

Long Range Outdoor Wireless Access Point WAP-520

Carrier Class WAP-520 2.4GHz / 5 GHz High Power and Superior Performance Routing Base or Backhaul Single to Multiple Radio Unit



WAP-520 Series

The WAP-520 is specially designed for applications of point-to-point, point-to-multipoint 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-520 delivers Internet service to your clients' network for extreme distance of 145 miles or more. 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 or Turbo modes 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.

It provides support for both public and licensed bands with high power radio selections from 760-780 & 900-922 MHz, 2.3-2.5, 2.7-2.9, 3.3-3.8, 4.9-6.1, 5.9-6.45 GHz. While bundling with WiBorne's CPEs [CAP-1900](#), [CAP-2400](#), or [CAP-5000](#), and [HSG Access Controllers](#), it supports remote management from individual clients to backhaul network management systems for hundreds of base stations with thousands of wireless clients.

Features such as MIMO 802.11n, 3G technology, 5 radio slots, 3 Gigabit LAN ports; present WAP-520 a scalable device. With 802.11n radio module, WAP-520 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) up to 1000mW (30 dBm) for 802.11a.
- Radio sensitivity up to -97dBm
- 108Mbps Turbo mode (Super A/G). Data throughput of 50 Mbps, max 100 Mbps in single mode, or MIMO for 300Mbps
- Time Division Duplex (TDD) with CSMA/CA, TDMA
- Hub synchronization (multiple point-to-point)
- Swappable frequency among 2.4/4.9/5.15-5.85GHz
- Packet Aggregation for improved VoIP and gaming
- Extreme distances, up to 233km are supported
- Channel width (spacing) for 5/10/20/40 MHz
- MIMO 802.11n radio modules available
- Max. 5 radios / 3 Gbits ports for outdoor/indoor units
- Radio options from 700/900MHz, 2.3-2.9 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 High Power Access Point WAP-520

Model No.	WAP-520
Standard	IEEE 802.11a/b/g (Wireless LAN), IEEE 802.3 (CSMA/CD Ethernet), or MIMO 802.11n MIMO & 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 tagging 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 1000mW (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	AP (P2P, P2MP), Bridging, 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	12-28-48 VDC with overvoltage protection. High power PoE available for multiple radios.
Interface	1 RJ45 (PoE) Bulkhead connector, 1 RS232, 1 Reset button, 1 or 5 MiniPCI slots, 3 10/100/1000 Ethernet Ports , MicroSD slot, USB slots for external devices or 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	Gas discharge tube design with multi-strike capability. Polyphaser , Citel
Antenna connectors	External antennas with up to 4 N connectors for 2x3 , 2x3 OR 3x3 array for MIMO Optional Integrated Antenna 24dBi vertical/horizontal polarity or dual polarity
Platform Characteristics	
Platforms	680MHz Atheros MIPS CPU
Memory	128MB or 256MB DDR RAM
Radio Characteristics	
Radio Scheme	802.11a: OFDM; 802.11b: DSSS 802.11g: DSSS/OFDM. FDD BPSK/QPSK/16QAM/64QAM. MIMO 802.11n . Access Method: Time Division Duplex (TDD) with CSMA/CA, TDMA
Frequency Range	2.4, 4.9~6.1 GHz (or 700/900MHz, 2.3-2.9 3.3-3.8, 5.9~6.45 GHz with MIMO)
Data Rate	802.11a or g: 108 / 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 Mbps, 802b:.11 / 5.5 / 2 / 1 Mbps, or 802.11n MIMO for 300Mbps
Channels	North America: non-overlapping 12 Channels (US, Canada) ETSI: 13 Channels (Most European Countries); TELEC: 4 Channels (Japan)
Range	Up to 233 km / 145 miles, depends on terrain, antennas, and throughput
Throughput	Single 802.11a radio: up to 100Mbps one way or 50/50Mbps two way. Dual radio: up to 100/100Mbps for up/down two way or 200Mbps one way. Up to 300Mbps for MIMO radio
Output Power (radio)	Selectable 500, 630, 800 or 1000 mW. Up to five radios
Receiver Sensitivity (without antenna)	54Mb@-74dBm. 48Mb@-77dBm, 36Mb@-83dBm, 24Mb@-86dBm, 18Mb@-90dBm, 12Mb@-91dBm, 9Mb@-93dBm, 6Mb@-94dBm, 1.5Mb@-102dBm or 1Mb@-97dBm depends on radio
Approvals	Radio FCC Part15, Section 15,247, IC RS210. WPC, NTC

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



USA Office:
4790 Irvine Blvd., Suite 105-458,
Irvine, CA 92620
Tel: 1-949-903-8502
Fax: 1-949-252-0888

Taiwan Office:
No.5, Qiyan Rd., Beitou District,
Taipei City 112, Taiwan
Tel: 886-2-2898-4050
Fax: 886-2-2896-9157