

Long Range Outdoor MIMO Wireless Bridge/Router WAP-350N

Carrier Class WAP-350N 3.3~3.8 GHz 630mW 2X2 MIMO High Power and Superior Performance Routing Base Single to Multiple Radio Unit



The WAP-350N is specially designed for applications of point-to-point, point-to-multipoint with 2X2 MIMO 300Mbps as based AP to provide a superior performance solution for connecting many locations through wireless, yet flexible to customize for your deployment. It has up to five wireless interfaces for sectors or backhaul. The WAP-350N 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, Super A/G for up to 108 Mbps of throughput, 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 / WDS / Spanning Tree Bridging (STP) are available for all connected APs and clients in the same SSID group or Multiple SSIDs. QoS with video / gaming priority is available. MTBF is more than 100,000 hrs.

WAP-350N Series While bundling with WiBorne's CPEs [CAP-5000](#), [HSG Access Controllers](#), or [EtherMUX E1/T1 MUX modems](#). This supports individual clients to backhaul network management systems for hundreds of base stations with thousands of wireless clients.

Optional features 3G technology, 5 radio slots, 3 Gigabit LAN ports; present WAP-350N a scalable device. With 802.11n radio module, WAP-350N support 300+ subs per sectorized base station with 150Mbps+ of PtMP performance. USB slots allow you to add 3G wireless modem(s) for backup, mobile installation, or multi-WAN (multiplexing) connectivity. This enables new revenue generating converged services for IP data, voice (VoIP) and video streaming / conferencing / messaging.

Features:

- Single to triple Atheros high power max. 630mW (28dBm)
- Radio sensitivity up to -98dBm
- Highest and most consistent data throughput from 150 to 300Mbps depends on terrain, antenna gain
- Time Division Duplex (TDD) with CSMA/CA, TDMA
- Integrated ESD (14kV) + lightning surge protection (10kA)
- Packet Aggregation for improved VoIP and gaming
- Extreme distances, up to 233km are supported
- Channel width (spacing) for 5/10/20/40 MHz
- Max. 5 radios / 3 Gbits ports for outdoor/indoor units
- Radio with options from 2.3-2.5, 3.3-3.8, 4.9-6.45 GHz providing support for both public and licensed bands
- IP-67 / NEMA-6 certified 100% sealed strong mechanical structure, die cast all weather-proof hinged housing
- USB slots for additional 3G modem connection for backup connectivity or for a mobile installation, or both with multiplexing bonding for large bandwidth
- Lighten protector: multi-strike capability (gas discharge)
- Firewall and NAT with stateful packet filtering
- QoS by IP/ protocol / subnet / ports / packet classification & marking at L2~L4, 802.1p, DiffServ/TOS, HTB, PCQ, CIR, EBS, and PIR. WiMAX 802.16 QoS Classification for Pre-WiMAX, WMM Setting for priority of Video and Voice
- VRRP for High Availability
- Layer 2 Mesh, Nstreme / bonding protocols, AP routing / transparent bridging, with LoS/NLoS applications
- Virtual Machine (VM) for 3rd party application software
- Bridge: spanning tree protocol (STP); multiple bridge interfaces; bridge firewalling, MAC NATting
- Client statistics (current signal level/quality, rate TX/RX, bytes TX/RX, radio rate) with graphical indication
- 64/128/152 bits WEP and WPA/WPA2 support
- IPsec: DES, 3DES, AES-128/192/256, Camellia-128/192/256
- Routing for RIP v1/v2, BGP, MPLS, VPLS, OSPF, GRE, Static
- VLAN: 802.1q, multiple VLANs; VLAN bridging
- Software Utility/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, DNS and HTTP, DNS entries, caching lists, access control lists
- Authentication: PPTP, PPPoE, L2TP, 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, firewall logging, graphical bandwidth for each interface
- MiniPCI radio module swappable and country code selection.
- Watchdog for auto and remote reboot
- Tools: Device Discovery, Bandwidth, Link Test, Network Monitoring, Neighbor Viewer, Radio/Traffic Statistics
- BER (bits per rate) up to 10e-9 with very low latency
- Latency: <2 ms, disponibility 99.99%, depends on terrain
- Dynamic Multicast Filtering support for video surveillance

