

There are 4 pins i.e. TX, RX, RTS, CTS on the terminal block for serial connection and they correspond to the pins in a DB-9 connector as follows:

DB-9 Pepwave MAX Terminal Block

- Pin 1 –
- Pin 2 Rx (rated -+25V)
- Pin 3 Tx (rated -+12V)
- Pin 4 –
- Pin 5 –
- Pin 6 –
- Pin 7 RTS
- Pin 8 CTS
- Pin 9 –

The RS232 serial interface is not an isolated RS232. External galvanic isolation may be added if required.

Be sure to check whether your serial cable is a null modem cable, commonly known as crossover cable, or a straight through cable. If in doubt, swap Rx and Tx, and RTS and CTS, at the other end and give it another go.

Once connected, your serial device should be accessible on your Pepwave MAX router LAN IP address at the specified TCP port.



23.6 GPS Forwarding

Using the GPS forwarding feature, some Pepwave routers can automatically send GPS reports to a specified server. To set up GPS forwarding, navigate to **Advanced>GPS Forwarding**.

GPS Forwarding				
Enable	۲			
Server	Server IP Address / Host Name	Port	Protocol	Report Interval (s)
			UDP •	1 +
GPS Report Format	● NMEA ○ TAIP			
NMEA Sentence Type	GPRMC			
	GPGGA			
	GPVTG			
	GPGSA			
	GPGSV			
Vehicle ID				

	GPS Forwarding
Enable	Check this box to turn on GPS forwarding.
Server	Enter the name/IP address of the server that will receive GPS data. Also specify a port number, protocol (UDP or TCP), and a report interval of between 1 and 10 seconds. Click to save these settings.
GPS Report Format	Choose from NMEA or TAIP format for sending GPS reports.
NMEA Sentence Type	If you've chosen to send GPS reports in NMEA format, select one or more sentence types for sending the data (GPRMC , GPGGA , GPVTG , GPGSA , and GPGSV).
Vehicle ID	The vehicle ID will be appended in the last field of the NMEA sentence. Note that the NMEA sentence will become customized and non-standard.
TAIP Sentence Type/TAIP ID (optional)	If you've chosen to send GPS reports in TAIP format, select one or more sentence types for sending the data (PV—Position / Velocity Solution and CP—Compact Velocity Solution). You can also optionally include an ID number in the TAIP ID field.

23.7 Ignition Sensing

Ignition Sensing detects the ignition signal status of a vehicle it is installed in.



This feature allows the cellular router to start up or shut down when the engine of that vehicle is started or turned off.

The time delay setting between ignition off and power down of the router is a configurable setting, which allows the router to stay on for a period of time after the engine of a vehicle is turned off.

Ignition Sensing installation

	Functoin		Colour Wire
	I/O	optional*	Brown
	IGN I/P	connected to positive feed on the ignition .	Orange
	DC IN -	connected to permanent negative feed (ground)	Black
- + DC IN	DC IN +	connected to permanent positive feed (power 12VDC, 2A)).	Red
	* Currently	/ not functional; will be used for additional features	in future firmware



Connectivity diagram for devices with 4-pin connector



Connectivity diagram for devices with terminal block connection





GPIO Menu

The Ignition Sensing options are available in **Advanced > GPIO** The configurable option for Ignition Input is **Delay**; the time in seconds the router stays powered on after the ignition is turned off.

IGN I/P	
Enable	
Туре	Digital Input 🔻
Mode	Ignition Sensing
Delay	seconds

Still under development:

O/P (connected to I/O pin on 4 pin connector) can be configured as a digital input, digital output or analog input.

Digital Input - the connection supports input sensing; it reads the external input and determine iteh settings should be 'High' (on) or 'Low' (off).

Digital Output - when there is a healthy WAN connection, the output pin is marked as 'High' (on). Otherwise, it will be marked as 'Low' (off)

Analog Input - to be confirmed. In most cases should read the external input and determine the voltage level.

O/P		
Enable	0	
Туре	Digital Output 🔻	
Mode	WAN Status 🔻	



23.8 Grouped Networks

Advanced > Grouped Networks allows to configure destination networks in grouped format.

Grouped Networks		
Name	Networks	
<u>Example</u>	192.168.1.71/28	×
	Add Group	

Select Add group to create a new group with single IPaddresses or subnets from different VLANs.

Name	Example	
Networks	Network	Subnet Mask
	192.168.1.71	255.255.255.240 (/28) 🕇 🗶
		255.255.255 (/32) 🕇

The created network groups can be used in outbound policies, firewall rules.

23.9 SIM Toolkit

The SIM Toolkit, accessible via **Advanced > Misc Settings > SIM Toolkit**, supports two functionalities, USSD and SMS.

USSD

Unstructured Supplementary Service Data (USSD) is a protocol used by mobile phones to communicate with their service provider's computers. One of the most common uses is to query the available balance.



SIM Status	
WAN Connection	Cellular
SIM Card	1
IMSI	294287983043004
Tool	USSD T
USSD	
USSD Code	Submit

Enter your USSD code under the **USSD Code** text field and click **Submit**.

SIM Status			
WAN Connection	Cellular	T	
SIM Card	1		
IMSI	856195002108538	856195002108538	
USSD Code	*138#	Submit	
Receive SMS	Get		

You will receive a confirmation. To check the SMS response, click Get.

SIM Status			
WAN Connection	Cellular	¥	
SIM Card	1	1	
IMSI	856195002108538	856195002108538	
USSD Code	*138#	Submit	
USSD Status	Request is sent succe	Request is sent successfully	
Receive SMS	Get		

After a few minutes you will receive a response to your USSD code

Received SMS		<i>Hindelette</i>
May 27 20:02	PCX As of May 27th Account Balance: \$ 0.00 Amount Unbilled Voice Calls: 0 minutes SMS (Roaming): 0 SMS (Within Network): 0 MMS (Roaming):0 MMS (Within Network): 0 Data Usage: 7384KB (For reference only, please refer to bill)	×
Aug 8 , 2013 14:51	PCX iPhone & Android users need to make sure "PCX" is entered as the APN under "Settings" > "Mobile network setting" for web browsing and mobile data service. Other handset models will receive handset settings via SMS shortly (PIN: 1234) (Consumer Service Hotline: 1000 / Business Customer Hotline 10088)	×

SMS

The SMS option allows you to read SMS (text) messages that have been sent to the SIM



in your Peplink router.

SIM Status		
WAN Connection	Cellular	
SIM Card	1	
IMSI	23430730858288	
Tool	SMS T	

SMS		Refresh
Jun 21, 2017 18:00	Pre- Transis you, your anti-parametric / With Sile - you can share privice of an you first hopes at them. as all.	×
May 06, 2017 12:23	(Abov) where is him over will is weaky invites. So is your High momentum your desiration or a webby phase who have negative there are a solutioned in	×
Mar 15, 2017 10:03	From Stars rests, There is planted therefore an the domestic time BCC and the week. If your pervicus all these year are per-particular formfull (p. 274-274).	×
Mar 06, 2017 14:50	(ABOP) (Prove 3) Year peer with it wenty involve. On its pane Phyli manastrone pane dealings on an a webble phase whet have improvement from an advantation.	×
Dec 28, 2016 09:53	From These its, an improvement proposition is merely builty one offer that to remark provides after against to provide the later, the merely meaning-charge will repeat to future in our next bit. These	×
Dec 06, 2016 13:09	Index* effects 2: You'r den oddi is heddy 'brythe. Oo'de pour PhD accession pour ibertige or or a mellen phone cho. Ine e inter c'entre c'entre access/accession.	×
Nov 08, 2016 11:29	Proper Theory is placed registeration in the Society of the Society and Michael Society, Proper presidents affected, pro- cess participation instruction of presence.	×
Sep 07, 2016 17:05	From litere Incel more deterto tempotetting-your mater or streaming-balanceour row can buy a beer insteam to heat your remaininger in typication y Optimity (×



24 AP - access point

25 AP Controller

Supported on selected Pepwave models and higher, the AP controller acts as a centralized controller of Pepwave Access Points.

With this feature, users can customize and manage up to 30 Access Points from a single Pepwave router interface.

To configure, navigate to the **AP** tab. and teh following screen appears.

AP Controller			
AP Management	?	Integrated AP Sector AP	
Sync. Method	?	As soon as possible 🔻	
Permitted AP	?	Any O Approved List	

	AP Controller
AP Management	The AP controller for managing Pepwave APs can be enabled by checking this box. When this option is enabled, the AP controller will wait for management connections originating from APs over the LAN on TCP and UDP port 11753. It will also wait for captive portal connections on TCP port 443. An extended DHCP option, CAPWAP Access Controller addresses (field 138), will be added to the DHCP server. A local DNS record, AP Controller , will be added to the local DNS proxy.
Sync Method	As soon as possibleProgressivelyOne at a time
Permitted AP	Access points to manage can be specified here. If Any is selected, the AP controller will manage any AP that reports to it. If Approved List is selected, only APs with serial numbers listed in the provided text box will be managed.

25.1 Wireless SSID

SSID		Security Policy
No SSID Defined		
	Add	

Current SSID information appears in the **SSID** section. To edit an existing SSID, click its name in the list. To add a new SSID, click **Add**. Note that the following settings vary by model. The below settings ishows a new SSID window with Advanced Settings enabled (these are available by selecting the question mark in the top right corner).

Pepwave MAX User Manual

peplink | PEPWAVE



SSID	8
SSID Settings	2
SSID	
Enable	×
VLAN	Untagged LAN V
Broadcast SSID	.∞
Data Rate	• Auto O Fixed
Multicast Filter	
Multicast Rate	MCS0/6M
IGMP Snooping	
Layer 2 Isolation	
Maximum number of clients	2.4 GHz: 0 5 GHz: 0 (0: Unlimited)
Security Policy	Open (No Encryption)
Access Control Settings	
Restricted Mode	None
	Save Cancel

SSID Settings			
SSID	This setting specifies the SSID of the virtual AP to be scanned by Wi-Fi clients.		
Enable	Click the drop-down menu to apply a time schedule to this interface		
VLAN	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 the Pepwave AP One unit to the Ethernet segment via the LAN port). The default value of this setting is 0 , which means VLAN tagging		



	is disabled (instead of tagged with zero).
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 ^A	Select Auto to allow the Pepwave router to set the data rate automatically, or select Fixed and choose a rate from the displayed drop-down menu.
Multicast Filter ^A	This setting enables the filtering of multicast network traffic to the wireless SSID.
Multicast Rate ^A	This setting specifies the transmit rate to be used for sending multicast network traffic. The selected Protocol and Channel Bonding settings will affect the rate options and values available here.
IGMP Snooping ^A	To allow the Pepwave router to listen to internet group management protocol (IGMP) network traffic, select this option.
DHCP Option 82 ^A	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 connected to the network.
Layer 2 Isolation ^A	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	Indicate the maximum number of clients that should be able to connect to each frequency.

