

BelAir I00SX Cable-Mounted WiMAX/Wi-Fi Wireless Node

BelAir Networks offers the industry's first WiMAX/Wi-Fi Access Node optimized for cable operators. BelAir enables these operators to leverage their existing infrastructure and expand their market opportunities with both business and residential customers using both WiMAX and Wi-Fi. BelAir's unique carrier-grade multi-service architecture supports the 'quad play' – voice, video, data and mobility – to increase operator's service revenues. And, by reducing both the cost and time associated with deploying broadband infrastructure, BelAir increases the operator's competitive advantage

Dual-radio architecture

The BelAir I00SX is a two-radio WiMAX/Wi-Fi wireless multi-service node designed for aerial, pedestal, cabinet or vault 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. Driven by the BelAirOS, it is seamlessly managed by BelAir BelView NMS and standards based ASN Gateway functionality for the WiMAX portion of the node.

The rugged BelAir I00SX features an outdoor enclosure, two access antennas and one GPS antenna. A high performance network processing core complete with an open embedded software environment is standard. BelAir I00SX nodes allow operators to extend WiMAX and Wi-Fi services from any available cable plant.

Layer 2 networking capabilities

The BelAir I00SX 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

- Supports WiMAX 802.16e and Wi-Fi
- 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

Network Management

The BelAir I00SX 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. 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.

Radio Specifications

- Multi-radio platform with 2 radios (1 WiMAX and 1 Wi-Fi)
- Access Wi-Fi Radio (IEEE 802.11b/g)
 - Frequency and transmit power: 2.4 to 2.4835 GHz, up to 36 dBm EIRP
 - 802.11b mode: rates up to 11 Mbps
 - 802.11g mode: rates up to 54 Mbps — Receive sensitivity: up to -100 dBm
 - Diversity
- WiMAX Picocell (IEEE 802.16e)
 - Frequency and transmit power:
 - 2.490 to 2.690 GHz up to 32 dBm EIRP
 - 3.300 to 3.400 GHz up to 32 dBm EIRP
 - 3.400 to 3.800 GHz up to 32 dBm EIRP
 - Supports 3.5, 5, 7, and 10 MHz channels
 - Receive sensitivity: up to -97 dBm
 - Up to 35 Mbps DL and 6.7 Mbps UL
 - Wave 2 MIMO compliant
 - Automatic Transmit Power Control
 - GPS Synchronization
 - Supports up to 512 users
 - Adaptive Modulation

Antennas

- Dual 2.3GHz-2.4GHz Antennas
- GPS Antenna

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
- 16 SSIDs per access radio. MBSSID support for 8 virtual APs per access radio
- 32 Active subscribers per WiMAX 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 21 CFR 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: 25 lbs (11.4 kg)
- Typical power consumption: 75 Watts
- Power supply: 40 to 87 V ac quasi-square wave, 47 to 63 Hz, through KS threaded interface
- Available strand, pedestal, cabinet, and vault 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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