

BelAir I00SNE Strand-Mounted Wireless Access Point

BelAir Networks delivered the industry's first strand-mounted, cable-optimized Wi-Fi access point (AP) back in 2005. Since then, the platform has continuously evolved and 10's of thousands of BelAir Networks patented strand-mount APs have been deployed worldwide for Tier One cable operators in the world's largest Wi-Fi networks. Reflecting BelAir Networks commitment to support the latest industry standards, the BelAir I00SNE incorporates dual 802.11n-2009 Wi-Fi 3x3 MIMO radios and a DOCSIS® 3.0 or Euro-DOCSIS 3.0 modem on this innovative and commercially proven platform.

The BelAir I00SNE is designed for cable operators who want a proven and scalable strand-mount Wi-Fi platform that integrates seamlessly with their current network and back office systems and can be up and running live in less than 15 minutes. The BelAir I00SNE leverages the BelAirOS Operating System to support network-wide mobility and quality of service (QoS), along with edge-based security and policy enforcement. With BelView network management, cable operators can manage up to 50,000 BelAir I00SNE APs (or any combination of BelAir APs) in a single network. Web-based monitoring and dashboard tools and smartphone apps provide real time network and user stats. The BelAir I00SNE also supports TR-069 to enable integration with the operator's existing network management system.

Dual-radio architecture

The BelAir I00SNE is a dual-radio compact, self contained AP supporting both 802.11b/g/n and 802.11a/n Wi-Fi radios in a rugged, carrier-grade



Features

- Multiple mounting options – patented strand mount via aerial, pedestal, cabinet or vault hybrid fiber coax (HFC) infrastructure
- Network management via CLI, WEB or SNMP using BelView NMS
- 10/100/1000 BASE-TX Ethernet interfaces
- Internal GPS antenna & receiver for location
- Dual 2.4/5 GHz radios 802.11n Wi-Fi radios
 - IEEE 802.11n - 2009 compliant
 - Wi-Fi Alliance Certified
 - 3x3 MIMO / 3-streams per radio
 - Up to -102 dBm receive sensitivity
 - Up to 38 dBm EIRP transmit power
 - Space Time Block Coding for increased handset performance
- Improved Maximum Ratio Combining for best in class receive sensitivity
- Maximum Likelihood Demodulation for increased data throughput at short range
- Low Density Parity Check for increased data throughput at all range
- Internal array beam steering antennas working in conjunction with chip-based beamforming to deliver improved throughput at a greater distance

product. The patented strand-mount architecture leverages the cable operators hybrid fiber coax (HFC) network for mounting, power and backhaul via DOCSIS 3.0 or Euro-DOCSIS 3.0 interfaces. Strand-mounting options include aerial plant, pedestals, cabinets or underground vaults.

The BelAir100SNE includes two IEEE 802.11n-2009 compliant 3x3 MIMO radios, each of which supports the latest processing capabilities – standards-based beamforming and beam steering, space-time block coding, 3 independent streams of data, maximal ratio combining, and unmatched radio sensitivity.

Under the radome, the rugged BelAir100SNE includes both the antennas and a GPS receiver, so no additional equipment is required, and installation is quick and easy. The patented steerable antennas enable operation in high interference environments. The BelAir100SNE also includes advanced algorithms and spectrum analyzer capabilities to maximize performance.

Layer 2 networking capabilities

The BelAir100SNE has an integrated Layer 2 Switch engine that provides extensive QoS, VLAN, Network Security and Traffic Management capabilities that are necessary for transporting mission-critical, time sensitive applications like voice and video.

BelAirOS

Driven by the BelAirOS operating system common to the BelAir Networks portfolio, the BelAir100SNE delivers:

- state-of-the-art edge policy enforcement with centralized authentication and policy management
- touchless automatic configuration
- end-to-end QoS (both over the air and on the network)
- network-wide mobility
- Virtual AP capabilities that enable multiple operators to share common wireless network infrastructure for access and backhaul while offering a customized user experience through direct integration with their specific back end systems (AAA, Policy Management) on a per SSID basis

BelView Network Management

The BelAir100SNE can be managed via a Command Line Interface (CLI), Web GUI or with BelView NMS.

The BelAir100SNE also supports SNMP and TR-069. Both the CLI and WEB GUI provide device level support, while BelViewNMS provides complete network-wide support for Fault, Configuration and Performance Management. BelView NMS works on either Windows, Linux or SUN platforms and can also be integrated into other management systems.

Built on a scalable client-server-data collector architecture, BelView NMS can support up to 50,000 APs in a single network. Business intelligence tools, including smartphone dashboard apps, provide the cable operator's senior management, engineering and operations personnel with real-time visibility of both the network and users. Automated provisioning makes it fast and easy to activate and modify any par

Networking

- 1-port 10/100/1000 BASE-TX (Cat. 5 RJ-45)
- DOCSIS 3.0/EuroDOCSIS 3.0 8x4 bonded DS/US channels (achieves a downstream throughput of 260 Mbps in 8 bonded channel operation)
- IEEE 802.1D MAC bridging
- IEEE 802.1Q VLANs
- Layer 2 (802.1p) and layer 3 (DSCP) QoS
- L2TP, L2VPN and GRE with redundant tunnels and integrated web redirect
- 8 BSSIDs per Wi-Fi radio enabling 8 virtual APs per Wi-Fi radio
- Support for SNMP, ICMP, HTTP, ARP, TCP, UDP, Telnet

Management

- Secure local and remote access
- Command line, HTTP and HTTPS Web GUI, SNMPv1/v2/v3 and SSHv2 management interfaces
- MIBs: MIB-II, SNMPv2, 802.11, Ethernet-like, Interface Group
- Firmware upgrade through TFTP and FTP with dual banks and support for automatic rollback
- TR-069 support

Policy Enforcement

- Multiple user privilege levels with RADIUS authentication
- RADIUS accounting

Wi-Fi Security

- Authentication: 802.1x (RADIUS) and EAP methods, including EAP-SIM/AKA
- Encryption: WEP 64 and 128 bit, TKIP / MIC per 802.1x, 802.11i AES
- MAC address access control lists
- Rogue AP detection

Approvals

- Radio: FCC part 15.247C, part 15.407, part 90 (PSB), part 90 (ITS), part 90 subparts Y and M, EN 300-328, EN 301-893, IR2005/IR2006/IR2007, Industry Canada RSS 210 Issue 7, RSS 211 Issue 2
- EMC: FCC 47 CFR part 15, subpart B Class B, FCC 47 CFR Part 76.614, and EN 301
- 489-1/-17 Class B
- Safety: ANSI/UL std no.60950-1, CSA-C22.2 std no. 60950-1, CB-60950-1
- RF safety: FCC OET Bulletin 65, Health Canada Safety code 6
- Outdoor use: IP66/NEMA4X for wet and dusty conditions
- Wi-Fi Alliance certification: 802.11n, WPA, WPA2, WMM, WMM-PS

Physical and Electrical

- Size: 17.5"(L) x 9"(W) x 8.5"(H)
- Weight: 15 lbs.
- Typical power consumption: 28 W
- Power supply: 40 to 87 V ac quasi-square wave, 47 to 63 Hz, through KS threaded interface
- Product shipped with F-adapter
- Power, radio and Ethernet LEDs

Protection circuits

- IEC 60000-4-5 level 4 surge
- GR1089 - 6 kV (3000 A) surge

Environmental

- Operating temperature: -40°C to +60°C
- Storage temperature: -40°C to +80°C
- Operating humidity: 5 to 95% non-condensing
- Shock and vibration: ETSI300-019-1-4

BelAir
NETWORKS

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