^A - Advanced feature. Click the 🙆 button on the top right-hand corner to activate.

Security Settings			
Security Policy	WPA2 - Personal		
Encryption	AES:CCMP		
Shared Key	?		
22 1	✓ Hide Characters		

	Security Settings
	This setting configures the wireless authentication and encryption methods. Available options are :
Security Policy	 Open (No Encryption) WPA2 -Personal (AES:CCMP) WPA2 - Enterprise WPA/WPA2 - Personal (TKIP/AES: CCMP) WPA/WPA2 - Enterprise



When **WPA/WPA2** - **Enterprise** is configured, RADIUS-based 802.1 x authentication is enabled. Under this configuration, the **Shared Key** option should be disabled. When using this method, select the appropriate version using the **V1/V2** controls. The security level of this method is known to be very high.

When **WPA/WPA2- Personal** is configured, a shared key is used for data encryption and authentication. When using this configuration, the **Shared Key** option should be enabled. Key length must be between eight and 63 characters (inclusive). The security level of this method is known to be high.

Access Control Settings			
Restricted Mode	Deny all except listed 🔻		
MAC Address List			

	Access Control
Restricted	The settings allow administrator to control access using MAC address filtering.
Mode	Available options are None , Deny all except listed , and Accept all except listed
MAC Address	Connection coming from the MAC addresses in this list will be either denied or accepted based on the option selected in the previous field.
List	If more than one MAC address needs to be entered, you can use a carriage return to separate them.

RADIUS Server Settings	Primary Server	()))))))	Secondary Server	
Host				
Secret				
	 Hide Characters 		Hide Characters	
Authentication Port	1812	Default	1812	Default
Accounting Port	1813	Default	1813	Default
NAS-Identifier	Device Name 🔻			

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	In field, enter the UDP authentication port(s) used by your RADIUS server(s) or click the Default button to enter 1812 .
Accounting Port	In field, enter the UDP accounting port(s) used by your RADIUS server(s) or click the Default button to enter 1813 .
NAS-Identifier	Choose between Device Name , LAN MAC address , Device Serial Number and Custom Value

25.2 Settings

On many Pepwave models, the AP settings screen (**AP>Settings**) looks similar to the example below:



AP Settings		(2)
SSID 🕐	2.4 GHz 5 GHz Integrated AP supports 2.4	GHz only.
Operating Country	United States	
Preferred Frequency	2.4 GHz 5 GHz Integrated AP supports 2.4 GHz only.	
	2.4 GHz	5 GHz
Protocol	802.11ng	802.11n/ac
Channel Width	20 MHz 🔻	Auto
Channel	Auto • Edit Channels: 1 2 3 4 5 6 7 8 9 10 11	Auto Figure 2018 Figure 201
Auto Channel Update	Daily at 03 • :00 Wait until no active client associated	Daily at 03 • :00 Wait until no active client associated
Output Power	Fixed: Max 🔹 🗖 Boost	Fixed: Max 🔹 🖬 Boost
Client Signal Strength Threshold	0 -95 dBm (0: Unlimited)	0 -95 dBm (0: Unlimited)
Maximum number of clients	0 (0: Unlimited)	0 (0: Unlimited)
Management VLAN ID	Untagged LAN (No VLAN) V	
Operating Schedule	Always on	
Beacon Rate	1 Mbps • 6 Mbps will be used for 5 GHz rad	Jio
Beacon Interval 📀	100 ms 🔻	
DTIM 🥐	1 Default	
RTS Threshold	0 Default	
Fragmentation Threshold	0 (0: Disable) Default	
Distance / Time Converter	4050 m Note: Input distance for recommended values	
Slot Time 🕜	Auto Custom 9 µs Default	
ACK Timeout 📀	48 µs Default	
Frame Aggregation		

	AP Settings
SSID	These buttons specify which wireless networks will use this AP profile. You can also select the frequencies at which each network will transmit. Please note that the Peplink Balance does not detect whether the AP is capable of transmitting at both frequencies. Instructions to transmit at unsupported frequencies will be ignored by the AP.
Operating Country	 This drop-down menu specifies the national / regional regulations which 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 US. All US models are fixed to US channels only.
Preferred Frequency	These buttons determine the frequency at which access points will attempt to broadcast. This feature will only work for APs that can transmit at both 5.4GHz and 5GHz frequencies.
Protocol	This section displays the 2.4 GHz protocols your APs are using.
Channel Width	There are three options: 20 MHz, 20/40 MHz, and 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.
Channel	This drop-down menu selects the 802.11 channel to be utilized. Available options are from 1 to 11 and from 1 to 13 for the North America region and Europe region, respectively. (Channel 14 is only available when the country is selected as Japan with protocol 802.11b.) If Auto is set, the system will perform channel scanning based on the scheduled time set and choose the most suitable channel automatically.
Auto Channel Update	Indicate the time of day at which update automatic channel selection.
Output Power ^A	This drop-down menu determines the power at which the AP under this profile will broadcast. When fixed settings are selected, the AP will broadcast at the specified power level, regardless of context. When Dynamic settings are selected, the AP will adjust its power level based on its surrounding APs in order to maximize performance. The Dynamic: Auto setting will set the AP to do this automatically. Otherwise, the Dynamic: Manual setting will set the AP to dynamically adjust only of instructed to do so. If you have set Dynamic:Manual , you can go to AP>Toolbox>Auto Power Adj. to give your AP further instructions.
	proximity will lead to increased interference.
Client Signal Strength Threshold ^A	This field determines that maximum signal strength each individual client will receive. The measurment unit is megawatts.
Max number of Clients ^A	This field determines the maximum clients that can be connected to APs under this profile.
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.



Operating Schedule	Choose from the schedules that you have defined in System>Schedule . Select the schedule for the integrated AP to follow from the drop-down menu.
Beacon Rate ^A	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 ^A	This drop-down menu provides the option to set the time between each beacon send. Available options are 100ms , 250ms , and 500ms .
DTIM ^A	This field provides the option to set the frequency for beacon to include delivery traffic indication messages (DTIM). The interval unit is measured in milliseconds.
RTS Threshold ^A	This field provides the option to set the minimum packet size for the unit to send an RTS using the RTS/CTS handshake. Setting 0 disables this feature.
Fragmentation Threshold ^A	Determines the maximum size (in bytes) that each packet fragment will be broken down into. Set 0 to disable fragmentation.
Distance/Time Converter ^A	Select the distance you want your Wi-Fi to cover in order to adjust the below parameters. Default values are recommended.
Slot Time ^A	This field provides the option to modify the unit wait time before it transmits. The default value is 9µs .
ACK Timeout ^A	This field provides the option to set the wait time to receive acknowledgement packet before doing retransmission. The default value is 48µs .
Frame Aggregation ^A	With this feature enabled, throughput will be increased by sending two or more data frames in a single transmission.
Frame 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 .

^A - Advanced feature. Click the 2 button on the top right-hand corner to activate.

Enable			
Web Access Protocol	O HTTP HTTPS		
Management Port	443		
HTTP to HTTPS Redirection			
Admin Username	admin		
Admin Password	25db591396e0	Generate	

	Web Administration Settings
Enable	Check the box to allow the Pepwave router to manage the web admin access information of the AP.
Web Access	These buttons specify the web access protocol used for accessing the web

Protocol	admin of the AP. The two available options are HTTP and HTTPS .
Management Port	This field specifies the management port used for accessing the device.
HTTP to HTTPS Redirection	This option will be available if you have chosen HTTPS as the Web Access Protocol . With this enabled, any HTTP access to the web admin will redirect to HTTPS automatically.
Admin User Name	This field specifies the administrator username of the web admin. It is set as <i>admin</i> by default.
Admin Password	This field allows you to specify a new administrator password. You may also click the Generate button and let the system generate a random password automatically.

Navigating to **AP>Settings** on some Pepwave models displays a screen similar to the one shown below:

0	InControl	management	enabled.	Settings can	now be	configured	on	InControl.
---	-----------	------------	----------	--------------	--------	------------	----	------------

Wi-Fi Radio Settings	
Operating Country	United States
Wi-Fi Antenna	○ Internal ● External
Wi-Fi AP Settings	
Protocol	802.11ng T
Channel	1 (2.412 GHz)
Channel Width	Auto
Output Power	Max 🔹 😡 Boost
Beacon Rate	1Mbps •
Beacon Interval	(?) 100ms •
DTIM	2
Slot Time	9 μs
ACK Timeout	(?) 48 µs
Frame Aggregation	✓ Enable
Guard Interval	○ Short ○ Long

	Wi-Fi Radio Settings
Operating Country	This option sets the country whose regulations the Pepwave router follows.
Wi-Fi Antenna	Choose from the router's internal or optional external antennas, if so equipped.

Important Note

Per FCC regulations, the country selection is not available on all models marketed in the US. All US models are fixed to US channels only.



	Wi-Fi AP Settings
Protocol	This option allows you to specify whether 802.11b and/or 802.11g client association requests will be accepted. Available options are 802.11ng and 802.11na . By default, 802.11ng is selected.
Channel	This option allows you to select which 802.11 RF channel will be used. Channel 1 (2.412 GHz) is selected by default.
Channel Width	Auto (20/40 MHz) and 20 MHz are available. The default setting is Auto (20/40 MHz), which allows both widths to be used simultaneously.
Output Power	This option is for specifying the transmission output power for the Wi-Fi AP. There are 4 relative power levels available – Max , High , Mid , and Low . The actual output power will be bound by the regulatory limits of the selected country.
Beacon Rate ^A	This option is for setting the transmit bit rate for sending a beacon. By default, 1Mbps is selected.
Beacon Interval ^A	This option is for setting the time interval between each beacon. By default, 100ms is selected.
DTIM ^A	This field allows you to set the frequency for the beacon to include a delivery traffic indication message. The interval is measured in milliseconds. The default value is set to 1 ms .
Slot Time ^A	This field is for specifying the wait time before the Router transmits a packet. By default, this field is set to 9 μs .
ACK Timeout ^A	This field is for setting the wait time to receive an acknowledgement packet before performing a retransmission. By default, this field is set to 48 μs .
Frame Aggregation ^A	This option allows you to enable frame aggregation to increase transmission throughput.
Guard Interval ^A	This setting allows choosing a short or long guard period interval for your transmissions.

