



ISCOM6860 xPON OLT

▼ Introduction

The ISCOM6860 is a high-density carrier-grade Optical Line Terminal (OLT) platform. It offers EPON, 10G EPON, GPON, XG-PON1, XG-PON2 and leased line access, as well as multi-service aggregation capabilities.

The ISCOM6860 is equipped with high backplane bandwidth of 2.88 Tbit/s, high switching capacity of 1.44 Tbit/s, and 1:1 switching redundancy for wire-rate non-blocking forwarding and high reliability for all services. It can provide high-density PON interfaces and mount up to 14336 ONUs to meet the carrier's need for high-capacity with fewer offices. Cards and fans adopt green energy-saving design to lower power consumption and emissions.

The ISCOM6860 is perfect for FTTx, HFC bidirectional transformation, mobile backhaul, IP leased line interconnections, and more applications.



ISCOM6860

■ **High Density and High Bandwidth**
6U high, 13 slots, 2 SMCs, 7 general service cards, 1 dedicated 10GE uplink card, with 8 10GE channels per slot, and support Layer 2 and Layer 3 wire-speed forwarding. Supports up to 112 EPON interfaces and 7168 EPON ONUs, 56 10GEPON interfaces and 7168 10GEPON ONUs, 112 GPON interfaces and 14336 GPON ONUs, or 56 XG-PON interfaces and

14336 XG-PON ONUs.

Supports broadband, voice, IPTV, etc. access services to meet the varying needs of carriers, broadcast, radio, television network, and customer premise networks.

■ **Carrier-Grade Reliability**

Supports 1:1 protection of SMCs, 1+1 redundancy of power supplies, and hot pluggable of all cards.

Carrier-grade PON protection of type B/C/D.

Raisecom private Ethernet ring topology with switching time of 50ms.

■ **Rich Carrier Features**

VLAN, including selective QinQ, VLAN mapping and aggregation.

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.

MSTP, link aggregation, DHCP, interface isolation, etc.

Layer 2 multicast, IGMP Snooping, Proxy, MVR, and controllable multicast.

IPv4/v6 unicast routing, OSPF, VRF.

IPv4 multicast routing, PIM-SM, SSM.

■ **Green Energy-Saving Design**

With a low power consumption design for all cards, overall power consumption is below 1000 W.

An intelligent fan with automatic speed adjustment according to chassis temperature prolongs life of fan, reduces noise, and saves energy.

Can power off the PON service card and uplink card to conserve energy.

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▼ Specifications

Hardware features			
Number of slots	13	Number of SMCs	2
Number of EPON service cards	Up to 7. Each card supports 16 EPON interfaces.	Number of 10G EPON service cards	Up to 7. Each card supports 8 10GEPON interfaces.
Number of GPON service cards	Up to 7. Each card supports up to 16 GPON interfaces.		
Number of XG-PON1 service cards	Up to 7. Each card supports 8 XG-PON1 interfaces.	Number of XG-PON2 service cards	Up to 7. Each card supports 8 XG-PON2 interfaces.
Number of GE service cards	Up to 7. Each card supports 16 GE SFP interfaces.	Number of 10GE cards	1 dedicated 10GE card, up to extra 7. Each card supports 8 10GE SFP+ interfaces, with 4 extra 10GE SFP+ interfaces for slot 3 and 4.
Number of power supplies	2	Number of fans	1
EPON optical interface	<ul style="list-style-type: none"> Compliant standard: IEEE 802.3ah 1000BASE-PX20+-D Operating wavelength and bit rate: 1490 nm and 1.25Gb/s downstream; 1310nm and 1.25Gb/s upstream Transmission distance: up to 20 km; supporting DDM, complying with RoHS 		
10GEPON optical interface	<ul style="list-style-type: none"> Compliant standard: IEEE 802.3av 10GBASE-PR30 (symmetric) and 10G/1GBASE-PRX30 (asymmetric) Operating wavelength and bit rate: 1577nm and 10.3125 Gb/s downstream; 1270nm and 10.3125 Gb/s for symmetric upstream; 1310nm and 1.25Gb/s for asymmetric upstream Transmission distance: up to 20/ km; supporting DDM, complying with RoHS 		
GPON optical interface	<ul style="list-style-type: none"> Compliant standard: ITU-T 984 CLASS B+/C+. Operating wavelength and bit rate: 1490 nm and 2488.32 Mb/s downstream; 1310nm and 1244.16 Mb/s upstream Transmission distance: up to 20/60 km; supporting DDM, complying with RoHS 		
XG-PON1 optical interface	<ul style="list-style-type: none"> Compliant standard: ITU-T 987 N1/N2 Operating wavelength and bit rate: 1577 nm and 9.95328Gb/s downstream; 1270nm and 		

