

## HA7316G Rack Type 16PON GPON OLT



### Overview

This GPON OLT HA7316G provides 16 downstream GPON ports, 4 uplink GE Combo ports, 2 10GE SFP+ ports, The 1U height can be easily installed and maintained to save space. It adopts the industrial advanced technology, with powerful Ethernet services and QoS feature, supporting SLA and DBA. The splitting ratio up to 1:128, supporting different types of ONU in different networks, minimizing operators' investments.

### Feature

- Support ITU-TG 984x standard
- Supply 16 SFP GPON ports, 4 Combo uplink ports, 2 10G SFP+ uplink ports
- Each PON port support maximum splitting ratio 1:128
- Distance can reach 20km
- Support to work with HA411 series GPON ONTs to establish passive network
- 1U rack design, inside fan, better for heat dissipating and reliability operating
- Apply for town, village fiber network and surveillance, apply for FTTX network, to transmit IP phone, data, IPTV and other IP services access

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### Technical Specification

| Parameter                      | Specification  |
|--------------------------------|--|
| Switching Capacity             | 140Gbps  |
| Forwarding Capacity(Ipv4/Ipv6) | 104MPPS  |
| Service Port                   | 16*PON SFP ports<br>4*GE COMBO port, 2*10GE SFP+ port  |
| Redundancy Design              | Single power supply or dual power supply<br>Support AC input, or DC input  |
| Power Supply                   | AC: input 90~264V 47/63Hz;<br>DC: input -36V~-72V;   |
| Power Consumption              | ≤110W  |
| Dimensions                     | 440mm×44mm×380mm   |
| Weight (Full-Loaded)           | ≤3kg   |
| Environmental Requirements     | Working temperature: -10°C~55°C<br>Storage temperature: -40°C~70°C<br>Relative humidity: 10%~90%, non-condensing |

### Product Features

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

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|                  |                 |  |
|------------------|-----------------|--|
|                  |                 | <p>IP+VLAN+MAC+Port binding</p> <p>L2 to L7 ACL flow filtration mechanism on the 80 bytes of the head of user-defined packet</p> <p>Port-based broadcast/multicast suppression and auto-shutdown risk port URPF to prevent IP address counterfeit and attack</p> <p>DHCP Option82 and PPPoE+ upload user's physical location Plaintext authentication of OSPF, RIPv2 and BGPv4 packets and MD5 cryptograph authentication</p>  |
| Service Features | ACL             | <p>Standard and extended ACL</p> <p>Time Range ACL</p> <p>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</p> <p>packet filtration of L2~L7 deep to 80 bytes of IP packet head</p>   |
|                  | QoS             | <p>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</p> <p>Priority remark to port or self-defined flow and provide 802.1P, DSCP priority and Remark</p> <p>CAR(Committed Access Rate), Traffic Shaping and flow statistics</p> <p>Packet mirror and redirection of interface and self-defined flow</p> <p>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.</p> <p>Congestion avoid mechanism, including Tail-Drop and WRED</p> |
|                  | IPv4            | <p>ARP Proxy, DHCP Relay, DHCP Server</p> <p>Static Routing, RIPv1/v2, OSPFv2, BGPv4</p> <p>Equivalent Routing, Routing Strategy</p>   |
|                  | IPv6            | <p>ICMPv6, ICMPv6 Redirection, DHCPv6</p> <p>ACLv6, OSPFv3, RIPv6</p> <p>BGP4+, Configured Tunnels</p> <p>ISATAP, 6to4 Tunnels</p> <p>Dual stack of IPv6 and IPv4</p>  |
|                  | Multicast       | <p>IGMPv1/v2/v3, IGMPv1/v2/v3 Snooping</p> <p>IGMP Filter, MVR and cross VLAN multicast copy</p> <p>IGMP Fast leave, IGMP Proxy</p> <p>PIM-SM/PIM-DM/PIM-SSM</p> <p>PIM-SMv6, PIM-DMv6, PIM-SSMv6</p> <p>MLDv2/MLDv2 Snooping</p>  |
| Reliability      | Loop Protection | <p>EAPS and GERP (recover-time &lt;50ms)</p> <p>Loopback-detection</p>   |
|                  | Link            | FlexLink (recover-time <50ms)  |

|             |                     |  |
|-------------|---------------------|--|
|             | Protection          | RSTP/MSTP (recover-time <1s)<br>LACP (recover-time <10ms)<br>BFD   |
|             | Device Protection   | VRRP host backup<br>1+1 power hot backup   |
| Maintenance | Network Maintenance | Port real-time, utilization and transmit/receive statistic based on Telnet<br>RFC3176 sFlow analysis<br>LLDP, GPON OMCI<br>RFC 3164 BSD syslog Protocol<br>Ping and Traceroute |
|             | Device Management   | CLI, Console port, Telnet and WEB<br>SNMPv1/v2/v3<br>RMON (Remote Monitoring)1,2,3,9 groups MIB<br>NTP<br>NGBNView network management  |