

# High-Performance 100G Data Center & Core Switch

## OVERVIEW

The AP-CS7500X Series is a high-performance 100G data center switch line, built on cutting-edge hardware and software architecture. It is purpose-built for next-generation data centers, offering ultra-low latency, high throughput, and exceptional reliability. Ideally suited for deployment as a Top-of-Rack (ToR) or spine switch in cloud computing environments, the AP-CS7500X series also serves perfectly in the aggregation or core layers of enterprise campus networks and other large-scale infrastructures.

### Available Models in the Series:

- **AP-CS7510X-48X8C-HI:** 48 x 10G SFP+ + 8 x 100G QSFP28
- **AP-CS7580X-48BY8C-HI:** 48 x 25G SFP28 + 8 x 100G QSFP28
- **AP-CS7580X-32C-HI:** 32 x 100G QSFP28 + 2 x 10G SFP+

Each model in the series is engineered to deliver scalable, high-density connectivity with rich Layer 2/Layer 3 features, making them ideal for demanding workloads in high-performance computing, virtualization, and storage networks.

| Appearance                                                                                                         | Description                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>AP-CS7510X-48X8C-HI</b>   | <ul style="list-style-type: none"><li>• 48 x 10G SFP+ + 8 x 100G QSFP28</li><li>• Modular AC (1+1 redundant, standard with 2 Acs)</li><li>• 1 x console, 1 x USB, 1 x 100/1000Base-T MGMT</li><li>• Forwarding performance: 2000Mpps</li><li>• Switching capacity: 2.56Tbps</li></ul> |
| <br><b>AP-CS7580X-48BY8C-HI</b> | <ul style="list-style-type: none"><li>• 48 x 25G SFP28 + 8 x 100G QSFP28</li><li>• Modular AC (1+1 redundant, standard with 2 Acs)</li><li>• 1 x console, 1 x USB, 1 x 100/1000Base-T MGMT</li><li>• Forwarding performance: 2000Mpps</li><li>• Switching capacity: 4Tbps</li></ul>   |
| <br><b>AP-CS7580X-32C-HI</b>    | <ul style="list-style-type: none"><li>• 32 x 100G QSFP28 + 2 x 10G SFP+</li><li>• Modular AC (1+1 redundant, standard with 2 Acs)</li><li>• 1 x console, 1 x USB, 1 x 100/1000Base-T MGMT</li><li>• Forwarding performance: 2000Mpps</li><li>• Switching capacity: 6.4Tbps</li></ul>  |

## KEY FEATURES AND BENEFITS

### High Performance and scalability

With high switching capacity, AP-CS7500X supports wire-speed L2/L3 forwarding and high routing performance for IPv4 and IPv6 protocols.

The 25G/10G Ethernet connectivity of AP-CS7500X is accomplished via a hot-pluggable 25G/10G SFP28/SFP+ transceiver which supports distance up to 300 meters over multi-mode fiber and 10 to 40km over single-mode fiber (The distance depends the optical module chosen).

### High Reliability

AP-CS7500X series support modular 1+1 redundant power supplies and 5+1 redundant fans. Business won't be interrupted in case replacing power supplies and fans. System supports dual images. Even though the primary image was destroyed, system will still boot via backup image normally.

### VSF (Virtual Switch Framework)

As new generation data center switch, AP-CS7500X support VSF which not only guarantees the flexibility, but also enhanced the scalability of datacenter network.

Flex Resource

Flex Resource is able to allocate, recover and reallocate hardware resource dynamically according to demand. It can increase the utilization of the hardware resource.

Rich L3 Features

AP-CS7500X delivers high-performance, hardware-based IP routing. RIP, OSPF and BGP provide dynamic routing by exchanging routing information with other Layer 3 switches and routers.

With AP-CS7500X, customers could easily achieve Policy based Route (PBR), which is important when they need multi exit application.

MPLS/VPLS

AP-CS7500X supports MPLS L3 VPN/MPLS L2 VPN(VPLS) and

helps customer to construct more secure/extendable network. With max 1023 VRF instances, AP-CS7500X series could be deployed as P & PE devices, guarantees the variety of services.

Abundant IPv6 Support

AP-CS7500X supports IPv6 switching and routing based on hardware for maximum performance. With increased network devices growing and the need for larger addressing and higher security becomes critical, AP-CS7500X will be a right product to meet the requirement. AP-CS7500X passed IPv6 form Phase II certification, which is the best proof of the application.

