

# O W S 2 4 0 0 S E R I E S

## Features

### Wireless

- ~ High-performance, multi-node and multi-radio mesh architecture.
- ~ Low latency and high throughput across multiple wireless hops.
- ~ Up to six radios per node (upgradeable).
- ~ Full duplex mesh.

### System

- ~ All nodes auto-discover and self-configure.
- ~ Self-tuning and self-healing mesh for network optimization.
  - ~ User definable QoS with voice, video and data prioritization.
- ~ Up to 16 BSSIDs per radio.
- ~ Multiple SSIDs (per network and per node) and VLAN tagging, with configurable security parameters on a per-SSID basis.
  - ~ Session persistence for roaming, path optimization or failover.
- ~ Manager/One® Web interface provides a full suite of intuitive management tools at the network, node, and radio levels.
- ~ Additional remote management options include SNMP, CLI over Telnet or SSH, HTTP/HTTPS, DHCP, and BOOTP.
- ~ Seamless interoperability with the Strix Access/One® Indoor Wireless System (IWS) and Edge Wireless System (EWS).

### Security

- ~ Supports all industry standard security protocols.
  - ~ RADIUS, WPA, EAP-MD5, EAP-TLS, PEAP-TTLS authentication.
- ~ 802.11i with AES, WEP and TKIP encryption.
- ~ MAC address Access Control Lists on a per SSID basis.
- ~ Full VPN support.

## DELIVERS INDUSTRIES HIGHEST THROUGHPUT, LOWEST LATENCY ACROSS MULTIPLE HOPS

The award winning Access/One® Outdoor Wireless System (OWS) 2400 is the industry's highest throughput, lowest latency modular multi-radio mesh networking system. Utilizing Strix DMA™, the Access/One OWS delivers multi-radio, multi-RF and multi-channel capabilities using advanced algorithms to deliver high throughput over multiple hops from the core to the edge of the network. The OWS intelligently self-tunes, self-configures and self-heals to optimize the overall performance and availability. The OWS architecture makes 802.11 a full duplex technology, moving traffic more efficiently through the network and utilizing different RF frequencies and channels for network connectivity and client access. RF Channels are selected dynamically, making the network more resilient to interference than standard mesh networks. Working closely together, these features deliver higher throughput and lower latency across multiple hops, supporting real time voice, video, and data applications. The OWS scales

OWS is the most secure mesh networking system available, with the tools to authenticate users, encrypt wireless traffic, and monitor network activity all provided as standard features. Secure private networks can operate in tandem with open public access networks—with data integrity guaranteed.

efficiently and economically minimizing the number of wired termination points required in the network, greatly reduces deployment and operating costs and the Total Cost of Ownership (TCO). Extended operating temperature ranges and flexible mounting options make the OWS suitable for all types of

deployment scenarios. All OWS nodes can be centrally managed using the Manager/One® secure Web interface, or the carrier grade SNMP based management tools. Enhanced features including Virtual/Strix, Priority/One and Rogue/One support deployments of mixed use networks where varying security schemes are implemented based on user type (for example, public safety versus public access), and different levels of priority can be assigned to the various network traffic. Access/One Network OWS is an ideal solution for carriers, service providers, municipalities, public safety, federal government applications and more.

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# Technical Specifications

## Wireless

- ~ Wireless Standards: IEEE 802.11a/g ~
- Frequency Bands:
  - 802.11a
    - 5.15 - 5.25 GHz, 5.25 - 5.35 GHz
    - 5.470 - 5.725 GHz (capable), 5.725 - 5.850 GHz
  - 802.11g
    - 2.4 - 2.462 GHz (Americas, FCC)
    - 2.4 - 2.472 GHz (Europe, ETSI)
    - 2.4 - 2.497 GHz (Japan, MKK)
  - U.S. Public Safety
    - 4.940 - 4.990 GHz (FCC DSRC-C)
- ~ Data Rates (Mbps):
  - 6, 9, 12, 18, 24, 36, 48, 54 (802.11a/g/4.9)
- ~ Wireless Medium:
  - 802.11a/g/4.9 - OFDM ~
  - Modulation:
    - 802.11a/4.9 - BPSK, QPSK, 16 QAM, 64 QAM
    - 802.11g - DBPSK, DQPSK, CCK
- ~ Operating Channels:
  - 802.11a
    - 13 (Americas, FCC) 8 indoor, 5 outdoor
    - 13+ (Europe, ETSI), 13 (Japan, MKK)
  - 802.11g
    - 11 (Americas, FCC)
    - 13 (Europe, ETSI), 13 (Japan, MKK)
  - U.S. Public Safety
    - 2 (4.955 GHz, 4.975 GHz)
- ~ Transmit Power (802.11a/g/4.9): 26 dBm ~
- Transmit and Receive Diversity
- ~ Receiver Sensitivity:

