



NetKrom
Long Range Wireless Networks

ISPAIR Multi-band Base Station 500 Series

Four radios and multiple operation modes and frequencies in one !

ISPAIR Multi-band Base Station 500 series is an Outdoor Radio Access Point with four High Power wireless ports at 2.3-2.5/4.9/5GHz, 802.11a/b/g standard-compliant, future WiMAX and 802.11n, ISPAIR Multi-band Base Station 500 series is the ideal solution for Wireless ISP, large Mesh networks, long range HotSpot, Public Safety Networks and Multipoint applications needing high-performance outdoor Wi-Fi and WiMAX equipments in a fast-growing market and at low cost.

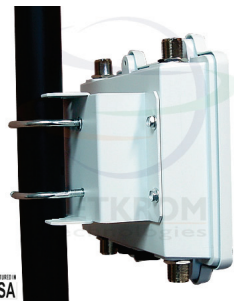
ISPAIR Multi-band Base Station 500 series can have four 90 deg sector panel antenna or three 120 deg sector panel antenna and one backhaul link, the ISPAIR Multi-band Base Station 500 series delivers Internet and VoIP service to your laptop, Wi-Fi phone or network clients - LAN at large distances, you can use this Base Station to provide NLoS - Non Line of Sight and LoS - Line of Sight applications, high data rates and superior throughput for data intensive that allow multiple sites to share a single, high-speed connection to the Internet or VoIP telephony networks. The most feature-rich firmware and OS software allow you to apply most advanced RF and networks functions as advanced IP Routing, QoS - quality of service, Firewall, DHCP Server, NAT, Bandwidth Shaping, HotSpot and other technologies to create a smart and easy controllable network.

ISPAIR Multi-band Base Station 500 series can work as an access point, WDS, Client and repeater, or as a combination of these. Each radio has separately adjustable power output, with its own frequency and channel, SSID and encryption settings, that allow you to cover long distances in Multipoint applications up to 20 miles or 32 Km. All of these characteristics transform this Base Station into the most powerful, complete and advanced of the world.

With prominent 216Mbps of capacity (54 Mbps each radio) data transfer rate in regular mode or 432Mbps (108Mbps each radio) data transfer rate on turbo mode and up to 1 Watt output power, you can forget about the word "interference". The ISPAIR Multi-band Base Station 500 series is the next generation of wireless equipments. **Step together in the future with us!**



DESIGNED AND MANUFACTURED IN USA



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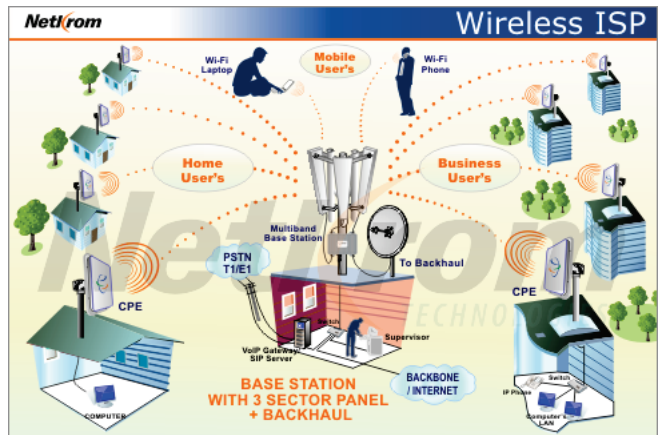
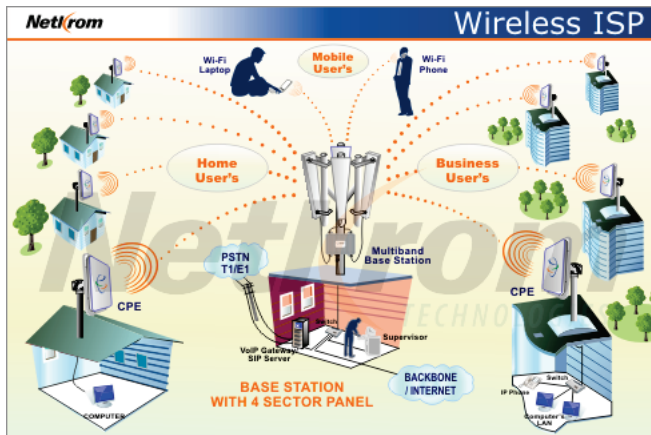


(*) Antennas displayed not included

Features:

- ❑ Intel XScale technology CPU power for high-speed connection.
- ❑ Four Radios and Multiple Frequency in one (Choose the Frequency You Need!).
- ❑ Work as Access Point, WDS, Client and Repeater in Bridge or Router mode.
- ❑ Ultra High power RF Ports up to 1 Watt, for long distance.
- ❑ Long Distance parameters and Output power regulation (selected by software).
- ❑ Perfect design and characteristics for Industrial outdoor use (waterproof).
- ❑ Complete compatibility with any IEEE network and future Wimax
- ❑ Advanced Network functions (IP Routing, Hotspot, Firewall, DHCP, NAT, etc)
- ❑ Bandwidth Management and QoS
- ❑ Free Netkrom NMS - Network Management System
- ❑ Carrier Class Radio for extreme environment -60 to 230C

Applications:





Specifications :

HARDWARE

Processor	Intel® IXP425 XScale® 533 MHz
Memory Flash	16 MB
Console Port	One Serial DB9 standard
RF Port	Four RF Mini-PCI modules
Power Connections	802.3af Power over Ethernet 9-48v DC
Weight	4.5 Lb. or 2 Kg. (Radio, Bracket and accessories)
Mount	Pole or tower mounting brackets