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	2.48832 Gb/s upstream		
	<ul style="list-style-type: none"> • Transmission distance: up to 40 km; DDM, complying with RoHS 		
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	<ul style="list-style-type: none"> • Support in-band management by configured VLAN logical interfaces, no need for dedicated service interface 		
Out-of-band management interface	<ul style="list-style-type: none"> • Compliant standard: IEEE 802.3 10/100M auto-negotiation; 100BASE-T; 10BASE-T; 		
Console interface	<ul style="list-style-type: none"> • Physical interface: RJ45; level: RS232; Baud rate: 9600 Baud 		
Power supply (DC)	<ul style="list-style-type: none"> • -48 VDC power module; voltage range: -38.4 to -57.6 VDC 		
Lightning protection level	<ul style="list-style-type: none"> • DC power: 0.5 kV in differential mode and 1 kV in common mode 		
System performance			
Switching capacity	1.44 Tbit/s	Backplane bandwidth	2.88 Tbit/s
Capacity of the MAC address table	Up to 128K	PON line rate	Standard rate
Maximum transmission distance	40 km	Maximum optical splitting ratio	<ul style="list-style-type: none"> • EPON: 1:64 • 10GEPON: 1:128 • GPON: 1:128 • XG-PON1: 1:256 • XG-PON2: 1:256
Maximum number of PON interfaces	<ul style="list-style-type: none"> • EPON: 112 • 10GEPON: 56 • GPON: 112 • XG-PON1: 56 • XG-PON2: 56 	Maximum number of ONUs	<ul style="list-style-type: none"> • EPON: 7168 • 10GEPON: 7168 • GPON: 14336 • XG-PON1: 14336 • XG-PON2: 14336
Reliability	<ul style="list-style-type: none"> • 1:1 protection for SMCs, 1+1 redundancy for power supplies and uplink interfaces. • PON protection of type B/C/D with carrier-grade switching time. 		

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	<ul style="list-style-type: none"> • Raisecom private Ethernet ring topology with switching time of 50ms. 		
Software features			
VLAN	<ul style="list-style-type: none"> • 4K VLANs. • Port-based QinQ. • 1K selective QinQ rules • 16K VLAN translation and aggregation rules 	Multicast	<ul style="list-style-type: none"> • IGMP/MLD Snooping (v1/v2/v3). • IGMP/MLD Proxy. • Multicast replication. • Controllable multicast. • 16K multicast entries.
ACL	<ul style="list-style-type: none"> • Flexible ACL based on Layer 2-7 packet fields. • 16K ACL rules. 	Link aggregation	<ul style="list-style-type: none"> • Up to 32 link aggregation groups. • 8 GE or 10GE interfaces for each group. • 6 load balancing modes based on MAC, IP, and TCP/UDP port. • LACP.
Routing	<ul style="list-style-type: none"> • IPv4/v6 unicast routing, OSPF, VRF. • IPv4 multicast routing, PIM-SM, SSM. • Wire-speed Layer 3 packet forwarding. 	Security	<ul style="list-style-type: none"> • IP Source Guard, dynamic ARP inspection, anti-DoS attack, and storm control.
QoS	<ul style="list-style-type: none"> • 8 priority queues per interface. • Interface-based queue scheduling and rate limiting. • SP, WRR, WDRR, and SP+WRR queue scheduling modes. • Flexible mapping from CoS and DSCP priority marks to queues. • CoS (802.1p) and DSCP priority remark based on interfaces or flows. • Packet filtering, redirection, mirroring, and monitoring based on flows. 		
Physical features			
Dimensions (mm) (Width × Depth × Height)	443 × 237 × 266 (6U)	Overall power consumption	<1000 W
Full-configuration weight	25 kg	Environment	<ul style="list-style-type: none"> • Operating temperature: 0–45°C • Operating humidity: 10%–90% RH (non-condensing)

