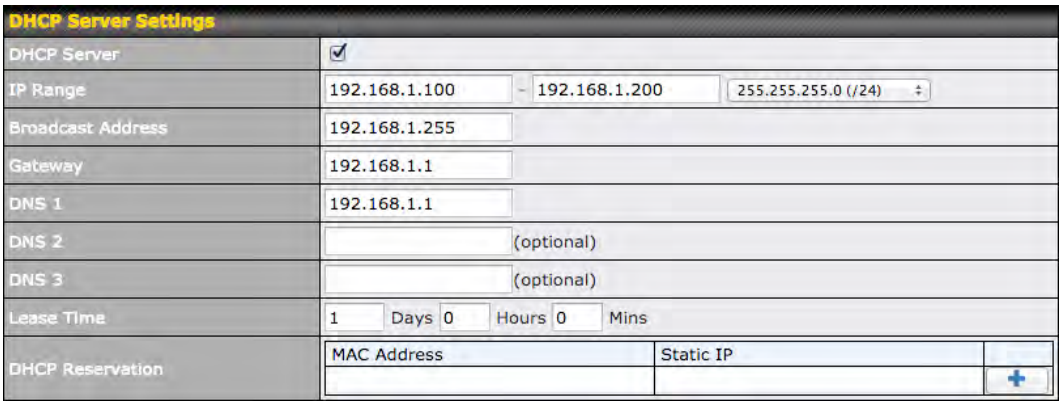
7.3.2 LAN

This section offers a variety of settings that affect your access point's operation on the LAN, such as settings for DHCP, DMZ, and port forwarding. Note that the following settings will be available only when your access point is operating in router mode.



IP Settings	
IP Address	Enter the LAN IP address and subnet mask to assign to your access point on the LAN.

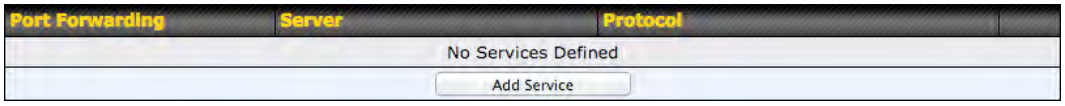
 Copyright © 2015 Pepwave



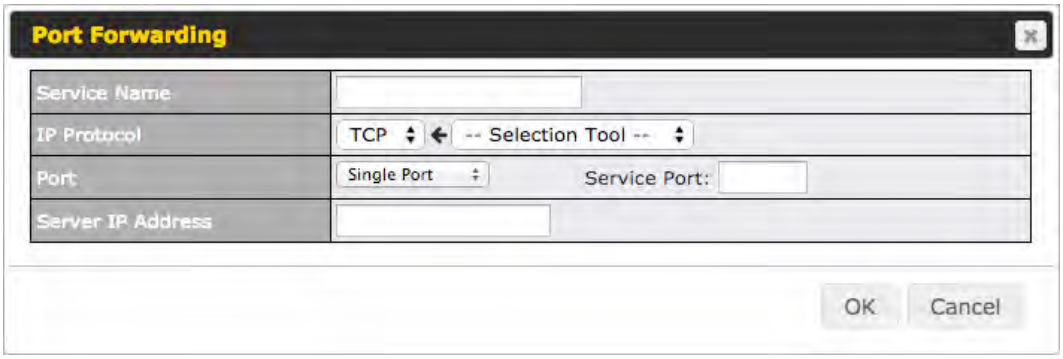
DHCP Server Settings	
DHCP Server	Check to enable the DHCP server feature of your access point. Enabling DHCP is the best option for most users. The following options will be enabled once you have checked and enabled the DHCP server.
IP Range	Enter the first and last IP addresses of the range of addresses that your access point will make available to DHCP clients. The default range is from **192.168.1.100** to **192.168.1.200**, with 24-bit subnet mask.
Broadcast Address	Enter the broadcast address that DHCP clients will use when communicating with the entire LAN segment. The default value is **192.168.1.255**.
Gateway	Enter the default gateway address that DHCP clients will use to access the internet. By default, this address will be the same as your access point's IP address on the LAN.
DNS 1/2/3	In **DNS 1**, enter the IP address of the primary DNS server offered to DNS clients or accept the default of **192.168.1.1**, which is your access point's address on the LAN. You can also specify up to two additional DNS servers to use when the primary server is busy or down.
Lease Time	Specify the length of time that an IP address of a DHCP client remains valid. When an address lease time has expired, the assigned IP address is no longer valid, and renewal of the IP address assignment is required. By default, this value is set to one day.
DHCP Reservation	To reserve certain addresses for specific clients, such as network printers, enter the device's MAC Address and a static IP to be assigned to the device. Click to add the DHCP reservation. To delete a DHCP reservation, click .

 Copyright © 2015 Pepwave

DMZ	
DMZ	Check this box to forward traffic sent to the WAN IP address to the DMZ IP address.
DMZ IP	Enter an IP address clients will use to connect to the DMZ.



To create a port forwarding rule, first click the **Add Service** button, located in the **Port Forwarding** section.



Port Forwarding	
Service Name	Enter a name for the new port forwarding rule. Valid values for this setting consist of alphanumeric and underscore "_" characters only.
IP Protocol	The **IP Protocol** setting, along with the **Port** setting, specifies the protocol of the service as TCP, UDP, ICMP, or IP. Traffic that is received by your access point via the specified protocol at the specified port(s) is forwarded to the LAN hosts specified by the **Servers** setting. Please see below for details on the **Port** and **Servers** settings. Alternatively, the **Protocol Selection Tool** drop-down menu can be used to automatically fill in the protocol and a single port number of common Internet services (e.g., HTTP, HTTPS, etc.). After selecting an item from the **Protocol Selection Tool** drop-down menu, the protocol and port number remain manually modifiable.
Port	The **Port** setting specifies the port(s) that correspond to the service, and can be configured to behave in one of the following manners: **Single Port**, **Port Range**, **Port Mapping**

 Copyright © 2015 Pepwave

Single Port: Traffic that is received by your access point via the specified protocol at the specified port is forwarded via the same port to the servers specified by the **Server IP Address** setting. For example, with **IP Protocol** set to **TCP**, and **Port** set to **Single Port** and **Service Port** 80, TCP traffic received on port 80 is forwarded to the configured servers via port 80.

