AIR-AP3000AX

COMMANDO AirX, 2976Mbps, 802.11ax/ac/b/g/n,Wave 2.0, FIT/FAT, Wi-Fi 6, Cloud Access Point Data Sheet

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Product Overview

COMMANDO AirX Wireless AIR-AP3000AX is Cloud based, enterprise-class wall/ceiling indoor (802.11ax) Wi-Fi 6 wireless access point which works in standalone, FAT mode as well as Controller based FIT mode of operation and provides wireless users with speed up to 2976Mbps with advanced Wi-Fi 6 Technology. It comes with dual band, equipped with separate 1Gbps WAN port & 1Gbps LAN port. It supports 2x2 MU-MIMO and provides data rate up to 2976Mbps for wireless users and supports concurrent 70 wireless clients with simultaneous upload or download of multiple packets at same time which enhances the sharing of files, photo, audio, video, and gaming experience over wireless network. It supports Seamless Roaming, OFDMA, 1024-QAM, narrower sub-carrier spacing and longer symbol time which improves the stability and data processing efficiency. It can provide powerful wireless coverage to enterprise environments such as small, medium, and large enterprises, university campuses, concert venues, gymnasium, etc.

It is powerful, long range & advance Wi-Fi 6 wall/ceiling indoor Access Point supports range of 20meters and above in all direction depending on surrounding conditions with up to 20dBm transmit power for 2.4G, 19dBm transmit Power for 5G. It is industrial grade Ceiling IEEE 802.3af/at 48V PoE/PoE+ standard, install at every place to work as an stable base station for access users. It is equipped with separate backward compatible 10/100/1000Mbps Ethernet WAN and 10/100/1000Mbps LAN port. It supports (IEEE 802.3af/at) PoE/PoE+, which helps in easy installation by eliminating the need of a dedicated power source and need of a power adapter. It can identify and determine the correct transmission speed and half/full duplex mode of the attached devices. It also supports standard Auto-MDI/MDI-X that can detect the type of connection to any Ethernet device without requiring special straight or crossover cables, Store-and-Forward forwarding scheme to ensure low latency and high data integrity.

Product Highlights

- Supports wireless RF power adjustable as per user movements from AP with datarate up to 2976Mbps.

- Access end users up to 80 max, with concurrent end users up to 80.

- 80MHz large bandwidth, 2x2 space flow.

- Supports FIT/FAT mode of operation with COMMANDO RouteX Controllers.

- Multi SSID up to 8 with inbuilt Wi-Fi channel analysis.

- Supports IEEE 802.11ax/ac/b/g/n/a with backward compatibility for wireless clients, 2.4GHz+5GHz Wireless dual band.

- With the function of the built-in firewall, IP filter, URL filter, and MAC filter.

- Wireless dual band with radio RF Power up to 20dBm (2.4G max), 19dBm (5G max).

- 1G high-rate uplink network port with Link integrity check.

- Management with the help of COMMANDO RouteX Controller as well as from Cloud portal.

- Supports custom AP ON/OFF scheduling and scheduled reboot.

- Supports independent setting of signal strength and channel.

- Intelligent control of terminals based on airtime fairness.

- High-density application optimization.

- Supports band steering automatically moves to wider 5G band for faster connections, intelligent load balance based on users.

- Supports tag VLAN and VLAN management.

- Supports advance security by MAC ACL, Static DHCP, Flow control, URL Mapping,

IP/MAC/URL filters, Port mapping and DMZ.

- Supports Seamless Roaming, OFDMA, 1024-QAM.

- Supports 5G priority access and fast roaming.

- Supports SSID VLAN, divide VLAN for SSID.

- Supports intelligent AC management, AP 1-Click upgrade, centralized management.

- Supports custom AP open time period and scheduled restart.

- Supports independent setting of signal strength and channel.

- Supports wireless roaming, experience a better network on the move.

- Dual purposes WAN or IEEE 802.3af/at Port (PoE/PoE+) port supporting 10/100/1000Mbps and dedicated LAN ports 1x 10/100/1000Mbps.

- Supports Wi-Fi client distance 20 meters and more depending on surrounding conditions.

- Dual input for power either PoE/PoE+ via WAN port or DC power inputs 12V, 1.5A.

- Supports Open or encryption like WPA-PSK / WPA2-PSK /WPA-PSK+WPA2-PSK.

