# BDCOM

# S5612 SWITCH

⊘ Varied Service Characteristics Versatile IPv6 Solution Complete Security Mechanism

Carrier-Level High Reliability Full Layer-3 Functions

Advanced Hardware Architecture and Industry-leading Port Density

Supports 8GE Ports and 12 10GE SFP+ Ports

## Product Overview

BDCOM S5612 is a new generation of aggregation 10GE switch introduced by Shanghai Baud Data Communication Co., LTD. It is targeted at the IP MAN (metropolitan area network), campus networks and enterprise networks. It is developed on the basis of high performance hardware and BDROS - a software platform with BDCOM own independent intellectual property rights. It supports multiple services like IPv6, MPLS, VPN and network security based on L2/L3/L4 wire-speed switching service. It also supports nonstop upgrade, continuous forwarding, graceful restarting and redundancy protection.

It supports 8 GE ports and 12 10GE ports.

**Carrier-Level Aggregation Layer-3 Ethernet Switch Innovative BVSS (BDCOM Virtual Switch System):**

S5612 can virtualize multiple physical devices into one. The performance, reliability and management of the virtual system are superior to the physical ones;

**Improved Performance:**
BVSS 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;

**High Reliability:**
Based on the advanced distribution mechanism and efficient cross-physical link aggregation link function, the logic control plane, service control plane and service data plane are separated. Thus, the device can support continuous layer3 routing forwarding, avoiding service interruption as a result of a single point of failure;

**Easy Management:**
BVSS realizes single IP management, greatly improving the networking efficiency and lowering the operating cost.

# Product Characteristics

## Carrier-level High Reliability

S5612 supports STP/RSTP/MSTP, VRRP protocol, Ethernet ring protection, dual master-slave uplink protection and LACP link aggregation;

S5612 supports ISSU (In-Service Software Upgrade);
S5612 supports BFD mechanism;

S5612 supports Ethernet OAM mechanism, 802.3ah, 802.1ag and ITU-Y.1731;

High reliability (99.999%): MTTR of S5612 is 50ms, meeting the requirement of the carrier-level service.

## Varied Service Features

S5612 supports layer2 and layer3 multicast routing protocol, which enable the device can access to IPTV, HD video surveillance and HD video conference;

S5612 supports layer3 routing protocol and super-large routing table capacity, which enables the device is available in large campus networks, enterprise networks and industry networks;

S5612 supports layer2 MPLS VPN.

## Security+

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.

Perfect security authentication mechanisms: IEEE 802.1x, Radius and BDTacacs+.

S5612 supports storm/multicast/unicast limit, ensuring the normal running of equipment in harsh network conditions.

S5612 supports perfect ring detection mechanism, ensuring the long-term stable running of network.

S5612 supports port isolation within the same VLAN, DHCP-Snooping, and IP + MAC + Port binding.

## Versatile IPv6 Solution

S5612 supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, DHCPv6, etc;

S5612 supports Ping, Traceroute, Telnet, SSH, ACL based on IPv6;

S5612 supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, etc;

S5612 supports IPv6 tunnel: manual tunnel, automatic tunnel, GRE tunnel, 6to4 tunnel, ISATAP;
S5612 supports IPv4 transiting to IPv6: IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel.

## Innovative Energy-saving Design

Intelligent power management: The power system of S5612 supports real-time monitoring the device and the slow-start. It is also power-saving;

Intelligent fan management system: The fan system of S5612 supports automatic speed regulation, which efficiently slow the fan speed and mitigate the noise;