Port Range: Traffic that is received by your access point via the specified protocol at the specified port range is forwarded via the same respective ports to the LAN hosts specified by the **Server IP Address** setting. For example, with **IP Protocol** set to **TCP**, and **Port** set to **Port Range** and **Service Ports** 80-88, TCP traffic received on ports 80 through 88 is forwarded to the configured servers via the respective ports.

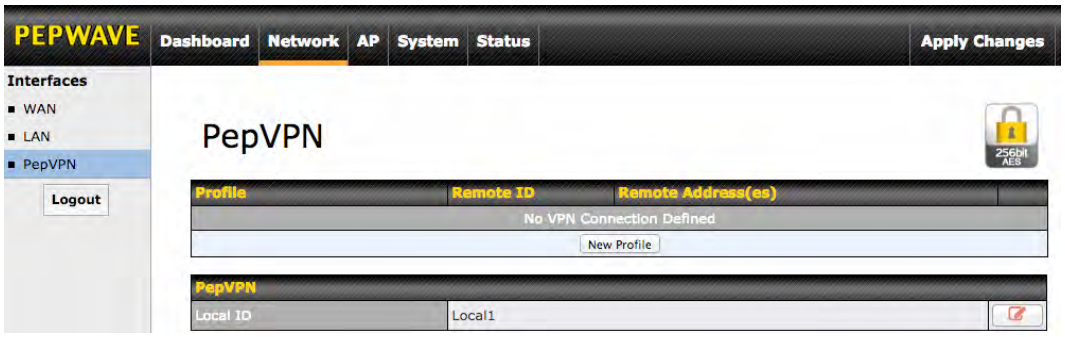
Port Mapping: Traffic that is received by your access point via the specified protocol at the specified port is forwarded via a different port to the servers specified by the **Server IP Address** setting.

For example, with **IP Protocol** set to **TCP**, and Port set to **Port Mapping**, **Service Port** 80, and **Map to Port** 88, TCP traffic on Port 80 is forwarded to the configured server via Port 88.

Server IP Address	Enter the LAN IP address of the server that handles requests for the forwarded service.

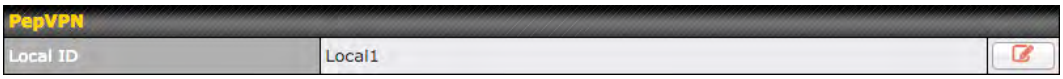
7.3.3 PepVPN

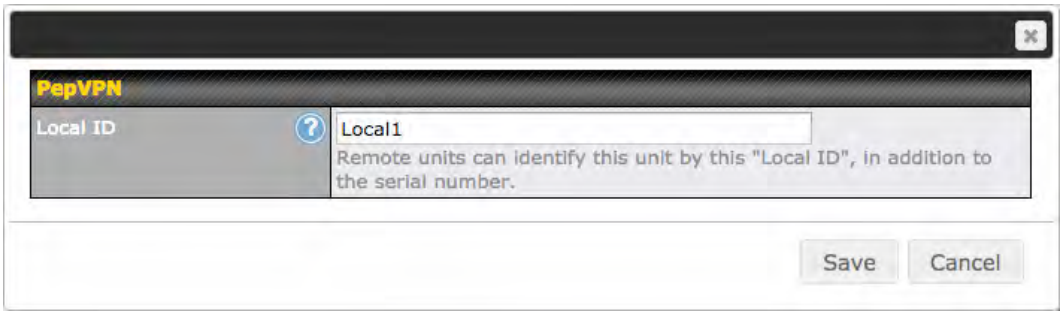
PepVPN securely connects one or more remote sites to the site running your access point.



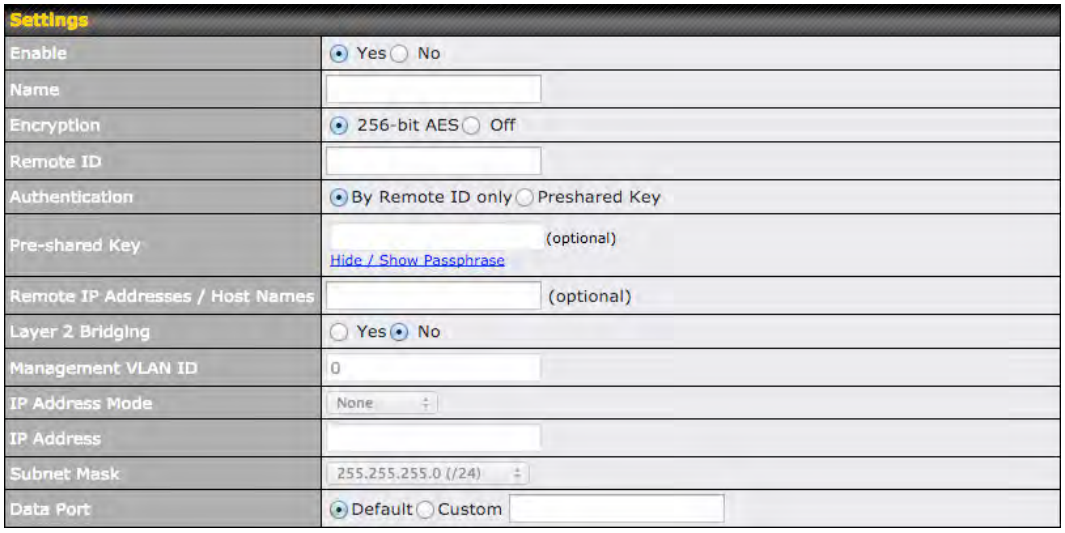
 Copyright © 2015 Pepwave

To set up PepVPN, first give your site a local PepVPN ID. To modify an existing local ID, click





Once you've specified a local ID, click the **New Profile** button to configure PepVPN.



