



# Libra MAX-SP

Outdoor Subscriber Station with WiFi Hotspot



MAX-SP is a dual-radio product that integrates WiFi accessible hotspot with a WiMAX subscriber station. The entire unit is packaged in EION's battle tested enclosure and is ready for deployment virtually anywhere. MAX-SP connects to a Libra MAX WiMAX network and provides triple play services such as Internet, Voice and Video access to local semi-mobile Nomadic users via a WiFi 802.11 b/g wireless access point at speeds of 300 Mbps and a range of coverage of 1 to 5 km from any MAX-SP location. Corporate and wired LAN users can connect to MAX-SP over the optional Ethernet connection. Combined with the award winning Libra MAX product family, MAX-SP is an economical and practical solution for deploying high quality outdoor WiFi coverage for large campuses, cities, parks, transportation hubs and other public spaces.



## Urban Hotspot

A Hotspot covers a large area of outdoor city geography, providing Internet, voice and video access to Nomadic users located anywhere in the vicinity—whether sitting on a park bench, on a job site, in a café, or in the lobby of an office tower. The result is increased productivity for the typical casual or business user seeking high-speed Internet access from a laptop or personal digital assistant (PDA). Because of the proliferation of WiFi devices, Hotspots offer you the opportunity to increase customer spending on existing products and services, and to generate new sources of revenue.

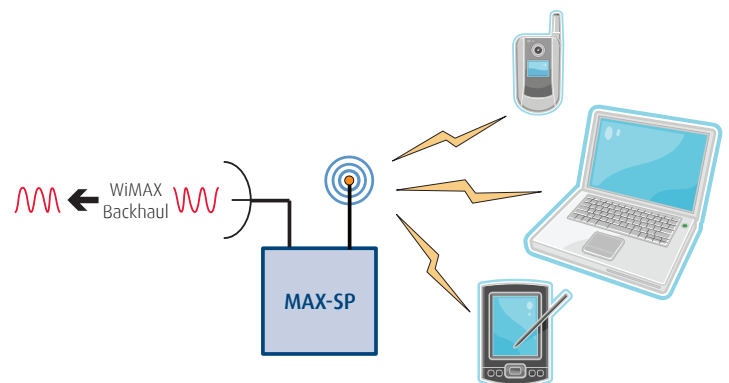
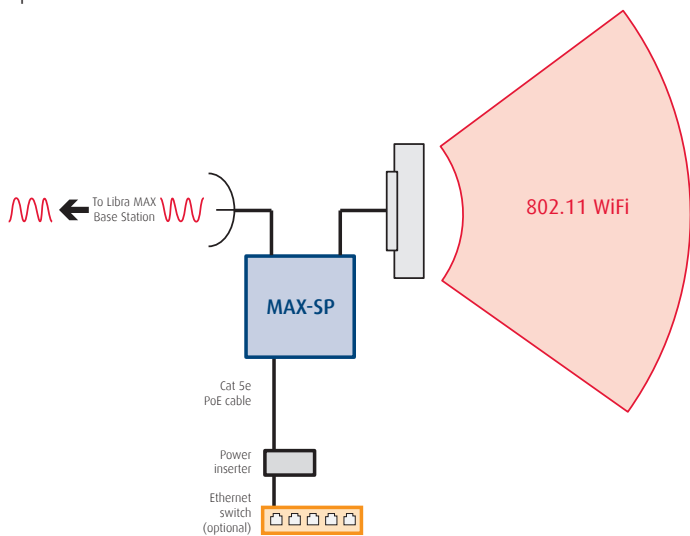
Hotspots bring with them a set of challenges—subscriber acquisition, billing, security, device safety, and installation obstacles—that small business and home WiFi deployments don't face. Your customers not only expect reliable, high-speed internet service, but they expect service that meets their unique needs.

MAX-SP has what it takes to meet these challenges—raising the bar for reliability, speed, and coverage. Using the WiFi global wireless standard IEEE 802.11b/g, along with WiMAX backhaul products, EION-based Hotspots enable your customers to simultaneously connect to the Internet or their corporate data networks at broadband speeds in virtually any public place, without the constraints of wires or cables. EION's field-proven fixed wireless products provide a cost-effective backhaul by eliminating the need for expensive fiber. EION's experience in providing industrial-strength wireless solutions combined with a rich feature-set, make it the natural choice for your hotspot implementation.