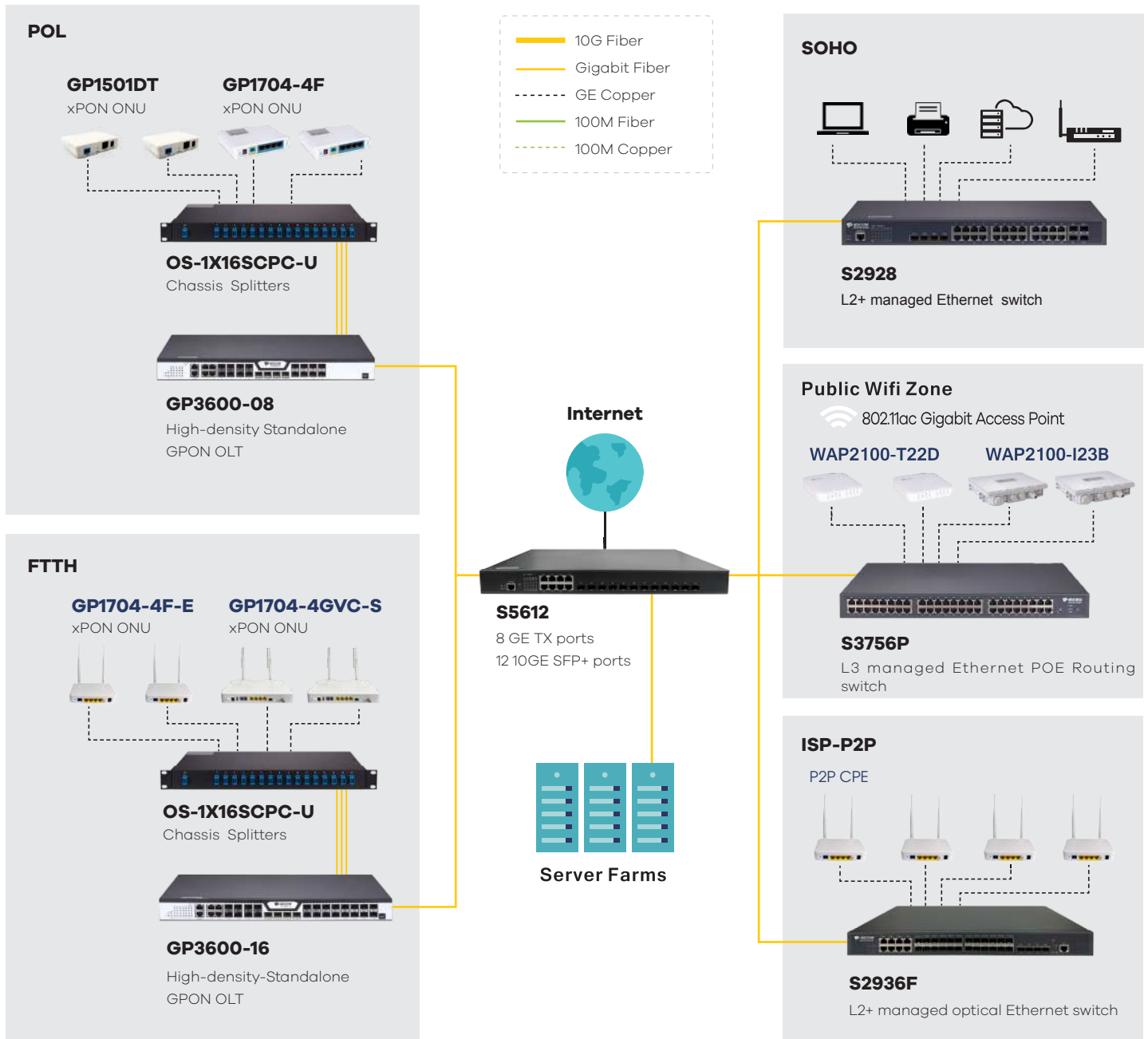Comply with the international standard IEEE 802.3az