PepVPN Profile Settings	
Enable	Check this box to enable PepVPN.
Name	Enter a name to represent this profile. The name can be any combination of alphanumeric characters (0-9, A-Z, a-z), underscores (_), dashes (-), and/or non-leading/trailing spaces ( ).
Encryption	By default, VPN traffic is encrypted with **256-bit AES**. If **Off** is selected on both sides of a VPN connection, no encryption will be applied.
Remote ID	To allow your access point to establish a VPN connection with a specific remote peer using a unique identifying number, enter the peer's ID or serial number here.
Authentication	Select **By Remote ID Only** or **Preshared Key** to specify the method your access point will use to authenticate peers. When selecting **By Remote ID Only**, be sure to enter a

 Copyright © 2015 Pepwave

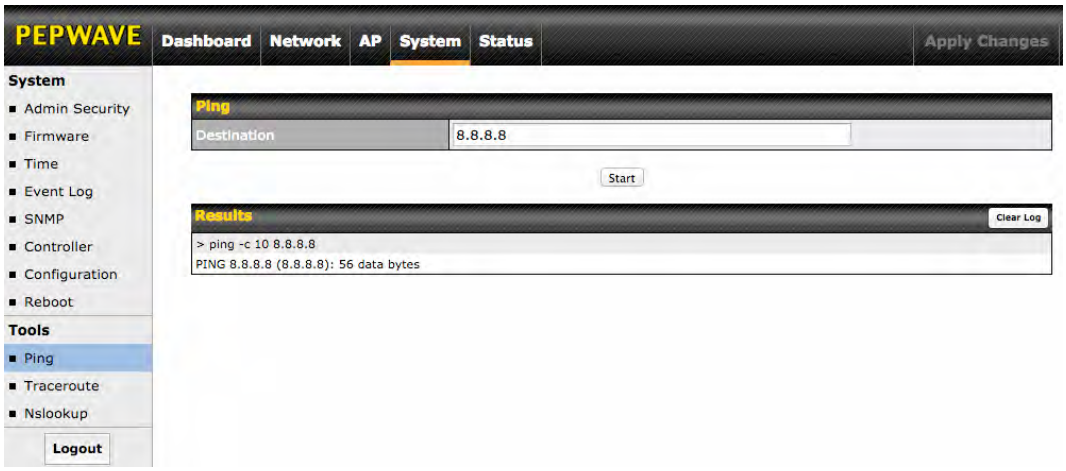
	unique peer ID number in the **Remote ID** field.
Pre-shared Key	This optional field becomes available when **Pre-shared Key** is selected as the VPN **Authentication** method, as explained above. **Pre-shared Key** defines the pre-shared key used for this particular VPN connection. The VPN connection's session key will be further protected by the pre-shared key. The connection will be up only if the pre-shared keys on each side match. Click **Hide / Show Passphrase** to toggle passphrase visibility.
Remote IP Address / Host Names (Optional)	Optionally, you can enter a remote peer's WAN IP address or hostname(s) here. If the remote client uses more than one address, enter only one of them here. Multiple hostnames are allowed and can be separated by a space character or carriage return. Dynamic-DNS host names are also accepted. With this field filled, your access point will initiate connection to each of the remote IP addresses until it succeeds in making a connection. If the field is empty, your access point will wait for connection from the remote peer. Therefore, at least one of the two VPN peers must specify this value. Otherwise, VPN connections cannot be established.
Layer 2 Bridging	When this check box is unchecked, traffic between local and remote networks will be IP forwarded. To bridge the Ethernet network of an Ethernet port on a local and remote network, select **Layer 2 Bridging**. When this check box is selected, the two networks will become a single LAN, and any broadcast (e.g., ARP requests) or multicast traffic (e.g., Bonjour) will be sent over the VPN.
Management VLAN ID	This field specifies the VLAN ID that will be tagged to management traffic, such as AP-to-AP controller communication traffic. A value of 0 indicates that no VLAN tagging will be applied.
IP Address Mode	Choose **Automatic** or **Manual**. In automatic mode, your access point acquires an IP from a DHCP server on the Ethernet segment. In manual mode, your access point uses a user-specified IP address.
IP Address/Subnet Mask	When using manual IP addressing (above), enter an IP address and subnet mask in these fields.
Data Port	This field specifies the outgoing UDP port number for transporting VPN data. If **Default** is selected, port 4500 will be used by default. Port 32015 will be used if port 4500 is unavailable. If **Custom** is selected, you can input a custom outgoing port number between 1 and 65535.

