



ISCOM5508-GP GPON OLT

▼ Introduction

The ISCOM5508-GP, developed by Raisecom, is a small-capacity enhanced cartridge Optical Line Terminal (OLT). Its power supply, fan, main control unit, GPON interface card, and SFP adopt modular design, thus easy for installation and deployment, and flexible extension. With powerful GPON access capabilities, carrier-grade reliability, it supports strong security (such as ACL and anti-DOS attacks) and selective QinQ, and provides good management, maintenance, and monitoring functions.

The ISCOM5508-GP, with rich features and flexible networking schemes, meets low-density and long-distance fiber access requirements. Through the NNM NView system, it provides a complete solution of comprehensive access and uniform network management for access layer.



ISCOM5508-GP

▼ Features

■High integrity and flexible networking

Be of 1U high, single MCU, 2 GPON subcards, adopt modular design for easy installation and component replacement, and support Layer 2 line speed forwarding. Provide 8 GPON interfaces, and support 1024 ONUs and up to 10 GE uplink optical interfaces.

Support accessing broadband, voice, IPTV, etc. services to meet various accessing applications of carriers, broadcast, radio, and television network, and customer premise network

Support cascading OLTs in a link network to be downstream devices in the remote areas, able to meet rural long-distance broadband access scenario requirements and save Trunk fiber resources.

■Carrier-grade reliability

Support 1+1 power supply protection and hot swapping of all cards.

Support B/C/D-class PON protection and carrier-grade switching.

Support private Ethernet ring network and a switching time of 50ms.

■Rich features

Support VLAN, including selective QinQ, VLAN mapping and aggregation.

Support complete QoS, including dynamic assignment of bandwidth, priority control, multiple traffic classification modes, multiple queue scheduling modes, etc. to meet different QoS requirements for VoIP, video, and Internet access services.

Complete ACL, including L2, L3, L4, and customized ACLs.

Support static multicast, IGMP Snooping, Proxy, MVR, and controllable multicast.

Support static route.

Support STP/MSTP, link aggregation, DHCP, interface isolation, etc.

Support IPv6.

■Green energy-saving design

Adopt low power consumption design for the MCU and service cards, with overall power consumption below 70 W.

Adopt intelligent fan which can adjust rotational speed according to temperature, thus prolonging fan life, lowering noise, and saving energy.



▼ Specifications

Hardware features			
Number of slots	3	Number of MCUs	1
Number of GPON service cards	Up to 2 (including MCU). Each card supports 4 GPON interfaces.	Number of uplink cards	Up to 3. The MCU provides 2 GE electrical interfaces, 2 GE optical interfaces, and two 10GE optical interfaces. The rest 2 cards support 4 GE optical interfaces respectively.
Number of fans	1	Number of power supplies	2
GPON optical interface	<ul style="list-style-type: none"> Compliant standard: ITU-T 984.2 CLASS B+/C+ Working wavelength: 1490 nm; uplink rate: 1.25 Gbit/s; downlink rate: 2.5 Gbit/s Transmission distance: 20/60 km; supporting DDM, complying with RoHS 		
GE electrical interface	<ul style="list-style-type: none"> Support IEEE 802.3 10/100/1000BASE-TX. Transmission rate: 10/100/1000M auto-negotiation 		
GE optical interface	<ul style="list-style-type: none"> Support IEEE 802.3 1000BASE-LX/SX/CX Transmission rate: 1000 Mbit/s 		
10GE optical interface	<ul style="list-style-type: none"> Support IEEE 802.3ae-2002 Transmission rate: 10 Gbit/s 		
In-band management interface	Support in-band management. Without specific interface, you can choose any service interface to work as the local Ethernet management interface.		
Out-of-band management interface	<ul style="list-style-type: none"> Transmission rate: 10/100M auto-negotiation; interface type: RJ45 Working mode: full/half duplex, auto-negotiation 		
Console interface	Physical interface: RJ45; level: RS232; Baud rate: 9600 Baud		
Power supply (DC)	-48 VDC power module; voltage range: -36 to -72 VDC		
Power supply (AC)	110/220 VAC power module; voltage range: 100–240 VAC (50/60 Hz)		
Lightning protection level	<ul style="list-style-type: none"> AC power: 6 kV in differential mode and 6 kV in common mode DC power: 1 kV in differential mode and 2 kV in common mode 		
System performance			
Switching capacity	96 Gbit/s	Backplane bandwidth	28 Gbit/s
Capacity of the MAC address table	32K	PON line rate	Uplink: 1.25 Gbit/s; downlink: 2.5 Gbit/s
Maximum transmission distance	20 km	Maximum optical splitting ratio	1:128
Maximum number of	8	Maximum	1024