# Model Lists

**S5612**

## Full 10GE Ethernet Routing Switch

- 1 console port
- 8 GE TX ports
- 12 10GE/GE SFP+ ports

# Application Diagram

**POL**

**GP1501DT**
xPON ONU

**GP1704-4F**
xPON ONU

**OS-1X16SCPC-U**
Chassis Splitters

**GP3600-08**
High-density Standalone GPON OLT

**FTTH**

**GP1704-4F-E**
xPON ONU

**GP1704-4GVC-S**
xPON ONU

**OS-1X16SCPC-U**
Chassis Splitters

**GP3600-16**
High-density-Standalone GPON OLT

--- 10G Fiber
--- Gigabit Fiber
---- GE Copper
--- 100M Fiber
---- 100M Copper

**Internet**

**S5612**
8 GE TX ports
12 10GE SFP+ ports

**Server Farms**

**SOHO**

**S2928**
L2+ managed Ethernet switch

**Public Wifi Zone**

802.11ac Gigabit Access Point

**WAP2100-T22D**     **WAP2100-I23B**

**S3756P**
L3 managed Ethernet POE Routing switch

**ISP-P2P**

P2P CPE

**S2936F**
L2+ managed optical Ethernet switch

# Product Specifications

| Item | | S5612 |
|---|---|---|
| Interface | | 8GE TX ports, 12 10GE/GE SFP+ ports |
| Console | | 1 RJ45 port |
| Backplane | | 176Gbps |
| Forwarding rate | | 132 Mpps |
| Chassis | Dimensions(WxDxH)(mm) | 440x315x44 |
| Package | Weight(KG)(empty) | 3.6 |
| | Dimensions(WxDxH)(mm) | 576x448x94 |
| Power consumption | Weight(KG) | 4.8 |
| | no-load | < 35W |
| Power supply | full-load | 50W |
| | AC: 100V-240V,50Hz±10% | Single AC, (optional for Dual Power) |
| Total output BTU (1000BTU/H=293W) | | 170.65 |
| Fan number | | 2 |
| 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 |
| Jumbo frame | | 9K |
| Routing table | IPv4 | 32K |
| | IPv6 | 8K |
| ARP table | IPv4 | 10K |
| | IPv6 | 5K |
| Total SVI | | 1K |

# Features

**VLAN**
- 4K Active VLAN, QinQ & Selective QinQ, GVRP, Private VLAN, Voice-VLAN

**Spanning Tree**
- 802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP)
- BPDU guard, root guard and loopback guard

**Multicast**
- PIM-SM, PIM-DM, IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave, MVR, IGMP filter

**IPv4**
- Static routing, RIP v1/v2, OSPF, BGP, PBR, ECMP
- BFD for OSPF, BGP

**IPv6**
- ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet
- IPv6 neighbor discovery, Path MTU discovery
- MLD V1/V2, MLD snooping
- IPv6 Static Routing, RIPng, OSPFv3, BGP4+

- Manual tunnel, ISATAP tunnel, 6 to 4 tunnel

**MPLS**
- LDP protocol, Multi-VRF,
- MPLS L2 VPN

**QoS**
- CAR, HQoS, MAC/IP/TCP/UDP/VLAN/COS/DSCP/TOS based QoS, 802.1P/DSCP priority re-labeling, SP, WRR, and "SP+WRR", Tail-Drop, WRED, flow monitoring and traffic shaping

**Security**
- Port isolation, Port security, and "IP+MAC+port" binding, MAC sticky
- DHCP Snooping and option 82, DAI & IP source guard, PPPoE+,
- IEEE 802.1x, Radius and BDTacacs+
- L2/L3/L4 ACL flow identification and filtration
- Anti-attack from DDoS, TCP's SYN Flood, UDP Flood, etc.
- Broadcast/multicast/unknown unicast storm-control
- MD5, SHA-256, RSA-1024, AES256, etc.

**Reliability**
- Static/LACP link aggregation, Interface backup
- BVSS virtual-stacking
- EAPS and ERPS
- URPF, LLDP
- ISSU
- VRRP
- 1+1 power backup

**Management**
- Console, Telnet, SSH v1/2, HTTP, HTTPS
- SNMP v1/v2/v3, RMON
- TFTP, FTP, SFTP
- NTP, SPAN, RSPAN
- sFlow

**Accessories**
- Power cord, rackmount kits, console cable

**Environment**
- Operating temperature/humidity: 0℃-50℃,10%-90% non-condensing
- Storage temperature/humidity: -20℃-70℃, 5%-95% non-condensing