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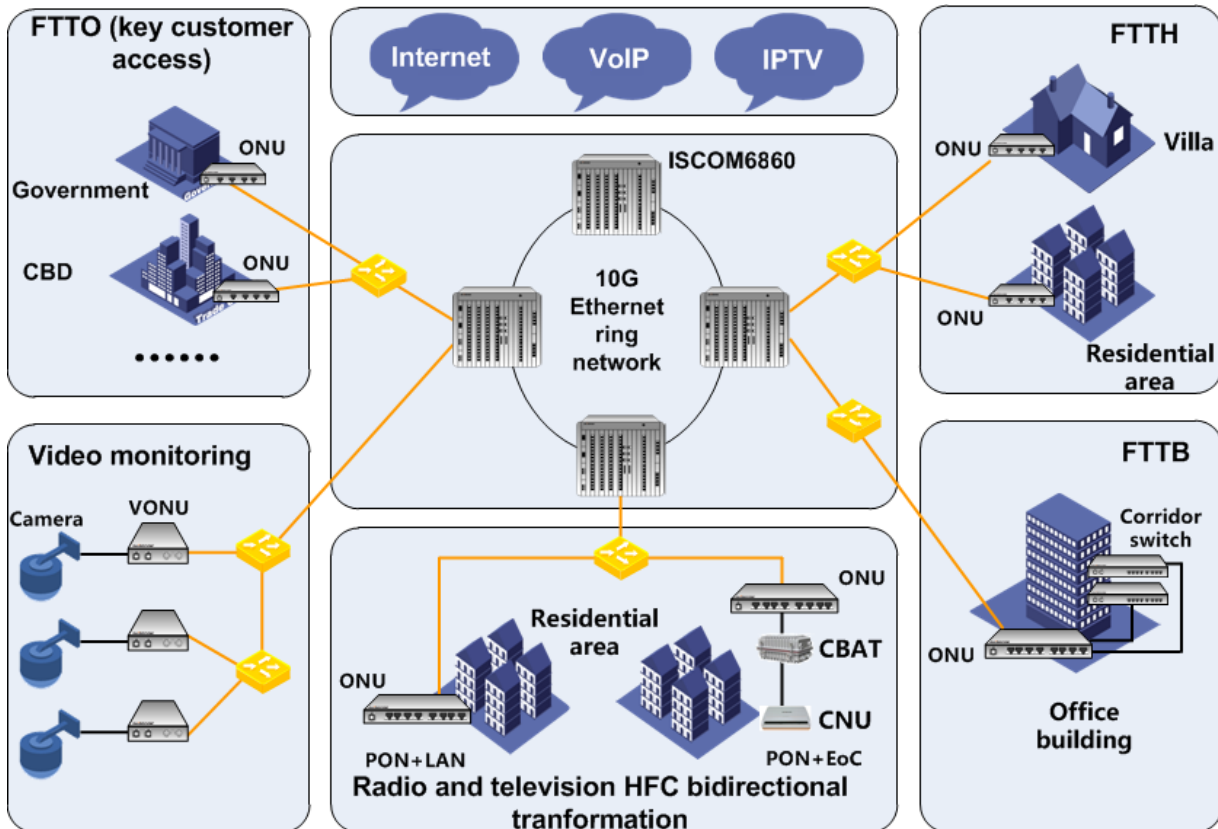
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▼ Typical applications



xPON comprehensive access solution

- FTTH access: provide video, data, and voice services for newly-built residential areas, villas, and network reconstruction of old residential areas.
- FTTB access: the ONU is downlink connected to the LAN switch in a tree structure. LAN switches work independently without affecting each other.

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▼ Ordering information

Model	Description
ISCOM6860-10	ISCOM6800 chassis. (without Fan)
ISCOM6860-10-FANS381	Intelligent FAN. (only for ISCOM6860)
ISCOM6800-SMCA	Switching and control card, working in slot 1 & 2. 1 Console interface (RJ45) for local management and 1 SNMP out-of-band management interface(RJ45).
ISCOM6800-EP16	GEAPON line card, 16* GEAPON SFP ports, working in slots 3-9. (without SFP modules)
ISCOM6800-XEP8	10GEAPON (asymmetric) line card, 8* 10GEAPON XFP ports, working in slots 3-9. (without SFP modules) Note: Only MDU (6104/6116/6124) type ONT with 10GEAPON interface.
ISCOM6800-GP16	GPON line card, 16* GPON SFP ports, working in slots 3-9. (without SFP modules)
ISCOM6800-GE16	GE card, 16* GE SFP ports, working in slots 3-9. (without SFP modules)
ISCOM6800-XP4A	10GE card, 4*10GE SFP+ ports, working in slot 10. (without SFP modules)
ISCOM6800-XP2A	10GE card, 2*10GE SFP+ ports, working in slot 10. (without SFP modules)
ISCOM6800-XP4L	10GE card, 4*10GE SFP+ ports, working in slot 3-9. (without SFP modules)
RPA2161-S-220S54	1U, 19" mountable rack. AC/DC embedded power system supplying -48VDC voltage output. It can be configured by one to two rectifiers with hot swappable function; the rectifier normal operation range is 90-290VAC.
RPD2151-48S48	DC -48v power supply card.

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