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PON interfaces		number of ONUs	
Reliability	<ul style="list-style-type: none"> Support 1+1 hot backup of power supplies and hot swapping of all cards. Support B/C/D-class PON protection (inter-card), able to meet carrier-grade switching time. Support private Ethernet ring protection with 50ms switching time (does not support G.8032). 		
Software features			
Interface	<ul style="list-style-type: none"> Support port mirroring in both the ingress and egress directions. Support point-to-multipoint mirroring. 	Transparent transmission	<ul style="list-style-type: none"> Support BPDU transparent transmission. Support LACP transparent transmission. Support LLDP transparent transmission. Support STP transparent transmission.
VLAN and QinQ	<ul style="list-style-type: none"> Support 4K VLANs. Support basic QinQ, able to add SVLAN based on MAC address, CVLAN, IP address, and protocol type. Support selective QinQ: 8K rules based on CVLAN and 1K rules based on ACL. Support VLAN mapping: 8K 1:1 VLAN mapping rules based on CVLAN and 1K N:1 VLAN mapping rules based on ACL. 	Multicast	<ul style="list-style-type: none"> Support static multicast. Support IGMP Snooping (v1/v2/v3). Support MVR (inter-VLAN copy) and MVR Proxy. Support controllable multicast. Support 1K multicast entries.
ACL	<ul style="list-style-type: none"> Support ACL based on MAC address, IP address, and customized ACL. Support ACL MAP. Support 2K ACL rules. 	Link aggregation	<ul style="list-style-type: none"> Support up to 32 link aggregation groups. Support 8GE by each group. Support 6 load balancing modes based on MAC address, IP address, etc.
Route	<ul style="list-style-type: none"> Support static route and up to 128 pieces. 	Security	<ul style="list-style-type: none"> Support IP Source Guard, dynamic ARP inspection, anti-DoS attack, and storm control.
QoS	<ul style="list-style-type: none"> Support interface-based queue scheduling. Each interface supports 8 priority queues. Support SP, WRR, DRR, and SP+WRR queue scheduling modes. Support trust CoS and DSCP priority. Support flexible mapping from CoS to queue and DSCP to queue. Support CoS (802.1p) priority remark. Support configuring CoS or DSCP priority for packets that matching ACL rules. Support modifying 802.1p CoS, DSCP, and IP Precedence based on flow. 		