^A - Advanced feature, please click the 2 button on the top right-hand corner to activate.

26 AP Controller Status

26.1 Info

A comprehensive overview of your AP can be accessed by navigating to **AP > Controller Status > Info**.

peplink | PEPWAVE

Pepwave MAX User Manual



	AP Controller
License Limit	This field displays the maximum number of AP your Balance router can control. You can purchase licenses to increase the number of AP you can manage.
Frequency	Underneath, there are two check boxes labeled 2.4 Ghz and 5 Ghz . Clicking either box will toggle the display of information for that frequency. By default, the graphs display the number of clients and data usage for both 2.4GHz and 5 GHz frequencies.
SSID	The colored boxes indicate the SSID to display information for. Clicking any colored box will toggle the display of information for that SSID. By default, all the graphs show information for all SSIDs.
No. of APs	This pie chart and table indicates how many APs are online and how many are offline.
No.of Clients	This graph displays the number of clients connected to each network at any given time. Mouse over any line on the graph to see how many clients connected to a specific SSID for that point in time.
Data Usage	This graph enables you to see the data usage of any SSID for any given time period. Mouse over any line on the graph to see the data usage by each SSID for that point in time. Use the buttons next to Zoom to select the time scale you wish to view. In addition, you could use the sliders at the bottom to further refine your timescale.

peplink | PEPWAVE

Evente		View Alort
		Men Allers
Jan 2 11:01:11	AP One 300M; Client 54:EA:A8:2D:A0:D5 disassociated from Marketing_11a	
Jan 2 11:00:42	AP One 300M: Client 54:EA:A8:2D:A0:D5 associated with Marketing_11a	
Jan 2 11:00:38	AP One 300M: Client 54:EA:A8:2D:A0:D5 disassociated from Marketing_11a	
Jan 2 11:00:36	AP One 300M: Client 00:21:6A:35:59:A4 associated with Balance_11a	
Jan 2 11:00:20	AP One 300M: Client 60:67:20:24:B6:4C disassociated from Marketing_11a	
Jan 2 11:00:09	AP One 300M: Client 54:EA:A8:2D:A0:D5 associated with Marketing_11a	
Jan 2 10:59:09	AP One 300M: Client 00:21:6A:35:59:A4 disassociated from Balance_11a	
Jan 2 10:59:08	Office Fiber AP: Client 18:00:2D:3D:4E:7F associated with Balance	
Jan 2 10:58:53	Michael's Desk: Client 18:00:2D:3D:4E:7F disassociated from Wireless	
Jan 2 10:58:18	AP One 300M: Client 54:EA:A8:2D:A0:D5 disassociated from Marketing_11a	
Jan 2 10:58:03	Office InWall: Client 10:BF:48:E9:76:C7 associated with Wireless	
Jan 2 10:57:47	AP One 300M: Client 54:EA:A8:2D:A0:D5 associated with Marketing_11a	
Jan 2 10:57:19	AP One 300M: Client 54:EA:A8:2D:A0:D5 disassociated from Marketing_11a	
Jan 2 10:57:09	AP One 300M: Client 54:EA:A8:2D:A0:D5 associated with Marketing_11a	
Jan 2 10:56:48	AP One 300M: Client 54:EA:A8:2D:A0:D5 disassociated from Marketing_11a	
Jan 2 10:56:39	AP One 300M: Client 54:EA:A8:2D:A0:D5 associated with Marketing_11a	
Jan 2 10:56:19	AP One 300M: Client 00:26:BB:05:84:A4 associated with Marketing_11a	
Jan 2 10:56:09	AP One 300M: Client 9C:04:EB:10:39:4C associated with Marketing_11a	
Jan 2 10:55:42	AP One 300M: Client 54:EA:A8:2D:A0:D5 disassociated from Marketing_11a	
Jan 2 10:55:29	AP One 300M: Client 54:EA:A8:2D:A0:D5 associated with Marketing_11a	
		More

Events

This event log displays all activity on your AP network, down to the client level. Click **View Alerts** to see only alerts, and click the **More...** link for additional records.

26.2 Access Point (Usage)

A detailed breakdown of data usage for each AP is available at **AP > Controller Status > Access Point**.

Search Filter									
AP Name / Serial Num	iber / All	ļ.							
SSID		Include Offline APs							
Search Result									
A CONTRACT OF A									
Managed APs							Expa	nd	Collapse
Managed APs							Expa	nd	Collapse
Managed APs	IP Address	MAC	Location	Firmware	Pack	ID	Expa Configural	nd tion	Collapse
Managed APs Name Default (8/9 online)	IP Address	MAC	Location	Firmware	Pack	ID	Expa Configural	nd tion	Collapse

	Usage
AP Name/Serial Number	This field enables you to quickly find your device if you know its name or serial number. Fill in the field to begin searching. Partial names and serial numbers are supported.
Online Status	This button toggles whether your search will include offline devices.
Managed Wireless	This table shows the detailed information on each AP, including channel,

Devices

buttons.

number of clients, upload traffic, and download traffic. Click the blue arrows at the left of the table to expand and collapse information on each device group. You could also expand and collapse all groups by using the **Expand Collapse**

On the right of the table, you will see the following icons:

Click the 🍟 icon to see a usage table for each client:

80:56:f2:98:75:ff	10.9.2.7	802.11ng	Excellent (37)	Balance	66.26 MB	36.26 MB
c4:6a:b7:bf:d7:15	10.9.2.123	802.11ng	Excellent (42)	Balance	6.65 MB	2.26 MB
70:56:81:1d:87:f3	10.9.2.102	802.11ng	Good (23)	Balance	1.86 MB	606.63 KE
e0:63:e5:83:45:c8	10.9.2.101	802.11ng	Excellent (39)	Balance	3.42 MB	474.52 KE
18:00:2d:3d:4e:7f	10.9.2.66	802.11ng	Excellent (25)	Balance	640.29 KB	443.57 KE
14:5a:05:80:4f:40	10.9.2.76	802,11ng	Excellent (29)	Balance	2.24 KB	3.67 KB
00:1a:dd:c5:4e:24	10.8.9.84	802.11ng	Excellent (29)	Wireless	9.86 MB	9,76 MB
00:1a:dd:bb:29:ec	10.8.9.73	802.11ng	Excellent (25)	Wireless	9.36 MB	11.14 MB
40:b0:fa:c3:26:2c	10.8.9.18	802.11ng	Good (23)	Wireless	118.05 MB	7.92 MB
e4:25:e7:8a:d3:12	10.10.11.23	802,11ng	Excellent (35)	Marketing	74,78 MB	4.58 MB
04:f7:e4:ef:68:05	10.10.11.71	802.11ng	Poor (12)	Marketing	84.84 KB	119.32 KE



Serial Number	1111-2222-3333
MAC Address	00:1A:DD:BD:73:E0
Product Name	Pepwave AP Pro Duo
Name	
Location	
Firmware Version	3.5.2
Firmware Pack	Default (None) 🔻
AP Client Limit	Follow AP Profile Custom
2.4 GHz SSID List	T4Open
5 GHz SSID List	T4Open
Last config applied by controller	Mon Nov 23 11:25:03 HKT 2015
Uptime	Wed Nov 11 15:00:27 HKT 2015
Current Channel	1 (2.4 GHz) 153 (5 GHz)
Channel	2.4 GHz: Follow AP Profile 🔻 5 GHz: Follow AP Profile 🔻
Output Power	2.4 GHz: Follow AP Profile V 5 GHz: Follow AP Profile V

For easier network management, you can give each client a name and designate its location. You can also designate which firmware pack (if any) this client will follow, as well as the channels on which the client will broadcast.

Click the 🕍 icon to see a graph displaying usage:

Pepwave MAX User Manual

peplink | PEPWAVE



26.3 Wireless SSID

In-depth SSID reports are available under AP > Controller Status > Wireless SSID.

peplink | PEPWAVE



Click the blue arrow on any SSID to obtain more detailed usage information on each SSID.

26.4 Wireless Client

You can search for specific Wi-Fi users by navigating to **AP > Controller Status > Wireless Client**.

Search Filter				
Client MAC / SSID / AP Serial Number				
Maximum Result (1-256)	50			
Search Result				
		Search		
Top 10 Clients of last hour (Up	dated at 03:0	0)		
Client MAC Address		Upload	Download	
C0:EE:FB:20:13:36		53.5 KB	101.4 KB	습 🔟

Here, you will be able to see your network's heaviest users as well as search for specific users. Click the $\frac{1}{2}$ icon to bookmark specific users, and click the $\frac{1}{2}$ icon for additional details about each user:

Information						
Status		Associated				
Access Point		1111-2222-33	33			
SSID		Peplink WLAN	853B			
IP Address		192.168.1.34				
Duration		00:27:31				
Jsage (Upload / Dow	nload)	141.28 MB/4.	35 MB			
RSSI		-48				
Rate (Upload / Down	oad)	150M / 48M				
Гуре		802.11na				
20.0 kbps						
	08:00	12:00	16:00	20:00	11-23	
0.0 kbps						
0.0 kbps 04:00	АР		From	То	Upload	Download
0.0 kbps 04:00 SSID Peplink WLAN 853B	AP 192C-	1835-642F	From Nov 23 03:43:04	To -	Upload 141.28 MB	Download 4.35 MB
0.0 kbps 04:00 SSID Peplink WLAN 853B teplink WLAN 853B	AP 192C- 192C-	1835-642F 1835-642F	From Nov 23 03:43:04 Nov 23 02:58:36	To - Nov 23 03:47:52	Upload 141.28 MB 173.7 KB	Download 4.35 MB 94.2 KB

26.5 Nearby Device

A listing of near devices can be accessed by navigating to **AP > Controller Status > Nearby Device**.

