



SWAP900

Solar Wireless Access Point

WAP900 is a 2.4GHz 802.11b/g WiFi access point and long range 900MHz mesh router that provides secure local access for WiFi enabled computers. Data is relayed between access points utilizing a mesh network with a 900MHz broadband radio and omni directional antenna. The fully integrated system makes it possible to deploy broadband networks over large areas on a permanent or temporary basis.

The aluminum weatherproof enclosure, high efficiency solar module, and extended capacity battery provides continuous daily operation. The unit can be mounted easily on poles, towers, or rooftops that face the sun. Utilizing an ultra efficient solar array during daytime and high capacity batteries at night, the system provides the freedom to create a network with total independence from external power sources. The power system controller manages the solar module and batteries to ensure continuous system operation.

Where there are trees and dense foliage the 900MHz signals will provide much longer range than traditional WiFi based systems. Additionally, the long-range propagation characteristics of these frequencies significantly reduce the total number of SWAP900 units required and therefore the total deployment costs compared to WiFi based systems. The 900MHz radio enhanced by the use of dynamic channel coding, and modulation optimizations rapidly adapts to varying radio propagation conditions. This advanced radio technology greatly increases the network resiliency compared to WiFi based network systems.

The 900MHz mesh router features a data throughput optimizing, proactive, mesh routing protocol that forms the mesh network. This new mesh routing protocol is called Radio Optimized Routing Protocol (RORP). The routing protocol divides the processing of network data into two parts using the mesh routing protocol to deliver data and Link Automatic Retry Request (Link ARQ) to fix data transmission errors. This technique reduces radio retransmission airtime demands that significantly improves total network throughput.

The mesh protocol monitors the network configuration and status to continuously optimize data throughput. The low latency mesh network provides an ideal solution for data intensive real-time applications. The secure WPA2 and EAP encryption types as well as the web based authentication, ensures users are authorized to join the network while AES encryption secures the system.

For More Information:

FEATURES

- 900MHz broadband mesh radio
- 2.4GHz 802.11g access point
- Integrated antennas
- Auto configuring and optimizing
- Extended battery operation
- Weatherproof enclosure
- Universal mounting capability

MANAGEMENT

- All units auto discover and self configure.
- Remote management using secure web interface.
- Dynamic system updates
- WiFi gateway connections

SECURITY

- RADIUS support
- 802.1x, TKIP, EAP, WPA/2
- AES mesh encryption
- VPN compatible
- SNMP, SSL, SSH, HTTPS standards
- MAC access filtering and control



SWAP900

Typical Uses

Agriculture
Asset management
Boat marinas
Construction sites
Emergency services
Entertainment events
Internet service
Outdoor networks
Portable networks
Private networks
Public safety
Recreational events
Remote storage
Research networks
RV parks
Security monitoring
Sports events
Telemetry
Temporary networks

Technical Specifications

Wireless

- Wireless Standards: IEEE 802.11a/b/g
- Frequency Bands:
 - 902-928MHz, ISM (FCC)
 - 2.4 - 2.462GHz
- Access Point Data Rates: 6, 9, 12, 18, 24, 36, 48, 54 (Mbps)
- Wireless Medium: 802.11b/g – OFDM, DSSS Channel coding
- Modulation: 802.11b/g – compatible modes
- Operating Channels: 802.11b/g (3 discreet FCC authorized channels)

Electrical

- Power Input: 4.8 VDC with integrated custom high efficiency solar cell module and nighttime battery operation.
- Extended battery operation in excess of 20 hours

Protection Circuits

- Antenna lightning protection
- Automatic power protection and data retention
- Automatic solar system controller management

Environmental

- Operating Temperature: -40°C to +55°C
- Storage Temperature: -45°C to +85°C
- Humidity: 10% to 90% non-condensing
- Weather Rating: Weatherproof
- Wind Survivability: >100 mph

Physical

- 25” high x 12.5” wide x 16.5” deep (without mounting hardware and antennas)
- Weight: 14.5 lbs
- NEMA rated outdoor enclosure
- Roof mount and pole mounting hardware included

Security

- Authentication: 802.1x support, including RADIUS client, EAP, PEAP-TTLS, WPA2
- Encryption: IEEE 802.11i and AES

Remote Management

- Web, and SNMP v3, SSL interfaces
- Supports DHCP, Telnet, SSL, SSH, HTTP, HTTPS
- FTP secure file transfer, storage and retrieval with system update features
- Multiple VLAN, SSID support

Approvals

- FCC CFR47 Part 15, Class A
- NEMA rated for outdoor use

Warranty

- One year parts and labor