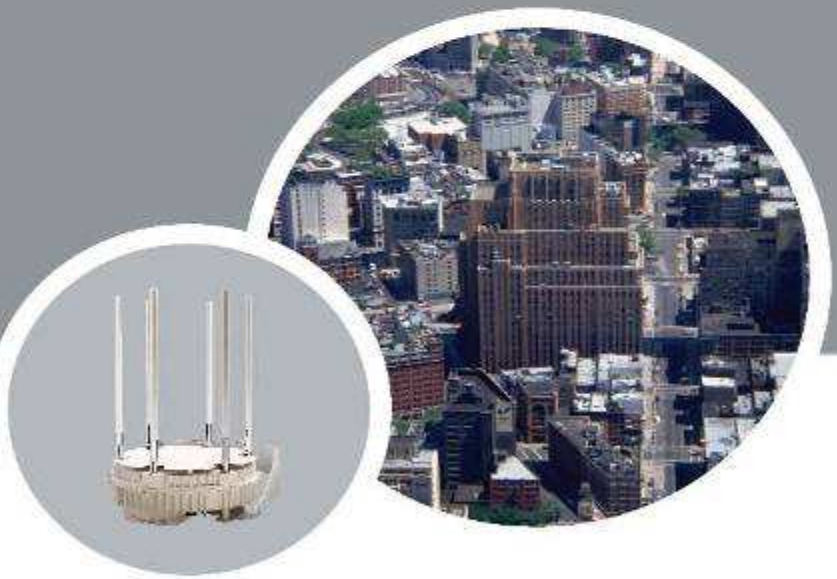
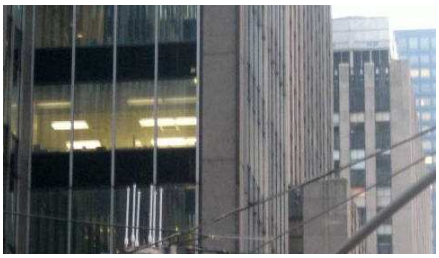
Wavion Frequently Asked Questions (FAQ)

For more information contact:
support@wavionnetworks.com



WAVION
WIRELESS NETWORKS

Q: Does the WBS-2400 base station support standard of-the-shelf 802.11b/g NIC cards?



A: Yes, the WBS-2400 base station supports the 802.11b/g standard.

Q: Does the WBS-5800 base station support standard of-the-shelf 802.11a NIC cards?

A: Yes, the WBS-5800 base station supports the 802.11a standard.

Q: How do I know if I powered the unit correctly?

A: When using Wavion HPOE injector, you must use a standard T-568B Ethernet cable from the HPOE unit to WBS connected to the WBS Eth port A.
You need to verify that all 3 LED's (Power, Power on Data and Power on Spare are lit).

When using Wavion POE Injector, you must use a standard T-568B Ethernet cable from the POE unit to the WBS connected to the Eth port B.
The WBS STATUS LED is on, when unit is powered correctly.

Q: I have WEP configured on my radio but I am unable to connect to the Internet

A: WBS base station supports all the security modes defined by 802.11 and Wi-Fi Alliance: Open, WEP, WPA and WPA2. In the case of WEP mode, both 64-bit (also known as 40-bit) and 128-bit WEP encryptions are supported. In addition, both "Open" and "Shared Key" Authentications are supported in WEP mode.

Note that both ends must have the same configuration for data transfer. The key length and the key itself must match on both ends. The Authentication type must match as well.

The WBS requires that you enter the WEP key in hexadecimal format. Some devices allow ASCII text or a pass phrase. This value must be converted into hexadecimal format and entered into the WBS.

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If the devices have multiple keys, the same key number must be used on both devices. For example; if WEP Key 1 is used on one device, WEP Key 1 must be used on the WBS.

