

## 16 Port High-density Rack-mounted GPON OLT

### AP8600 Series

- 8/16 × GPON ports
- 4 × gigabit Combo ports
- Up to 4 × 10G SFP+ ports
- 205G backplane bandwidth
- Compact
- Low power consumption
- Low operating cost
- ITU-T G.984/G.988 compliant



AP8600 GPON series platform is a scalable multi-services 1RU high-performance OLT (optical line terminal) platform 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.

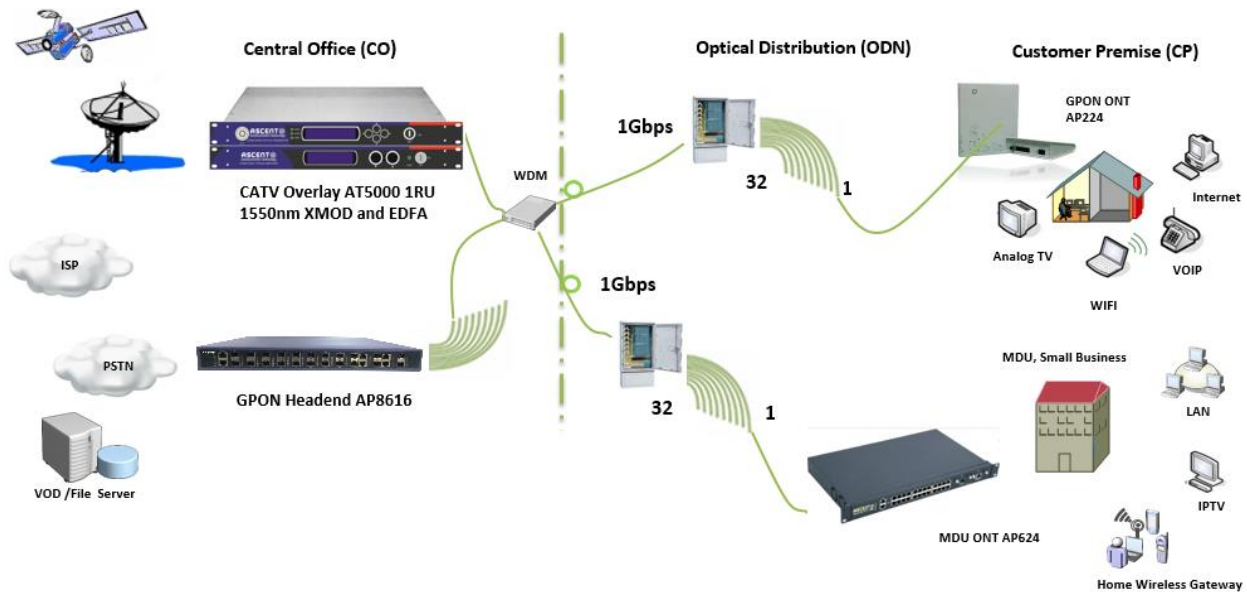
AP8600 models support a symmetric uplink 1.25 Gbps / downlink 2.5 Gbps PON transmission rate, efficient bandwidth usage, and Ethernet services to help carriers provide reliable services to their users.

AP8600 series GPON platforms seamlessly 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 and China Telecom GPON Technical Requirements-CTC2.0
- Supports 8/16 × GPON ports
- Supports 4 × gigabit Combo ports
- Supports 2/4 × 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 dual-AC, dual-DC, and AC/CD power supply. The power supply features a modular design, is hot-swappable, and meets the EMC-3 standard

## Application Diagram



## Specifications

Parameter	Description
<b>System Capacity</b>	
Switching Capacity	140 Gbps
Forwarding Capacity (IPv4/IPv6)	104 MPPS
<b>Pon Features</b>	
	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
<b>L2 Features</b>	
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
<b>Security Features</b>	
User Security	Anti-ARP-spoofing
	Anti-ARP-flooding
	IP Source Guard create IP+VLAN+MAC+Port binding
	Port Isolation

Device Security	MAC address binding to the port and MAC address filtering
	IEEE 802.1x and AAA/Radius authentication
	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
Network Security	Hierarchical management and password protection of users
	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
Service Features	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
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.
	Packet filtration of L2 ~ L7 deep to 80 bytes of IP packet head
QoS	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

IPv6	DHCP Relay
	DHCP Server
	Static Routing
	RIPv1/v2
	OSPFv2
	BGPv4
	Equivalent Routing
	Routing Strategy
	ICMPv6
	ICMPv6 Redirection
	DHCPv6
	ACLv6
	OSPFv3
	RIPng
	BGP4+
	Configured Tunnels
	ISATAP
	6to4 Tunnels
	Dual stack of IPv6 and IPv4
Multicast	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
<b>Reliability</b>	
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

## Physical Characteristics

Dimensions (W×D×H):

440 mm × 380 mm × 44 mm

Installation

Standard 19-inch rack-mount

Weight

5.25 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
AP8608-1RU-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.
AP8616-1RU-AC	AP8616 GPON 1RU Switch chassis, 16 fixed PON ports (excluding the OLT SFP module), 4 × 10G SFP+ ports, 4 × gigabit Combo ports, 1 × console port. Power supply included.
AP8600-PWR-AC	220 V AC power supply for AP8608/AP8616
AP8600-PWR-DC	220 V DC power supply for AP8608/AP8616

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