peplink | PEPWAVE

Suspected Rogue Al	Ps				
BSSID	SSID	Channel	Encryption	Last Seen	Mark as
00:1A:DD:EC:25:22	Wireless	11	WPA2	10 hours ago	08
00:1A:DD:EC:25:23	Accounting	11	WPA2	10 hours ago	3
00:1A:DD:EC:25:24	Marketing	11	WPA2	11 hours ago	0 8
00:03:7F:00:00:00	MYB1PUSH	1	WPA & WPA2	11 minutes ago	0 3
00:03:7F:00:00:01	MYB1	1	WPA2	15 minutes ago	3 3
00:1A:DD:B9:60:88	PEPWAVE_CB7E	1	WPA & WPA2	5 minutes ago	0 (3)
00:1A:DD:BB:09:C1	Micro_S1_1	6	WPA & WPA2	1 hour ago	08
00:1A:DD:BB:52:A8	MAX HD2 Gobi	11	WPA & WPA2	2 minutes ago	3 3
00:1A:DD:BF:75:81	PEPLINK_05B5	4	WPA & WPA2	1 minute ago	08
00:1A:DD:BF:75:82	LK_0585	4	WPA2	1 minute ago	0 3
00:1A:DD:BF:75:83	LK_05B5_VLAN22	4	WPA2	1 minute ago	08
00:1A:DD:C1:ED:E4	dev_captive_portal_test	1	WPA & WPA2	3 minutes ago	0 🙁
00:1A:DD:C2:E4:C5	PEPWAVE_7052	11	WPA & WPA2	2 hours ago	08
00:1A:DD:C3:F1:64	dev_captive_portal_test	6	WPA & WPA2	6 minutes ago	0 🙁
00:1A:DD:C4:DC:24	ssid_test	8	WPA & WPA2	2 minutes ago	08
00:1A:DD:C4:DC:25	SSID New	8	WPA & WPA2	2 minutes ago	🙁 🙁
00:1A:DD:C5:46:04	Guest SSID	9	WPA2	2 minutes ago	0 3
00:1A:DD:C5:47:04	PEPWAVE_67B8	1	WPA & WPA2	5 minutes ago	3
00:1A:DD:C5:4E:24	G BR1 Portal	2	WPA2	2 minutes ago	08
00:1A:DD:C6:9A:48	ssid_test	8	WPA & WPA2	2 hours ago	3

Suspected Rogue Devices

Hovering over the device MAC address will result in a popup with information on how this device was detected. Click the \bigcirc (\bigcirc) icons and the device will be moved to the bottom table of identified devices.

26.6 Event Log

You can access the AP Controller Event log by navigating to **AP > Controller Status > Event Log**.

Sourch kou	Charles MAC AN	dense / Wisslam COID / AD Cast	A Number / AD Destile Name
Search Key	Client MAC Ad	dress / wireless SSID / AP Seria	al Number / AP Profile Name
Time	From	hh:mm to	hh:mm
Alerts only	0		
		Search	

peplink | PEPWAVE

Events		View Alerts
Jan 2 11:01:11	AP One 300M: Client 54:EA:A8:2D:A0:D5 disassociated from Marketing_11a	
Jan 2 11:00:42	AP One 300M: Client 54:EA:A8:2D:A0:D5 associated with Marketing_11a	
Jan 2 11:00:38	AP One 300M: Client 54:EA:A8:2D:A0:D5 disassociated from Marketing_11a	
Jan 2 11:00:36	AP One 300M: Client 00:21:6A:35:59:A4 associated with Balance_11a	
Jan 2 11:00:20	AP One 300M: Client 60:67:20:24:B6:4C disassociated from Marketing_11a	
Jan 2 11:00:09	AP One 300M: Client 54:EA:A8:2D:A0:D5 associated with Marketing_11a	
Jan 2 10:59:09	AP One 300M: Client 00:21:6A:35:59:A4 disassociated from Balance_11a	
Jan 2 10:59:08	Office Fiber AP: Client 18:00:2D:3D:4E:7F associated with Balance	
Jan 2 10:58:53	Michael's Desk: Client 18:00:2D:3D:4E:7F disassociated from Wireless	
Jan 2 10:58:18	AP One 300M: Client 54:EA:A8:2D:A0:D5 disassociated from Marketing_11a	
Jan 2 10:58:03	Office InWall: Client 10:BF:48:E9:76:C7 associated with Wireless	
Jan 2 10:57:47	AP One 300M: Client 54:EA:A8:2D:A0:D5 associated with Marketing_11a	
Jan 2 10:57:19	AP One 300M: Client 54:EA:A8:2D:A0:D5 disassociated from Marketing_11a	
Jan 2 10:57:09	AP One 300M: Client 54:EA:A8:2D:A0:D5 associated with Marketing_11a	
Jan 2 10:56:48	AP One 300M: Client 54:EA:A8:2D:A0:D5 disassociated from Marketing_11a	
Jan 2 10:56:39	AP One 300M: Client 54:EA:A8:2D:A0:D5 associated with Marketing_11a	
Jan 2 10:56:19	AP One 300M: Client 00:26:BB:05:84:A4 associated with Marketing_11a	
Jan 2 10:56:09	AP One 300M: Client 9C:04:EB:10:39:4C associated with Marketing_11a	
Jan 2 10:55:42	AP One 300M: Client 54:EA:A8:2D:A0:D5 disassociated from Marketing_11a	
Jan 2 10:55:29	AP One 300M: Client 54:EA:A8:2D:A0:D5 associated with Marketing_11a	
		More

Events

This event log displays all activity on your AP network, down to the client level. Use to filter box to search by MAC address, SSID, AP Serial Number, or AP Profile name. Click **View Alerts** to see only alerts, and click the **More...** link for additional records.

27 Toolbox

Tools for managing firmware packs can be found at **AP>Toolbox**.

Γ	Firmware Packs				
	Pack ID	Release Date	Details	Action	
	1126	2013-08-26	2	+	
		Firmware Packs			
Here, you pack. To i Manual L	i can manage the firmware of you receive new firmware packs, you Jpload to manually upload a firm	ur AP. Clicking on can click Check for Updates to ware pack. Click Default to define	t in information download new p which firmwar	regarding ea backs, or you e pack is defa	ch firmware can click ault.



28 System Settings

28.1 Admin Security

There are two types of user accounts available for accessing the web admin: *admin* and *user*. They represent two user levels: the admin level has full administrative access, while the user level is read-only. The user level can access only the device's status information; users cannot make any changes on the device.

A web login session will be logged out automatically when it has been idle longer than the **Web Session Timeout**. Before the session expires, you may click the **Logout** button in the web admin to exit the session.

0 hours 0 minutes signifies an unlimited session time. This setting should be used only in special situations, as it will lower the system security level if users do not log out before closing the browser. The **default** is 4 hours, 0 minutes.

For security reasons, after logging in to the web admin Interface for the first time, it is recommended to change the administrator password. Configuring the administration interface to be accessible only from the LAN can further improve system security. Administrative settings configuration is located at **System>Admin Security**.

Admin Settings		2		
Router Name	MBX-345A Ø This configuration is being manag	hostname: mbx-345a led by <u>InControl</u> .		
Admin User Name	admin			
Admin Password	•••••			
Confirm Admin Password	•••••			
Read-only User Name	DemoPep			
User Password	•••••			
Confirm User Password	•••••			
Web Session Timeout	4 Hours 0 Minutes			
Authentication by RADIUS	Enable			
CLI SSH & Console	Enable			
Security	HTTP / HTTPS Redirect HTTP to HTTPS			
Web Admin Access	HTTP: LAN Only + HTTPS: LAN O	nly 🔻		
Web Admin Port	HTTP: 80 HTTPS: 443	Default		
LAN Connection Access Settings				
Allowed LAN Networks	● Any ○ Allow this network only			
	Save			



	Admin Settings
Router Name	This field allows you to define a name for this Pepwave router. By default, Router Name is set as MAX_XXXX , where <i>XXXX</i> refers to the last 4 digits of the unit's serial number.
Admin User Name	Admin User Name is set as admin by default, but can be changed, if desired.
Admin Password	This field allows you to specify a new administrator password.
Confirm Admin Password	This field allows you to verify and confirm the new administrator password.
Read-only User Name	Read-only User Name is set as <i>user</i> by default, but can be changed, if desired.
User Password	This field allows you to specify a new user password. Once the user password is set, the read-only user feature will be enabled.
Confirm User Password	This field allows you to verify and confirm the new user password.
Web Session Timeout	This field specifies the number of hours and minutes that a web session can remain idle before the Pepwave router terminates its access to the web admin interface. By default, it is set to 4 hours .
Authentication by RADIUS	With this box is checked, the web admin will authenticate using an external RADIUS server. Authenticated users are treated as either "admin" with full read- write permission or "user" with read-only access. Local admin and user accounts will be disabled. When the device is not able to communicate with the external RADIUS server, local accounts will be enabled again for emergency access. Additional authentication options will be available once this box is checked.
Auth Protocol	This specifies the authentication protocol used. Available options are MS-CHAP v2 and PAP .
Auth Server	This specifies the access address and port of the external RADIUS server.
Auth Server Secret	This field is for entering the secret key for accessing the RADIUS server.
Auth Timeout	This option specifies the time value for authentication timeout.
Accounting Server	This specifies the access address and port of the external accounting server.
Accounting Server Secret	This field is for entering the secret key for accessing the accounting server.



Network Connection	This option is for specifying the network connection to be used for authentication. Users can choose from LAN, WAN, and VPN connections.
CLI SSH	The CLI (command line interface) can be accessed via SSH. This field enables CLI support. For additional information regarding CLI, please refer to Section 30.5.
CLI SSH Port	This field determines the port on which clients can access CLI SSH.
CLI SSH Access	This menu allows you to choose between granting access to LAN and WAN clients, or to LAN clients only.
Security	 This option is for specifying the protocol(s) through which the web admin interface can be accessed: HTTP HTTPS HTTP/HTTPS
Web Admin Port	This field is for specifying the port number on which the web admin interface can be accessed.
Web Admin Access	 This option is for specifying the network interfaces through which the web admin interface can be accessed: LAN only LAN/WAN If LAN/WAN is chosen, the WAN Connection Access Settings form will be displayed.

nnection Access S Any
Allow this network only Public (10) •

LAN Connection Access Settings

Allowed LAN Networks This field allows you to permit only specific networks or VLANs to access the Web UI.



WAN Connection Access Settin	igs		
Allowed Source IP Subnets (Any Allow access from the	following IP subnets only	
Allowed WAN IP Address(es)	Connection / IP Address(es) WAN 1 WAN 2 Wi-Fi WAN Cellular 1 Cellular 2 USB	☑ 10.88.3.15	All Clear 3 (Interface IP)
	WAN Connection Acc	ess Settings	
This field	d allows you to restrict web Any - Allow web admin acc address restriction.	admin access only from esses to be from anyw	m defined IP subnets /here, without IP
• A I acc	low access from the follow ess only from the defined If	wing IP subnets only P subnets. When this	- Restrict web admir is chosen, a text inp

area will be displayed beneath:

The allowed IP subnet addresses should be entered into this text area. Each IP

subnet must be in form of *w.x.y.z/m*, where *w.x.y.z* is an IP address (e.g., *192.168.0.0*), and *m* is 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 in a line. For example:
192.168.0.0/24
10.8.0.0/16

Allowed MAN IP
This is to choose which WAN IP address(es) the web server should listen on.

