

8 or 16 Port High-density Rack-mounted GPON OLT



AP8600 Series

- **1RU GPON OLT for FTTx Applications**
- **ITU-T G.984/G.988 compliant**
- **8/16 × GPON ports**
- **4 × gigabit Combo ports**
- **2 × 10G SFP+ ports**
- **140G switching capacity**
- **Advanced QoS, Multicast, and Network Security**
- **Low power consumption**
- **Low operating cost**
- **SNMP/Telnet/SSH/WEB Remote Management**

AP8608 and AP8616 GPON series platforms are scalable multi-services 1RU high-performance OLT (optical line terminal) with high-density 10G switching functionality. These OLTs provide network operators and service providers with a flexible and central management point for GPON services in Fiber to The Home/Business (FTTH and FTTB) networks.

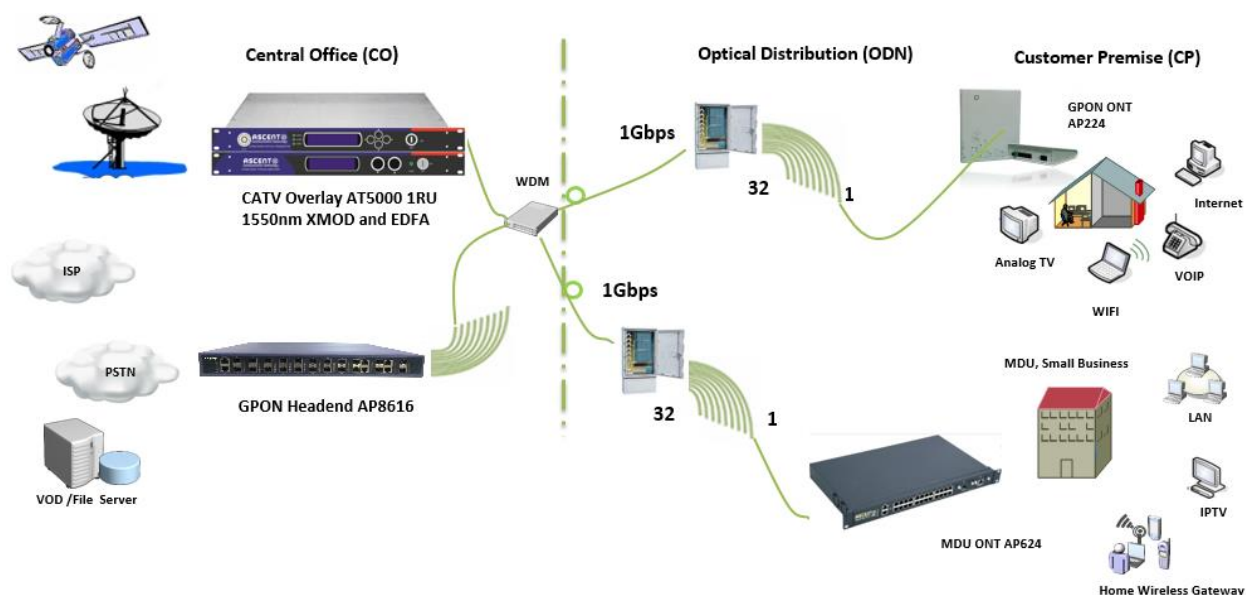
AP8608 and AP8616 models fit in a standard 1U rack mount, and features 8 or 16 PON ports with 4 GE combo ports and 2 x 10G SFP+ port for uplink data transmission. Each PON port supports uplink 1.25 Gbps / downlink 2.5 Gbps PON transmission rate, efficient bandwidth usage, and Ethernet services to help carriers provide reliable services to their users.

AP8600 series GPON platforms seamless cooperate with ACT routing and switching products. Combined with ACT Video Overlay package, AP8600 offers a perfect end-to-end FTTX solution for advanced video, voice, and data services for small and large networks.

Key Features

- Meets ITU-T G.984/G.988 standards
- Meets GPON OLT requirements regulated in Network Access Technical Requirements
- Supports 8/16 × GPON ports
- Supports 4 × gigabit Combo ports
- Supports 2 × 10G SFP+ ports
- Compact 1U standard size
- Low power consumption and low operating cost
- Links can automatically be switched when an abnormality occurs in the optical fiber
- Supports modular, hot-swappable Dual-AC, Dual-DC, and AC+DC power supplies which meet the EMC-3 standard

