

# ALPHA BRIDGE- LAYER 3 Switches (AS300/20/XF)



Supports Max. 8 GE TX  
Ports and 12 10GE/GE  
SFP+ Uplink Ports.



Advanced Hardware  
Architecture and Industry-  
leading Port Density.



Carrier-Grade, High  
Reliability, Layer-3  
Routing Functions.



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

## Product Overview

AS300/20/XF Series is a new generation of aggregation 10G switches introduced by Alpha Bridge Technologies Private Limited. It is targeted at the IP MAN (metropolitan area network), campus networks and enterprise networks. It is developed based on high-performance hardware and ABOS software platform with ABTPL's own independent intellectual property rights.

It supports multiple services like IPv6, VPN and network security based on L2/L3/L4 wire-speed switching service. It also supports non-stop upgrade, continuous forwarding, graceful restarting, and redundancy protection.

## Innovative Virtual Cluster used in Switching Technique

### AVSS (ABTPL Virtual Switch System):

AVSS makes full use of each link in the physical devices, which avoids STP blocking the link and protects the original link to the maximum extent

### Improved Performance:

Virtualize multiple physical devices into one. The performance, reliability and management of the virtual system are superior to the physical ones.

### High Reliability:

Based on the advanced distribution mechanism and efficient cross-physical link aggregation function, the logical control plane, service control plane and service data plane are separated. Thus, the device can support continuous layer-3 routing forwarding, avoiding service interruption because of a single point of failure.

### Easy Management:

AVSS realizes single IP management, greatly improving the networking efficiency and lowering the operating cost.

## Product Characteristics

### Varied Service Characteristics

Supports layer-2 and layer-3 multicast routing protocol, which enable the device to access IPTV, HD video surveillance and HD video conference. Supports layer-3 routing protocol and super-large routing table capacity, which enables the device is deployable in large campus networks, enterprise networks and industry networks.

### Flexible & Convenient Management and Maintenance

Supports management modes such as the console port, Telnet, SSH, etc.

Supports WEB management mode, which is easy and efficient so that it makes installation and debugging convenient.

Supports TFTP-patterned file upload/download management.

Supports ISSU (In-Service Software Upgrade).

Supports SNMP and ABTPL NMS smart network management platform to realize automatic equipment discovery, network topology management, equipment configuration management, performance data statistics and analysis and trouble management.

### Complete Security Mechanism

Equipment-Level Security: The advanced hardware infrastructure design realizes the level-based packet schedule and packet protection, prevents DoS-/TCP related SYN Flood, UDP Flood, Broadcast Storm, or large traffic attacks, and supports level-based command line protection, endowing different levels of users with different management permissions. Security Authentication Mechanism: IEEE 802.1x, Radius and Tacacs + Enhanced Service Security Mechanism: supports the plaintext or MD5 authentication of relevant routing protocol, URPF, deep inspection of hardware packet, control packet and data packet and filtering technology.

### Industrial Ethernet Ring with “0” Delay/Packet Loss

Supports industry-level EAPS and ERPS with protection recovery time less than 50ms. Their high reliability is represented by the null packet loss, which has been proved by multiple test scenarios.

### Versatile IPv6 Solutions

Supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, etc.

Supports Ping, Traceroute, Telnet, SSH, ACL. Supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, etc. Supports IPv6 tunnel, manual tunnel, automatic tunnel, GRE tunnel, 6to4, ISATAP. Supports IPv4 transits to IPv6, IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel.

### Carrier-Level QoS Policies

Alpha Bridge AS300/20/XF series supports priority retagging and complicated flow classification based on VLAN, MAC, source address, destination address, IP or priority, eventually streamlining carrier’s services in a better way.

Alpha Bridge series provides flexible bandwidth control policies, supporting port/flow-based Low limit, ensuring the line speed forwarding of each port. Supports 8 priority queues by each port.

AS300/20/XF Series supports multiple queue schedule algorithms such as SP, WRR and “SP + WRR”.



## Product Specifications

| Item                            | AS300/20/XF      |
|---------------------------------|------------------|
| GE Interface (Ports)            | 8GE TX           |
| 10 GE Interface (Ports)         | 12 10 GE/GE SFP+ |
| Console                         | 1RJ45 Port       |
| Backplane                       | 176 Gbps         |
| Forwarding rate                 | 132 Mpps         |
| Chassis Dimensions (WxDxH) (mm) | 440x315x44       |
| Package Dimensions (WxDxH mm)   | 576x448x94       |
| Noise@25°C(dBA)                 | 57               |
| MTBF(H)                         | >100,000         |
| Forwarding mode                 | Store-forward    |
| Flash (MB)                      | 16               |
| DRAM (MB)                       | 512              |
| MAC                             | 32K              |
| Buffer size (MB)                | 3                |
| ARP table (IPv4)                | 10K              |
| ARP table (IPv6)                | 5K               |
| Routing table (IPv4)            | 32K              |
| Routing table (IPv6)            | 8K               |
| Jumbo frame                     | 9K               |
| Total SVI                       | 1K               |

## Product Features

| VLAN   | QoS   | Reliability   |
|--|---|---|
| 4K Active VLAN, Q-in-Q & Selective Q-in-Q, GVRP, Voice VLAN  | MAC/IP/TCP/UDP/VLAN/COS/DSCP/TOS based QoS, CAR, HQoS, 802.1P/DSCP priority relabeling, SP, WRR, and "SP+WRR", Tail-Drop, WRED, flow monitoring, and traffic shaping  | Static/LACP link Aggregation, Interface backup, EAPS and ERPS, ISSU uninterrupted system upgrade, BVSS virtual stacking, URPF, LLDP, VRRP, 1+1 power backup |
| Spanning Tree  | Security  | Accessories   |
| 802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP)<br>BPDU guard, root guard, and Loopback guard  | Port isolation, Port security, & "IP+MAC+port" binding, MAC sticky, DAI & IP source guard, PPPoE+ IEEE 802.1x, Radius and Tacacs+ L2/L3/L4 ACL flow identification and filtration<br>Anti-attack from DDoS, TCP's SYN Flood, UDP Flood, etc. Broadcast/multicast/unknown unicast storm-control MD5, SHA-256, RSA-1024, AES256, etc. | Power cord, rackmount kits, console cable   |
| MPLS   |   | Certification   |
| Multi-VRF  |   | CE, RoHS  |
| IPv4   | DHCP  | Multicast   |
| Static routing, RIP v1/v2, OSPF, BGP, PBR, ECMP, BFD for OSPF, BGP   | DHCP server/relay/client, DHCP snooping, option82   | PIM-SM, PIM-DM, IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave, MVR, IGMP filter   |
| IPv6   | Environment   | Management  |
| ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet, IPv6 neighbor discovery, Path MTU discovery, MLD V1, MLD snooping, IPv6 Static Routing, RIPng, OSPFv3, Manual tunnel, ISATAP tunnel, 6 to 4 tunnels | Operating temperature/humidity: 0°C to 50°C, 10%-90% non-condensing<br>Storage temperature/humidity: (-20°C to 70°C), 5%- 95% non-condensing  | Console, Telnet, SSH v1/2, HTTP, HTTPS, SNMP v1/v2/v3, RMON, TFTP, FTP, SFTP, NTP, SPAN, RSPAN, sFlow   |

## Ordering Information

| Item        | Description  |
|-------------|--|
| AS300/20/XF | Full 10GE Ethernet Routing Switch with 12 10GE ports and 8 GE ports (1 Console port, 12 10GE/GE SFP+ ports, 8 GE TX ports, AC220V single power supply, the cooling fan, 1U, 19-inch rack-mounted installation) |

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