- Complies with IEEE 802.3az standard.

- Plug and Play design simplifies installation with self-adaption.

- Compact, silent design perfect for noise sensitive environments.
- With Zero Touch Provisioning: Plug and play and no setup. Affordable, Easy-to-Use AP for all sized business networks, with Zero Configuration Required.

- Comes with one-year default warranty – optionally extendable up to 3 years.

Features and Benefits

Easy to Use

COMMANDO AirX Series AIR-AP3000AX access point works standalone as well as with Controller (COMMANDO RouteX Multi-Service Gateways). It is easy to use and configured using simple yet intuitive Web GUI. It requires minimal configuration, so the setup is simple and hassle-free. Auto-negotiation senses the link speed of a network device in wired 10/100/1000Mbps and for wireless devices intelligently adjusts for compatibility and optimal performance by DFS. Various options for setting channel bandwidth in 2G band like 11NG_HT20, 11NG_HT40 & 11.5AXG_GHE20 and in 5G band like 11NA_HT20,
11NA_HT40, 11.5AC_VHT20, 11.5AC_VHT40, 11.5AC_VHT80, 11.5AXA_AHE20, 11.5AXA_AHE40, 11.5AXA_AHE80, 11.5AXG_GHE40. It can check free channels available with inbuilt Wi-Fi analysis. It is ideal for installation to any Desktops/Wall/Ceiling with limited space. Dynamic LED lights provide real-time work status display and basic fault diagnosis. Easy Installation, Plug-and-play installation with no configuration required.

Wi-Fi 6 Technology

The IEEE 802.11ax is an emerging standard, also known as High-Efficiency Wireless (HEW) or Wi-Fi 6, built on 802.11ac. Equipped with the latest and fastest Wi-Fi 6 (802.11ax) technology, Multi-User (MU), Orthogonal Frequency Division Multiple Access (OFDMA). This subdivides the Wi-Fi channel into smaller frequency allocations (called Resource Units). Spatial reuse also known as BSSID coloring allows the access points and their clients to differentiate between other SSID, thus permitting more simultaneous transmissions. This capability permits an Access Point to synchronize communication with multiple individual client devices at the same time on the uplink

and downlink when it comes to sending and receiving small packets of data. Supporting two spatial streams, MU-MIMO enables access points to split spatial streams between client devices to maximize throughput. It has 1024-QAM modulation signals which is better at penetrating solid objects like walls.

Gigabit WAN/LAN Ethernet speed

It provides with 1GE speed for WAN port & 1GE speed for LAN. It Comply with IEEE 802.3az standard, energy efficient AP is well built, rigorously tested and can sustain very rough environment and provides reliable performance.

Wireless Client Supported

Supports up to 70 Max wireless users/clients with concurrent users 70. It supports distance of 20meters and above from AP in all directions for wireless clients.

Firewall

Support Flexible user Access Control Policies & network Security to meet varied Customer needs. MAC Filtering function to block the access of illegal hosts. Supporting One-Click IP-MAC Binding to avoid ARP spoofing. Access Rules can be applied like URL Filter, IP Filter, MAC Filter, Port Mapping and DMZ to permit or deny Wi-Fi users.

Support Multi-SSID and VLAN

Supports multi-SSID up to 8 and VLAN binding to protect data security. Internet access and data access permissions can be set for different SSID, which enables protectnetwork data security.

Support AC Centralized Management

It has easy management and maintenance with built-in AC controller can perform real-

time monitoring on the AP continuously which can keep track of the AP running status, the number of users, and the accumulated traffic. The AP can implement fast management operations minimizing management difficulties by grouping the APs and perform grouped batch processing to save time.

Web Monitoring

The built-in AC controller can monitor APs in real time while monitoring status such as terminal numbers, accumulated traffic, and other parameters.

Support Seamless Roaming

Support intelligent terminal roaming based on 802.11kv protocol, helping terminals to automatically associate with wireless. On the AP with better quality, it effectively improves the user's network experience and wireless performance.

Support Multi-SSID and VLAN

Support multi-SSID and VLAN binding to protect data security. It adopts multi-SSID design to support VLAN and SSID binding. According to the connection to different SSID. It can distinguish internet access and data access rights which protect network data security.

Web Monitoring

The built-in AC controller of the gateway can monitor the APs for 24 hours in real time, always grasp the AP's running status, the number of concurrent users, the cumulative traffic and other parameters, and can realize fast management operations for the problem AP.

