Raisecom Technology Co., Ltd.

ISCOM5508 (B) OLT

Introduction

The ISCOM5508 (B), developed by Raisecom, is a small-capacity enhanced cartridge Optical Line Terminal (OLT). Its power supply, fan, main control unit, EPON interface card, and SFP adopt modular design, thus easy for installation and deployment, and flexible extension. With powerful EPON 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 (B), 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 (B)

Features

■High integrity and flexible networking

Be of 1U high, single MCU, 2 EPON/GE subcards, adopt modular design for easy installation and component replacement, and support Layer 2 line speed forwarding.

Provide up to 12 EPON interfaces, and support 768 ONUs and up to 14 GE 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.

■Green energy-saving design

Adopt low power consumption design for the MCU and service cards, with overall power consumption below 60 W.

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

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▼ Specifications

Hardware features			
Number of slots	3	**Number of MCUs**	1
Number of EPON service cards	Up to 3 (including MCU). Each card supports 4 EPON interfaces. The entire device supports up to 12 EPON interfaces.	**Number of GE cards**	Up to 3 (including the MCU). The MCU provides 6 GE uplink interfaces. The other 2 GE cards provide 4 GE interfaces respectively. The entire device supports up to 14 GE interfaces.
Number of fans	1	**Number of power supplies**	2
EPON optical interface	• Compliant standard: IEEE 802.3ah 1000BASE-PX20+-D • Working wavelength: 1490 nm; uplink rate: 1.25 Gbit/s; downlink rate: 1.25 Gbit/s • Transmission distance: 20 km; supporting DDM, complying with RoHS		
GE electrical interface	• Support IEEE 802.3 10/100/1000BASE-TX. • Transmission rate: 10/100/1000M auto-negotiation		
GE optical interface	• Support IEEE 802.3 1000BASE-LX/SX/CX • Transmission rate: 1000 Mbit/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	• 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 • +24 VDC power module; voltage range: 18 to 36 VDC		
Power supply (AC)	110/220 VAC power module; voltage range: 100–240 VAC (50/60 Hz)		
Lightning protection level	• 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	128 Gbit/s	**Backplane bandwidth**	128 Gbit/s
Capacity of the MAC address table	32K	**PON line rate**	Symmetric in both uplink and downlink: 1.25 Gbit/s
Maximum transmission distance	20 km	**Maximum optical splitting ratio**	1:64
Maximum number of PON interfaces	12	**Maximum number of ONUs**	768

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Reliability	• 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.		
Software features			
VLAN	• 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 2K rules based on ACL. • Support VLAN mapping: 8K 1:1 VLAN mapping rules based on CVLAN and 2K N:1 VLAN mapping rules based on ACL.	**Multicast**	• 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	• Support ACL based on MAC address, IP address, and customized ACL. Support ACL MAP. • Support 1200 ACL rules.	**Link aggregation**	• Support up to 32 link aggregation groups. Support 14GE by each group. • Support 6 load balancing modes based on MAC address, IP address, etc.
Route	Support static route and up to 100 pieces.	**Security**	Support IP Source Guard, dynamic ARP inspection, anti-DoS attack, and storm control.
QoS	• 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. • Support packet filtering, redirection, traffic mirroring, traffic statistics, traffic monitoring, interface queue scheduling, and VLAN modification policies based on traffic rule.		
Physical features			
Dimensions (mm) (Width × Depth × Height)	440 × 266 × 44.5 (1U)	**Overall power consumption**	40 W
Full-configuration weight	5.9 kg	**Environment**	• Operating temperature: 0–45 ℃ • Operating humidity: 10%–90% RH (non-condensing)

