

WiBORNE, INC.

Outdoor 802.11b/g 2.4 GHz High Power AP/CPE/Bridge/Router with 19dBi or 16dBi Integrated Antenna: CAP-2400 Series



CAP-2419



CAP-2416



CAP-240

The CAP-2419 / CAP-2416 are specially designed for applications of point-to-point as backhaul, or CPEs for point-to-multipoint to provide a 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-2419 / CAP-2416 deliver 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 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 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-2419 / CAP-2416 come with choice of radio powered up to 800mW. It also offers variety of CPU platforms customized for your deployment that can produce maximum of 50 dBm or 100 Watts EIRP!

Frequency selection from 2.3-2.7, 2.7-2.9 GHz providing support for both public and licensed bands. While bundle with WiBorne's outdoor AP [WAP-240](#) 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.

CAP-2419 / CAP-2416 are based on state-of-the-art wireless technology with intelligent wireless edge platform enables new revenue generating converged services for IP 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-240 is outdoor AP model equipped with same radio, NEMA 6 / IP 67 housing, and multi-strike gas discharge lightening protector. MIMO 802.11n and 3G technology are available.

Features:

- Single Atheros high power 400mW or 800mW radio for 802.11b/g. Radio sensitivity up to -97dBm
- Time Division Duplex (TDD) with CSMA/CA, TDMA
- 108Mbps Turbo with data throughput up to 80Mbps in real
- 802.11n MIMO dual polarity for up to 300Mbps
- Packet Aggregation for improved VoIP and gaming
- Extreme distances, up to 150 km are supported.
- Channel width (Cloaking mode) for 5/10/20/40 MHz
- Channel selections from 2.3-2.7, 2.7-2.9 GHz providing support for both public and licensed bands
- IP 67 for CAP-2419/2416, NEMA 6 aluminum for CAP-240
- Firewall and NAT with stateful packet filtering
- QoS by IP/ protocol / subnet / ports, HTB, PCQ, EBS, & RIP
- Layer 2 Mesh, WDS, Nstreme / bonding protocols, AP routing / bridging. VRRP for High Availability
- 3G USB slot for backup connectivity
- Bridge: spanning tree protocol; multiple bridge interfaces; bridge firewalling, MAC NATting
- 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)
- 64/128/152 bits WEP and WPA support.
- IPSec: DES, 3DES, AES-128, AES-192, AES-256
- Routing for RIP, BGP, MPLS, VPLS, OSPF, GRE, 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; 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
- Watchdog for auto and remote reboot
- Dynamic Multicast Filtering support for video surveillance

Long-Range Outdoor High Power AP/CPE/Bridge/Router With 19dBi or 15dBi Integrated Antenna

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| Model No. | CAP-2419 / CAP-2416 / CAP-240 |
| Standard | IEEE 802.11b/g (Wireless LAN), 802.11n MIMO, IEEE 802.3 (CSMA/CD 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, 802.11i TKIP, PEAP-MSCHAPv2, PEAP-TTLS 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 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 G mode (Hardware compression, aggregation and bursting). Turbo mode for 108Mbps Mesh-WDS / OLSR / RSTP, or Layer 2 Mesh routing Support up to 7 Virtual Access Point mode for single interface that you can create multiple APs with different Service Set Identifier, WDS settings, and even different MAC address Cloaking to reduce interference, dynamic frequency selection (DFS) mode for auto channel 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 600mW or 800mW 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, mesh-WDS, High performance learning bridge with STP. 3G connectivity. |
| Management | SSH-based interface, Web / text GUI, HTTP, Serial-based CLI, SNMP, Telnet, FTP, TFTP |
| Power over Ethernet | 802.3af 18, or 24 VDC Passive – depends on hardware platform |
| Interface | External RJ-45 bulkhead connector, one onboard RS232, one RJ45 NIC. CAP-240 comes with one N-type connector. |
| Mounting | Pole or wall mount via 2pc clamps(included) |
| Enclosure | CAP-2419 / CAP-2416: UV stabilized ABS plastic with electronics protected in IP 67 aluminum for EMF protection; CAP-240: NEMA 6 housing |
| Weight | CAP-2419: 3.1 lb (1.4kg); CAP-2416 : 1.6 lb (0.73kg); CAP-240: 2.65 lb (1.20 Kg) |
| Dimension (L x W x H) | CAP-2419: 16"x16"x3.4" (407x407x86.5mm) CAP-2416: 12"x12"x3.4" (305x305x86.5mm) CAP-240: 10"x7.1"x2.25" (254x180x57mm) |
| Temperature Range | Operating: -45°C to 70°C (-49°F to 158°F). -40°C to 80°C (-40°F to 176°F) for radio and board |
| Relative Humidity | 0% to 95% non condensing |
| Surge Protector | CAP-2419/CAP-2416: PoE surge protector. Citel CAP-240: multi-strike gas discharge tube lightning protector. Polyphaser |
| Platform Characteristics | |
| Platforms | MIPS architectures started with CPU 680MHz or 300MHz |
| Memory | 16/32MB SDRAM, 64MB or 128MB DDR RAM |
| LED | Power, 2 LED pairs for MiniPCI slot(s), 1 user LED |
| Radio Characteristics | |
| Radio Scheme | 802.11g: OFDM; 802.11b: DSSS; 802.11n MIMO, Time Division Duplex (TDD) with CSMA/CA, TDMA |
| Frequency Range | Standard 2.312 - 2.497 GHz, radio module dependable. 2.7-2.9 GHz |
| Data Rate | 802.11g: 108 / 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 Mbps, 802.11n MIMO for 300Mbps |
| Range | Possible distance up to 35+miles / 56KM, depends on terrain, antenna, and throughput |
| Output Power (radio) | 802.11b/g: standard 400mW, or 100mW up to 800mW |
| Receiver Sensitivity (without antenna) | 54Mb@-74dBm, 48Mb@-77dBm, 36Mb@-83dBm, 24Mb@-86dBm, 18Mb@-90dBm, 12Mb@-91dBm, 9Mb@-93dBm, 6Mb@-94dBm, 1Mbps@-97dBm. |
| Approvals | Radio FCC Part15, Section 15.247 |

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



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