Outdoor hotspots can be deployed virtually anywhere. The WiMAX link backhauls the connection back into the Libra MAX network. Local users connect to the network via 802.11b/g WiFi or on the optional wired Ethernet connection.



Libra MAX-SP creates an outdoor WiFi hotspot that provides access to WiFi devices. Customer separation between user groups is achieved using the built-in VLAN capabilities in the Libra MAX-SP. Operators can introduce further differentiation in their service offerings using the built-in QoS capabilities.





## Advanced non-Line-of-Sight

The Libra MAX-SP uses WiMAX technology for the backhaul link to deliver high-speed non-line-of-sight (NLOS) performance in the licensed 3.3 to 3.8 GHz range. Optimized for outdoor urban and non-urban environments, WiMAX offers superior range and throughput to subscribers who are not in a direct line of sight to the base station. This can be advantageous for deploying a hotspot in the middle of the city centre. Because the backhaul link for the hotspot is also wireless, WiFi access is delivered to mobile nomadic users without any wired telecommunications infrastructure.

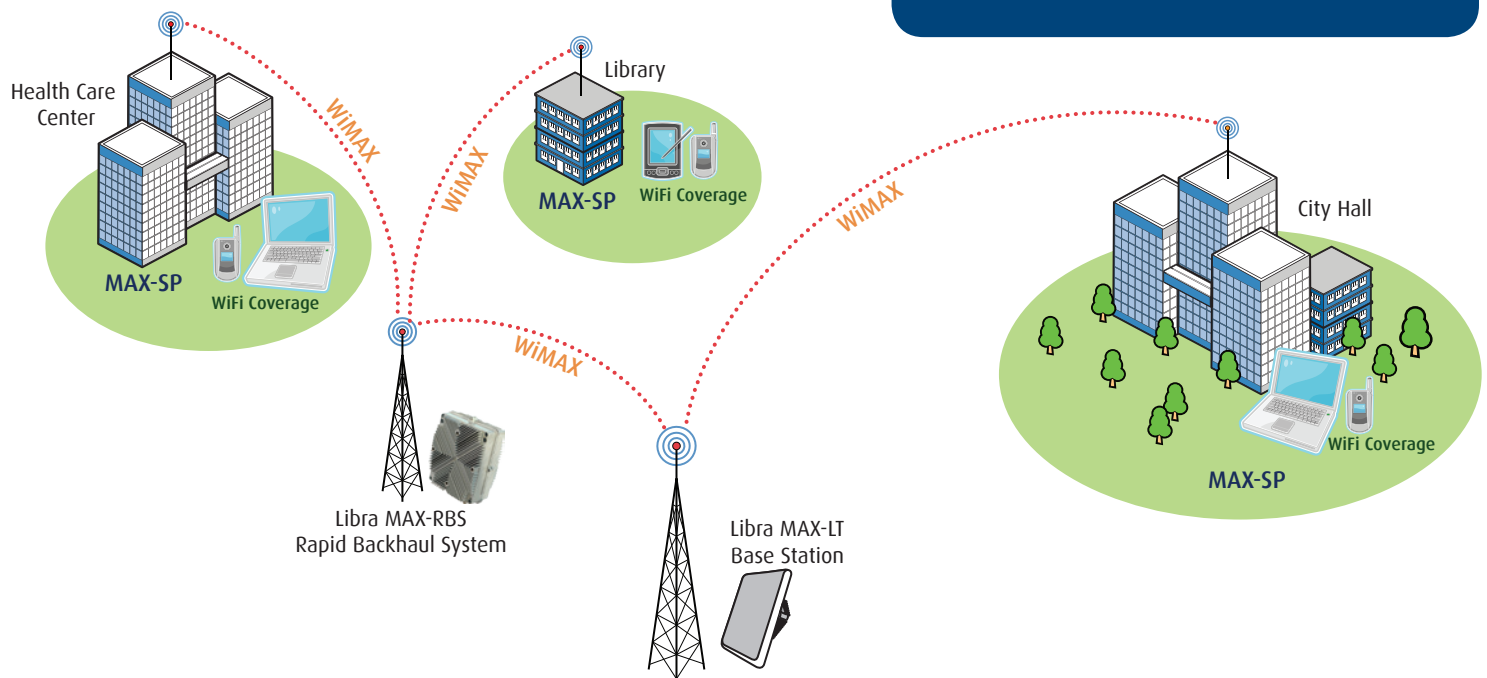
## Enterprise Network Management

Libra MAX takes a carrier-grade approach to network management with a rich Graphical User Interface (GUI) for element management and SNMPv2 with enterprise MIBs for Network Management. Using these management features, a network administrator can easily control a large Libra MAX network from a single central location. EION's Enterprise MIB allows the monitoring of RF statistics like power, RSSI, and modulation.

