## WH-9100MESH

Advanced Dual Radio MESH Outdoor AP

T he WH-9100MESH is the latest addition to the AirLive WISP solution family. It is our top of the line outdoor AP featuring the latest MESH outdoor technology. The hardware features 2 Dual Band radios and Temperature Control Module that allows operation from -30 to 70 degree Celsius. In addition, the software features such as WMS utility, Rogue AP Detection, and Client load balancing provide better security and control for administrators. Comparing to our WH-9000MESH, it adds Gateway mode, Multiple SSID, VLAN, and Layer 2 Isolation functions. The WH-9100MESH adds significant improvement for performance and uptime for your WISP network.
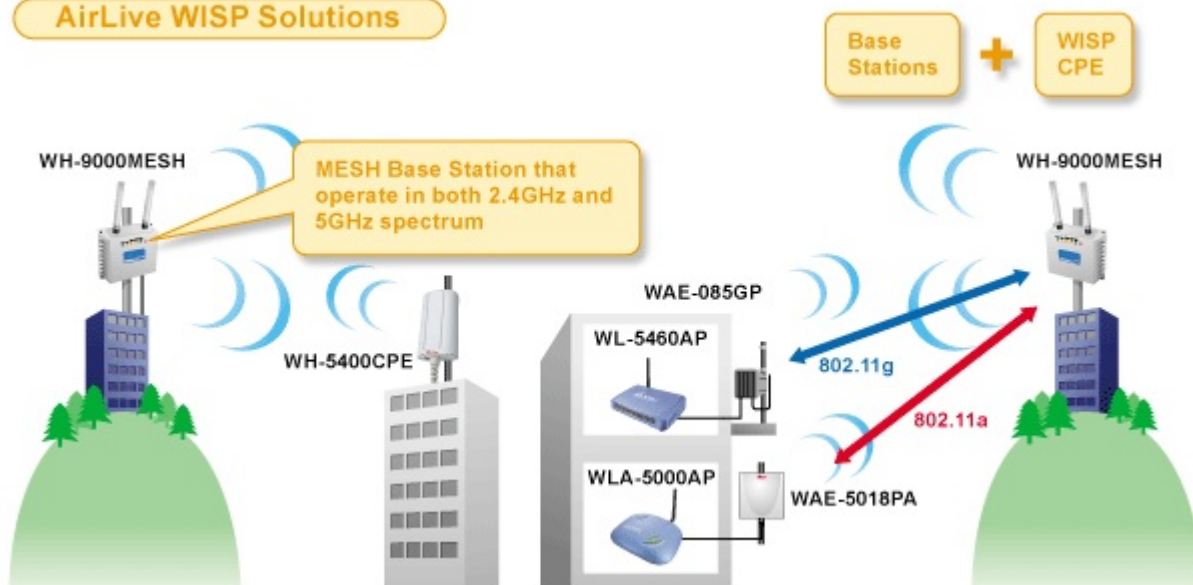
MESH Technologies

The MESH technology provides self-forming, self-healing, and self-configuring capabilities using the spanning tree protocols. These technologies let MESH network constantly adjust itself to the best condition and performance.

- **Self Forming:** When you turn on the the MESH's auto bridge function, you only need to set each AP's SSID and encryption key to the same value. Then the MESH APs will auto search and establish connections between themselves. This technology let the MESH network self-adjust and establish networks according to change in inference and weather conditions.

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· **Self Healing:** When one connection in your network is broken, the MESH network will disable this path and re-route the data to take a different path. This ensure the lost of one or more AP will not bring down your network.

· **Self Configuring:** MESH provides multi-path capability that enables the MESH network to choose the best path from point A to point B. The end result is stable and optimal performance throughout your WISP network.

Self Forming

Turn on the Auto-Bridge mode and set same RF channel and same SSID. The bridge interconnect between themselves

Self Healing

Checking routing status periodically, If one node broken, will find another routing path automatically

Self Configuring

The mesh network will check on WLAN performance, Bridge Priority and others parameters to choose shortest, power aware and loop free routing path

Dual Radio Dual Band

Inside the WH-9100MESH is a high performance Intel Xscale Processor working with 2 Dual Band 802.11a/b/g RF modules. One RF radio is set to AP mode while the other radio is set to bridge mode, each radio have their own set of antenna connectors. This means you can choose to let the AP provide service in 2.4GHz or 5GHz spectrum, while the bridge radios maintain links to the remote MESH network.