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	<ul style="list-style-type: none"> Support packet filtering, redirection, traffic mirroring, traffic statistics, traffic monitoring, interface queue scheduling, and VLAN modification policies based on traffic rule.
DBA/SLA	Support DBA/SLA.
DHCP	<ul style="list-style-type: none"> Support DHCP Proxy and DHCP Snooping.
IPv6	<ul style="list-style-type: none"> Support IPv6 interface management, ACL, multicast, DHCP.
Management	<ul style="list-style-type: none"> Support Console/Telnet/NMS/SNMP/SSHv2 management modes. Support RMON1, 2, 3, and 9. Support Bridge MIB (RFC1493). Support System log.
Physical features	
Dimensions (mm) (Width × Depth × Height)	440 × 266 × 44.5 (1U)
Full-configuration weight	5.9 kg
Overall power consumption	<ul style="list-style-type: none"> Maximum: 70 W Normal: 56 W
Environment	<ul style="list-style-type: none"> Operating temperature: 0–50 °C Storage temperature: -25 to 60 °C Operating humidity: 10%–90% RH (non-condensing) MTBF: > 100,000h
Standard	
	<p>Comply with CE and ROHS.</p> <p>IEEE 802.1Q VLAN</p> <p>IEEE 802.3ad Link Aggregation</p> <p>IEEE 802.1ad QinQ</p> <p>IEEE 802.1D Spanning Tree Protocol</p> <p>IEEE 802.1s MSTP</p> <p>RFC 2131 DHCP</p> <p>RFC 2132 DHCP Options</p> <p>IEEE 802.1x Security</p> <p>IEEE 802.1p CoS Prioritization</p> <p>IEEE 802.3x Flow Control</p> <p>IEEE 802.3ah OAM</p> <p>IEEE 802.1ag CFM</p> <p>ITU Y.1731 Services OAM</p> <p>ITU-T G.8021</p> <p>RFC1465 Static Routing,</p> <p>RFC1058RIPv1/RFC2453RIPv2</p> <p>IGMP v1/v2/v3</p> <p>RMON I and II standards</p> <p>SNMPv1/v2c/v3</p> <p>MEF9/MEF14</p> <p>G.992.1/G.992.3/G.992.5</p> <p>G.991.2/G.993.1/G.993.2</p> <p>RFC 3261/2543, RFC 2327, and RFC 3550.</p> <p>ITU-T H.248.v1/v2/v3</p> <p>DHCPv4/v6</p> <p>RFC2131</p> <p>RFC3315</p>