Rich Data Center Features

The AP-CS7500X series switches support a wide range of data center features, such as VxLAN, virtualized VSF, ROCE (PFC&ECN) \*, Netconf, Telemetry, and more.

PRODUCT SPECIFICATIONS

Hardware Specifications

| Item               | AP-CS7510X-48X8C-HI                                                                                                                                                                                             | AP-CS7580X-48BY8C-HI             | AP-CS7580X-32C-HI               |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------|
| Physical port      | 48 x 10G SFP+ + 8 x 100G QSFP28                                                                                                                                                                                 | 48 x 25G SFP28 + 8 x 100G QSFP28 | 32 x 100G QSFP28 + 2 x 10G SFP+ |
| Management port    | Console port RJ45<br>100/1000Mbps RJ45 Ethernet Management port<br>USB2.0 Management port                                                                                                                       |                                  |                                 |
| Performance        |                                                                                                                                                                                                                 |                                  |                                 |
| Switching Capacity | 2.56Tbps (full-duplex)                                                                                                                                                                                          | 4Tbps (full-duplex)              | 6.4Tbps (full-duplex)           |
| Forwarding Rate    | 1001.7Mpps                                                                                                                                                                                                      | 2003.4Mpps                       | 2003.4Mpps                      |
| MAC Address        | 128k(standard)/96k(routee)/256k(bridgee)/224k(legacy), standard mode by default                                                                                                                                 |                                  |                                 |
| ARP Table          | 48k(standard)/48k(routee)/48k(bridgee)/48k(legacy), default with standard mode                                                                                                                                  |                                  |                                 |
| Routing Table      | 64k(standard)/128k(routee)/16k(bridgee)/32k(legacy), default with standard mode                                                                                                                                 |                                  |                                 |
| Physical           |                                                                                                                                                                                                                 |                                  |                                 |
| Dimension(W*H*D)   | 442mm*44mm*510mm                                                                                                                                                                                                |                                  |                                 |
| Relative Humidity  | 5%~95% non-condensing                                                                                                                                                                                           |                                  |                                 |
| Temperature        | Working 0°C~50°C                                                                                                                                                                                                |                                  |                                 |
| Power Input        | AC: 100~240V,50~60 Hz                                                                                                                                                                                           |                                  |                                 |
| Power Supply       | 1+1 Modular Redundant AC                                                                                                                                                                                        |                                  |                                 |
| Power consumption  | <300w                                                                                                                                                                                                           | <350w                            | <400w                           |
| Main Features      |                                                                                                                                                                                                                 |                                  |                                 |
| L1, L2 Features    | 9K Jumbo Frame<br>Port Loopback Detect<br>LLDP and LLDP-MED UDLD<br>802.3ad LACP, max 128 group trunks with max 8 ports for each trunk LACP Load Balance, Port Channel, LAGs                                    |                                  |                                 |
|                    | N:1 Port Mirroring<br>RSPAN<br>ERSPAN                                                                                                                                                                           |                                  |                                 |
|                    | IEEE802.1d(STP)<br>IEEE802.1w(RSTP)<br>IEEE802.1s(MSTP)<br>Root Guard<br>BPDU Guard<br>BPDU Tunnel<br>ERPS (ITU-T G.8032)                                                                                       |                                  |                                 |
|                    | 802.1Q, 4096 VLANs<br>MAC VLAN, VOICE VLAN, Private VLAN, Protocol VLAN, Multicast VLAN<br>QinQ, Selective QinQ, Flexible QinQ<br>GVRP<br>N:1 VLAN Translation<br>Broadcast / Multicast / Unicast Storm Control |                                  |                                 |
|                    | IGMP v1/v2/v3 Snooping and L2 Query<br>ND Snooping<br>MLDv1/v2 Snooping                                                                                                                                         |                                  |                                 |
|                    | Port Security                                                                                                                                                                                                   |                                  |                                 |
|                    | Flow control: HOL, IEEE802.3x                                                                                                                                                                                   |                                  |                                 |
|                    | Bandwidth Control                                                                                                                                                                                               |                                  |                                 |
|                    |                                                                                                                                                                                                                 |                                  |                                 |
|                    |                                                                                                                                                                                                                 |                                  |                                 |