28.2 Firmware

Allowed WAN IP Address(es)

Allowed Source

IP Subnets

28.2.1 Web admin interface : automatically check for updates

Upgrading firmware can be done in one of three ways.

Using the router's interface to automatically check for an update, using the router's interface to manually upgrade the firmware, or using InControl2 to push an upgrade to a router.

The automatic upgrade can be done from **System > Firmware**.



Firmware Upgrade		
Current firmware version: 8.0.0 Firmware check pending		
	Check for Firmware	

If an update is found the buttons will change to allow you to **Download and Update** the firmware.

peplink	Dashboard	Setup Wizard	Network	АР	System	Status	Apply Changes
System							
Admin Security	Firmwar	e Upgrade					2
Firmware	Current fi	rmware version: 7	.1.0				
Time	New Vers	ion available: 7.1	(<u>Release No</u>	ote)			
 Schedule 				wnloa	d and Upgra	de Check for Firmwa	re

Click on the **Download and Upgrade** button. A prompt will be displayed advising to download the Current Active Configuration. Please click on the underlined download text. After downloading the current config click the **Ok** button to start the upgrade process.

The router will download and then apply the firmware. The time that this process takes will depend on your internet connection's speed.

Firmware Upgrade	?
Current firmware version: 7.1.0 New Version available: 7.1.2 (<u>Release Note</u>) Upgrading to firmware 7.1.2	

The firmware will now be applied to the router*. The amount of time it takes for the firmware to upgrade will also depend on the router that's being upgraded.

Firmware Upgrade

It may take up to 8 minutes.

9%

Validation success...

*Upgrading the firmware will cause the router to reboot.

28.2.2 Web admin interface : install updates manually

In some cases, a special build may be provided via a ticket or it may be found in the forum. Upgrading to the special build can be done using this method, or using IC2 if you are using that to manage your firmware upgrades. A manual upgrade using the GA firmware posted on



the site may also be recommended or required for a couple of reasons.

All of the Peplink/Pepwave GA firmware can be found <u>here</u> Navigate to the relevant product line (ie. Balance, Max, FusionHub, SOHO, etc). Some product lines may have a dropdown that lists all of the products in that product line. Here is a screenshot from the Balance line.

Balance					
Product	v				
				Search:	
Product	Hardware Revision	Firmware Version	Download Link	Release Notes	♦ User Manual ♦
Balance 1350	HW2	7.1.2	Download	PDF	PDF
Balance 1350	HW1	6.3.4	Download	PDF	PDF
Balance 20	HW1-6	7.1.2	Download	PDF	PDF
Balance 210	HW4	7.1.2	Download	PDF	PDF

If the device has more than one firmware version the current hardware revision will be required to know what firmware to download.

Navigate to System > Firmware and click the Choose File button under the Manual Firmware Upgrade section. Navigate to the location that the firmware was downloaded to select the ".img" file and click the Open button.

Click on the Manual Upgrade button to start the upgrade process.

Manual Firmware Upgra	de	?
Firmware Image	Choose File No file chosen	
	Manual Upgrade	

A prompt will be displayed advising to download the Current Active Configuration. Please click on the underlined download text. After downloading the current config click the Ok button to start the upgrade process. The firmware will now be applied to the router^{*}. The amount of time it takes for the firmware to upgrade will depend on the router that's being upgraded.

Firmware Upgrade It may take up to 8 minutes.	
	9%

Validation success...

*Upgrading the firmware will cause the router to reboot.

28.2.3 The InControl method

Described in this knowledgebase article on our forum.



28.3 Time

Time Settings enables the system clock of the Pepwave router to be synchronized with a specified time server. Time settings are located at **System>Time**.

Time Settings				
Time Zone	(GMT) Greenwich Mean Time : Dublin, Ed	(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, Lon ▼ □ Show all		
Time Server	0.pepwave.pool.ntp.org	Default		
Save Time Settings				
Time Zone	This specifies the time zone (along with the scheme). The Time Zone value affects the event log and e-mail notifications. Check Sh	corresponding Daylight Savings Time time stamps in the Pepwave router's now all to show all time zone options.		

This setting specifies the NTP network time server to be utilized by the Pepwave

28.4 Schedule

Time Server

router.

Enable and disable different functions (such as WAN connections, outbound policy, and firewalls at different times, based on a user-scheduled configuration profile. The settings for this are located at **System > Schedule**

Schedule			
Enabled			
Name	Time	Used by	
Weekdays Only	Weekdays only	-	×
P		New Schedule	

Enable scheduling, and then click on your schedule name or on the **New Schedule** button to begin.

peplink | PEPWAVE



Edit Schedule Profile		
Enabling	Click this checkbox to enable this schedule profile. Note that if this is disabled, then any associated features will also have their scheduling disabled.	
Name	Enter your desired name for this particular schedule profile.	
Schedule	Click the drop-down menu to choose pre-defined schedules as your starting point. Please note that upon selection, previous changes on the schedule map will be deleted.	
Schedule Map	Click on the desired times to enable features at that time period. You can hold your mouse for faster entry.	

28.5 Email Notification

Email notification functionality provides a system administrator with up-to-date information on network status. The settings for configuring email notifications are found at **System>Email Notification**.

Email Notification Setup		2
Email Notification	I Enable	
SMTP Server	smtp.mycompany.com Image: Company Compa	
SSL Encryption	✓ (Note: any server certificate will be accepted)	
SMTP Port	465 Default	
SMTP User Name	smtpuser	
SMTP Password	•••••	
Confirm SMTP Password	•••••	
Sender's Email Address	idmin@mycompany.com	
Recipient's Email Address	system@mycompany.com staff@mycompany.com	

Test Email Notification Save

Email Notification	This setting specifies whether or not to enable email notification. If Enable is checked, the Pepwave router will send email messages to system administrators when the WAN status changes or when new firmware is available. If Enable is not checked, email notification is disabled and the Pepwave router will not send email messages.
SMTP Server	This setting specifies the SMTP server to be used for sending email. If the server requires authentication, check Require authentication .
SSL Encryption	Check the box to enable SMTPS. When the box is checked, SMTP Port will be changed to 465 automatically.
SMTP Port	This field is for specifying the SMTP port number. By default, this is set to 25 ; when SSL Encryption is checked, the default port number will be set to 465 . You may customize the port number by editing this field. Click Default to restore the number to its default setting.
SMTP User Name / Password	This setting specifies the SMTP username and password while sending email. These options are shown only if Require authentication is checked in the SMTP Server setting.
Confirm SMTP Password	This field allows you to verify and confirm the new administrator password.
Sender's Email Address	This setting specifies the email address the Pepwave router will use to send reports.
Recipient's Email Address	This setting specifies the email address(es) to which the Pepwave router will send email notifications. For multiple recipients, separate each email addresses using



the enter key.

After you have finished setting up email notifications, you can click the **Test Email Notification** button to test the settings before saving. After **Test Email Notification** is clicked, you will see this screen to confirm the settings:

Test Email Notification		
SMTP Server	smtp.mycompany.com	
SMTP Port	465	
SMTP UserName	smtpuser	
Sender's Email Address	admin@mycompany.com	
Recipient's Email Address	system@mycompany.com staff@mycompany.com	

Send Test Notification	Cancel
------------------------	--------

Click **Send Test Notification** to confirm. In a few seconds, you will see a message with detailed test results.

Test email sent. Email notification settings are not saved, it will be saved after clicked the 'Save' button.

Test Result



28.6 Event Log

Event log functionality enables event logging at a specified remote syslog server. The settings for configuring the remote system log can be found at **System>Event Log**.

Remote Syslog		
Remote Syslog Host		
Push Events to Mobile De	vices	(2



	Event Log Settings
Remote Syslog	This setting specifies whether or not to log events at the specified remote syslog server.
Remote Syslog Host	This setting specifies the IP address or hostname of the remote syslog server.
Push Events	The Pepwave router can also send push notifications to mobile devices that have our Mobile Router Utility installed. Check the box to activate this feature.
peplink PEPWAVE	For more information on the Router Utility, go to: www.peplink.com/products/router-utility

28.7 SNMP

SNMP or simple network management protocol is an open standard that can be used to collect information about the Pepwave router. SNMP configuration is located at **System>SNMP**.

SNMP Settings			
SNMP Device Nam	e MAX_HD2_	3D1C	
SNMP Port	161	Default	
SNMPv1	Enable		
SNMPv2c	Enable		
SNMPv3	🗆 Enable		
		Save	
SNMPv3 User Na	me	Authentication / Privacy Access Mode No SNMPv3 Users Defined Add SNMP User	
		SNMP Settings	
MP Device Name	This field shows the	router name defined at System>Admin Secu	urity.
MP Port	This option specifies	; the port which SNMP will use. The default po	ort is 161

SNMPv1 This option allows you to enable SNMP version 1.



SNMPv2	This option allows you to enable SNMP version 2.
SNMPv3	This option allows you to enable SNMP version 3.

To add a community for either SNMPv1 or SNMPv2, click the **Add SNMP Community** button in the **Community Name** table, upon which the following screen is displayed:

SNMP Community				
Community Name	My Company			
Allowed Network	192.168.1.25 / 255.255.255.0 (/24) 🔻		
			Cavo	Cancel



	SNMP Community Settings
Community Name	This setting specifies the SNMP community name.
Allowed Source Subnet Address	This setting specifies a subnet from which access to the SNMP server is allowed. Enter subnet address here (e.g., <i>192.168.1.0</i>) and select the appropriate subnet mask.

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

User Name	SNMPUser
Authentication	SHA 🔻 password
Privacy	DES 🔻 privacypassword

SNMPv3 User Settings			
User Name	This setting specifies a user name to be used in SNMPv3.		
Authentication Protocol	 This setting specifies via a drop-down menu one of the following valid authentication protocols: NONE MD5 SHA When MD5 or SHA is selected, an entry field will appear for the password. 		
Privacy Protocol	 This setting specifies via a drop-down menu one of the following valid privacy protocols: NONE DES When DES is selected, an entry field will appear for the password. 		

