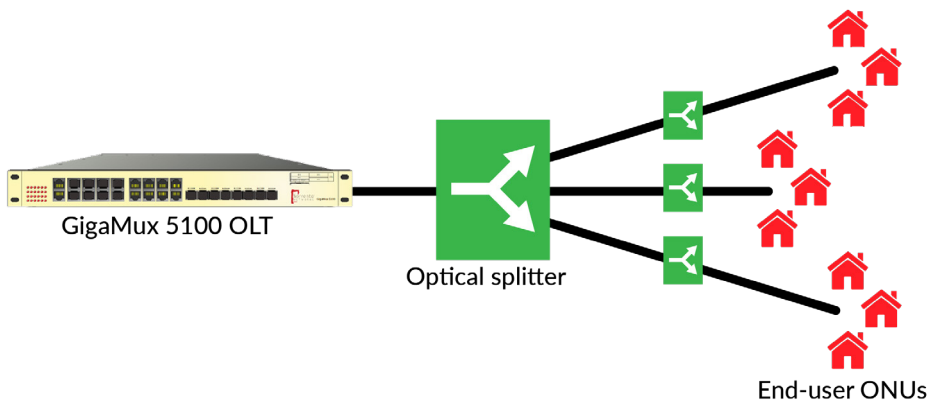


4/8 PON Port EPON OLT for Residential and Small Enterprise Applications

The GigaMux 5100 EPON FTTP optical line terminal (OLT) provides 4/8 downstream 1000M PON ports with eight 1GE ports and four 10GE ports for internet backhaul. At an ultra-compact 1RU, each PON fibre downstream supports up to 64 customers with a potential 512 ONUs supported, depending on configuration.

Combining advanced networking technologies, strong Ethernet functionality and QoS, it permits operators to offer SLAs that deliver high levels of customer service with simplified operation.

The GigaMux 5100 is ideal for FTTP networks in both residential and small enterprise applications, and can be combined with other networking solutions from Sorrento Networks, including DWDM. This enables service providers to create a full suite of services appropriate to residential, small and large enterprises, and fixed and mobile carriers.



> The GigaMux 5100 often utilises multi-level splitting in FTTH and FTTP applications.

The GigaMux 5100 solution offers:

- > A switching capacity of up to 108Gbps
- > 4/8 * PON, 8 * 1GE & 4 * 10GE ports
- > An ultra-compact 1RU unit
- > Extensive protection against cyber threats
- > Flexible network management options
- > Ultra-low latency
- > Interoperability with other products in the GigaMux family



> GigaMux 5100 optical line terminal (OLT)

Highlights

- > Large-scale NGBN operation system
- > 64 customers per PON port with up to a maximum of 512 customers
- > Carrier-class network stability and resiliency
- > Redundancy protection for both fibre and OLT
- > Low power consumption
- > Ultra-low latency
- > 128-bit encryption for assured customer data security
- > Rich security features to protect users and devices
- > PON 1GE and 10GE upstream ports for packet lossless L2/L3 full line-speed
- > Hot pluggable module design
- > 20km transmission distance capability (with future planned enhancements)
- > Dynamic bandwidth distribution DBA algorithm
- > Hardware-based packet forwarding for effective feature detection and packet filtering
- > Supports BFD, FlexLink, auto linkage aggregation and Ethernet Ring protection
- > Network management options include SSH v2, SNMP v1-v3, CLI, web browser and RMON

Product Specification

Switch Capacity	108Gbps
Throughput (IPv4/IPv6)	80Mbps
Service Ports	4/8*PON, 8*GE, 4*10GE
Redundancy	Dual power supply options: AC input dual DC input or AC+DC input
Power Supply	AC: Input 90 ~ 240V, 47 ~ 63Hz DC: Input -36V ~ -72V
Power Consumption	≤56W
Outline Dimensions	442mm × 44mm × 315mm
Maximum Weight	≤3kg
Environmental Parameters	Working temperature: 0°C ~ 50°C Storage temperature: -20°C ~ 70°C Relative humidity 10% ~ 90%, non condensing