Q: Logging in to the WBS Management page

A: Access to the WBS is gained through the following IP address and credentials:
default IP: 192.168.1.1/24
username: admin
password: admin

In order to gain access to the WBS, make sure that your computer/laptop is set to an IP address like: 192.168.1.2 for example with a subnet mask of 255.255.255.0. After configuring your computer/laptop, open a web browser and browse to: http://192.168.1.1 at which point you should then get the login prompt for the WBS.

Q: What file should you use for a firmware upgrade?

A: First download the required file from the firmware files section of the Wavion support site.
The file that you need to upload to the WBS is the ***.wj** file.

Q: How do you set up an IP address on the WBS?

A: In the Configured IP Address Configuration section,

1. For a DHCP obtained address, select DHCP. Following a reboot, the WBS will automatically obtain and IP address, Sub network, and Default Gateway from the DHCP server.
2. To allow entry of a new static IP address, select Static from the Configured Boot Protocol dropdown list.
3. In the Configured IP Address field, enter the required IP address.
4. Apply, Save and reboot for the changes to take affect.

Q: How do you extend the coverage of the WBS?

A: There are several ways to extend the WBS coverage area. These are the most important methods:

1. Use a remote WBS base station, connected to the central WBS in self backhaul (SBH) mode.
2. Increase the transmitter power level parameter of the existing WBS in order to extend the coverage.
3. Position the WBS base stations optimally at least 1m away from any metal object.
4. Use a strong transmission client (CPE).

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5. Increase the transmission/reception capabilities of the client antenna by using an RF Booster.

Q: What is the typical range for a WBS base station?

A: The answer to this question depends on a number of factors including:

- The data rate (bandwidth) that you expect to receive at remote locations
- The device (CPE/NIC) that resides at the remote end
- The level of interference at the active channel
- The terrain of the covered area.

In rural areas where the WBS base station is installed relatively high (10m above other buildings), and there are no interferences, the range can be up to 20 km.

Q: How can I determine the best channel to work in?

A: Use the ACS feature to search for a clean frequency (Refer to the WBS User Manual for details.)

Q: Does WBS base station support roaming?

A: The Wavion Base Station supports the part of 802.11f, which supports handover between access points that reside on the same Layer-2 domain.

The WBS handover implementation sends a Layer-2 packet with the source address of a newly associated client. This packet is sent as broadcast message allowing all Layer-2 devices in the network to update their MAC address caches.
This solution will work if the backhaul network is configured as a flat Layer-2 network. When the network is composed by multiple IP subnets, another device (e.g. ForeSoft SG-1) should handle roaming across subnets.

Q: How many services set identifiers (SSIDs) and how many VLANs are supported by Wavion Base Station?

A: The WBS base station supports up-to 16 SSIDs and up-to 16 VLANs. There is a one-to-one mapping between SSIDs and VLANs.

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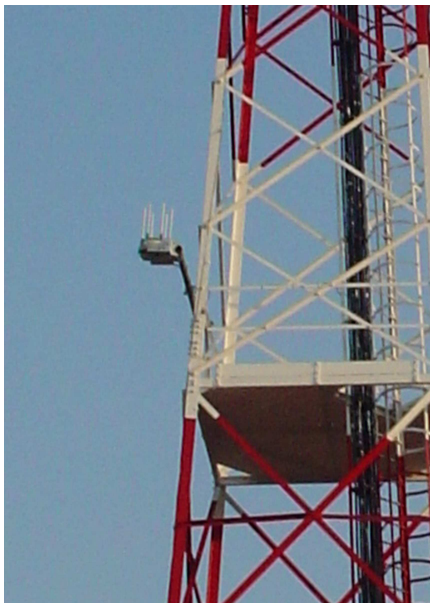
There is an option to have multiple VLANs per SSID. This option is applicable when RADIUS authentication is involved. In this case, you need to configure the RADIUS server to assign the VLAN to the authenticated user during the Authentication phase. In addition, you need to define the VLANs that can match this SSID on the WBS.

Q: Is it possible to co-locate a number of WBS base stations??

A: Yes, three WBS units can be co-located. A minimum of 8 meters separation is recommended when all units are on the same RF channel. However, the units will suffer from throughput performance due to mutual interference.