28.8 InControl

InControl Management	
InControl Management 📀	C Allow InControl Management
Privately Host InControl	
InControl Host	



InControl is a cloud-based service which allows you to manage all of your Peplink and Pepwave devices with one unified system. With it, you can generate reports, gather statistics, and configure your devices automatically. All of this is now possible with InControl.

When this check box is checked, the device's status information will be sent to the Peplink InControl system. This device's usage data and configuration will be sent to the system if you enable the features in the system.

Alternately, you could also privately host InControl. Simply check the box beside the "Privately Host InControl" open, and enter the IP Address of your InControl Host.

You can sign up for an InControl account at https://incontrol2.peplink.com/. You can register your devices under the account, monitor their status, see their usage reports, and receive offline notifications.

28.9 Configuration

Backing up Pepwave router settings immediately after successful completion of initial setup is strongly recommended. The functionality to download and upload Pepwave router settings is found at **System>Configuration**. Note that available options vary by model.

Restore Configura	ation to Factory Settings
	Restore Factory Settings
Download Active	Configurations
	Download
Upload Configura	tions
Configuration File	Browse_ No file selected.
	Upload
Upload Configura	tions from High Availability Pair 🕜
Configuration File	Browse_ No file selected.
	uprodu
	Configuration
Restore	The Restore Factory Settings button is to reset the configuration to factory
onfiguration to	default settings. After clicking the button, you will need to click the Apply
actory Settings	Changes buildn on the top right corner to make the settings ellective.
	Click Download to backup the current active settings.
onfigurations	
Unload	
opiuau	I o restore or change settings based on a configuration file, click Choose File to
onnyurations	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.Upload
Configurations
from High
Availability PairIn a high availability (HA) configuration, a Pepwave router can quickly load the
configuration of its HA counterpart. To do so, click the Upload button. After
loading the settings, configure the LAN IP address of the Pepwave router so that it
is different from the HA counterpart.

28.10 Feature Add-ons

Some Pepwave routers have features that can be activated upon purchase. Once the purchase is complete, you will receive an activation key. Enter the key in the **Activation Key** field, click **Activate**, and then click **Apply Changes**.

Feature Activation		
Activation Key		

28.11 Reboot

This page provides a reboot button for restarting the system. For maximum reliability, the Pepwave router can equip with two copies of firmware. 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.

Reboot System
Select the firmware you want to use to start up this device:
Reboot

29 Tools

29.1 Ping

The ping test tool sends pings through a specific Ethernet interface or a SpeedFusion[™] VPN

peplink | PEPWAVE

connection. You can specify the number of pings in the field **Number of times**, to a maximum number of 10 times. **Packet Size** can be set to a maximum of 1472 bytes. The ping utility is located at **System>Tools>Ping**, illustrated below:

Connection	WAN 1 T
Destination	10.10.10.1
Packet Size	56
Number of times	Times 5
Results	Start Stop Clea
Results	Start Stop Ges
Results PING 10.10.10.1 (10.10.10.1) f 64 bytes from 10.10.10.1: icmp	Start Stop Clear m 10.88.3.158 56(84) bytes of data. req=1 ttl=62 time=27.6 ms clear
Results PING 10.10.10.1 (10.10.10.1) f 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp	Start Stop Cleat m 10.88.3.158 56(84) bytes of data. req=1 ttl=62 time=27.6 ms req=2 ttl=62 time=26.5 ms
Results PING 10.10.10.1 (10.10.10.1) f 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp	Start Stop m 10.88.3.158 56(84) bytes of data. cleat req=1 ttl=62 time=27.6 ms req=2 ttl=62 time=26.5 ms req=3 ttl=62 time=28.9 ms cleat
Results PING 10.10.10.1 (10.10.10.1) f 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp	Start Stop m 10.88.3.158 56(84) bytes of data. cleat req=1 ttl=62 time=27.6 ms req=2 ttl=62 time=26.5 ms req=3 ttl=62 time=28.9 ms req=4 ttl=62 time=28.3 ms
Results PING 10.10.10.1 (10.10.10.1) f 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp	Start Stop m 10.88.3.158 56(84) bytes of data. dea req=1 ttl=62 time=27.6 ms req=2 ttl=62 time=26.5 ms req=3 ttl=62 time=26.9 ms req=4 ttl=62 time=28.9 ms req=4 ttl=62 time=28.3 ms req=5 ttl=62 time=27.7 ms
Results PING 10.10.10.1 (10.10.10.1) f 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp 10.10.10.1 ping statistics	Start Stop m 10.88.3.158 56(84) bytes of data. dea req=1 ttl=62 time=27.6 ms req=2 ttl=62 time=26.5 ms req=3 ttl=62 time=28.9 ms req=4 ttl=62 time=28.3 ms req=5 ttl=62 time=27.7 ms req=5 ttl=62 time=27.7 ms
Results PING 10.10.10.1 (10.10.10.1) f 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp 64 bytes from 10.10.10.1: icmp 10.10.10.1 ping statistics 5 packets transmitted, 5 receive	Start Stop m 10.88.3.158 56(84) bytes of data. Gee req=1 ttl=62 time=27.6 ms req=2 ttl=62 time=26.5 ms req=3 ttl=62 time=28.9 ms req=4 ttl=62 time=28.3 ms req=5 ttl=62 time=27.7 ms

A system administrator can use the ping utility to manually check the connectivity of a particular LAN/WAN connection.

Tip

29.2 Traceroute Test

The traceroute test tool traces the routing path to the destination through a particular Ethernet interface or a SpeedFusion[™] connection. The traceroute test utility is located at **System>Tools>Traceroute**.



Connection	WAN 1 🔻
Destination	64.233.189.99
	Start Stop
Results	Clear Lo
reservate to 64.233.086.08	USA 2010 ARM MIT, TE Trapa Hoan, 40 fame pacinates
1 10/06 127 284 238,85 127	(284) 3.758 ma-6.472 ma-9.287 ma
1 10.46.40.204 [col.40.00.2	54) 1.503 Pa 1.136 Pa 1.448 Pa
3 (0.46,99.1 (0.46,96.2) (275 ma 1.529 ma 1.968 ma
V 10-863.2 (10-863.2) 4-16	E mai 8,202 mai 9,706 mai
1 118-148-88-204 (118-148-	88.204) 3.204 va 128.176.346.23 (128.176.346.23) 5.707 va 118.183.88.204 (118.183.88.204) 3.473 va
\$ 1993, FE, 446, 1239 (1982, FE, 48	1200 \$1808 was (485.05.225.48 (146.65.225.46) \$295.00 was \$200 was
7 238 138 1 198 (228 138 1	138(-0.30) Au 7.686 Au 7.488 Au
8 128 175 BL 184 (186 175)	ME 2040] 4.811 YM 208.128.8.3 (228.128.8.1) 4.872 YM 298.75.288.118 (298.75.298.118) 4.241 YM
9 328 1.08 A 209 (200 LOB A	220) 2-238 mp 75 (4.294.346 (75 (4.294.346) 4-85) mp 220 (28.4.207 (208.428) 4.879 mp
OF TELEVISION OF 175 14 205	201 9.842 mp 74.125.48.298 (74.128.48.288) 4.877 mp 73.14.255.28 (75.14.255.20) 9.884 mp
11 TL 14 201 20 CTL 14 205	301 6 Alles was 30% 46 202 161 (30% 46 203) 1611 7 313 was 30% 48 Jan 36 (30% 46 Jan 30) 6 488 was
12 205-05-202 312 (205-06.	202.21(2) 4.872 via 209.35 (44) 142 (209.85.24) 1421 6.889 via 6.589 via
13 214.098.00.47 (214.298)	80.47) 8.482 mg * 7.398 mg
the same where the same where the	AN AND A CYLORIA A LIAN AND A ADD AND

A system administrator can use the traceroute utility to analyze the connection path of a LAN/WAN connection.

29.3 PepVPN Test

The **PepVPN Test** tool can help to test the throughput between different VPN peers.

You can define the **Test Type**, **Direction**, and **Duration** of the test, and press **Go!** to perform the throughput test. The VPN test utility is located at **System>Tools>PepVPN Test**, illustrated as follows:

PepVPN Throughpu	t Test
Profile	NY Office 🔻
Туре	● TCP ◎ UDP
Direction	Upload O Download
Duration	10 seconds (5 - 600)
	Go!
Results	
	(Empty)

29.4 Wake-on-LAN

Peplink routers can send special "magic packets" to any client specified from the Web UI. To access this feature, navigate to **System > Tools > Wake-on-LAN**

Pepwave MAX User Manual



Wake-on-LAN				
Wake-on-LAN Target	Surf_SOHO (00:90:0B:36:3C:8C)	•	Send	

Select a client from the drop-down list and click **Send** to send a "magic packet"

29.5 CLI (Command Line Interface Support)

The CLI (command line interface) can be accessed via SSH. This field enables CLI support. The below settings specify which TCP port and which interface(s) should accept remote SSH CLI access. The user name and password used for remote SSH CLI access are the same as those used for web admin access.





30 Status

30.1 Device

System information is located at **Status>Device**.

System Information				
Router Name	MBX-345A			
Model	Pepwave MAX HD4 MBX			
Product Code	MAX-HD4-MBX-LTEA-R			
Hardware Revision	2			
Serial Number	2036-0803-345A			
Firmware	8.0.0 build 1218			
PepVPN Version	8.0.0			
Modem Support Version	1023 (<u>Modem Support List</u>)			
InControl Managed Configurations	Firmware, LAN			
Host Name	mbx-345a			
Uptime	3 days 3 minutes			
System Time	Fri Mar 22 13:57:08 GMT 2019			
OpenVPN Client Profile	Route all traffic Split tunnel			
Diagnostic Report	Download			
Remote Assistance	Turn On			

MAC Address		
LAN	00:1A:	
WAN 1	00:1A:	
WAN 2	00:1A: 10-11	
WAN 3	00:1A:	

<u>د Legal</u>

System Information					
Router Name	This is the name specified in the Router Name field located at System>Admin Security .				
Model	This shows the model name and number of this device.				
Product Code	If your model uses a product code, it will appear here.				
Hardware	This shows the hardware version of this device.				



