WiBorne, Inc.

Long Range Outdoor Wireless Access Point WAP-520

Carrier Class WAP-520 2.4GHz / 5 GHz 600mW High Power and Superior Performance Routing Base or Backhaul Single to Quad Radio Unit

The WAP-520 is specially designed for point-to-multipoint applications to provide a superior performance solution for connecting many locations through wireless, yet flexible to customize for your deployment. It has up to quad wireless interface 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. Mesh / WDS Spanning Tree Bridging are available for all connected APs and clients in the same SSID group or Multiple SSIDs. QoS with video / gaming priority is available.

It provides support for both public and licensed bands with optional high power radio selections from 760-780 & 900-922 MHz, 2.3-2.5, 2.55-2.6, 2.7-2.9, 3.4-3.7, 3.65, 4.9-6.1GHz. While bundle with WiBorne's CPE CAP-1900/2400L/5000L or CAP-2400/5000 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.

WAP-520 Series

WiBorne has developed the WAP-520 platform based on state-of-the-art wireless technology. The 2nd generation intelligent wireless edge platform enables new revenue generating converged services for IP data, voice and video streaming. The WAP platform is a rugged communications-grade wireless delivery system with superior performance and high reliability to enable cost effective deployment.

Features:

- **Single to quad Atheros high power 600mW radio for 802.11a/b/g. Radio sensitivity up to -94dBm**
- **Super A, G (hardware compress, aggregation, and bursting)**
- **Data throughput of 26 Mbps or 43 Mbps in Turbo.**
- **108Mbps Turbo (802.11a,g channel bonding)**
- **Packet Aggregation for improved VoIP and gaming**
- **Extreme distances, up to 233km are supported.**
- **Channel Width (Cloaking mode) for 5/10/20/40 MHz that can not seen from standard wifi radio**
- **Radio options from 700/900MHz, 2.3-2.9 3.4-3.4, 4.9-6.1 GHz providing support for both public and licensed bands**
- **IP68 certified 100% sealed with strong mechanical structure, die cast all weather-proof housing**
- **Lighten protector is gas discharge tube design with multi-strike capability**
- **Firewall and NAT with stateful packet filtering**
- **QoS by IP/ protocol / subnet / ports, HTB, PCQ**
- **VRRP for High Availability**
- **Mesh - WDS (wireless distribution service), Nstreme and Nstreme2 protocols, AP bridging**
- **802.11e QoS (WMM) Setting for priority of Video and Voice**
- **Tools: Device Discovery, Bandwidth, Link Test, Network Monitoring, Neighbor Viewer, Radio/Traffic Statistics**
- **Bridge: spanning tree protocol; multiple bridge interfaces; bridge firewalling, MAC NATting**
- **Client statistics (current signal level/quality, rate TX/RX, bytes TX/RX, radio rate)**
- **64/128/152 bits WEP and WPA/WPA2 support.**
- **IPSec: DES, 3DES, AES-128, AES-192, AES-256**
- **Routing for RIP, BGP, OSPF, static routing**
- **VLAN: 802.1q, multiple VLANs; VLAN bridging**
- **Console/Terminal/SSH/Telnet/CLI/SNMP/FTP**
- **Neighbor Discovery; ping; traceroute; bandwidth test; ping flood; packet sniffer; 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**
- **MiniPCI radio module swappable**
- **802.11n upgradeable**
- **Watchdog for auto and remote reboot**

WiBorne Take your wireless airborne.

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Long-Range Outdoor High Power Access Point WAP-520	
Model No.	WAP-520
Standard	IEEE 802.11a/b/g (Wireless LAN), IEEE 802.3 (Ethernet)
Wireless & Wired Security Functions	Secure with WPA, WPA2, AES-CCM & TKIP Encryption, 802.1x, 64/128/152 bits WEP, IPSec/VPN 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, multiple VLANs; VLAN bridging client list, DHCP auto-auth configuration 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, G modes (Hardware compression, aggregation and bursting). Turbo mode for 108Mbps Mesh-WDS or Mesh routing using OLSR Support up to 7 Virtual Access Point mode for single interface that you can create multiple Access Points with different Service Set Identifier, WDS settings, and even different MAC address Cloaking to reduce interference, dynamic frequency selection (dfs) 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 400mW or 600mW 802.11e QoS for Video and Voice Priority, Layer-7 filtering and shaping Layer 2 connectivity: bridge, synchronous, Asynchronous, ISDN, and SDSL
Operation Modes	AP, Bridging, Ethernet to WLAN Bridge, AP Client with Routing function, dynamic WDS, mesh-WDS, High performance learning bridge with optional Spanning Tree Protocol (STP)
Management	SSH-based configuration interface with text / Web GUI, Serial-based CLI, SNMP, Telnet, FTP
Power over Ethernet	12-28 VDC, no power over data lines
Interface	1 to 3 RJ45 (PoE) Bulkhead connectors, one RS232, one Reset button, 1 to 4 MiniPCI slots
Mounting	Pole or wall mount via 2pc clamps(included)
Enclosure	IP68 certified 100% sealed with strong mechanical structure, die cast all weather-proof housing
Weight	4.63 lbs (2.1 Kg)
Dimension (L x W x H)	H=12”/300mm W=9.5”/235mm D=2.25”/57mm
Temperature Range	Operating: -20°C to 65°C (-4°F to 149°F). Storage: -40°Cto 80°C (-40°F to 176°F) if board only
Relative Humidity	10% to 95% non condensing
Lighten Protector	Gas discharge tube design with multi-strike capability. Infinite strike is optional
Antenna connectors	External antennas with up to 5 N connectors
Platform Characteristics	
Platforms	PowerPC E300 266/333 QUICC Engine 175MHz. Optional MPC8343E 266/400MHz CPU
Memory	64MB DDR RAM
Radio Characteristics	
Radio Scheme	802.11a: OFDM 802.11b: DSSS 802.11g: OFDM
Frequency Range	2.4GHz, and/or 5.1 GHz ~5.8GHz (optional 700/900MHz, 2.3-2.9 3.4-3.4, 4.9-6.1 GHz)
Data Rate	802.11a: 54 / 48 / 36 / 24 / 18 /12 / 9 / 6 Mbps, 108Mbps turbo mode
Channels	North America: 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
Output Power (radio)	400mW, or optional 600mW. Up to three radios or expansion cards for even more radios
Receiver Sensitivity (without antenna)	54Mb@-74dBm. 48Mb@-77dBm, 36Mb@-83dBm, 24Mb@-86dBm, 18Mb@-90dBm, 12Mb@-91dBm, 9Mb@-93dBm, 6Mb@-94dBm
Approvals	Radio FCC Part15, Section 15,247, IC RS210

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