Temperature Control Module

What good does an advanced outdoor AP do if it doesn't stand up to the temperature and environment challenge? Besides the water-proof IP-67 certification, the WH-9000MESH uses the Thermal Electric Active Cooler from Marlow Industries that enable the unit to operate from -30 degree to 70 degree Celsius temperature. This means year-round operation for your WISP network.
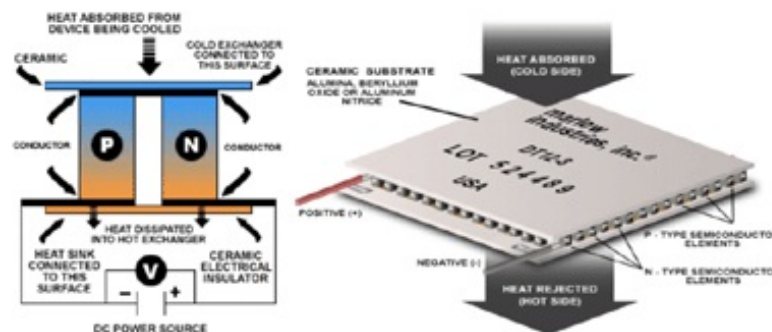
Advance Software Feature

The WH-9100MESH features the following software functions for extra management and security need

- **Layer2 Client Isolation:** Separate your wireless client from see each other
- **802.1Q VLAN:** Divide your network into separate wireless VLAN networks
- **Multiple SSID:** You can have more than one SSID in AP mode. Each SSID can be a separate wireless VLAN
- **Gateway mode:** Turn your AP mode into a router mode. Gateway functions such as DMZ, content filtering, IP filtering, and virtual server are inlucded
- **Rogue AP Detection:** When an authorized AP tries to join the MESH network, the MESH network will block such attempts and notify the administrator.
- **WMS Utility:** The WH-9000MESH includes a WMS utility to let administrator manage and monitor all the APs in the MESH network
- **Client Load Balancing:** When there is too many clients in one station, the station will reject connection to redirect the client to other Aps.
- **ACK Timeout Adjustment:** This feature let your 802.11a and 802.11g network to maintain its speed over long distance. The WH-9100MESH defines the ACK timeout by distance. Therefore, you don't have to second guess the correct value to enter.

The MESH network will improve the uptime and performance of your WISP network. It is a perfect choice for WISP backbone deployment.

* The WH-9100MESH features 2 RF radios. Each radio can operate in 2.4Ghz or 5GHz, but not both band at the same time. However, you can have one radio operate in 2.4GHz and the other operates in 5GHz.

** This Device has no NAT router function. The WAN port on this device functions like LAN port.

Ports and Connectors

Manufacturer
OvisLink Corp.

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2F, No. 8, Lane 130, Min-Chuan Rd, Hsin-Tien City, Taipei, Taiwan.

Hardware
- CPU: Intel IXP-425, 533Mhz
- Flash: 8 Megabytes
- DRAM: 32 Megabytes

Connectors
- 1 LAN Port (10/100 Mbps)
- 1 Ethernet Configuration Port(10/100Mbps)
- 2 x N-Type Antenna Connectors for AP-Mode
- 1 x N-Type Antenna Connector for Bridge-Mode

Wireless
- 2 x 802.11a/b/g Radios
- Atheros CM-9 Modules
- Turbo A, Supper G, 802.11a, 802.11g, 802.11b compatible
- TPC and DFS in 802.11a mode
- 5GHz or 2.4GHz frequency spectrum
- AP and Bridge/Repeater mode
- Adjustable TX Power

RF Output Power
- 802.11a
  - 17dB @ 6Mbps
  - 13dB @ 54Mbps compatible
- 802.11g
  - 18dB @ 6Mbps
  - 15dB @ 54Mbps
- 802.11b
  - 18dB

RF Receiver Sensitivity
- 802.11a
  - -88dB @ 6Mbps
  - -71dB @ 54Mbps
- 802.11g
  - -90dB @ 6Mbps
  - -74dB @ 54Mbps
- 802.11b
  - -90dB @ 6Mbps
  - -74dB @ 54Mbps

Software Features
- SNMP Agent
- HTTPS and Web management
- Auto Bridge Mode for up to 40 Nodes
- Bridge Priority for Auto Bridge mode
- MESH Self-forming and Self-Configuration
- ACK Timeout Adjustment in Distance
- Fixed or Auto Wireless Channel Selection
- MESH Bridge Site Map
- Signal Strength and Wireless MAC Monitoring
- MAC Address Filtering
- Rogue AP Detection with Email notification
- Wireless Client Load Balancing
- Enable/Disable SSID Broadcast

Management
- HTTPS Web management
- SNMP agent
- WMS central management utility included
- Auto Bridge Mode for up to 40 Nodes

Encryptions
- 64/128/152-bit WEP
- WPA and WPA-PSK
- WPA2, 802.11i
- AES CCMP

Accessories
- Mounting Kits
- 2 x 5dBi antennas
- 30 meter water-proof POE cable

Specification

- Power Adapter and POE DC Injector
- 1.5 meter antenna cable
- CD

Physical Specification
- IP-67 Certification
- Thermal Electric Active Cooler
- Dimensions : 235 mm x 210 mm x 76 mm
- Weight: 2.5kg (main unit)
- Operating Temperature : -30℃ ~ 70 ℃
- Storage Temperature: -40 ℃ ~ 80 ℃
- Operating Humidity : 0~95% non-condensing

Gateway Mode
- IP Aliasing
- Content Filtering
- Firewall
- Virtual Server
- DMZ
- Port Filtering

Ordering Information

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