 Copyright © 2015 Pepwave

8 Tools

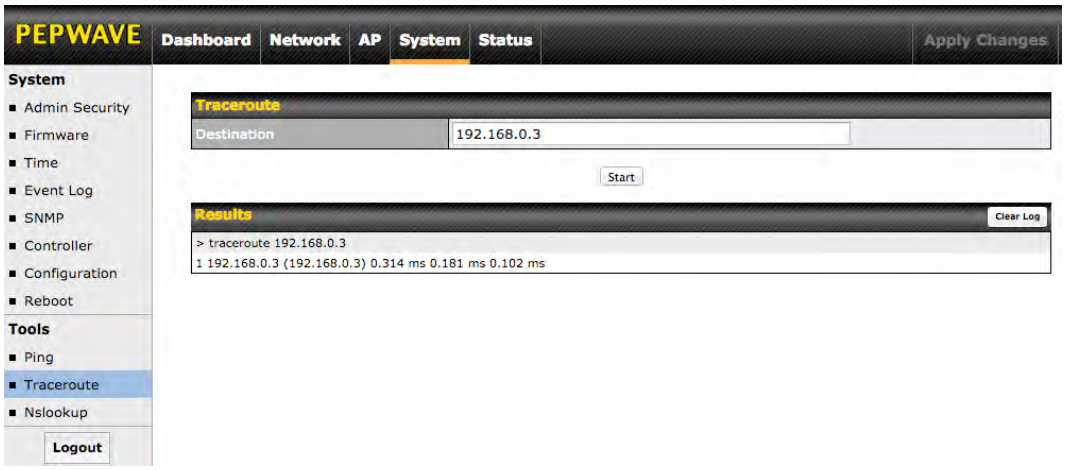
8.1 Ping

The ping test tool tests connectivity pinging the specified destination IP address. The ping utility is located at **System>Tools>Ping**.



8.2 Traceroute

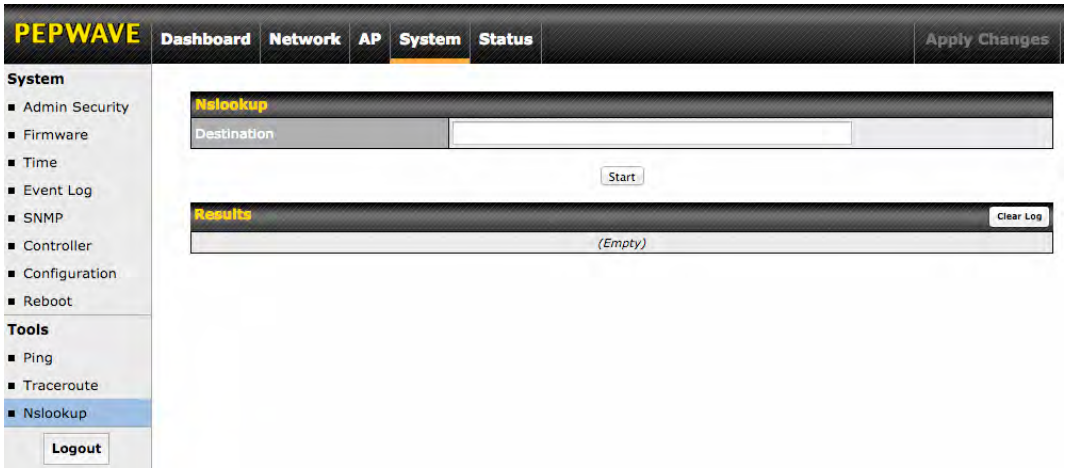
The traceroute test tool traces the routing path to the specified IP address. The traceroute test utility is located at **System>Tools>Traceroute**.



 Copyright © 2015 Pepwave

8.3 Nslookup

The nslookup tool is used to test DNS name servers. The nslookup utility can be found at **System>Tools>Nslookup**.



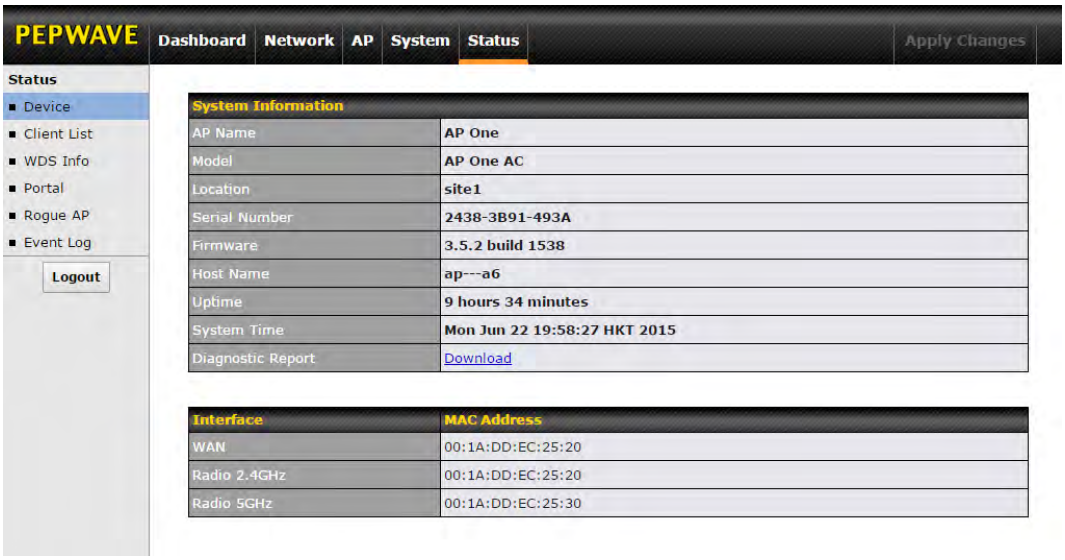
 Copyright © 2015 Pepwave

9 Monitoring Device Status

The displays available on the **Status** tab help you monitor device data, client activity, rogue device access, and more.