802.11g:	802.11a/4.9:
-98 dBm @ 1 Mbps	-93 dBm @ 6 Mbps
-94 dBm @ 5.5 Mbps	-90 dBm @ 12 Mbps
-91 dBm @ 11 Mbps	-84 dBm @ 24 Mbps
-93 dBm @ 6 Mbps	-81 dBm @ 36 Mbps
-91 dBm @ 12 Mbps	-76 dBm @ 48 Mbps
-85 dBm @ 24 Mbps	-74 dBm @ 54 Mbps
-82 dBm @ 36 Mbps	
-77 dBm @ 48 Mbps	
-75 dBm @ 54 Mbps	
- ~ LO (crystal) Frequency Stability:
  - +/-20PPM

## Electrical

- ~ Power Input: Auto-sensing 120/240 VAC, 50/60 Hz, single and split phase, with ANSI/IEEE C62.41 category C3 integrated surge protection
- ~ AC Power Consumption: 30W typical, 65W maximum ~
- DC Input: 12/24V, 6A maximum

## Protection Circuits

- ~ Electrical Protection: ANSI/IEEE C62.41, UL 1449 2nd edition; 10kA @ 8/20  $\mu$ s waveform, 36kA per phase; L-L, L-N, L-PE
- ~ Data Protection: EN61000-4-2 Level 4 ESD Immunity ~ EN61000-4-5 Level 4 AC Surge Immunity
- ~ EN61000-4-4 Level 4 Elect. Fast Transient Burst Immun.
- ~ EN61000-4-3 EMV Field Immunity

## Environmental

- ~ Operating Temperature: -40°C to +55°C
- ~ Storage Temperature: -50°C to +85°C
- ~ Humidity: 10% to 90% non-condensing ~
- Weather Rating: IP67 weather tight
- ~ Wind Survivability: >165 mph
- ~ Wind Loading (165 mph): <1024 newtons
- ~ Salt/Fog/Rust Resistance: Mil-STD-810F 509.4 ~
- Shock & Vibration: ESTI 300-192-4 spec T41.E ~ Class 4M3 and Mil-STD-810
- ~ Transportation: ISTA 2A and Mil-STD-810

## Physical

- ~ 12" high x 10" wide x 6" deep (without accessories) ~
- Weight: 14.5lbs (6.58 Kg)
- ~ NEMA 4X rated for outdoor enclosures
- ~ Wall mount and pole mount brackets included

## Security

- ~ Authentication: 802.1x support, including RADIUS client, EAP-MD5, EAP-TLS, and PEAP-TTLS, WPA
- ~ Encryption: IEEE 802.11i with AES and WEP

## Remote Management

- ~ Web, CLI and SNMP interfaces
- ~ Supports BOOTP, DHCP, Telnet, SSH, HTTP, HTTPS, and FTP
- ~ SNMP: MIB II, 802.11 MIB, and Strix private MIBs

## Approvals

- ~ FCC CFR47 Part 15, Class A; EN 301 489-1/-17 EN 301 328; EN 301 893
- ~ Industry Canada RSS210
- ~ EN60950 cTUVus Listed I.T.E
- ~ UL 579/IEC 60529 IP67, rated for outdoor use ~ UL 1449 2nd edition / IEC 60664-1
- ~ VCCI Class A

## Optional Accessories

- ~ Adjustable Mounting Bracket
- ~ Street light NEMA photo-electric power taps

## Warranty

- ~ One year parts

## Ordering Information

OWS 2400-10  
120/240 VAC, 12/24 VDC auto-sensing, preconfigured with 1-802.11a and 1-802.11g radio, 2 type N antenna connectors, 1 multi-use power connector, and 1 Ethernet connector.

OWS 2400-20  
120/240 VAC, 12/24 VDC auto-sensing, preconfigured with 2-802.11a and 2-802.11g radios, 4 type N antenna connectors, 1 multi-use power connector, and 1 Ethernet connector.

OWS 2400-30  
120/240 VAC, 12/24 VDC auto-sensing, preconfigured with 3-802.11a and 3-802.11g radios, 6 type N antenna connectors, 1 multi-use power connector, and 1 Ethernet connector.