Support AC Unified Management

The built-in AC controller of the gateway can perform real-time monitoring on the AP for

24 hours. It can keep track of the AP running status, the number of machines & the accumulated traffic. The AP can implement fast management operations for the problem. The administrator can also group the AP. The AP performs grouped batch processing to save configuration time.

Auto MDIX Capabilities

Auto sensing 10/100/1000Mbps ports with auto MDIX capabilities which also removes speed and duplex mismatches automatically.

Compact and Silent Performance

It operates quietly, making it ideal for use in virtually any room or office. Perfect for noise sensitive environments.

Support uninterrupted critical network infrastructure

It has Dual power options with DC input power and PoE/PoE+ power input with WAN port which protect from power failures and increases life of device. With this feature protect on cost and the impact to your business by losing these network devices and thus the users/servers connected to them.

Cost Efficient

High quality with advance features that can serve on real time high-speed Performance with DC input power, highly reliable, conformance to international open standards, durable, serviceable, aesthetics, perceived quality, enhanced performance leads to value tomoney.

Green Technology

It features the IEEE 802.3az standard, energy-efficient Ethernet that can save power. It automatically adjusts power consumption according to the link status to limit the

carbon footprint of your network. It also complies with RoHS, prohibiting the use of certain hazardous materials. Besides that, most of the packaging material can be recycled and reused.

Software

COMMANDO AIR-AP3000AX supports software major functions in Controller based/FIT mode are as follows. Its software supports SSID broadcasting, Multi SSID up to 8 (4 SSID in 2.4GHz band, 4 SSID in 5GHz band) and has routing static and default along with cloud access. It also has built-in firewall with MAC, URL, IP, Ports based backlist and whitelist. It supports FITmode works with Controller, which can provide cloud-based access and functions as follows.

Monitoring

Interface, Terminal, Protocol, Policy, System, Flow Control.

System Setup

Basic Setting, Disk management, Cloud Account, Advanced Settings like ALG Set, Administration, Upgrading, Reboot.

Network

Interfaces, DHCP, DNS, IP/MAC Group, Static Routes, VLAN, VPN Client, UPNP NAT, Port Mapping, IPv6, IGMP Agent.

Flow Control

Multi-WAN features, Load Balancing/Protocol/PortForward/Domain Name/Upload/ Download, Smart Flow Control, IP/MAC Limiters, Protocol Library.

Access Controller

Wireless overview, AP Configuration, AP group, AP Firmware Upgrades, Wireless blacklist and whitelist, User Information.

1. **Wireless overview:** Open Access Controller with ON/OFF button. The connected AP will automatically enter the AP device list and can Manage AP. Running State of AP status with Online AP, Offline AP, fast roaming, 5G first along with terminal statistics like 2.4G online, 5G online, peak online, active terminal, inactive terminal. Wireless Network Rating with traffic statistics, terminal association details with Access evaluation, Access times, Average access success rate with Network transmission quality.

2. **AP Configuration:** Access Point Configuration with All groupings, All Status like Online/Offline/Upgrading, All Frequency like (2.4G/2.4G+5G) and IP/MAC/Model/Remarks. Interference Analysis with Start Searching AP, MAC, Remarks, BSSID, BSSID Remark, SSID, Signal Value, Channel along with Import or Export configuration files.

3. **AP group:** AP Group Add/Delete with Group name, Number of AP, channel, Maximum belt capacity, SSID, Actions. With Add button click we can set Group name with 2.4G/5G control state information.

4. **AP Firmware Upgrades:** Access Point Upgrades with MAC/Model, Upgrade All, Batch Upgrade with information like MAC Address, Current Version, Latest Version, Status, AP Remarks, Actions

5. **Wireless blacklist and Whitelist:** With Add, Import, Export, Enable, Disable, Delete which also shows Mode, Terminal MAC address, SSID, AP, week, time, comment, Status, Actions

6. User Information: User Information with IP/MAC/SSID, All Frequency (2.4G/5G), All users along with weak signal users and normal users showing information like IP Address, MAC, AP Information, SSID, Signal, Connect Time, Tx, Rx, Comment, Actions.

Authentication

Captive Portal, VPN Server, Authentication Account, Push Notification.