Application Diagram



Specifications

Parameter	Description
System Capacity	
Switching Capacity	140 Gbps
Forwarding Capacity (IPv4/IPv6)	104 MPPS
PON Features	ITU-TG.984.x standard Maximum 20 Km PON transmission distance access 128 terminals for single fiber PON Uplink and downlink triple churning encrypted function with 128Bits ONU terminal legitimacy certification, report illegal ONU registration DBA algorithm, the particle is 1Kbit/s Standard OMCI management function ONU batch software upgrade, fixed time upgrade, real time upgrade PON port optical power detection
L2 Features	
MAC	MAC Black Hole Port MAC Limit 64K MAC (packet exchange chip cache 2MB, external cache 720 MB)
VLAN	4K VLAN entries Port-based/MAC-based/protocol/IP subnet-based QinQ and flexible QinQ (StackedVLAN) VLAN Swap and VLAN Remark PVLAN to realize port isolation and saving public-vlan resources GVRP
Spanning Tree	STP/RSTP/MSTP Remote loop detecting
Port	Bi-directional bandwidth control Static link aggregation and LACP(Link Aggregation Control Protocol) Port mirroring
Security Features	
User Security	Anti-ARP-spoofing Anti-ARP-flooding IP Source Guard create IP+VLAN+MAC+Port binding Port Isolation MAC address binding to the port and MAC address filtering IEEE 802.1x and AAA/Radius authentication
Device Security	Anti-DOS attack(such as ARP, Synflood, Smurf, ICMP attack), ARP detection, worm and Msblaster worm attack SSHv2 Secure Shell SNMP v3 encrypted management Security IP login through Telnet Hierarchical management and password protection of users

Network Security

User-based MAC and ARP traffic examination
Restrict ARP traffic of each user and force-out user with abnormal ARP traffic
Dynamic ARP table-based binding
IP+VLAN+MAC+Port binding
L2 to L7 ACL flow filtration mechanism on the 80 bytes of the head of user-defined packet
Port-based broadcast/multicast suppression and auto-shutdown risk port
URPF to prevent IP address counterfeit and attack
DHCP Option82 and PPPoE+ upload user's physical location plaintext
authentication of OSPF, RIPv2 and BGPv4 packets, and MD5 cryptograph authentication

Service Features

ACL

Standard and extended ACL
Time Range ACL
Flow classification and flow definition based on source/destination MAC address, VLAN, 802.1p, ToS, DiffServ, source/destination IP (IPv4/IPv6) address, TCP/UDP port number, protocol type, etc.

QoS

Packet filtration of L2 to L7 deep to 80 bytes of IP packet head
Rate-limit to packet sending/receiving speed of port or self-defined flow and provide general flow monitor and two-speed tri-color monitor of self-defined flow
Priority remark to port or self-defined flow and provide 802.1P, DSCP priority and Remark
CAR(Committed Access Rate), traffic shaping and flow statistics
Packet mirror and redirection of interface and self-defined flow
Super queue scheduler based on port or self-defined flow
Each port/flow supports 8 priority queues and scheduler of SP, WRR and SP+WRR

IPv4

Congestion avoidance mechanisms, including Tail-Drop and WRED
ARP Proxy
DHCP Relay
DHCP Server
Static Routing
RIPv1/v2
OSPFv2
BGPv4
Equivalent Routing
Routing Strategy

IPv6

ICMPv6
ICMPv6 Redirection
DHCPv6
ACLv6
OSPFv3

	RIPng BGP4+ Configured Tunnels ISATAP 6to4 Tunnels Dual stack of IPv6 and IPv4 IGMPv1/v2/v3 IGMPv1/v2/v3 snooping IGMP Filter MVR and cross VLAN multicast copy IGMP Fast leave IGMP Proxy PIM-SM/PIM-DM/PIM-SSM PIM-SMv6, PIM-DMv6, PIM-SSMv6 MLDv2/MLDv2 Snooping
Multicast	
Reliability	
Loop Protection	EAPS and GERP (recover-time < 50ms) Loopback-detection
Link Protection	FlexLink (recover-time < 50 ms) RSTP/MSTP (recover-time < 1 s) LACP (recover-time < 10 ms) BFD
Device Protection	VRRP host backup 1+1 power hot backup
Maintenance	
Network Maintenance	Port real-time, utilization and transmit/receive statistic based on Telnet RFC3176 sFlow analysis LLDP GPON OMCI RFC 3164 BSD syslog Protocol Ping and Traceroute
Device Management	CLI, Console port, Telnet and WEB SNMPv1/v2/v3 RMON (Remote Monitoring) 1, 2, 3, 9 groups MIB NTP PONView network management
Power Supply	
Redundancy Design	Dual power supply Supports AC input, double DC input, and AC + DC input
AC Input	90 V to 264 V 47/63 Hz
DC Input	-36 V to -72 V
Power Consumption	≤ 110W
Physical Characteristics	
Dimensions (W×D×H):	440 mm × 380 mm × 44 mm

Installation	Standard 19-inch rack-mount
Weight	3 kg
Environment	
Operating Temperature	-10 °C to 55 °C
Operating Humidity	10 % to 90 % (non-condensing)
Storage Temperature	-40 °C to 70 °C
Storage Humidity	10 % to 90 % (non-condensing)

Ordering Information

Product name	Product description
AP8608-24G-AC	AP8608 GPON 1RU Switch chassis, 8 × fixed PON ports (excluding the OLT SFP module), 2 × 10G SFP+ ports, 4 gigabit Combo ports, 1 × console port. Power supply included.
AP8616-24G-AC	AP8616 GPON 1RU Switch chassis, 16 fixed PON ports (excluding the OLT SFP module), 2 × 10G SFP+ ports, 4 × gigabit Combo ports, 1 × console port. Power supply included.
AP8600-NMS-1K	AP8600 Modular Switch chassis Network Management System (1K subscribers)
AP8616-PWR-AC	220 V AC power supply for AP8608/AP8616
AP8616-PWR-DC	220 V DC power supply for AP8608/AP8616

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