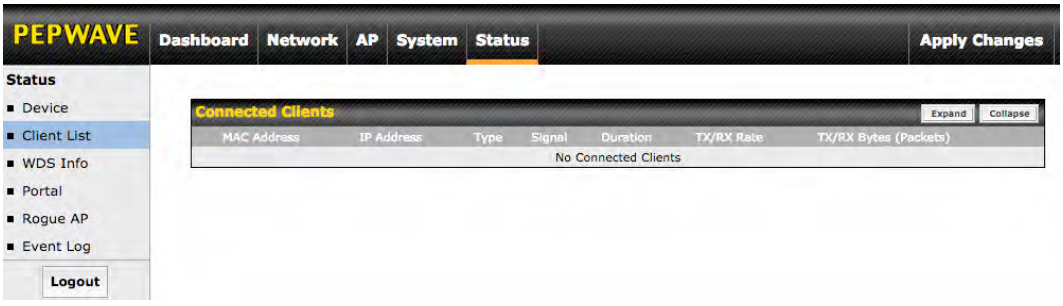
9.1 Device

Here you can access a variety of data about your access point, download a diagnostic report, and check MAC addresses. To download a diagnostic report, click the **Download** link.



9.2 Client List

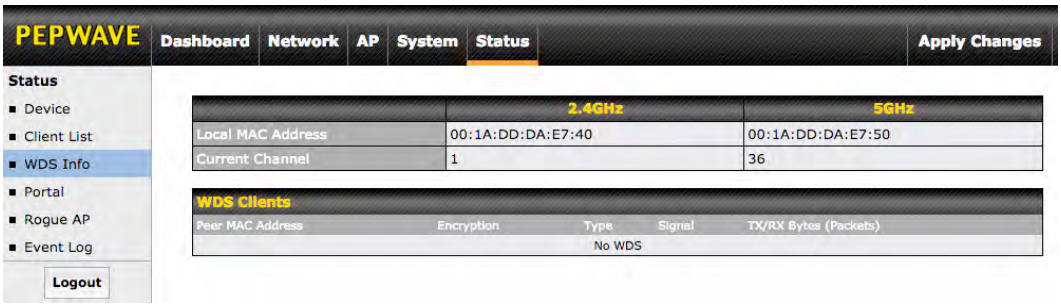
The **Client List** displays all currently connected clients. Use the **Expand** and **Collapse** buttons to control the amount of data displayed.



 Copyright © 2015 Pepwave

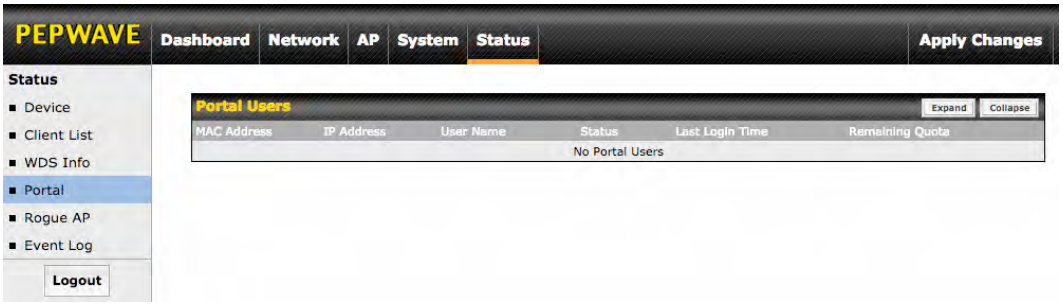
9.3 WDS Info

Here you can monitor the status of your wireless distribution system (WDS) and track activity by MAC address. If you're using the AP One AC mini, this section will display information for both the 2.4GHz and 5GHz radios.



9.4 Portal

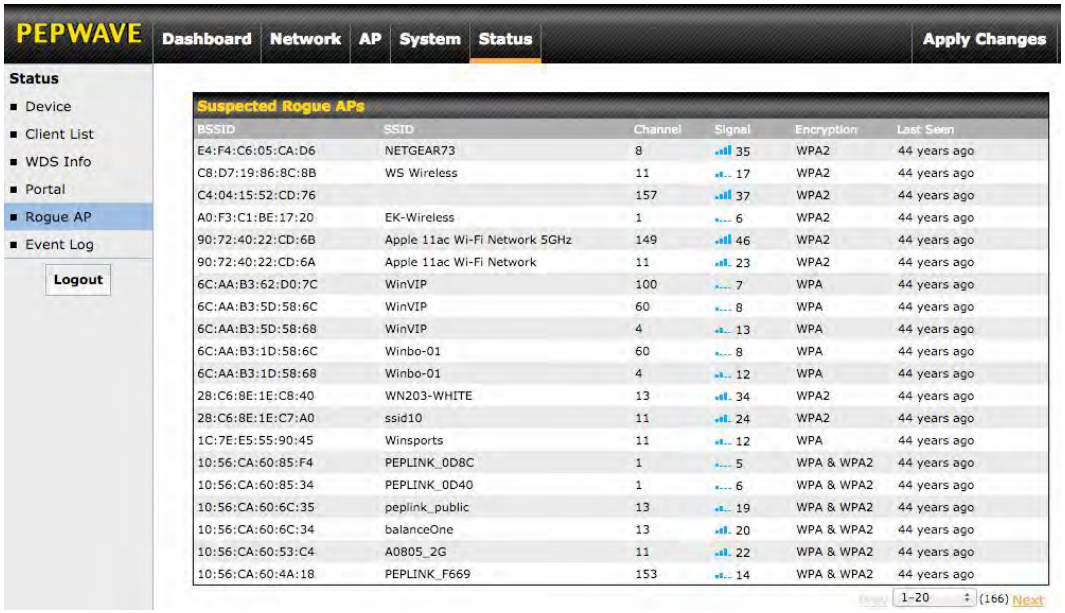
If you've turned on your access point's captive portal, client connection data will appear here. Use the **Expand** and **Collapse** buttons to control the amount of data displayed.