Behavior

Behavior Audit with Mark MAC Address, MAC Control, Website Control, URL Control, Application Protocol Control, Secondary Routing, QQ, Blacklist/Whitelist.

Firewall

ACL Rules, ARP binding, Connection Limiter, Advanced Firewall. Advanced application->Dynamic DNS, SNMP, Application across three layers, Wake on LAN, FTP Server, HTTP Server, UDPXY Set.

Services

Ping Test, Capture Packet, Trace Route, IP Sub-netting, Speed Test, Diagnostics, Watchdog.

Log

User Logs, Function Logs, System Logs.

COMMANDO AirX Series Wireless Ceiling APs Controller also has cloud captive portal with Cloud Login http://commandonetworks.com.cn/#/login

Table 1. Software features at Glance

SOFTWARE FEATURE		
	SSID Number	8
	SSID Hiding	Support
	Guest Network	Support
	SSID to VLAN Mapping	Support
	Maximum Client Connections Setting	Support
	Automatic Channel Assignment	Support
	Group Management	Support
	Channel Selection	Automatic/Manual
Wireless Security	WPA-PSK / WPA2-PSK /WPA-PSK+WPA2-PSK	
	ACL Filtering	Support
	Data Frame Filtering	Support blacklist and whitelist
	Authentication Method	User, Account, Password, Mobile etc. methods.
	Network Management	WEB management
	Online Upgrade	Support
	Scheduled On/Off and Reboot	Support

	Offline Detection & Notification	Support
	User Statistics	Support
	Working Mode	FIT Mode

Hardware

Solid performance with non-blocking architecture

- With Flash: 16MB & 256MB RAM greatly improved the data processing performance.

- WAN Port capable of 1Gbps Ethernet speed. Full speed of data transferring with(Auto-Negotiation/Auto MDI/MDIX).

- Solid performance with non-blocking architecture.

Physical Ports & Networking Interfaces

- 1x 10/100/1000Mbps Mbps LAN, 1x 10/100/1000Mbps WAN RJ45 Ethernet Ports with combined PoE/PoE+ with WAN and separate LAN port

- LED Indicators: PWR/ WAN/ 2.4G/ 5G.

- Reset Button

Table 2. Hardware Specifications

HARDWARE SPECIFICATION	
Standard	IEEE 802.11ax/ac/b/g/n/a Wi-Fi 6 technology
RAM	256GB
Flash	16MB
Wireless Rate	2976Mbps
Transmit Power	20dBm (2.4G max), 19dBm (5G max)
Antenna Type	Built-in Omnidirectional Antenna
Antenna Gain	2dBi
Cover Radius	20meters
Power Consumption	≤12W
Interface	10/100/1000Mbps for LAN port 10/100/1000Mbps for WAN port

Data Rate	2976Mbps
Mounting	Ceiling/Wall Mounting
Reset	Hardware button
Power	DC 12V, 1.5A or IEEE802.3af/at (WAN)
User Capacity	Up to 70
Dimension	185mm×185mm×36mm
Environment	Working Temperature- 0℃~40℃ Storage Temperature- 40℃~70℃ Operating Humidity-10%~90% non-condensing Storage Humidity- 5%~90% non-condensing
Warranty Period	1 Year
Indicator Light	PWR / WAN / 2.4G / 5G

Specifications

Technical Specifications

Supports 2.4GHz+5GHz, IEEE802.11ax/ac/b/g/n/a with backward compatible wireless clients, MU-MIMO technology, with Multi SSIDs up to 8 with either open or WPA-PSK / WPA2-PSK /WPA-PSK+WPA2-PSK encryption with Dual option for input Power supply with either 48V PoE/PoE+ (IEEE 802.3af/at) or 12V, 1.5A DC input power.

Table 3. Specifications

Technical Parameters	Specification
Hardware Specifications	1*10/100/1000Mbps auto-negotiation WAN port or IEEE 802.3af/at PoE/PoE+ port 1*10/100/1000Mbps auto-negotiation LAN port 1* Reset button/Restore to factory default 1*DC Port
Memory	256MB RAM
Flash	16MB
IEEE Standard	IEEE802.11a, IEEE802.11b, IEEE802.11g, IEEE802.11n, IEEE802.11ac, IEEE802.11ax

