Cambium Networks™

# cnPilot™ E500

## 802.11ac Gigabit outdoor Access Point

for Enterprise campuses, Public WiFi, Hospitality, Educational institutions, Industrial campuses or just about any demanding outdoor environment requiring cost-effective, controller managed WLAN Access Points

## Highlights

**Operational superiority -** Supporting 256 max concurrent client associations, up to 16 SSIDs, WPA-2 encryption, Dynamic VLANs, DFS channels, Access control lists (ACL), and more, the zero touch provisioned 802.11ac E500 is the essential workhorse for demanding high density outdoor WiFi networks

**High performance WiFi network -** All cnPilot's Enterprise Access Points (APs), including the E500 series support features like controller-less roaming, automatic channel scanning (ACS), band steering, pre-set scheduling of SSIDs RADIUS based dynamic rate limiting per SSID and more – all needed essential features for real world WiFi deployment

**Mesh** Rapidly setup multiple E500 APs via a mesh network with ability to dedicate one radio (for example 5 GHz) for mesh backhaul and use the other radio (2.4 GHz) for client access

**Flexible Backhaul** - All E500 APs come with two Gigabit Ethernet ports and the ability to configure one of the ports as *PoE out* – perfect for powering on any standard 802.3af equipment. When paired with Cambium's PMP450 or ePMP backhaul subscriber modules (SMs), the E500 can also drive power to the backhaul module eliminating the need for a second power line

**Resilience** - Dual on-board Active/Standby memory banks ensure the E500 can store two versions of the software and if needed fall back to a working operational software, reducing the likelihood of site visits and increasing network up-time.

## Designed for the outdoors

- 802.11ac with dual Gigabit ports
- UV rated IP-67 enclosure
- Operating Temp: -30°C ~ 60°C
- Electrical heater for cold start
- Rugged electrical surge & ESD protection Circuitry
- Flexible Wall mount or Pole mount bracket design
- Special LTE coexistence filter for enhanced interference rejection
- Weight: 881g

## cnMaestro - WiFi Controller

- Secure end to end management
- Zero-touch Provisioning
- Inventory tracking
- Map location
- Monitoring: key Stats, Alarms
- Mass (bulk) upgrade
- End-to-end Wireless troubleshooting
- Single-pane dashboard view - WiFi APs & Cambium SMs
- Available in Cloud or as On-premises (NOC) Virtual controller

# The cnPilot E500 WiFi Network

cnMaestro - WiFi Controller     Outdoor E500     2.4 GHz & 5 GHz Client devices

- ▪ Configure, Monitor & Manage
- ▪ 802.11ac long range Mesh APs
- ▪ High client capacity

# Access Point – Specifications

| | |
|---|---|
| FREQUENCY BANDS | 2.4 GHz: 2.4 – 2.484 GHz<br>  Channels 1 – 13 (ETSI/CE),<br>  Channels 1 – 11 (US)<br>5 GHz:  5.15 – 5.85 GHz<br>Channels 36 – 165. 5 GHz channels are country dependent |
| SSID SECURITY | WPA-2 (802.11i): WPA2-Enterprise (802.1x/EAP) & WPA2-Preshared-keys, Open |
| MAX SSIDs | 16 |
| MAX CONCURRENT CLIENTS | 256 |
| MAX RANGE | 275m (900 Ft); Actual range will vary depending on local RF conditions and client capability. |
| MAX DATA RATES | 1.01 Gbps |
| ETHERNET PORTS | Dual Gigabit Ethernet ports (2 x 10/100/1000Base-T) |
| ANTENNA | Linear vertically polarized 2x2 MIMO Integrated Omni (360°). |
| ANTENNA GAIN | 5 dBi |
| POWER SUPPLY | 56V/30W Gigabit passive PoE injector |
| POE OUT | Aux port: capable of 802.3af Power out or Canopy power (for supported Cambium ePMP or PMP450 SMs) |
| TRANSMIT POWER | 29dBm @ 2.4GHz<br>28dBm @ 5 GHz |
| POWER CONSUMED | Typical: 8W  Max: 12.95W (no auxiliary device connected) |
| DIMENSIONS (CM) | 30 x 20.4 x 6.5 cm (without bracket) |
| WEIGHT | Without bracket: 881 g (0.88 Kg); with Bracket: 1,063 g (1.06 Kg) |
| OPERATING TEMPERATURE | -30°C ~ 60°C |
| MOUNTING OPTIONS | Pole mount bracket (included) or wall mount (included) |
| LTE CO-EXISTENCE | Special filter for rejecting interference on 2.4 GHz from adjacent LTE bands 38, 40 |
| PHYSICAL SECURITY | Kensington Lock bracket |
| VISUAL STATUS | Two (2) multi-color LEDs indicating Access Point & cnMaestro connectivity status |

