

# ALPHA BRIDGE- LAYER 2 Switch (AS200/12/XF)



Supports 12 10G SFP+ Ports.



Advanced Hardware Architecture and Industry-leading Port Density.



Carrier-Grade, High Reliability, Layer-2 Routing Functions.



Verified Service characteristics, Versatile IPv6 solution, Complete Security Mechanism.

## Product Overview

ALPHA BRIDGE AS200/12/XF, a new generation high-performance full-10G L2 managed switch oriented for cloud computing, data centres and high-end campus networks. AS200/12/XF adopts an advanced hardware architecture design, providing the industry's highest switching performance and rich data centre service features.

AS200/12/XF is equipped with the ABROS 6th generation operating system with ALPHA BRIDGE's independent intellectual property rights. On the basis of providing high-performance L2/L3/L4 wire-speed switching services, AS200/12/XF further integrates various network services such as IPv6, traffic analysis and virtualization. Combining uninterrupted upgrade, uninterrupted forwarding, graceful restart, redundant protection and other high-reliability data centre technologies, AS200/12/XF ensures the longest uninterrupted network communication.

AS200/12/XF follows the advanced "GreenTouch" concept and the industry-leading "SmartCHIP" energy-saving technology, which is low-carbon and environmentally friendly, and effectively reducing the operating cost of the data centre, and providing the green and sustainable development of the network.

## Product Characteristics

### Advanced Hardware Architecture Design & Leading Processing Capacity

Equipped with high-performance ASIC switching chips and multi-core processors, AS200/12/XF supports up to 240Gbps switching capacity, meeting the high-performance, high-capacity, high-density and expandable requirements of data centers.

Supports switching between front-back and back-front mode and fan automatic speed regulation

### Rich Data Centre Business Features

#### **ABVSS (ALPHA BRIDGE Virtual Switch System)**

AS200/12/XF supports ABVSS, which can virtualize multiple physical devices into one in logic. The virtualized system is superior to the independent physical device in performance, reliability, flexibility and management.

**Doubled Performance:** The virtualized system makes the best use of each link in the device and avoids the blocking of STP to the link.

**High-reliability:** Based on the advanced distributed processing technique and the efficient function of cross-physical device link aggregation, AS200/12/XF provides with non-stop layer-3 routing forwarding and avoids business interruption caused by single points of failure, greatly improving the reliability of the virtual system.

**Flexibility:** With the virtual cluster service, the distance of virtual cluster system can expand to 80KM, breaking the geographic restriction of traditional cluster technique.

## Product Characteristics

### Data Centre High Reliability

Based on the HPS (Hitless Protection System), the key power supply system adopts a redundant design, modularized and hot-swappable, and supports seamless switching in case of failure without interrupting business.

AS200/12/XF supports redundancy protection mechanism such as STP/RSTP/MSTP protocol, VRRP protocol, ring network protection, dual uplink active/standby link protection and LACP link aggregation.

AS200/12/XF supports ISSU (In-Service Software Upgrade) and GR (Graceful Restart), guaranteeing the user data non-stop forwarding when the system is upgrading.

AS200/12/XF supports BFD and realizes fault detection and service recovery in seconds through linking with layer-2 or layer-3 protocol.

AS200/12/XF has perfect Ethernet OAM, 802.3ah and 802.1ag, which can real-time monitor the network operating state and rapidly locate the malfunction.

High Reliability (99.999%): MTTR of AS200/12/XF is 50ms, meeting the requirement of the carrier-level service.

### Comprehensive Service

Supports complete layer-2 and layer-3 multicast routing protocol and meets the access requirement of IPTV, multi-terminal HD video monitoring and HD video meeting.

Supports complete layer-3 routing protocol and a super-large routing table capacity, which make super-large data center network, campus network, enterprise network and industry private networks available.

### Comprehensive IPv6 Solutions

Supports IPv6 protocol family, IPv6 Neighbor Discovery, ICMPv6, Path MTU Discovery and DHCPv6.

Supports IPv6-based Ping, Traceroute, Telnet, SSH, ACL, meeting the need of IPv6 network equipment management and service control.

Supports IPv6 multicast characteristics including MLD, MLD Snooping and IPv6 layer-3 routing protocols including IPv6 static routing, RIPng, OSPFv3 and BGP4+.

Supports IPv4-to-IPv6 technologies including IPv6 manual tunnel, auto tunnel, IPv6-to-IPv4 tunnel, and ISATAP tunnel.

### Comprehensive Security Mechanisms

Device-level security protection: adopts advanced hardware architecture design, realizing the hierarchical scheduling and protection of the packet; provides multiple security measures to defend against DoS, TCP SYN Flood, UDP Flood, broadcast storm, large traffic and other attacks; supports command line authority control based on user levels.

Comprehensive Security Authentication Mechanism: complies with IEEE 802.1x, Radius, TACACS+.

Enhanced Service Security Mechanism: supports the plain text or MD5 authentication of relevant routing protocol; uRRF to effectively control illegal business; DPI (Deep Packet Inspection) and (Deep Packet Filtration) to effectively isolate illegal data packets and improve the security of the network system.

### Innovative Green Environmental Design

AS200/12/XF inherits ALPHA BRIDGE advanced "GreenTouch" concept, energy saving and environmental.