▼ Typical applications

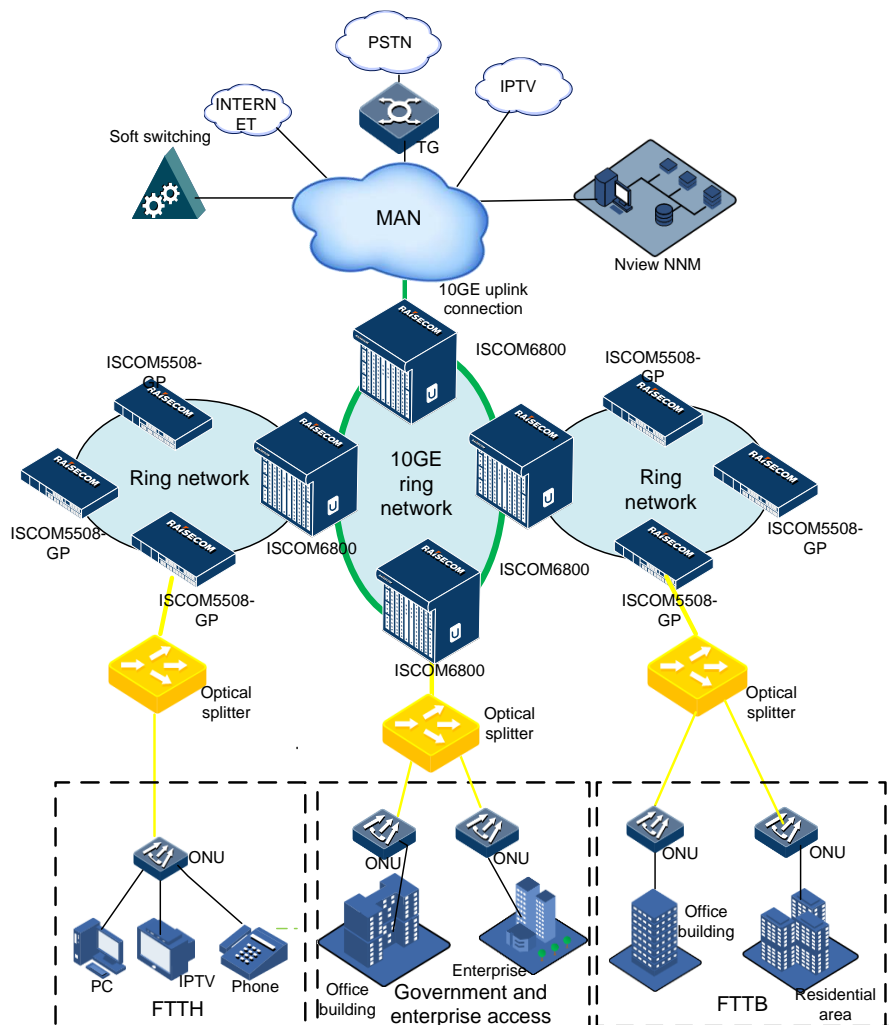


Figure 1 Ring networking with the ISCOM5508-GP and ISCOM6800

In this scenario, the ISCOM5508-GP can network with the Raisecom ISCOM6800 to provide reliable access service for customers. This networking scheme also makes the ISCOM6800 devices on each aggregation node form a 10GE ring network (with less than 50ms switching time), which not only provides ring network protection but also saves Trunk fiber resources and meets high-bandwidth transmission requirements. The ISCOM5508-GP is suitable for carriers and customer premise network customer to provide typical broadband access, IPTV, leased line access, and video monitoring in areas with sparse users, such as suburban, town, and rural areas.

▼ Ordering information



Model	Description
ISCOM550 8-GP-AC/D	Provide 4 GPON interfaces and 4 GE interfaces (2 RJ45 electrical interfaces and 2 SFP optical interfaces). Work as an OLT of management, service switching and aggregation, with two 10GE interface (SFP+). Configurations: 1 fan, 2 AC power supplies, 1 MCU (with 4 GPON interfaces). Provide 2 slots for extendable cards, each of which provides 4 GPON interfaces or 4 GE optical interfaces.
ISCOM550 8-GP-DC/D	Provide 4 GPON interfaces and 4 GE interfaces (2 RJ45 electrical interfaces and 2 SFP optical interfaces). Work as an OLT of management, service switching and aggregation, with two 10GE interface (SFP+). Configurations: 1 fan, 2 DC power supplies (-48 V), 1 MCU (with 4 GPON interfaces). Provide 2 slots for extendable cards, each of which provides 4 GPON interfaces or 4 GE optical interfaces.
ISCOM550 8-GP-AC/D C	Provide 4 GPON interfaces and 4 GE interfaces (2 RJ45 electrical interfaces and 2 SFP optical interfaces). Work as an OLT of management, service switching and aggregation, with two 10GE interface (SFP+). Configurations: 1 fan, 1 AC power supply, 1 DC power supply (-48 V), 1 MCU (with 4 GPON interfaces). Provide 2 slots for extendable cards, each of which provides 4 GPON interfaces or 4 GE optical interfaces.
ISCOM550 8-GP-AC/S	Provide 4 GPON interfaces and 4 GE interfaces (2 RJ45 electrical interfaces and 2 SFP optical interfaces). Work as an OLT of management, service switching and aggregation, with two 10GE interface (SFP+). Configurations: 1 fan, 1 AC power supply, 1 MCU (with 4 GPON interfaces). Provide 2 slots for extendable cards, each of which provides 4 GPON interfaces or 4 GE optical interfaces.
ISCOM550 8-GP-DC/S	Provide 4 GPON interfaces and 4 GE interfaces (2 RJ45 electrical interfaces and 2 SFP optical interfaces). Work as an OLT of management, service switching and aggregation, with two 10GE interface (SFP+). Configurations: 1 fan, 1 DC power supply (-48 V), 1 MCU (with 4 GPON interfaces). Provide 2 slots for extendable cards, each of which provides 4 GPON interfaces or 4 GE optical interfaces.
ISCOM550 8-GP4A	GPON interface card, providing 4 GPON interfaces, supporting hot swapping, supporting being inserted in slot 3 only
ISCOM550 8-GE4B	GPON interface card, providing 4 GE optical interfaces, supporting hot swapping, supporting being inserted in slot 2 or 3
RPA1101-S I-220S12	110/220 VAC power supply, providing British standard, American standard, and European standard
RPD1101-4 8S12	-48 VDC power supply, providing British standard, American standard, and European standard
FANS306	Fan, supporting hot swapping and automatically adjusting rotational speed according to temperature
GSFP-CLB DM-R	GPON OLT optical module, supporting CLASS B+ standard
GSFP-CLC DM-R	GPON OLT optical standard, support CLASS C+ standard