

## BelAir I00S Strand-Mounted Wireless Multi-service Node

The BelAir I00S is a two-radio wireless multi-service node designed for strand-mounting on existing cable infrastructure. It supports DOCSIS® 2.0 and Euro-DOCSIS 2.0 interfaces and is plant-powered at 40 to 90 V AC. It provides mobile broadband support for Wi-Fi, WiMAX, Cellular, and 4.9 GHz Public Safety spectrums. Offering true standards-based seamless mobility, the BelAir I00S ensures that subscribers do not experience service interruptions to critical applications, like voice and video, as they move throughout the wireless mesh network.

### Dual-radio architecture

The dual-radio design of the BelAir I00S provides support for Backhaul Radio Modules (BRMs), WiMAX Radio Modules (WRMs) and Access Radio Modules (ARMs) in the same wireless mesh node. The BelAir I00S can be configured with a backhaul (BRM or WRM) radio module and access radio module (ARM) for traditional wireless mesh; or with any combination of dual BRMs or WRMs for a more resilient backhaul only deployments.

### Wireless radio modules

The BelAir I00S can support any combination of ARMs and BRMs, providing the ideal flexibility and capacity for large-scale wireless mesh networks. The ARMs and BRMs support a broad range of Wi-Fi (IEEE 802.11 a/b/g), WiMAX (IEEE 802.16d), 4.9 Public Safety and Cellular (via a T1/E1 Circuit Emulation Module) applications making it the most versatile solution on the market for providing multi-service capabilities over a wireless mesh network.

### Layer 2 networking capabilities

The BelAir I00S 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.



### Features

- Modular dual-radio architecture
- Supports Wi-Fi and WiMAX
- Seamless mobility for uninterrupted service
- Network management via CLI, WEB or BelView NMS
- 10/100BASE-TX or 100BASE-FX Ethernet interfaces
- DOCSIS 2.0, Euro-DOCSIS 2.0

### Radio module options

- Access Radio Module (ARM) IEEE 802.11 a/b/g & 4.9 Public Safety
- Backhaul Radio Module (BRM) IEEE 802.11 a pre-WiMAX & 4.9 Public Safety
- WiMAX Radio Module (WRM) IEEE 802.16d
- Radios available in multiple frequency bands
  - licensed: 2.3 GHz, 2.5 GHz and 4.9 GHz
  - unlicensed: 2.4 GHz and 5.25-5.85 GHz

## Network Management

The BelAir I00S can be managed via a Command Line Interface (CLI), WEB GUI or with BelAir Networks BelView Network Management System (NMS). Both CLI and WEB GUI provide for device level support, and BelView NMS provides complete network-wide support for Fault, Configuration and Performance Management. BelView NMS works on either Windows XP or SUN Solaris platforms and can also be integrated into other management systems like HP OpenView or IBM NetView.

BelAir Networks is the leading provider of mobile broadband mesh networking solutions. Cities around the world rely on BelAir to deliver industry-leading broadband performance and scalability, and carrier-class capacity and reliability. BelAir Networks teams with world-class global partners to deploy proven, cost-effective wireless broadband mesh networks.

## Networking

- 1-port 10/100BASE-TX (Cat. 5 RJ-45)
- 1-port 100BASE-FX (SMF)
- DOCSIS 2.0, Euro-DOCSIS 2.0
- IEEE 802.1D MAC bridging
- IEEE 802.1Q VLANs
- IEEE 802.1w (RSTP) & IEEE 802.1s (MSTP)
- IEEE 802.1p prioritization with 4 queues
- L2TP with redundant tunnels
- 15 SSIDs per access radio. MBSSID support for 8 virtual APs per access radio
- Support for SNMP, ICMP, HTTP, ARP, TCP, UDP, Telnet, TFTP and IP traffic

## 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
- Multiple user privilege levels with RADIUS authentication
- Firmware upgrade through TFTP with support for automatic rollback
- RADIUS accounting

## Security

- Authentication: 802.1x (RADIUS) and EAP methods
- 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 and part 27, EN 300 328, EN 300 440, EN 301 893 and Industry Canada RSS 210 Issue 5
- EMC: FCC 47 CFR part 15, subpart B Class B 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
- Laser safety: Class I laser product complies with 21CFR 1040 and IEC60825
- RF safety: FCC OET Bulletin 65, Health Canada Safety code 6
- Outdoor use: IP56/NEMA4/NEMA4X for wet and dusty conditions
- CE mark
- Mexico: NOM
- Korea: MIC2003-15
- Russia: GOST-R
- India: ETA-74/2005, ETA-78/2005
- Taiwan: LP00002, ETC094LP0425, ETC094LPD0426, ETC094LPD0426a

## Physical and Electrical

- Size: 7 in. (17.8 cm) high x 13 in. (33 cm) wide x 7 in. (17.8 cm) deep
- Weight: 15 lbs (6.8 kg)
- Typical power consumption: 23 Watts
- Power supply: 40 to 87 V ac quasi-square wave, 47 to 63 Hz, through KS threaded interface
- Backup 8 V battery
- Battery backup time: 30 minutes typical
- Available strand mounting kit
- Power, radio and Ethernet lamps

## Protection circuits

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

## Environmental

- Operating temperature: -40°C to +50°C
- Storage temperature: -40°C to +80°C
- Operating humidity: 5 to 95% non-condensing
- Shock and vibration: ETSI300-019-1-4



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