

Outdoor Long Range Bridge/Router MIMO Wireless with Integrated Antenna



WIBORNE

The **CAP-5024N** and **CAP-520N** are specially designed for applications of point-to-point as backhaul, or CPEs for point-to-multipoint to provide a 300Mbps superior performance solution for connecting many locations through wireless, yet flexible to customize for your deployment. It has up to three wireless interfaces for sectors or backhaul. The CAP-5024N delivers Internet service to your clients' network for extreme distance. You can use this package to provide high data rates and superior throughput for data-intensive yet up to hundreds of concurrent users for WiFi Citywide project. Multiple sites can share a single, high-speed connection to the Internet.

The feature rich radio firmware allows you to apply the most advanced firewall, NAT, bandwidth shaping, cloaking modes, and other technologies to create a smart and manageable network.

You can secure wireless traffic with firewall, VLAN, encryption (WEP/WPA/WPA2) from base to individual clients. Layer 2 Mesh and WDS Spanning Tree Bridging are available for all connected APs and clients in the same SSID group or Multiple SSIDs. QoS with voice / video / gaming priority is available.

CAP-5024N comes with choice of radio powered up to 630mW. It also offers variety of CPU platforms customized for your deployment that can produce maximum of 50 dBm or 100 Watts EIRP!

Support radio channel selections from 4.9GHz - 6.45GHz providing support for both public & licensed bands. While bundle with WiBorne's outdoor [WAP-520N](#) and [HSG Access Controllers](#), it supports remote management from individual clients to backhaul for hundreds of base stations with thousands of wireless clients. It is also capable with 3G technology

Backhaul / PTP / CPE
Bridge / Router
24dBi Integrated Antenna



CAP-520N



CAP-5024N

CAP-5024N is based on state-of-the-art wireless technology with intelligent wireless edge platform enables new revenue generating converged services for IPv4/IPv6 data, voice (VoIP) and video streaming / conferencing / messaging. The CAP platform is a rugged communications-grade wireless delivery system with superior performance and high reliability to enable cost effective deployment. CAP-520N is outdoor AP model equipped with same radio, NEMA6 / IP 67 housing, and multi-strike gas discharge lightening protector. MTBF is more than 100,000 hrs.

FEATURES

- Single Atheros high power max. 630mW (28dBm) radio for 802.11a/n MIMO. Radio sensitivity up to -98dBm
- Time Division Duplex (TDD) with CSMA/CA, TDMA
- 802.11n MIMO dual polarity for up to 300Mbps. 1 X Gigabit (Gbit) port
- Packet Aggregation for improved VoIP and gaming
- Distance up to 30km are supported
- Integrated ESD (14kV) + lightning surge protection (10kA)
- Channel width (Cloaking mode) for 5/10/20/40 MHz
- Channel selections from 4.94-5.85, 4.9-6.45GHz, providing support for both public & licensed bands, NLOS scenarios
- IP 67 for CAP-5024N, NEMA 6 aluminum for CAP-520N
- Firewall and NAT with stateful packet filtering
- QoS by IP/ protocol / subnet / ports, HTB, PCQ, CIR, EBS, and PIR. WiMAX 802.16 QoS Classification for Pre-WiMAX
- Layer 2 Mesh, Dynamic / Static WDS, Nstreme / bonding protocols, AP routing / transparent bridging.
- VRRP for High Availability
- 3G USB slot for backup connectivity (*)
- Bridge: spanning tree protocol; multiple bridge interfaces; bridge firewalling, MAC NATing
- 802.11e QoS (WMM) Setting for priority of Video and Voice
- Tools: Device Discovery, Bandwidth, Link Test, Network Monitoring, Neighbor Viewer, Radio/Traffic Statistics
- Virtual Machine (VM) for 3rd party application software
- Client statistics (current signal level/quality, rate TX/RX, bytes TX/RX, radio rate) with graphical indication
- 64/128/152 bits WEP and WPA support.
- IPSec: DES, 3DES, AES-128/192/256, Camellia-128/192/256
- Routing for RIP, BGP, MPLS, VPLS, OSPF, VRRP, GRE/GRE6, Static
- VLAN: 802.1q, multiple VLANs; VLAN bridging
- Console/Terminal/SSH/Telnet/CLI/SNMP/FTP
- Neighbor Discovery; ping; traceroute; bandwidth test; ping flood; packet sniffer; mac address spoofing; Dynamic DNS update tool
- Proxy: FTP & HTTP caching proxy server; HTTPS, SSL, DNS, HTTP, DNS entries, caching lists, access control lists
- Authentication: PPP, PPTP, PPPoE, L2TP, SSTP, OVPN, WPA, access control, MSCHAPv1/v2, RADIUS, MPPE encryption
- DHCP server/client/relay, multiple DHCP networks
- Layer 2 connectivity: bridge, synchronous, Asynchronous, ISDN, and SDSL
- UPnP, NTP, SNMP/MIB II, Cisco CDP, syslog/SNMP traps
- Monitoring and accounting for traffic, frames in/out, firewall logging. Graphical bandwidth for each interface in/out
- Watchdog for auto and remote reboot
- BER (bits per rate) up to 10e-9 with very low latency, FEC, Selective ARQ
- Latency: <2 ms, availability 99.99%, depends on terrain
- Dynamic Multicast Filtering support for video surveillance