## Rugged Outdoor Performance

The Libra MAX-SP is packaged in a ruggedized all-weather enclosure. For years, EION Wireless products have had a reputation for rugged outdoor performance; our products have been deployed in the humidity of Amazon Rainforest and the extreme cold of Northern Canada. Power is supplied to the outdoor unit from an indoor power over Ethernet (PoE) module.

## Deploy Hotspots Anywhere with Flexible Libra MAX Architecture



## Features

- Ideal for Campus-Wide WiFi Access
- WiFi Hotspot Compatible with IEEE 802.11b/g Devices
- Allow Wireless Devices to Connect to Wired Network & Share Network Resources
- Designed for Rugged Outdoor Operation in all Weather Conditions
- WiFi Hotspot Supports DHCP Server Functionality
- Web-GUI Interface for Network Configuration and Management
- WiMAX Level QoS: BE, nrtPS, UGS and rtPS
- SNMP Management Support with Enterprise MIB

More Subscribers. More Reach. More Performance.

# Libra MAX-SP

## WIMAX RADIO SPECIFICATIONS

Technology	802.16-2004, Corr D5 & D12
PHY Profile	256 FFT OFDM
Frequency Range	3.3 to 3.5 GHz; 3.4 to 3.6 GHz; 5.725-5.875 GHz
Duplex Scheme	TDD
Channel Size	3.5 and 7 MHz; 10 MHz (5.725-5.875)
Receive Sensitivity (at 10E-6 BER)	BPSK 1/2    64QAM 3/4
Min Sensitivity - 3.5 MHz	-91 dBm    -74 dBm
Min Sensitivity - 7 MHz	-88 dBm    -71 dBm
Min Sensitivity - 10 MHz	-89 dBm    -70.5 dBm
Tx Power	+20 dBm, +18.5 dBm
Ranging	Initial, Periodic
Configurable Frame Sizes	2.5, 5, 10, 20 ms, with configurable cyclic prefix
WiMAX Coverage Range	Up to 30 km from WiMAX BS location

## WIFI RADIO SPECIFICATIONS

Operating Modes	Access Point
Frequency	2412 to 2462 MHz
SSID	Supports multiple SSID (up to 4)
CTS Protect	Yes
Tx Channel Size	20 MHz
Tx Power	Configurable
MAC Filtering	Yes
DHCP Server	Yes
WiFi Coverage Range	Up to 1 to 5 km from MAX-SP location

## SYSTEM FEATURES

Antenna	2x N-type female
Network Connection	10/100/BaseT (Optional)

## WIMAX WIRELESS NETWORKING

Scheduling (QoS)	BE, nrtPS, UGS, rtPS
Classification	IPv4, 802.3
Service Classes	Supported
Polling	Unicast, Broadcast
Service Provisioning	Dynamic

## NETWORKING FEATURES

Routing Support	Static
Bridge Functionality	Yes
VLAN (802.1q)	Yes

## SECURITY

Encryption	WiMAX: DES, 3DES, AES WiFi: 802.11i with AES-CCM & TKIP Encryption, 802.1x, 64/128/156 bit WEP
Data Security Password	Yes
Configuration Security	Yes

## MANAGEMENT

Management	GUI, CLI
Remote Upgrade	Yes

## PHYSICAL ELECTRICAL & ENVIRONMENTAL

Extended Temperature Range	-50° C to + 60° C
Input Voltage	48 VDC supplied via 100-240 VAC PoE
Dimensions	240 mm (9.5") x 200 mm (7.9") x 120 mm (4.7")
Weight	5.8 kg (12.8 lbs)
Enclosure	Fully weatherproof, designed to IP67 standards
Relative Humidity	0-95%



EION Wireless, a division of EION Inc., is a global provider of Broadband Wireless Access products that enable effective, economic and secure wireless high-speed communications solutions. EION is a Principal Member of the WiMAX Forum and was named one of the fastest fifty growing wireless companies in North America by Deloitte and Touche. With over ten thousand broadband wireless installations worldwide, the company's licensed and unlicensed frequency products are used by wireless ISPs, private network operators, and remote rural networks and in voice and data backhaul applications to solve last mile challenges. EION Wireless works with more than 165 worldwide channel partners to support its diverse global customer base.