Revision	
Serial Number	This shows the serial number of this device.
Firmware	This shows the firmware version this device is currently running.
PepVPN Version	This shows the current PepVPN version.
Modem Support Version	This shows the modem support version. For a list of supported modems, click Modem Support List .
InControl Managed Configuration	InControl Managed Configurations (firmware, VLAN, Captive Portal, etcetera)
Host Name	The host name assigned to the Pepwave router appears here.
Uptime	This shows the length of time since the device has been rebooted.
System Time	This shows the current system time.
OpenVPN Client Profile	Link to download OpenVpn Client profile when this is enabled in Remote User Access
Diagnostic Report	The Download link is for exporting a diagnostic report file required for system investigation.
Remote Assistance	Click Turn on to enable remote assistance.

The second table shows the MAC address of each LAN/WAN interface connected. To view your device's End User License Agreement (EULA), click 🙅 Legal.

30.2 GPS Data

GPX File ?	2019-03-22 (Today) 🔻	Download
Diagnostic Report	2019-03-22 (Today) 2019-03-21	
Remote Assistance	2019-03-20	
	2019-03-19	
MAC Address	2019-03-18	
MAC Address	2019-03-17	9999999999999999
LAN	2019-03-16	

GPS enabled models automatically store up to seven days of GPS location data in GPS



eXchange format (GPX). To review this data using third-party applications, click **Status>Device** and then download your GPX file.

The Pepwave GPS enabled devices export real-time location data in NMEA format through the LAN IP address at TCP port 60660. It is accessible from the LAN or over a SpeedFusion connection. To access the data via a virtual serial port, install a virtual serial port driver. Visit http://www.peplink.com/index.php?view=faq&id=294 to download the driver.

30.3 Active Sessions

Information on active sessions can be found at Status>Active Sessions>Overview.

Service	Inbound Sessions	Outbound Sessions		
AIM/ICO	0	1		
Bittorrent	0	32		
DNS	0	51		
Flash	0	1		
HTTPS	0	76		
Jabber	0	5		
MSN	0	11		
NTP	0	4		
00	0	1		
Remote Desktop	0	3		
SSH	0	12		
SSL	0	64		
XMPP	0	4		
Yahoo	0	1		
Interface	Inbound Sessions	Outbound Sessions		
WAN 1	0	176		
WAN 2	0	32		
Wi-Fi WAN	0	51		
Cellular 1	0	64		
Cellular 2	0	0		
USB	0	0		
	Top Clients			
Client IP Address	Total Sessions			
10.9.66.66	1069			
10.9.98.144	147			
10.9.2.18	63			
10.9.66.14	56			

This screen displays the number of sessions initiated by each application. Click on each service listing for additional information. This screen also indicates the number of sessions initiated by each WAN port. In addition, you can see which clients are initiating the most sessions.

You can also perform a filtered search for specific sessions. You can filter by subnet, port, protocol, and interface. To perform a search, navigate to **Status>Active Sessions>Search**.

•••	
peplink	PEPWAVE

coolon data captai	ed within one minute. <u>Kei</u>	resn			
IP / Subnet	Source or Destination •		/ 255.255.2	55.255 (/32) 🔻	
Port	Source or Destination •				
Protocol / Service	ТСР	T			
Interface	 1 WAN 1 1 Cellular 1 VPN 	Cellula	2 ar 2	🗆 🤝 Wi-Fi WA 🗆 🕴 USB	N
Search					
Outbound					
Protocol Source IP	Destination IP	Service No sessions	Interface		Idle Time
Fotal searched resu	ılts: 0				
Inbound					
Protocol Source IP	Destination IP	Service No sessions	Interface		Idle Time
Fotal searched resu	ılts: 0				
Fransit					_
Instand Course ID	Destination IP	Service	Interface		Idle Time

This **Active Sessions** section displays the active inbound/outbound sessions of each WAN connection on the Pepwave router. A filter is available to sort active session information. Enter a keyword in the field or check one of the WAN connection boxes for filtering.

30.4 Client List

The client list table is located at **Status>Client List**. It lists DHCP and online client IP addresses, names (retrieved from the DHCP reservation table or defined by users), current download and upload rate, and MAC address.

Clients can be imported into the DHCP reservation table by clicking the <u>button</u> button on the right. You can update the record after import by going to **Network>LAN**.

Filter	 Online Clients Only DHCP Clients Only 			
Client List IP Address Name		Download Upload (kbos) (kbos)	d MAC Address	(?) Import
192.168.1.100		0	0 00:50:56:99:E1:7	6
			Scale:	kbps O Mbps

If the PPTP server (see Section 19.2), SpeedFusion[™] (see Section 12.1), or AP controller (see Section 20) is enabled, you may see the corresponding connection name listed in the Name field.

30.5 WINS Client

The WINS client list table is located at Status>WINS Client.

Name 🔺	IP Address
UserA	10.9.2.1
UserB	10.9.30.1
UserC	10.9.2.4

The WINS client table lists the IP addresses and names of WINS clients. This option will only be available when you have enabled the WINS server (navigation:

Network>Interfaces>LAN). The names of clients retrieved will be automatically matched into the Client List (see previous section). Click **Flush All** to flush all WINS client records.

WINS Client List					
Name 🔺	IP Address				
UserA	10.9.2.1				
UserB	10.9.30.1				
UserC	10.9.2.4				

Flush All

30.6 UPnP / NAT-PMP

The table that shows the forwarded ports under UPnP and NAT-PMP protocols is located at **Status>UPnP/NAT-PMP**. This section appears only if you have enabled UPnP / NAT-PMP as mentioned in **Section 16.1.1**.

External 🖌			Туре		Description	
47453	3392	192.168.1.100	UPnP	UDP	Application 031	×
35892	11265	192.168.1.50	NAT-PMP	TCP	NAT-PMP 58	×
4500	3560	192.168.1.20	UPnP	TCP	Application 013	×
5921	236	192.168.1.30	UPnP	TCP	Application 047	×
22409	8943	192.168.1.70	NAT-PMP	UDP	NAT-PMP 97	×
2388	27549	192.168.1.40	UPnP	ТСР	Application 004	×

Click *Click* to delete a single UPnP / NAT-PMP record in its corresponding row. To delete all records, click **Delete All** on the right-hand side below the table.





30.7 OSPF & RIPv2

Shows status of OSPF and RIPv2

peplink	Dashboard	Setup Wizard	Network	АР	System	Status	Apply Changes
Status							
 Device 	OSPF & F	tiPv2					
 Active Sessions 	Area		Re	mote N	letworks		
 Client List 	 0.0.0.0 PepVPN 		10	.0.2.0/	24 10.0.3.0/2	24 192.168.63.0/24 10.0.10	00.0/24 192.168.100.0/24 192.168.162.0/24
OSPF & RIPv2							
BGP							

30.8 BGP

Shows status of BGP

Dashboard	Setup Wizard	Network	AP	System	Status	Apply Changes
BGP			-			
	Profile				Neighbor	
				No i	nformation	
1						
	Dashboard	Dashboard Setup Wizard	Dashboard Setup Wizard Network BGP Profile	Dashboard Setup Wizard Network AP BGP Profile	Dashboard Setup Wizard Network AP System BGP Profile No i	Dashboard Setup Wizard Network AP System Status BGP Profile Neighbor Profile No information

30.9 SpeedFusion Status

Current SpeedFusion[™] status information is located at **Status>SpeedFusion[™]**. Details about SpeedFusion[™] connection peers appears as below:

PepVPN with SpeedFusion - Remote Peer Details			Show disconnected profiles			
Search						
Remote Peer 🔺	Profile	Information				
ADA0-FFFC-11F8	FH	192.168.77.0/24				
3ED2-8F63-1824	380-5 - NO NAT	192.168.3.0/24	B			

Click on the corresponding peer name to explore the WAN connection(s) status and subnet information of each VPN peer.

peplink | PEPWAVE

Remote Peer 🔺								
ADA0-FFFC-11F8	FH			192.168.77	.0/24		Ju	-
WAN 1	Rx:	< 1 kbps	Tx:	< 1 kbps	Drop rate:	0,0 pkt/s	Latency:	1 ms
WAN 2	Rx:	< 1 kbps	Tx:	< 1 kbps	Drop rate:	0.0 pkt/s	Latency:	1 ms
🔲 WAN 3	Rx:	< 1 kbps	Tx:	< 1 kbps	Drop rate:	0.0 pkt/s	Latency:	1 ms
Total	Rx:	< 1 kbps	Tx:	1.1 kbps	Drop rate:	0.0 pkt/s		
🔒 💌 3ED2-8F63-1824	380-5 -	NO NAT		192.168.3.0	0/24		Ju	-
🕞 WAN 1	Rx:	< 1 kbps	Tx:	< 1 kbps	Drop rate:	0.0 pkt/s	Latency:	4 ms
🔁 WAN 2	Rx:	< 1 kbps	Tx:	< 1 kbps	Drop rate:	0.0 pkt/s	Latency:	4 ms
🔁 WAN 3	Rx:	< 1 kbps	Tx:	< 1 kbps	Drop rate:	0.0 pkt/s	Latency:	4 ms
Total	Rx:	1.6 kbps	Tx:	< 1 kbps	Drop rate:	0.0 pkt/s		





PepVPN Details							
Connection Information						More in	formatio
Profile	555-0	6 E - 105					
Remote ID	LAB-N	ET-GW					
Router Name	LAB-N	ET-GW					
Serial Number	2011-	2010-0400					
WAN Chatistics							
Remote Connections		ow remote connect	ions			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
WAN Label	• w/	AN Name O IP Ad	dress and Po	rt			
BT	Rx:	< 1 kbps Tx:	< 1 kbps	Loss rate:	0.0 pkt/s	Latency:	28 ms
Virgin Media	Rx:	< 1 kbps Tx:	< 1 kbps	Loss rate:	0.0 pkt/s	Latency:	17 ms
WAN 3			Not availab	le - WAN disa	bled		
WAN 4		Not	available - link	failure, no da	ata received		
Peplink HK Network		Not	available - link	failure, no da	ata received		
Mobile Internet			Not availa	ble - WAN do	wn		
lotal	RX:	< I KDPS TX:	< 1 kbps	Loss rate:	0.0 pkt/s		
PepVPN Test Configuration	on						
Туре	• TC	P 🔍 UDP					
Streams	4 •						Start
Direction	• Up	load 🔍 Download					Start
Duration	20	seconds (5 - 600	0)				
PepVPN Test Results							
		No inform	ation				

The Speedfusion status page shows all related information about the PepVPN connection. This screen also allows you to run PepVPN Tests allowing throughput tests.

30.10 Event Log

Event log information is located at **Status>Event Log**.