APPLICATIONS examples

VIDEO SURVEILLANCE



BUILDING TO BUILDING



Long Range Outdoor MIMO High Power PTP/CPE/Bridge/Router with Integrated Antenna	
Model No.	CAP-5024N / CAP-520N
Standard	IEEE 802.11a (Wireless LAN), 802.11n (MIMO 2x2), 10/100/1000 Base-T IEEE 802.3 (CSMA/CD autosensing Ethernet)
Wireless & Wired Security Functions	Secure with WPA, WPA2, 802.1x (EAP, MIC, TKIP and AES), 64/128/152 bits WEP, IPSec/VPN. WPA-PSK, WPA2-PSK, WPA-EAP, EPA-EAP2, EAP-TLS, AES-CCM 128 bits, 802.11i TKIP, PEAP- MSCHAPv2, PEAP-TTLS, Mac/IP Mac Access Control Lists, Custom scan lists to prevent clients from scanning unwanted channels, Full firewall, NAT and Bandwidth Management support, Mac Authentication, 802.1q VLAN support, multiple VLANs; VLAN bridging client list, DHCP auto-auth configuration, hide/stealth ESSID/SSID setup, Multiple SSID, Multiple Access Points mode. Sniffer detects intrusion attempts (lite IPS).
Operation Functions	Static, dynamic (RIP v1/2, OSPFv2), or policy (source) routing, DHCP Server / Client Super A mode (Hardware compression, aggregation and bursting). Mesh-WDS / OLSR / RSTP, or Layer 2 Mesh routing. NV2 Protocol. Packet processing: 100,000 pps. Support up to 128 Virtual Access Points (SSIDs) for single interface, WDS settings, and even different MAC address. Cloaking to reduce interference, dynamic frequency selection (DFS/ACCS) mode for auto channel. Firmware upgradeable LED and Audible alignment methods based on signal strength for antenna aiming Beacon real-time traffic monitor, AP association displays, with per-user, and system wide throughput and traffic reporting. Wireless site survey. ACK Timing, RTS Fragmentation Threshold Adjustable transmit power control up to 630mW (TPC/ATPC), Country code Selection 802.11e QoS for Video and Voice Priority, protocol / port / IP / MAC filtering and shaping Layer 2 connectivity: bridge, synchronous, Asynchronous, ISDN, and SDSL. 6to4 support, EoIP/IPv6 support.
Operation Modes	P2P, P2MP, Bridging, Ethernet to WLAN Bridge, AP Client with Routing function, dynamic WDS, mesh-WDS, High performance learning bridge with STP. 3G connectivity
Management	SSH-based interface, Password, Web GUI, HTTP, Serial-based CLI, SNMP, Telnet, FTP, TFTP, Backup/Restore config-tool, Software configuration tool for remote access, setup and monitoring, User level access.
Power over Ethernet	802.3af 24 VDC Passive with built-in surge protector, Gbit Ethernet port.
Interface	External RJ-45 Bulkhead connector, 1 X MiniPCI wireless slot, 1 X Gbits RJ45 Ethernet port, 1 X USB 2.0 with 5V power. Optional 1 X RS232. Optional multiple N-type connectors. Optional multiple Gbit Ethernet ports
Mounting	Pole or wall mount via 2pc clamps(included)
Enclosure	CAP-5024N: UV stabilized ABS plastic with electronics protected in IP 67 aluminum for EMF protection. CAP-520N: NEMA 6 housing
Weight	CAP-5024N: 2.5 lb (1.13kg); CAP-520N: 2.65 lb (1.20 Kg)
Dimension (L x W x H)	CAP-5024N: 14"x14"x3.4"(356x356x86.5mm) integrated dual polarity 24 dBi antenna CAP-520N: 10"x7.1"x2.25" (254x180x57mm)
Temperature Range	Operating: -45°C to 75°C (-49°F to 167°F). -45°C to 75°C (-49°F to 167°F) for radio and board
Relative Humidity	0% to 99% non condensing
Surge Protector	Integrated ESD (14kV) + lightning surge protection (10kA) for radio module, PoE surge protector CAP-520N with optional multi-strike gas discharge tube lighten protector
Platform Characteristics	
Platforms	MIPS architectures started with CPU 680MHz or 300MHz, 64 or 32 MB RAM
LED	Power, 2 LED pairs for MiniPCI slot(s), 1 user LED (Internal)
Radio Characteristics	
Radio Scheme	MIMO 802.11n. 802.11a: OFDM. 802.11n MIMO, Time Division Duplex (TDD) with CSMA/CA, TDMA, BPSK,QPSK, 16QAM, 64QAM
Frequency Range	Standard 4.94 ~5.85, up to 6.45GHz. Radio / antenna dependable. Non-overlapping channels: 12
Data Rate	802.11n MIMO for 6.5-300Mbps
Throughput	60Mbps to 300Mbps
Output Power (radio)	Max 630mW for 802.11a/n
Receiver Sensitivity (without antenna)	54Mb@-81dBm, 48Mb@-83dBm, 36Mb@-87dBm, 24Mb@-88dBm, 18Mb@-92dBm, 12Mb@-97dBm, 9Mb@-97dBm, 6Mb@-97dBm, depends on radio. Tolerance +/-1.5dB.
Approvals	Radio FCC Part15, Section 15,247, CE

Note: Sales price may be varied that is dependent on components for specific requirement.



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