Business Features

PON Features	<p>EPON</p> <ul style="list-style-type: none"> • IEEE 802.3ah EPON • GEAPON standard • 20km for single fibre • 64 terminals per single fibre PON • Upstream and downstream triple encryption • ONU terminal legitimacy certification, report illegal ONU registration • DBA algorithm • Standard OAM and extended OAM • ONU batch software upgrade, fixed time upgrade, realtime upgrade • PON transmit and receive optical power detection
L2 Features	<p>MAC</p> <ul style="list-style-type: none"> • MAC blackhole • Port MAC limit • 16K MAC address <p>VLAN</p> <ul style="list-style-type: none"> • 4K VLAN entries • Port-based/MAC-based/IP subnet-based VLAN • Port-based QinQ and Selective QinQ (StackVLAN) • VLAN swap and VLAN remark and VLAN translate • GVRP • Based on ONU service flow VLAN add, delete, replace <p>Spanning Tree Protocol</p> <ul style="list-style-type: none"> • IEEE 802.1D Spanning Tree Protocol (STP) • IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) • IEEE 802.1s Multiple Spanning Tree Protocol instances (MSTP)

L2 Features	<p>Spanning Tree Protocol</p> <ul style="list-style-type: none"> • ONU remote loop detecting alarm <p>Port</p> <ul style="list-style-type: none"> • Bi-directional bandwidth control • Static link aggregation and LACP (Link Aggregation Control Protocol) • Port and traffic mirroring
Security Features	<p>User Security</p> <ul style="list-style-type: none"> • Anti-ARP-spoofing and flooding • IP Source Guard create IP+VLAN+MAC+Port binding • Port isolation • MAC address binds to port and port MAC address filtration • IEEE 802.1x and AAA/Radius authentication <p>Device Security</p> <ul style="list-style-type: none"> • 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 • Hierarchical management and password protection of users <p>Network Security</p> <ul style="list-style-type: none"> • 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 • Supports IP+VLAN+MAC+Port binding • L2 to L7 ACL flow filtration mecl2 to L7 ACL flow filtration mechanism on the 80 bytes of the head of user-defined packet • 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
Service Features	<p>ACL</p> <ul style="list-style-type: none"> • Standard and extended ACL • Time range ACL • Packet-based filtering on source/destination MAC address, source/destination, IP address, port, protocol, VLAN, VLAN range, MAC address range, or invalid frame. System supports concurrent identification at most 50 service traffic • Support packet filtration of L2 ~ L7 even deep to 80 bytes of IP packet head

Business Features Continued

<p>Service Features</p>	<p>QoS</p> <ul style="list-style-type: none"> • 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 and self-defined flow. Each port/flow supports 8 priority queues and scheduler of SP, WRR and SP+WRR • Congestion avoid mechanism, including tail-drop and WRED <p>IPv6</p> <ul style="list-style-type: none"> • SA/DA Classification MLD snooping <p>Multicast</p> <ul style="list-style-type: none"> • 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
<p>Reliability</p>	<p>Loop Protection</p> <ul style="list-style-type: none"> • EAPS and GERP (recover-time <50ms) • Loopback-detection <p>Link Protection</p> <ul style="list-style-type: none"> • FlexLink (recover-time <50ms) • RSTP/MSTP (recover-time <1s) • LACP (recover-time <10ms) • BFD <p>Link Protection</p> <ul style="list-style-type: none"> • FlexLink (recover-time <50ms) • RSTP/MSTP (recover-time <1s) • LACP (recover-time <10ms) • BFD

<p>Reliability</p>	<p>Device Protection</p> <ul style="list-style-type: none"> • VRRP host backup • Double fault-tolerant backup of host program and configuration files • PON card/fan hot-swappable • 1+1 power hot backup
<p>Maintenance</p>	<p>Network Maintenance</p> <ul style="list-style-type: none"> • Telnet-based statistics • RFC3176 sFlow • LLDP • 802.3ah Ethernet OAM • RFC 3164 BSD syslog protocol • Ping and Traceroute <p>Device Maintenance</p> <ul style="list-style-type: none"> • Command-line interface (CLI), console, Telnet and web browser configuration • System configuration with SNMPv1-v3 • RMON (Remote Monitoring) 1/2/3/9 groups of MIB • NTP (Network Time Protocol)



About Sorrento Networks

Sorrento Networks is a global provider of cost-effective optical transport solutions to carriers and enterprises throughout North America and Europe. Sorrento Networks is part of The Comtek Group, with facilities in the UK, USA, Netherlands and Germany.



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