Device Event Log	9	
Device Event Lo	g	Auto Refresh
Mar 22 14:29:44	System: Changes applied	A
Mar 22 14:28:29	System: Changes applied	
Mar 22 14:00:26	WAN: Wi-Fi WAN connected to PEPLINK_1 (10.22.1.152)	
Mar 22 11:47:45	Admin: DemoPep (10.22.1.160) login successful	
Mar 22 11:47:28	Admin: admin (10.22.1.160) login failed	
Mar 22 11:46:59	System: Changes applied	
Mar 22 11:45:42	System: Changes applied	
Mar 20 15:43:27	System: Changes applied	
Mar 20 11:20:15	System: Changes applied	
Mar 19 15:23:26	System: Changes applied	
Mar 19 15:21:35	System: Changes applied	
Mar 19 15:21:31	System: InControl has updated the configuration as InControl configuration updated	
Mar 19 15:21:31	System: LAN Configuration has been updated by InControl	
Mar 19 15:07:38	System: Changes applied	
Mar 19 14:09:27	System: WAN Analysis server stopped	
Mar 19 14:09:22	System: WAN Analysis server started (control port: 6000, max. streams: 8)	
Mar 19 14:05:30	WAN: WAN 2 connected (10.22.1.165)	
Mar 19 14:05:30	WAN: WAN 1 connected (10.22.1.151)	
Mar 19 14:05:18	WAN: WAN 2 disconnected	
Mar 19 14:05:18	WAN: WAN 1 disconnected	
Mar 19 14:05:18	System: Changes applied	
Mar 19 13:56:31	WAN: WAN 2 connected (10.22.1.165)	

The log section displays a list of events that has taken place on the Pepwave router. Check **Auto Refresh** to refresh log entries automatically. Click the **Clear Log** button to clear the log.

31 WAN Quality



The **Status > WAN Quality** allow sto show detailed information about each connected WAN connection.

For cellular connections it shows signal strength, quality, throughput and latency for the past hour.

32 Usage Reports

This section shows bandwidth usage statistics and is located at **Status > Usage Reports** Bandwidth usage at the LAN while the device is switched off (e.g., LAN bypass) is neither

peplink PEPWAVE



recorded nor shown.

32.1 Real-Time

4.88 Mbps

Overall

Avg: \$0.99 Mbps \$0.12 Mbps

The **Data transferred since installation** table indicates how much network traffic has been processed by the device since the first bootup. The **Data transferred since last reboot** table indicates how much network traffic has been processed by the device since the last bootup.

ata transferred since installation (Sun C	Oct 10 05:56:02 PST 2010)		
	Download	Upload	Total
All WAN Connections	216.68 GB	91.70 GB	308.38 GB
ata transferred since last reboot			[<u>Hide Detai</u>
	Download	Upload	Total
All WAN Connections	0.74 GB	0.63 GB	1.37 GB
WAN1	0.67 GB	0.61 GB	1.28 GB
WAN2	0.07 GB	0.02 GB	0.09 GB
Download Upload			
14.65 Mbps			
0.77.01-0			

M

Upload

75 kbps

Peak: \$21.78 Mbps \$0.67 Mbps

Download

61 kbps

https://www.peplink.com

Stacked

Total

136 kbps



32.2 Hourly

This page shows the hourly bandwidth usage for all WAN connections, with the option of viewing each individual connection. Select the desired connection to check from the drop-down menu.





32.3 Daily

This page shows the daily bandwidth usage for all WAN connections, with the option of viewing each individual connection.

Select the connection to check from the drop-down menu. If you have enabled the **Bandwidth Monitoring** feature, the **Current Billing Cycle** table for that WAN connection will be displayed.

Click on a date to view the client bandwidth usage of that specific date. This feature is not available if you have selected to view the bandwidth usage of only a particular WAN connection. The scale of the graph can be set to display megabytes (**MB**) or gigabytes (**GB**).



All WAN Daily Bandwidth Usage

32.4 Monthly

This page shows the monthly bandwidth usage for each WAN connection. If you have enabled the **Bandwidth Monitoring** feature, you can check the usage of each particular connection



and view the information by Billing Cycle or by Calendar Month.

Click the first two rows to view the client bandwidth usage in the last two months. This feature is not available if you have chosen to view the bandwidth of an individual WAN connection. The scale of the graph can be set to display megabytes (**MB**) or gigabytes (**GB**).



All WAN Monthly Bandwidth Usage

peplink PEPWAVE

Pepwave MAX User Manual



Ethernet WAN Monthly Bandwidth Usage





Appendix A. Restoration of Factory Defaults

To restore the factory default settings on a Pepwave router, follow the steps below:

- 1. Locate the reset button on the front or back panel of the Pepwave router.
- 2. With a paperclip, press the reset button and hold it for at least 10 seconds, until the unit reboots itself.

After the Pepwave router finishes rebooting, the factory default settings will be restored.

Important Note

All previous configurations and bandwidth usage data will be lost after restoring factory default settings. Regular backup of configuration settings is strongly recommended.



Appendix B: Declaration

1. <u>The device supports time division technology</u>

2. Federal Communication Commission Interference Statement

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 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.

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.

Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

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 23 cm between the radiator & your body.

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

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 are country dependent and are firmware programmed at the factory to match the intended destination.

3. Industry Canada statement:

This device complies with ISED's licence-exempt RSSs. 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.

Le présent appareil est conforme aux CNR d' ISED applicables aux appareils radio exempts de licence.

L'exploitation est autorisée 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.

For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:

This radio transmitter 20682-P1941 has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

WIFI Antenna type: Replacement Antenna WIFI Antenna gain: 2.4GHz / 2.44 dBi , 5GHz / 4.73 dBi LTE Antenna type: Replacement Antenna (04-410055-00) LTE Antenna gain: 4 dBi LTE Antenna type: Replacement Antenna (04-410093-01) LTE Antenna gain: 4.38 dBi

Radiation Exposure Statement:

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with greater than 23 cm between the radiator & your body.



Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à plus de 23 cm entre le radiateur et votre corps.

Caution :

(i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

(ii) for devices with detachable antenna(s), 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 as appropriate; (detachable antenna only)

(iii) where applicable, antenna type(s), antenna models(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.

Avertissement:

Le guide d'utilisation des dispositifs pour réseaux locaux doit inclure des instructions précises sur les restrictions susmentionnées, notamment :

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

(ii) pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5725 à 5850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée, selon le cas; (detachable antenna only)

(iii) lorsqu'il y a lieu, les types d'antennes (s'il y en a plusieurs), les numéros de modèle de l'antenne et les pires angles d'inclinaison nécessaires pour rester conforme à l'exigence de la p.i.r.e. applicable au masque d'élévation, énoncée à la section 6.2.2.3, doivent être clairement indiqués

4. CE Statement for Pepwave

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:



- EN 60950-1: 2006 + A11 : 2009+A1 : 2010+ A12: 2011 Safety of Information Technology Equipment
- EN 50385 : 2002 / Article 3(1)(a)

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 - 40 GHz) - General public

EN 300 328 V1.7.1: 2006

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 301 908-1 V5.2.1: 2011

Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 1: Harmonized EN for IMT-2000, introduction and common requirements, covering essential requirements of article 3.2 of the R&TTE Directive

- EN 301 511 V9.0.2: 2003

Global System for Mobile communications (GSM); Harmonized standard for mobile stations in the GSM 900 and DCS 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC)

- EN 301 489-1 V1.9.2: 2008

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

- EN 301 489-7 V1.3.1: 2005

ElectroMagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment ad services; Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)

- 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 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment



- EN 301 489-24 V1.5.1: 2010

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 24: Specific conditions for IMT-2000 CDMA Direct Spread (UTRA) for Mobile and portable (UE) radio and ancillary equipment

CE

ថ Česky [Czech]	<i>[Jméno výrobce]</i> tímto prohlašuje, že tento <i>[typ zařízení]</i> je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede <i>[fabrikantens navn]</i> erklærer herved, at følgende udstyr <i>[udstyrets typebetegnelse]</i> overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt <i>[Name des Herstellers]</i> , dass sich das Gerät <i>[Gerätetyp]</i> in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab <i>[tootja nimi = name of manufacturer]</i> seadme <i>[seadme tüüp = type of equipment]</i> vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, <i>[name of manufacturer]</i> , declares that this <i>[type of equipment]</i> is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
ies Español [Spanish]	Por medio de la presente <i>[nombre del fabricante]</i> declara que el <i>[clase de equipo]</i> cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
፪Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ [name of manufacturer] ΔΗΛΩΝΕΙ ΟΤΙ [type of equipment] ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
ff Français [French]	Par la présente <i>[nom du fabricant]</i> déclare que l'appareil <i>[type d'appareil]</i> est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
ittitaliano [Italian]	Con la presente <i>[nome del costruttore]</i> dichiara che questo <i>[tipo di apparecchio]</i> è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
⊡Latviski [Latvian]	Ar šo <i>[name of manufacturer / izgatavotāja nosaukums]</i> deklarē, ka <i>[type of equipment / iekārtas tips]</i> atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
It∎Lietuvių [Lithuanian]	Šiuo <i>[manufacturer name]</i> deklaruoja, kad šis <i>[equipment type]</i> atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
메 Nederlands [Dutch]	Hierbij verklaart <i>[naam van de fabrikant]</i> dat het toestel <i>[type van toestel]</i> in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.

Pepwave MAX User Manual



int Malti [Maltese]	Hawnhekk, <i>[isem tal-manifattur]</i> , jiddikjara li dan <i>[il-mudel tal-prodott]</i> jikkonforma mal- ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
™Magyar [Hungarian]	Alulírott, <i>[gyártó neve]</i> nyilatkozom, hogy a <i>[típus]</i> megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
₽ Polski [Polish]	Niniejszym <i>[nazwa producenta]</i> oświadcza, że <i>[nazwa wyrobu]</i> jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
₽ Português [Portuguese]	[Nome do fabricante] declara que este [tipo de equipamento] está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
র Slovensko [Slovenian]	<i>[Ime proizvajalca]</i> izjavlja, da je ta <i>[tip opreme]</i> v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
skSlovensky [Slovak]	<i>[Meno výrobcu]</i> týmto vyhlasuje, že <i>[typ zariadenia]</i> spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
ff]Suomi [Finnish]	[Valmistaja = manufacturer] vakuuttaa täten että [type of equipment = laitteen tyyppimerkintä] tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar <i>[företag]</i> att denna <i>[utrustningstyp]</i> står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.