**Certification**
- CE, FCC, ROHS

**BDCOM S5612 Switch**

# Ordering Information

| Item | Description |
|---|---|
| **S5612  switches** | |
| S5612 | 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) |
| S5612-2AC | Full 10GE Ethernet Routing Switch with 12 10GE ports and 8 GE ports (1 Console port, 12 10G/GE SFP+ ports, 8 GE TX ports; AC220V dual power supply; the cooling fan, 1U, 19-inch rack-mounted installation ) |
| **Optical Modules** | |
| **10GE Optical Modules** | |
| SFP+TX | 10GE SFP+-to-RJ45 module |
| SFP+SX | 10GE SFP+ multi-mode (300m, 850nm, LC) |
| SFP+LX-10 | 10GE SFP+ single-mode (10Km, 1310nm, LC, DDM) |
| SFP+LX-20 | 10GE SFP+ single-mode (20Km, 1310nm, LC, DDM) |
| SFP+LX-40 | 10GE SFP+ single-mode (40Km, 1550nm, LC, DDM) |
| SFP+LX-80 | 10GE SFP+ single-mode (80Km, 1550nm, LC, DDM) |
| SFP+LX-SM-1270-10<br>SFP+LX-SM-1330-10 | 10GE SFP+ single-mode, single-fiber (10Km, TX1270/RX1330, LC, DDM)<br>10GE SFP+ single-mode, single-fiber (10Km,TX1330/RX1270, LC, DDM) |
| SFP+LX-SM-1270-20<br>SFP+LX-SM-1330-20 | 10GE SFP+ single-mode, single-fiber (20Km, TX1270/RX1330, LC, DDM)<br>10GE SFP+ single-mode, single-fiber (20Km,TX1330/RX1270, LC, DDM) |
| SFP+LX-SM-1270-40<br>SFP+LX-SM-1330-40 | 10GE SFP+ single-mode, single-fiber (40Km, TX1270/RX1330, LC, DDM)<br>10GE SFP+ single-mode, single-fiber (40Km,TX1330/RX1270, LC, DDM) |
| **GE Optical Modules** | |
| GSFP-TX-B | GE SFP-to- RJ45 module |
| GSFP-SX-D | GE SFP multi-mode (500m, 850nm, LC, DDM) |
| GSFP-LX-10-D | GE SFP single-mode (10Km, 1310nm, LC, DDM) |
| GSFP-LX-20-D | GE SFP single-mode (40Km, 1310nm, LC, DDM) |
| GSFP-LX-40-D | GE SFP single-mode (40Km, 1310nm, LC, DDM) |
| GSFP-ZX-80-D | GE SFP single-mode (80Km, 1550nm, LC, DDM) |
| GSFP-ZX-120-D | GE SFP single-mode (120Km, 1550nm, LC, DDM) |
| GSFP-LX-SM1310-10-BIDI<br>GSFP-LX-SM1550-10-BIDI | GE SFP single-mode, single fiber (10Km, TX1310/RX1550, LC, DDM)<br>GE SFP single-mode, single fiber (10Km, TX1550/RX1310, LC, DDM) |
| GSFP-LX-SM1310-20-BIDI<br>GSFP-LX-SM1550-20-BIDI | GE SFP single-mode, single fiber (20Km, TX1310/RX1550, LC, DDM)<br>GE SFP single-mode, single fiber (20Km, TX1550/RX1310, LC, DDM) |
| GSFP-LX-SM1310-40-BIDI<br>GSFP-LX-SM1550-40-BIDI | GE SFP single-mode, single fiber (40Km, TX1310/RX1550, LC, DDM)<br>GE SFP single-mode, single fiber (40Km, TX1550/RX1310, LC, DDM) |
| GSFP-LX-SM1490-80-BIDI<br>GSFP-LX-SM1550-80-BIDI | GE SFP single-mode, single fiber (80Km, TX1490/RX1550, LC, DDM)<br>GE SFP single-mode, single fiber (80Km, TX1550/RX1490, LC, DDM) |
| GSFP-LX-SM1490-120<br>GSFP-LX-SM1550-120 | GE SFP single-mode, single fiber (120Km, TX1490/RX1550, LC, DDM)<br>GE SFP single-mode, single fiber (120Km, TX1550/RX1490, LC, DDM) |

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