 Copyright © 2015 Pepwave

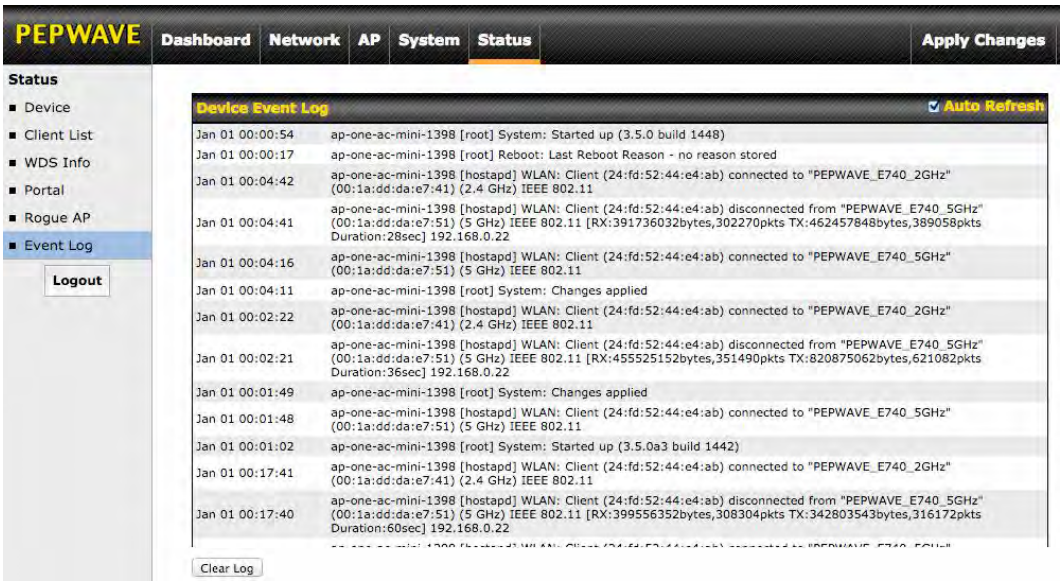
9.5 Rogue AP

This section displays a list of nearby suspected rogue access points.



9.6 Event Log

The **Event Log** displays a list of all events associated with your access point. Check **Auto Refresh** to refresh log entries automatically. Click the **Clear Log** button to clear the log.



 Copyright © 2015 Pepwave

10 Restoring Factory Defaults

The following procedure restores the settings of your access point to factory defaults:

- Power on the unit and wait for one minute.
- Press and hold the reset button for at least five seconds, then release.
- The unit will automatically reboot.
- Wait for one minute or until the status LED turns green, upon which the settings of the device will have been restored to the factory defaults.

By default, the unit will acquire an IP address from a DHCP server.

 Copyright © 2015 Pepwave

11 Appendix

Federal Communication Commission Interference Statement

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

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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.

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

IMPORTANT NOTE

FCC Radiation Exposure Statement

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

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

The availability of some specific channels and/or operational frequency bands is country dependent and is firmware programmed at the factory to match the intended destination.

12 Datasheets

 Copyright © 2015 Pepwave

AP One

PEPWAVE
Broadband Possibilities

Fast, Secure and Manageable Enterprise Wireless for Every Environment

Pepwave AP One access points deliver enterprise-grade performance, the flexibility to deploy anywhere, and easy setup and management. From the tiny but mighty AP One AC Mini to the super tough AP One Flex 300M, the AP One series offers fast, secure, long-range Wi-Fi that goes wherever you do.

AP One AC mini | AP One In-Wall | AP One Enterprise

All-Weather Enclosure | Rugged Electronics | Central Reporting & Management

InControl²
Setup. Manage. Report.
InControl 2 Cloud Management

AP Controller
AP Controller with
Peplink Balance Multi-WAN Routers

Go the Distance.

Our exclusive signal-boosting technology virtually eliminates dead spots and dropouts. You get full transmit power across all channels, unmatched range and reliability with less equipment and less management effort.

Go for Easier AP Management.

It's simple to configure AP One series access points wherever you work. For onsite management, you have complete control and comprehensive reporting from any Peplink Balance/MAX# router. And with InControl 2, our cloud management solution, you get real-time client lists and bandwidth activity, plus a handy device snapshot, all from any device running a supported web browser.

#MAX routers include MAX 700 & HD series only.

Go Wireless Anywhere.

Indoors or outdoors, there's an AP One access point for any job.

AP One Flex 300M
The AP One Flex features an IP55 all-weather enclosure and provides seamless coverage over large areas.

AP One 300M
Housed in tough metal enclosures and easy to integrate with the rest of your network, the AP One 300M set the standard for high-performance, low-maintenance indoor Wi-Fi.

AP One In-Wall
The AP One In-Wall mounts on a standard electrical outlet box for installations without big boxes or nests of wires.

AP One AC mini
Compact and capable, the AP One AC mini delivers true AP One power in a palm-sized package that fits in your pocket.

AP One Enterprise
Powered by PoE, the AP One Enterprise has 3x3 MIMO dual-radio Wi-Fi transmits wireless data at up to 1750Mbps. You can mount it directly to the ceiling at office.

For Education – Setup, Manage, and Monitor Campus Wi-Fi from Your Peplink Balance/MAX#

4 AP One Flex 300M can deliver guest Wi-Fi while connecting and powering up to two 802.3af/48V Pepwave passive PoE- enabled devices, such as surveillance cameras

5 Web blocking keeps your students and staff out of unwanted websites and help them stay away from distraction

6 Get detailed access point usage reports anytime, right from your Balance 2500

1 Provision campus-wide Wi-Fi with the Balance 2500's built-in **AP Controller**

3 Featuring a rugged metallic enclosure that is both desktop- and wall-mount friendly, the AP One 300M are ideal for large indoor areas requiring multiple access points

2 Mountable in standard US or EU/worldwide single-gang wall jacks, AP One In-Wall is a perfect fit for lecture halls and classrooms

* Requires 48V Pepwave passive PoE input, available separately.