Intelligent Power Management System: AS200/12/XF adopts advanced power system architecture design which can realize the function of efficient power switching, private power monitoring, soft start, real-time monitoring, intelligent adjustment and energy-saving.

Intelligent Fan Management System: AS200/12/XF is designed with the intelligent fan and supports switching between front-back and back-front mode and fan automatic speed regulation.

AS200/12/XF supports Efficient Ethernet and complies with International standard IEEE 802.3az.

## Product Specifications

Item	AS200/12/XF
Interface	12x10 Gigabit SFP+
Console	Yes
Backplane	240Gbps
Forwarding Rate	180Mbps
Chassis (WxDxH)	440*280*44mm
Chassis Weight	3.3kg
Package Dimension	576*448*94mm
Package Dimension Weight	4.1kg
Power Consumption (No Load)	14.29W
Power Consumption (Full Load)	30.83W
Power Supply AC:100-240V/DC:36-72V	AC:100-240V
PoE Power Budget	N/A
Fan Number	2
Noise@25C (dBa)	40.1dB
Forwarding Mode	Store and forward
Flash	16MB
DRAM	512MB
MAC	32K
Buffer Size	2MB
Interface VLAN	1023
Routing Table	ipv4:12K, ipv6:4K
Jumbo Frame	9K

## Product Features

VLAN	QoS	Reliability
<ul style="list-style-type: none"> <li>4K VLAN IDs</li> <li>GVRP</li> <li>1:1 and N:1 VLAN Mapping</li> <li>QinQ and selective QinQ</li> <li>Private VLAN</li> </ul>	<ul style="list-style-type: none"> <li>Traffic classification of port/L2~4 protocol headers</li> <li>CAR traffic control</li> <li>802.1P/DSCP priority mapping and remark</li> <li>Multiple queuing algorithms such as SP, WRR or SP+WRR</li> <li>Tail-Drop, WRED</li> <li>Traffic supervision and traffic shaping</li> <li>Ingress and Egress ACL, supports matching L2, L3, L4 and IP quintuples, and performs replication, forwarding and discarding</li> <li>Hash same-source and same-destination load balancing to ensure session integrity of traffic output</li> <li>Hash-based load balancing algorithm to ensure session integrity</li> </ul>	<ul style="list-style-type: none"> <li>Power 1+1 backup(optional)</li> <li>Static/LACP link aggregation</li> <li>EAPS, ERPS</li> <li>VRRP</li> <li>GR for OSPF and BGP</li> <li>BFD for OSPF and BGP</li> <li>ISSU</li> </ul>
Spanning Tree	Security	Multicast
<ul style="list-style-type: none"> <li>802.1d STP, 802.1w RSTP, 802.1s MSTP</li> <li>BPDU protection, root protection and ring protection</li> </ul>	<ul style="list-style-type: none"> <li>L2~L4 ACL flow identification and filtering security mechanism</li> <li>DDoS attack prevention, TCP-SYN/UDP Flood attack prevention</li> <li>Suppression of multicast, broadcast, and unknown unicast packets</li> <li>Port isolation</li> <li>Port Security, IP+MAC+port binding</li> <li>DHCP Snooping, DHCP Option 82</li> <li>IEEE 802.1x authentication</li> <li>Radius, TACACS+</li> <li>URPF</li> <li>Command line hierarchical protection</li> </ul>	<ul style="list-style-type: none"> <li>IGMP v1/v2c/v3</li> <li>IGMP Snooping</li> <li>IGMP Fast Leave</li> <li>Multicast group policy and multicast number limit</li> <li>MVR</li> <li>PIM-SM, PIM-DM, PIM-SSM</li> </ul>
IPv4	DHCP	Energy Saving
<ul style="list-style-type: none"> <li>Static routing, RIP v1/v2, OSPF, BGP</li> <li>Policy Based Routing (PBR)</li> </ul>	DHCP server/relay/client, DHCP snooping/option82	IEEE 802.3az <ul style="list-style-type: none"> <li></li> </ul>
MAC Switching	Environment	Management
<ul style="list-style-type: none"> <li>Static configuration and dynamic MAC learning</li> <li>MAC browsing and removal</li> <li>Configurable aging time of the MAC address</li> <li>Limited number of learnable MAC addresses</li> <li>MAC filtration</li> <li>Black-hole MAC list</li> </ul>	Operating temperature/humidity: -10°C -50°C, 10%-90% non-condensing  Storage temperature/humidity: -20°C-70°C; 5%-95% non-condensing	<ul style="list-style-type: none"> <li>Console, Telnet, SSH 2.0</li> <li>Zero Touch Provisioning (ZTP)</li> <li>Web-GUI(HTTP, HTTPS)</li> <li>SNMP v1/v2c/v3</li> <li>FTP/TFTP/SFTP</li> <li>RMON</li> <li>sFLOW</li> </ul>

## Model

**AS200/12/XF**  
12 10G/1G SFP+



## Ordering Information

Item	Description
AS200/12/XF	12-Port 10G SFP+ Layer 2 Switch (single AC-220 power supply; 2 fans; 1U, 19-inch rack-mounted installation)

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