Long-Range Outdoor MIMO High Power Bridge / Router WAP-350N

Model No.	WAP-350N
Standard	IEEE 802.11a/b/g (Wireless LAN), 802.11n MIMO, IEEE 802.3 (CSMA/CD Ethernet), optional 3G
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, 802.11i TKIP, PEAP-MSCHAPv2, PEAP-TTLS, RADIUS client. Mac/IP, Mac Access Control Lists, Custom scan lists that prevent clients from scanning unwanted channels. Full firewall, NAT and Bandwidth Management support, Mac Authentication 802.1q VLAN support, 4096 VLANs; VLAN bridging client list, DHCP auto-auth configuration. Hide/stealth SSID setup, Multiple SSID, Multiple Access Points mode, Sniffer detects intrusion attempts (WIPS sensor)
Operation Functions	Static, dynamic (RIP v1/2, OSPFv2), or policy (source) routing, DHCP Server / Client Super A, G modes (Hardware compression, aggregation and bursting). Turbo mode for 108Mbps Mesh-WDS / OLSR / RSTP, or Layer 2 Mesh routing. 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 up to 800mW (TPC/ATPC) dependent on radio module and frequency 802.11e QoS for Video and Voice Priority, protocol / port / IP / MAC filtering and shaping Layer 2 connectivity: bridge, synchronous, Asynchronous, ISDN, and SDSL
Operation Modes	Point to Point, Point to Multipoint, Bridging, Routing, Ethernet to WLAN Bridge, AP Client with Routing function, dynamic WDS, L2 mesh, High performance learning bridge with STP. 3G connectivity.
Management	SSH-based interface, Password, Web / text GUI, HTTP, Serial-based CLI, SNMP, Telnet, FTP, TFTP, Backup/Restore config-tool, Configuration tool for remote access / setup, User level access.
Power over Ethernet	12-28 VDC with overvoltage protection. High power PoE available for multiple radios.
Interface	1 RJ45 (PoE) Bulkhead connector, 1 RS232, 1 Reset button, 1 to 5 MiniPCI slots, 3 x 10/100/1000 Ethernet, Autosensing Base-T/TX, MicroSD slot, USB slots for external devices / 3G modems
Mounting	Pole or wall mount via 2pc clamps(included)
Enclosure	IP67 certified 100% sealed with die cast all weather-proof housing hinged housing
Weight	6 lbs (2.73 Kg)
Dimension (L x W x H)	H=12"/304.8mm W=9"/228mm D=3.5"/89mm
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
Lighten Protector	Integrated ESD (14kV) + lightning surge protection (10kA) for radio module
Antenna connectors	External antennas with up to 2 N connectors for 2x2 MIMO
Platform Characteristics	
Platforms	680MHz Atheros MIPS CPU
Memory	128MB or 256MB DDR RAM
Radio Characteristics	
Radio Scheme	MIMO 802.11n. 802.11a: OFDM; 802.11b: DSSS 802.11g: DSSS/OFDM. FDD BPSK/QPSK/16QAM/64QAM. Access Method: Time Division Duplex (TDD) with CSMA/CA, TDMA
Frequency Range	International: 3.3-3.8GHz; USA: 3.65-3.675GHz
Data Rate	802.11n MIMO for 6.5 - 300Mbps
Channels	North America: non-overlapping 12 Channels (US, Canada) ETSI: 13 Channels (Most European Countries); TELEC: 4 Channels (Japan)
Throughput	Single radio from 60Mbps to 300Mbps (2 antennas)
Output Power (radio)	Maximum 630mW. Up to five radios
Receiver Sensitivity (without antenna)	54Mb@-81dBm, 48Mb@-83dBm, 36Mb@-87dBm, 24Mb@-88dBm, 18Mb@-92dBm, 12Mb@-94dBm, 9Mb@-97dBm, 6Mb@-97dBm, depends on radio. Tolerance +/-1.5dB
Approvals	Radio module CE & FCC Part15 (in progress), Section 15.247

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