# WiFi Features

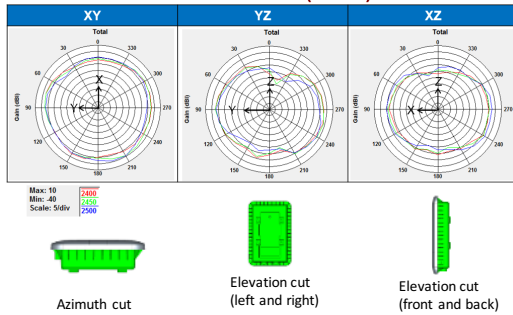| | |
|---|---|
| **WIFI DEPLOYMENT OPTIONS** | Autonomous Stand-alone operation<br>Cloud Managed<br>On-premise controller |
| **MESH** | Standard 802.11 Meshing (Mesh) between cnPilot APs |
| **HOTSPOT CAPTIVE PORTAL** | Controller based Hotspot (on cnMaestro)<br>Stand-alone mode AP based hotspot server.<br>Also supports hotspot redirection to a 3rd party hotspot server |
| **AUTHENTICATION** | RADIUS based 802.1x including EAP-SIM/AKA, AP-PEAP, EAP-TTLS, EAP-TLS or Secure Web page portal based authentication |
| **SCHEDULED SSID** | Turn SSID ON/OFF on a daily/weekly/time of day basis |
| **AAA** | Authentication to RADIUS AAA per SSID (Active/Standby) |
| **GUEST ACCESS** | Yes |
| **CLIENT DATA LIMITING** | Uplink & Downlink rate limiting per SSID |
| **ACCOUNTING** | Yes. Supports RADIUS based accounting to multiple AAAs |
| **SUBSCRIBER QOS** | WMM |
| **SUBSCRIBER HANDLING** | Dynamic VLAN assignment from RADIUS server |
| **CLIENT ISOLATION** | Yes |
| **FAST ROAMING** | Controller-less fast roaming supported including 802.11r and Opportunistic Key Caching |
| **AUTOMATIC CHANNEL SELECTION** | Yes |
| **NAT** | Yes (Network Address Translation) |
| **DHCP SERVER** | Yes |
| **FIREWALL** | Yes |
| **BAND STEERING** | Yes. Steers 802.11n and 802.11ac clients towards the higher throughput 5 GHz band |
| **LOAD BALANCING** | Yes |

# *cn*Maestro WiFi Controller

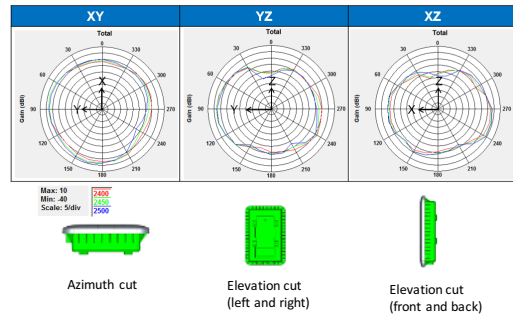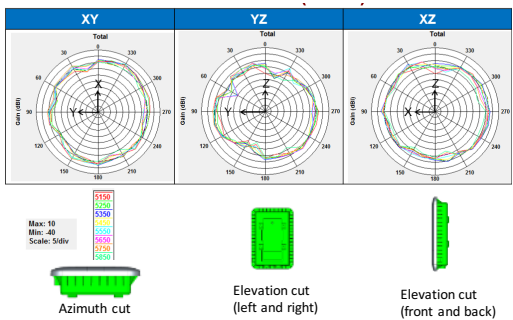| | |
|---|---|
| **COMMON FRAMEWORK** | Single-pane-of-glass common manager for Cambium's from which to manage the WiFi and wireless backhaul products |
| **ON-BOARDING** | Secure fast on-boarding |
| **PROVISIONING** | Easy zero touch virtual network provisioning<br>Provision before install (pre-provision) |
| **DEVICE INVENTORY** | Inventory tracking |
| **TROUBLE SHOOTING** | Advanced troubleshooting views covering wireless backhaul (if present) and WiFi APs and Client devices all one single screen |
| **INTUITIVE VIEWS** | Map location<br>Hierarchical Dashboard views |
| **CLIENT INSIGHT** | Shows client history with aggregate client manufacturer views |
| **MONITORING & ALARMS** | Alarms and events management – Critical/Major/Minor<br>Key statistics graphs and *sticky* alarm summary display |
| **CONFIGURATION** | GUI based configuration or template based configuration options |
| **SOFTWARE UPGRADE** | Bulk upgrade with ability to upgrade multiple WiFi APs |
| **MULTIPLE ADMINS** | Multiple admin provisioning per account |

# 2D Gain Patterns

2 x 2 802.11ac dual band Antennas
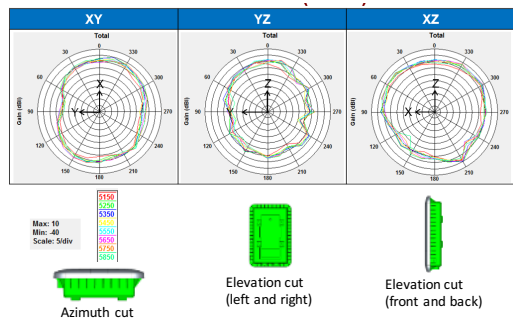
### 2.4 GHz Gain pattern (Antenna 1)



Azimuth cut

Elevation cut (left and right)

Elevation cut (front and back)

### 2.4 GHz Gain pattern (Antenna 2)



Azimuth cut

Elevation cut (left and right)

Elevation cut (front and back)

### 5 Ghz Gain pattern (Antenna 3)



Azimuth cut

Elevation cut (left and right)

Elevation cut (front and back)

### 5 GHz Gain pattern (Antenna 4)



Azimuth cut

Elevation cut (left and right)

Elevation cut (front and back)

## E500 Ordering Information

The cnPilot E500 (FCC) Outdoor 2x2 Integrated Gigabit 11ac Access Point with PoE Injector

| Sales part # | Region |
|---|---|
| PL-E500INTA-US | FCC certified version |
| PL-E500INTA-EU | ETSI certified version for EU market. Available with UK country cord as well |
| PL-E500INTA-RW PL-E500INTA-XX | The Rest-of-the-world version (RW). Includes Power supply; no country cord. XX: Additional ROW models with power cords for EU, US, India, China, Brazil, Argentina, Australia, and New Zealand are available |

Discover more info on cnPilot at: http://community.cambiumnetworks.com/