AP Controller is a software-based AP management tool for Balance and selected MAX routers. It lets you manage your entire wireless network, with AP One and AP Pro, from your Balance or MAX router. Visit peplink.com/ap-controller for details.

Features

Network
Bridge Mode
Router (NAT) Mode
Wireless Distribution System (WDS)
Support for PPPoE, Static IP, DHCP
Management VLAN
Spanning Tree Protocol

Radio
Multiple SSID
Auto Channel Selection
Transmit Power Adjustment
Neighbor AP Detection

Client Managment
Per SSID
- VLAN with QoS (802.1p/802.1Q)
- Bandwidth Control
- MAC Address Filtering
- Layer 2 Client Isolation
- Limit on Max. Number of Client

Per Client
- VLAN with RADIUS
- VLAN with VLAN Pool
- Bandwidth Control

Multicast Filter
IGMP Snooping/Multicast Enhancement

AP Security
Open, WEP
802.1X with Dynamic WEP
WPA2-Personal
WPA2-Enterprise
WPA/WPA2-Personal
WPA/WPA2-Enterprise

Complete VPN Solution
PepVPN
- Site-to-Site VPN
- 256-bit AES Encryption
- Pre-shared Key Authentication

Captive Portal
By InControl
By Peplink AP Controller

Device Management
Web Administrative Interface
InControl Cloud Management
Peplink AP Controller
SNMP v1, v2c and v3

Certification
FCC, CE, RoHS

Applications

For SMBs – Setup, Manage, and Monitor Office Wi-Fi from Your Peplink Balance/MAX#

3 Sit back while your Balance One automatically configures your access points

4 Web blocking keeps your staff out of unwanted websites and help them stay productive

5 Get detailed access point usage reports anytime, right from your Balance One

Balance One

2 Power-on AP One access points and connect them to your office LAN with Ethernet cables

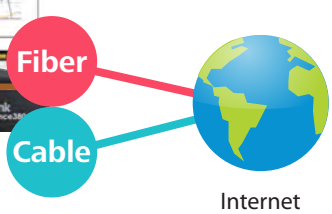
1 Provision AP One access points with the Balance One's built-in **AP Controller**

For Hospitality – Offer Guest Hotspots Complete with Captive Portals

3 AP One Flex 300M can deliver guest Wi-Fi while connecting and powering up to two 802.3af/48V Pepwave passive PoE-enabled devices, such as surveillance cameras

4 Web blocking keeps your guests out of unwanted websites

5 View detailed usage reports right from your Balance 380



Balance 380

1 Setup custom portal and T&C pages, as well as optional time- or usage-based quotas you can monitor using the Balance 380's intuitive interface

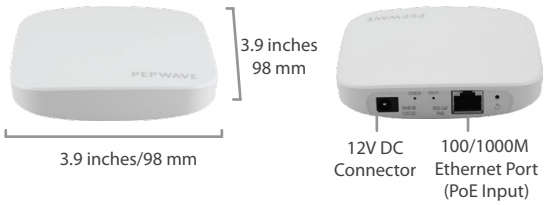
2 Guests connect to your Wi-Fi hotspot, accept T&C on your captive portal, and start surfing

* Requires 48V Pepwave passive PoE input, available separately.