A one meter separation is possible when units are operating on different RF channels 1,6,11. It is highly recommended to have as much distance as possible between units and to use RF channels 1,6,11 in order to reduce throughput degradation.



Regardless, avoid installing the units at the same height, by leaving a vertical distance of at least 1 meter between them

Q: What is the minimum distance required between two WBS units?

A: One meter is the minimal recommended separation when implementing self backhaul (SBH).

Regardless, avoid installing the units at the same height, by leaving a vertical distance of at least 1 meter between them

Q: What are the tower installation requirements?

A: You need to install the WBS 1m away from any adjacent metal object.

Q: What are the pole installation requirements?

A: You need to install the WBS with antenna higher then the end of the Pole.

Q: What is the nominal noise level for optimal performance of the WBS?

A: nominal noise level without interference is -97dBm. Use the ACS feature to search for a clean frequency with a Noise Level between -85dBm to -97dBm. Higher values indicate higher noise levels due to interference.

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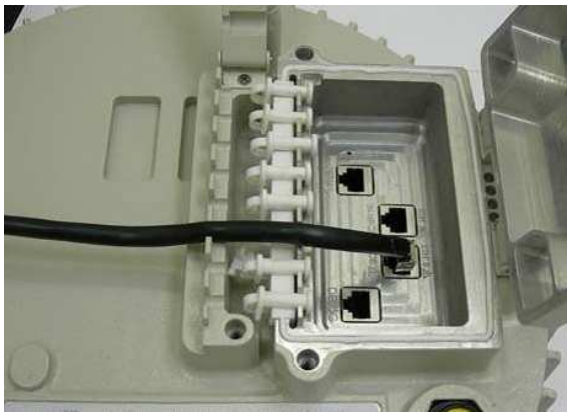
Q: What is the maximum Ethernet cable length that can be used with a POE?

A: When using the POE for power on the WBS, the maximum cable length is 100 meters.



Q: Which port should be used for Data or POE?

A: Port B is used for Data and POE. The rest of the ports are for engineering purposes.

Q: Where is the WBS reset button?

A: The reset pin hole button is located next to the serial port. To reset the system to factory default parameters press the button until the STATUS LED is on steady with a red light.

Q: How many clients can associate to the WBS?

A: The WBS can physically handle up to 238 MAC addresses. However, because Wi-Fi is a shared platform and every Wi-Fi base station acts as a wireless hub, the performance of each user decreases as the number of users increases.

Q: Is it possible to limit the number of clients associated?

A: Yes. The WBS can limit the number of clients associated to any value between 0 and 238. Client association will be refused after the limit is reached. The limitation is set in the MAC filtering page, Association menu.

Q: How to allow only to specific MAC addresses to associate?

A: In the Association Menu, MAC filtering page, enable the MAC enforcement. In the access list policy, select Accept from the drop-down menu. The list of MAC addresses allowed to connect can be uploaded or enter manually.

Q: How to deny association to specific MAC addresses?

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A: In the Association Menu, MAC filtering page, enable the MAC enforcement. In the access list policy, select Reject from the drop-down menu. The list of MAC addresses you wish to block can be uploaded or enter manually.

Q: Can the WBS initiate a disconnection of an associated CPE?

A: Yes. A CPE that is not active for a certain period of time will be disconnected from the WBS. The inactivity timeout can be configured in the Network Interface menu, Wireless page. The inactivity timeout varies from 5 minutes to 30 minutes. The default value is 15 minutes.

Q: How to block the traffic between clients associated to the same WBS?

A: The traffic between CPE associated to the same WBS can be blocked using the peer-to-peer block feature. This can be enabled in the Network menu, Bridge page.

Q: Does the Wavion WBS support QoS?

A: Yes. The WBS support QoS while implementing the WMM protocol. In order to work with WMM the WBS should have the VLAN tag enable, as WMM uses 802.1p tagging for priority classification. The CPE should support WMM as well.

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