## PRODUCT SPECIFICATIONS

### Hardware Specifications

| Main Features               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| L3 Features                 | <p>Static Routing, RIPv1/v2, OSPFv2, BGP4<br/> OSPFv3, BGP4+<br/> OSPF Multiple Process<br/> LPM Routing<br/> Policy-based Routing (PBR) for IPv4 and Ipv6<br/> VRRP<br/> URPF,<br/> ECMP<br/> BFD<br/> IGMP v1/v2/v3, IGMP Proxy,<br/> DVMRP, PIM-DM, PIM-SM, PIM-SSM, any cast RP, MSDP<br/> Static Multicast Route<br/> Multicast Receive Control<br/> Illegal Multicast Source Detection</p> <p>ARP Guard, Local ARP Proxy, Proxy ARP, ARP Binding, Gratuitous ARP, ARP Limit<br/> Anti ARP Cheat, Anti ARP Scan</p> <p>DNS Client</p> <p>GRE Tunnel</p> |
| IPv6                        | <p>6to4 Tunnel, Configured Tunnel, ISATAP Tunnel, GRE Tunnel<br/> ICMPv6, ND, DNSv6<br/> IPv6 LPM Routing, IPv6 Policy-Based Routing (PBR)<br/> IPv6 VRRPv3, IPv6 URPF, IPv6 RA<br/> RIPng, OSPFv3, BGP4+<br/> MLD Snooping, IPv6 multicast VLAN<br/> MLDv1/v2, PIM-SM/DM for IPv6, IPv6 Anycast RP, IPv6 ACL, IPv6 QOS</p>                                                                                                                                                                                                                                  |
| MPLS*                       | <p>MPLS*, VRF*, LDP*</p> <p>MPLS L3 VPN*, MPLS L2 VPN(VPLS) *, VPWS*</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| QoS                         | <p>8 Queues<br/> SWRR, SP, WRR, DWRR, SDWRR, WRED<br/> Traffic Classification Based on 802.1p CoS, ToS, DiffServ DSCP, ACL, port number<br/> Traffic Shaping<br/> PRI Mark/Remark</p>                                                                                                                                                                                                                                                                                                                                                                        |
| ACL                         | <p>IP ACL, MAC ACL, IP-MAC ACL<br/> Standard and Expanded ACL Based on source/destination IP or MAC, IP protocol, TCP/UDP port, DSCP, ToS, IP Precedence),<br/> VLAN, Tag/Untag, CoS<br/> REDIRECT and accounting-based ACL<br/> Rules can be configured to port, VLAN<br/> Time ranged ACL</p>                                                                                                                                                                                                                                                              |
| Security                    | <p>802.1x AAA<br/> Port, MAC based authentication<br/> Accounting based on time length and traffic<br/> Guest VLAN and Auto VLAN<br/> RADIUS for IPv4 and Ipv6<br/> TACACS+ for IPv4 and Ipv6<br/> MAB</p>                                                                                                                                                                                                                                                                                                                                                   |
| DHCPv4/v6                   | <p>DHCP Server/Client for IPv4/IPv6<br/> DHCP Relay/Option 82<br/> DHCP Snooping/Option 82</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Traffic Monitor             | <p>sFlow Traffic Analysis<br/> CLI, WEB, Telnet, SNMPv1/v2c/v3 through IPv4 and IPv6<br/> Syslog and external Syslog server<br/> HTTP SSL<br/> SNMP MIB, SNMP TRAP<br/> FTP/TFTP</p>                                                                                                                                                                                                                                                                                                                                                                         |
| Security Network Management | <p>SNTP/NTP<br/> RMOM 1,2,3,9<br/> Authentication by radius<br/> SSH v1/v2<br/> Dual firmware images/ Configuration files<br/> 802.3ah OAM, 802.1ag OAM</p>                                                                                                                                                                                                                                                                                                                                                                                                  |
| Data Center Features        | <p>VXLAN EVPN<br/> MLAG<br/> Telemetry<br/> Netconf<br/> PFC &amp; ECN<br/> VSF (Virtual Switch Framework)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                               |

ORDER INFORMATION

| Product              | Description                                                                                                          |
|----------------------|----------------------------------------------------------------------------------------------------------------------|
| AP-CS7510X-48X8C-HI  | 100G Datacenter Switch (48*10GbE (SFP+) + 8*100GbE (QSFP28)), default with 1+1 hot-swap AC power supply and 4+1 fans |
| AP-CS7580X-48BY8C-HI | 100G Datacenter Switch (48*25G (SFP28) + 8*100GbE (QSFP28)), default with 1+1 hot-swap AC power supply and 4+1 fans  |
| AP-CS7580X-32C-HI    | 100G Datacenter Switch (32*100GbE (QSFP28) + 2*10G(SFP+)), default with two hot-swap AC power supply and 5+1 fans    |
| Packing List         | 1. Data center Switch: 1 Set<br>2. C13 Power Cable : 2 PCS                                                           |