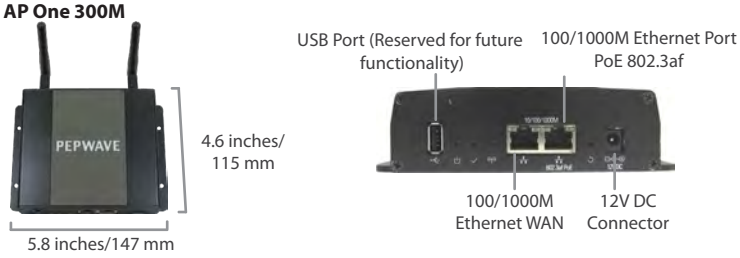
Specifications

	AP One AC Mini	AP One 300M	AP One Enterprise	AP One In-Wall	AP One Flex 300M
Product Code	APO-AC-MINI	APO-AGN	APO-ENT	APO-AGN2-IW-US/APO-AGN2-IW	APO-FLX-GN
Ethernet Port	1x GE	2x GE	1x GE	1x FE Uplink 4x FE	1x FE
Wi-Fi Standard	Simultaneous 802.11ac/a/n and 802.11b/g/n	802.11a/n or 802.11b/g/n	Simultaneous 802.11ac/a/n and 802.11b/g/n	Simultaneous 802.11a/n and 802.11b/g/n	802.11b/g/n
Data Rates	2x2 MMO 2.4 GHz: 300Mbps 5GHz: 866Mbps	2x2 MMO 2.4 GHz: 300Mbps or 5 GHz: 300Mbps	3x3 MIMO 2.4GHz: 450Mbps 5GHz: 1300Mbps	2x2 MMO 2.4 GHz: 300Mbps 5 GHz: 300Mbps	2x2 MMO 2.4 GHz: 300Mbps
Recommended Concurrent Users Per Radio	60	60	60	60	60
SSID Per Radio	16	16	16	16	16
Transmit Power	2412 – 2472 MHz: 23dBm 5180 – 5825 MHz: 17dBm	2412 – 2472 MHz: 25dBm 5180 – 5825 MHz: 22dBm	2412 - 2472 MHz: 24dBm 5180 - 5825 MHz: 23dBm	2412 – 2472 MHz: 17dBm 5180 – 5825 MHz: 17dBm	2412 – 2472 MHz: 28dBm
Included Antenna	Built-In Omni Antenna Antenna gain: 2dBi for 2.4GHz, 4dBi for 5GHz	2x Dual-Band Omni Antenna Antenna gain: 3dBi for 2.4GHz, 5dBi for 5GHz	Built-in Omni antenna Antenna gain: 3dBi for 2.4GHz, 4dBi for 5GHz	Built-In MIMO Omni Antenna Antenna gain: 2dBi for 2.4GHz, 4dBi for 5GHz	Built-In, Switchable 10dBi MIMO Directional (75° Horizontal x 35° Vertical Beamwidths) and 4dBi MIMO Omni Antennas
Antenna Connector	N/A	2x RP-SMA Connectors	N/A	N/A	N/A
Enclosure	Plenum-rated, Indoor Plastic	Ruggedized Metal	Plenum-rated, Indoor Plastic	Plenum-rated, Indoor Plastic . Mounts Into Standard US/EU Single Gang Wall Jack	Waterproof IP55 Outdoor
Weight	0.33 pound 150 grams	0.93 pound 420 grams	0.57 pound 260 grams	0.37 (US) / 0.34 pound 170 (US) / 155 grams	1.15 pounds 520 grams
Power Input	AC Adapter: AC Input 100V – 240V, DC Output 12V 802.3af PoE (Injector Not Included)		802.3af PoE (Injector Not Included)	48V DC Connector 802.3af/802.3at PoE	Pepwave Passive PoE: 12V – 48V DC (48V Pepwave Passive PoE Input is Needed for 802.3af or Pepwave Passive PoE Output)
Power Consumption	12W (max.)	11W (max.)	13W (max.)	15W (max.)	15W (max.)
Operating Temperature	23° - 113°F -5° - 45°C	-4° – 149°F -20° – 65°C	23° - 113°F -5° - 45°C	-4° – 104°F -20° – 40°C	-4° – 149°F -20° – 65°C
Humidity	15% – 95% (non-condensing)				
Certifications	FCC, CE, RoHS				
Warranty	1-Year Limited Warranty				

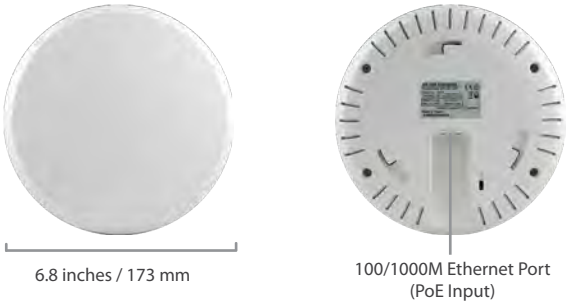
AP One AC Mini



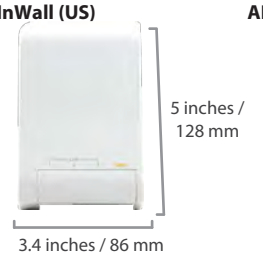
AP One 300M



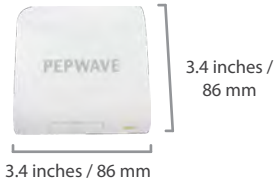
AP One Enterprise

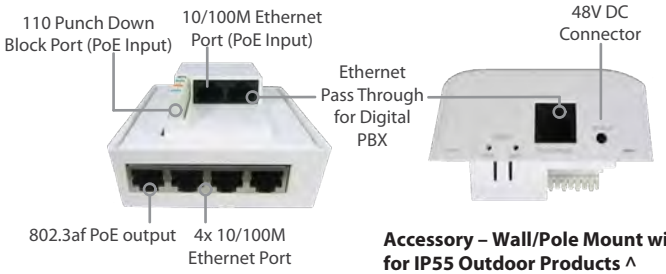


AP One InWall (US)

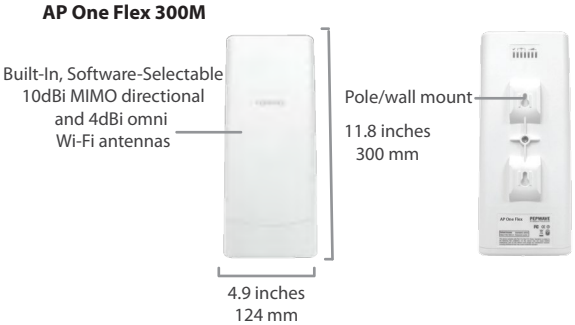


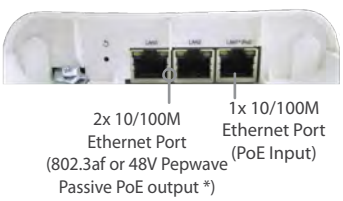
AP One InWall (International)



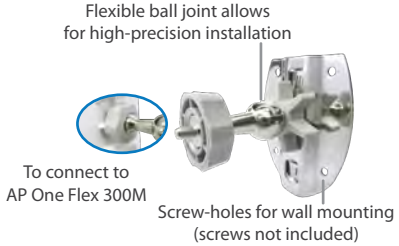


AP One Flex 300M





Accessory – Wall/Pole Mount with Ball Joint for IP55 Outdoor Products ^



* Requires 48V Pepwave Passive PoE input. Available separately.

^ Available separately.

www.pepwave.com

PEPWAVE
Broadband Possibilities

©Pepwave. All rights reserved. Pepwave, the Pepwave logo, and SpeedFusion are trademarks of Pepwave Ltd. Other brands and product names are trademarks or registered trademarks of their respective holders. All specifications are subject to change without notice.

PEPWAVE

Broadband Possibilities

www.pepwave.com

Contact Us:

Sales

http://www.pepwave.com/contact/sales/

Support

http://www.pepwave.com/contact/

Business Development and Partnerships

http://www.pepwave.com/partners/channel-partner-program/