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Typical applications

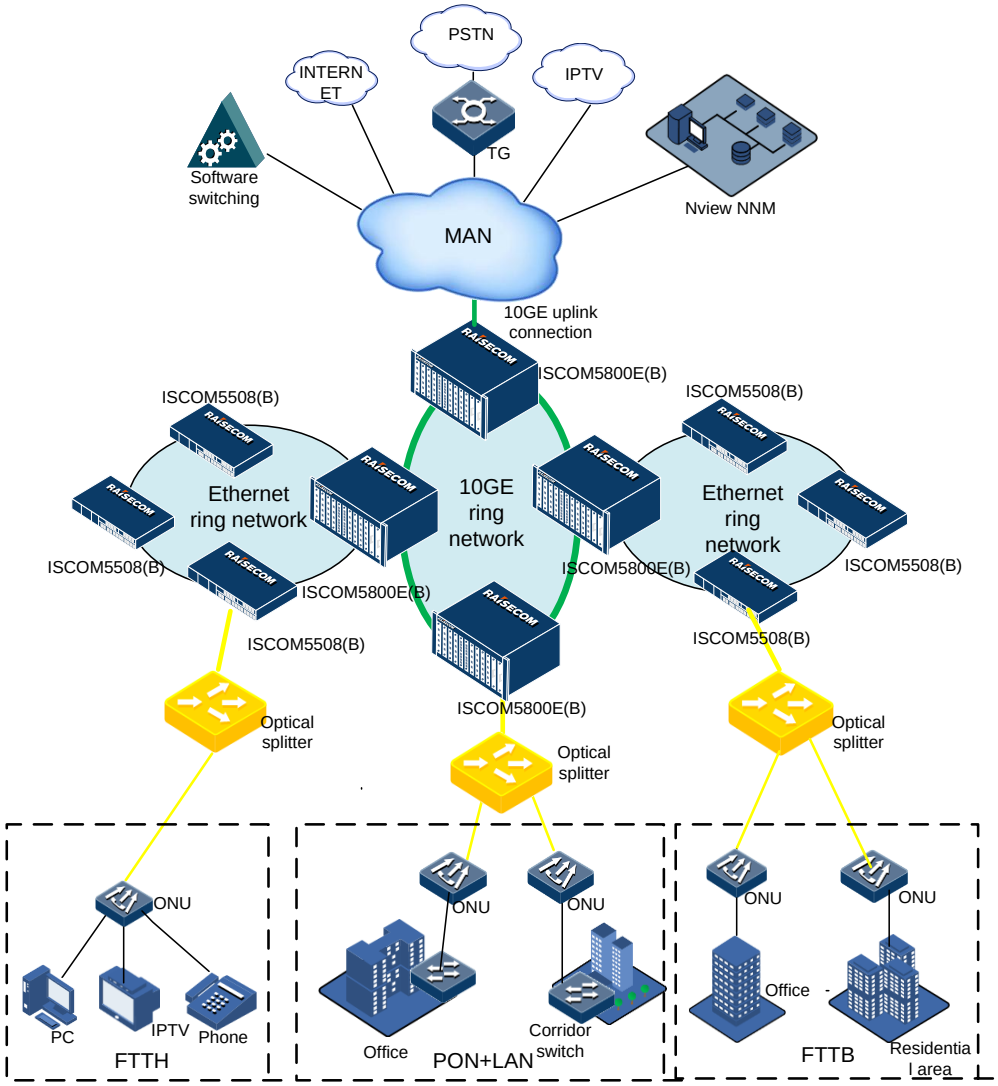

Figure 1 Ring networking with the ISCOM5508 (B) and ISCOM5508E (B)

In this scenario, the ISCOM5508 (B) can network with the Raisecom ISCOM5800E (B) to provide reliable access service for customers. This networking scheme also makes the ISCOM5508E (B) 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 (B) 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.

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▼ Ordering information

Model	Version	Description
ISCOM5508-AC/D	B	• Provide 4 EPON interfaces and 6 GE interfaces (2 RJ45 electrical interfaces and 4 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 EPON interfaces) • Provide 2 slots for extendable EPON/GE cards. Each slot supports 4 EPON/GE interfaces. The entire device supports up to 12 EPON interfaces.
ISCOM5508-AC/S	B	• Provide 4 EPON interfaces and 6 GE interfaces (2 RJ45 electrical interfaces and 4 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 EPON interfaces) • Provide 2 slots for extendable EPON/GE cards. Each slot supports 4 EPON/GE interfaces. The entire device supports up to 12 EPON interfaces.
ISCOM5508-DC/D	B	• Provide 4 EPON interfaces and 6 GE interfaces (2 RJ45 electrical interfaces and 4 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 EPON interfaces) • Provide 2 slots for extendable EPON/GE cards. Each slot supports 4 EPON/GE interfaces. The entire device supports up to 12 EPON interfaces.
ISCOM5508-DC/S	B	• Provide 4 EPON interfaces and 6 GE interfaces (2 RJ45 electrical interfaces and 4 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 EPON interfaces) • Provide 2 slots for extendable EPON/GE cards. Each slot supports 4 EPON/GE interfaces. The entire device supports up to 12 EPON interfaces.
ISCOM5508-AC_DC	B	• Provide 4 EPON interfaces and 6 GE interfaces (2 RJ45 electrical interfaces and 4 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 EPON interfaces) • Provide 2 slots for extendable EPON/GE cards. Each slot supports 4 EPON/GE interfaces. The entire device supports up to 12 EPON interfaces.
ISCOM5	A	EPON interface card, providing 4 EPON interfaces, supporting hot swapping

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508-EP4B		
ISCOM5508-EPSC	A	• MCU, providing 10 service interfaces (2 GE electrical interfaces, 4GE SFP optical interfaces, and 4 EPON interfaces) • 1 Console interface for local management and 1 SNMP out-of-band management interface
ISCOM5508-GE4B	A	• 4GE interface card, providing 4 SFP Ethernet interfaces, supporting the 1000BASE-X optical module and 1000BASE-T electrical module
FANS306	A	Fan, supporting hot swapping and automatically adjusting rotational speed according to temperature
RPD1101-48S12	A	-48 VDC power supply, supporting one 3PIN Phoenix terminal socket (5.08 mm)
RPA1101-SI-220S12	A	220 VAC power supply, supporting a receptacle, supporting 110/220 VAC (50/60 Hz) power input

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