Data Transfer Rates	Dual band IEEE 802.11a up to 54Mbps IEEE 802.11b up to 11Mbps IEEE 802.11g up to 54Mbps IEEE 802.11n up to 400Mbps IEEE 802.11ac up to 900Mbps IEEE 802.11ax up to 3000Mbps
Frequency	Radio 2.4GHz+5GHz
Throughput	Up to 2976Mbps
Wi-Fi Operational Modes	FIT Mode
Wireless Security	Open or Encryption WPA-PSK / WPA2-PSK /WPA-PSK+WPA2-PSK option
Multiple SSID	Up to 8 SSIDs.
Access control Features	MAC Access Control
Enclosure Type	Ceiling/Wall mounted
Wi-Fi Transmit Power	20dBm (2.4G max) 19dBm (5G max)
Input Power Supply	WAN port PoE/PoE+, IEEE802.3af/at Or DC 12V,1.5A
Management	Web based management Backup and Restore to default Settings

ENVIRONMENTAL	Working Temperature:　　　0℃~40℃ Storage Temperature:　　　-40℃~70℃ Operating Humidity:　10%~90% non-condensing Storage Humidity:　　5%~90% non-condensing
Weight	365 grams

Table 4 .   LED indication

LED Indicator	LED Status
Power	**Green OFF:** No Power Supply **Green ON:** Power ON Indication
WAN	**Green OFF:** Not connected WAN port. **Green ON:** Connect with Gateway or PoE/PoE+ devices, **Green Blinking:** Blinking shows activity on WAN port.
2.4G	**Green OFF:** 2.4G band is Disabled, **Green Blinking:** Green Blinking shows activity on 2.4G band wirelessusers.
5G	**Green OFF:** 5G band is Disabled, **Green Blinking:** Green Blinking shows activity on 5G band wirelessusers.

Included in the bundle/box

COMMANDO AIR-AP3000AX is made available for use globally along with accessories used to facilitate or enhance operations. It comes included with the following accessories:

1x   AIR-AP3000AX Wi-Fi 6 AP

1x   Patch Cord

1x   Wall Mount with Mountings-crews

1x   LAN Cable

Support and Warranty

- Same-day assistance.

- Comprehensive 24-hour support using common communication/chat platforms, Email and Telephone.

- Provide FAQs and troubleshooting help online (self-service) through cloud-based solutions.

- Highly technical and trained representatives to resolve issues.

- One-year default warranty with option of warranty extension up to 3 years

Table 5.   Support and Warranty

Warranty and Support	
Products covered	COMMANDO AirX 2976Mbps, 802.11ax/ac/b/g/n, Wave 2.0, FIT/FAT, Wi-Fi 6, Cloud Indoor Access Point
Warranty duration	One Year RTB (Return To Base) replacement warranty – optionally extendable up to 3 years.
Hardware replacement	COMMANDO, its resellers, or its service center will use commercially reasonable efforts to replace the product subject to stock availability.Otherwise, a replacement will be arranged within 15 working days after receipt of the Return Materials Authorization (RMA) request.
End-of-life policy	In case of discontinuation of the product, support is limited to 3 years from the announcement date.
Effective date	The hardware warranty commences from the date of shipment to customer (and in case of resale by a COMMANDO reseller, not morethan 90 days after original shipment by COMMANDO).
Support duration	2 Years
COMMANDO	COMMANDO will provide 24x7 support for basic configuration, diagnosis, and troubleshooting of device-level problems for up to oneyear from the date of shipment of the originally purchased product. This support does not include solution or network-level support beyond the specific device under consideration.
Online Portal Access	The warranty allows guest access to commandonetworks.com for all available technical queries.

Ordering Information

To place an order for AIR-AP3000AX, please contact your local reseller/distributor or COMMANDO Sales Representative at www.commandonetworks.com/pricelist

Table 6. Ordering Information

Product Code	Information
AIR-AP1800AX	COMMANDO AirX 1775Mbps, 802.11ax Wave 2, FIT/FAT, Wi-Fi 6 Cloud Access Point
AIR-AP3000AX	COMMANDO AirX 2976Mbps, 802.11ax Wave 2, FIT/FAT, Wi-Fi 6 Cloud Access Point
AIR-AP3600BE	COMMANDO AirX 3600Mbps, 802.11be, Multi-Gig 1x2.5Gbps, PoE & DC, FIT/FAT, Wi-Fi 7 Cloud Access Point

Document History

Release	New or Revision	Described in	Date
Release 1	First Release	First Release	February 17, 2025