Memory	64 MB
Ethernet Port	Two Ethernet 10/100 Mbps
Console Port	One Serial DB9 standard
RF Connector	Four N-Female type
Enclosure	Industrial Die-Cast Thermal Aluminum, NEMA-6 / IP-67
Dimensions	8.3 x 6 x 2 in (21 x15 x 5cm.)
Operating Temperature	Enclosure Seal -60C to 230C

SOFTWARE

RF Operational Modes

Access Point (bridge or router function)
 WDS (bridge function)
 Repeater (bridge function)
 AP Client (bridge or router function)
 Station (bridge or router function)

Advanced Wireless Features

Tx Power and Tx Rate
 Antenna Selection
 ACK Timeout
 WMM - Wireless QoS
 Mac Address Spoofing
 Hide SSID and Stealth Mode
 Best Channel Selection and Country Code Selection
 DFS/TPC (Dynamic Frequency Selection / Transmit Power Control)
 Compression, Bursting, Fast Frames
 802.11h Full Support
 Antenna Alignment (Site Survey / Link Quality / Signal Level)

Network Advanced Features

Transparent Bridging
 Layer 2 (Mac Address) Forwarding
 Layer 3 (IP Address) Forwarding
 Static Routing
 RIP v2
 DHCP Server and Client
 PPPoE Client/PPTP Client
 Vlan (802.1Q) Support
 Advance Statistics
 Graphical User Interface
 Monitor Utils (Ping and Trace Route)

Firewall - NAT

Input/Output Interface
 Source IP/Subnet
 Port(s)
 Source Mac
 Destination IP/Subnet
 Protocol (ICMP, TCP, etc)
 Connection State(New, Established, etc)

Security Features

Access Control List
 WEP 64/128
 WPA1/WPA2 with TKIP & AES ciphers

QoS - Bandwidth Management

Committed Information Rate (CIR)
 Peak Information Rate (PIR)
 Committed Burst Size (CBS)
 Excess Burst Size (EBS)
 Based in :
 - Input/Output Interface
 - Source IP/Subnet
 - Source Port(s)
 - Source Mac
 - Destination IP/Subnet
 - Destination Port(s)
 - Destination Mac
 - Protocol (FTP, ICMP, TCP, etc)
 - Application (Peer to Peer, EDonkey, Kazza, IRC, etc)

Hot Spot Features

WAN, LAN, DHCP, Firewall - NAT
 QoS - Bandwidth Management
 Wireless Radius Client
 UAM Authentication, Mac Address Authentication
 Walled Garden
 Advertisement Sites
 Log in Page Customization
 Users Info, Radius Statistics

Administration Tools

SNMP Agent
 NTP Agent
 HTTP Server
 SSH



RF MODULES

Model	ISP-BS500GH	ISP-BS500AGUHP	ISP-BS500AH
Frequencies	2400-2497MHz (*) 2300 ~ 2500 MHz (*) (*) programmable for different country regulations)	2.4GHz Band: 2400-2497MHz (*) 2300 ~ 2500 MHz (*) 4.9GHz Band: 4940-4990MHz (public Safety Band) 5GHz Band: 5150-5850MHz (*) (*) programmable for different country regulations)	4.9GHz Band: 4940-4990MHz (public Safety Band) 5GHz Band: 5150-5850MHz (*) (*) programmable for different country regulations)
Standard Compliance	IEEE 802.11b/g	IEEE 802.11a/b/g and Public Safety Band	IEEE 802.11a and Public Safety Band
Access Method	TDD (CSMA/CA)		
Channel Bandwidth	5, 10, 20 or 40 MHz (Selected by Software)		
Modulation technique	DSSS (DBPSK, DQPSK, CCK) OFDM (BPSK, QPSK, 16-QAM, 64-QAM)	2.4GHz band: DSSS (DBPSK, DQPSK, CCK) OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 4.9GHz Band: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 5GHz Band: OFDM (BPSK, QPSK, 16-QAM, 64-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Output Power	30dBm@6-24Mbps 26dBm@54Mbps	2.4GHz Band: 30dBm@6-24Mbps 26dBm@54Mbps 4.9/5GHz Band: 26dBm@6-24Mbps 22dBm@54Mbps	28dBm@6-24Mbps 26dBm@36Mbps 24dBm@54Mbps
Receiving Sensitivity	-97dBm@1Mbps -94dBm@6Mbps -74dBm@54Mbps	2.4GHz Band: -95dBm@1Mbps -92dBm@6Mbps -74dBm@54Mbps 4.9/5GHz Band: -92dBm@6Mbps -74dBm@54Mbps	-94dBm@6Mbps -86dBm@24Mbps -74dBm@54Mbps
EMC Certificate	FCC Part 15/UL ETSI 300/328/CE		

Ordering Information:

- ▶ **ISP-BS500GH** ISPAIR Tri-Band 2.3-2.5 802.11b/g Sectoral Base Station Ultra High Power AP with 4-RF Port Radio 1Watt and PoE
- ▶ **ISP-BS500AGUHP** ISPAIR Tri-Band 2.3-2.5/4.9/5GHz 802.11a/b/g Sectoral Base Station Ultra High Power AP with 4-RF Port Radio 1 Watt@2.4GHz / 400mw@5Ghz and PoE
- ▶ **ISP-BS500AH** ISPAIR 4.9 to 6.1GHz 802.11a Sectoral Base Station Ultra High Power AP with 4-RF Port Radio 600mW and PoE



WE PROTECT YOUR INVESTMENT: 802.11n and WiMAX upgradable

As a company focused exclusively on Wireless data transmission, NETKROM is committed to long-term product planning, backwards compatibility and the integration of new technologies that will allow it to support traditional enterprise markets. The NETKROM Base Station is upgradable to WiMAX and recently approved 300/600Mbps 802.11n standard.

