![optostar logo]

Rack Chassis GPON/EPON OLT

OP-GETR04/08/16

OP-GETR series are designed by OPTOSTAR for high-density access switching integrated platform which combine multi-service and high-density 10G switching requirement. As the new generation of smart equipments for the telecommunications integrated access network, it could build EPON/GPON/10GE/10GEPON general platform and have the features of small size, huge capacity, high density and powerful performance, which could supply high quality sustainability solution for Broadband Access, Transmission of Mobile Data Base Station, CPN (Customer Premise Network), E-Commerce and so on.

OP-GETR04

- ➢ Support EPON/10G EPON mixed insertion for future new cards
- ➢ Maximum support 32*EPON and 24*GE
- ➢ 6slots，2 main control cards,4 line cards
- ➢ 4U compact design, half-size serve slots
- ➢ 1+1 master control redundancy,1+1power supply redundancy
- ➢ Hot plug fan chassis, intelligent speed and temperature control
- ➢ 1.6Tbps widely backplane capacity and smooth upgrade to 40G/100G
- ➢ IPv4/IPv6 and MPLS hardware line speed forwarding
- ➢ The whole power consumption less than 350W

OP-GETR08

- ➢ Support EPON/10GEPON mixed insertion for future new cards
- ➢ Maximum support 64*EPON and 48*GE
- ➢ 10slots，2 main control cards,8 line cards
- ➢ 7U compact design, half-size serve slots
- ➢ 1+1 master control redundancy,1+1power supply redundancy
- ➢ Hot plug fan chassis, intelligent speed and temperature control
- ➢ 3.2Tbps widely backplane capacity and smooth upgrade to 40G/100G
- ➢ IPv4/IPv6 and MPLS hardware line speed forwarding
- ➢ The whole power consumption less than 680W

OP-GETR16

- ➢ Support EPON/10GEPON mixed insertion for future new cards
- ➢ Maximum support 128*EPON and 96*GE
- ➢ 18slots，2 main control cards,16 line cards
- ➢ 15U compact design, half-size serve slots
- ➢ 1+1 master control redundancy,2+2power supply redundancy
- ➢ Hot plug fan chassis, intelligent speed and temperature control
- ➢ Maximum support 128*EPON and 96*GE
- ➢ 6.4Tbps widely backplane capacity and smooth upgrade to 40G/100G
- ➢ IPv4/IPv6 and MPLS hardware line speed forwarding
- ➢ The whole power consumption less than1200W

OP-GETR OLT Parameter

Item	OP-GETR04	OP-GETR08	OP-GETR16
Backplane capacity	>1.6Tbps	>3.2Tbps	>6.4Tbps
Switching capacity	960Gbps	1.6Tbps	3.2Tbps
Throughput(IPv4/IPv6)	720Mpps	1440Mpps	2860Mpps
Number of slots	6	10	18
Number of service board slots	4	8	16

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Service port	EPON	32*EPON,24*GE	64*EPON,48*GE	128*EPON,96*GE
	GPON	32*GPON,32*GE	64*GPON,64*GE	128*GPON,128*GE
	SWITCH	96*GE,48*10GE	192*GE,96*10GE	384*GE,192*10GE
Redundancy design		1+1 power redundancy 1+1 main control redundancy	1+1 power redundancy 1+1 main control redundancy	2+2 power redundancy 1+1 main control redundancy
Power supply		AC：90～260V，50～60Hz； DC：-36V～-72V；		
Power consumption		≤300W	≤680W	≤1200W
Outline dimensions (mm) (W*D*H)		442mm×176mm×420mm	442mm×310mm×420mm	442mm×664mm×420mm
Weight (in maximum configuration)		≤15kg	≤25kg	≤45kg
Environmental parameter		Working temperature：0°C～40°C Storage temperature：-40°C～70°C Relative humidity：10%～90%，no condensing		

Features

Attributes		OP-GETR series
PON features	**EPON**	IEEE 802.3ah EPON China telecom/Unicom　GEPON standard 20Km for single fibber Access 64 terminals for single fibber PON Uplink and downlink triple churning encrypted function ONU terminal legitimacy certification, report illegal ONU registration DBA algorithm Standard OAM and extended OAM ONU batch software upgrade, fixed time upgrade, real time upgrade PON transmit and inspect receiving optical power
	GPON	Satisfy ITU-T standard TR-101 compliant solution for FTTx OLT applications High splitter rate, each PON port supports 128*ONU ,512*T-CONT Maximum transmission distance of 60KM Support uplink FEC, downlink FEC(Forward Error Correction) Periodically update AES encryption ONU identifier authentication :SN/PASSWD/SN+PASSWD Bandwidth allocation mechanism 4 types of T-CONT bandwidth Static Bandwidth Allocation

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		Dynamic Bandwidth Allocation
		Fiber link inspection
		4 types of TYPE A/B/C/D line protection mechanism
		GPON feature parameter
		4096 port-IDs per GPON MAC (Downstream and Upstream)
		1024 Alloc-IDs per GPON MAC (Upstream)
L2 features	MAC	MAC Black Hole
		Port MAC Limit
		MAC address limitation based on ONU
	VLAN	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
	Spanning tree protocol	IEEE 802.1D Spanning Tree Protocol (STP)
		IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
		IEEE 802.1s Multiple Spanning Tree Protocol instances (MSTP)
		ONU remote loop detecting alarm
	Port	Bi-directional bandwidth control
		Static link aggregation and LACP(Link Aggregation Control Protocol)
		Port mirroring and traffic mirroring
Security features	User security	Anti-ARP-spoofing
		Anti-ARP-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
		TACACS+ authentification
		dhcp anti-attack flood attack automatic suppression
		ONU isolation control
	Device security	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
	Network security	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 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

IP routing		Plaintext authentication of OSPF、RIPv2 and BGPv4 packets and MD5 cryptograph authentication
	IPv4	ARP Proxy DHCP Relay DHCP Server Static route RIPv1/v2 OSPFv2 BGPv4 Strategy route Route policy
	IPv6	ICMPv6 ICMPv6 redirection DHCPv6 ACLv6 OSPFv3 RIPng BGP4+ Configured Tunnel ISATAP 6to4 tunnel IPv6 and IPv4 Tunnels
Service features	ACL	Standard and extended ACL Time Range ACL Packet filter providing filtering based 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
	QoS	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
	Multicast	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

	MPLS	L3 MPLS VPN L2 VPN: VLL (Martini, Kompella) MCE MPLS OAM
Reliability	Loop protection	EAPS and GERP (recover-time <50ms) Loopback-detection
	Link protection	FlexLink (recover-time <50ms) RSTP/MSTP (recover-time <1s) LACP (recover-time <10ms) BFD
	Device protection	VRRP host backup Double fault-tolerant backup of host program and configuration files 1+1 main control panel hot backup 1+1 power hot backup Fan redundancy
Maintenance	Network maintenance	Telnet-based statistics RFC3176 sFlow LLDP 802.3ah Ethernet OAM RFC 3164 BSD syslog Protocol Ping and Traceroute
	Device management	Command-line interface（CLI）, Console, Telnet and WEB configuration System configuration with SNMPv1/v2/v3 RMON (Remote Monitoring)1/2/3/9 groups of MIB NTP(Network Time Protocol) GN.LinkⅡ Server NGBNView network management

Order Information

Product name	Product description
OP-GETR04	6slots(4*service slots,2*main control slots,1*hot plug fan disk, no main control boards, no power supply)
OP-GETR08	10slots(8*service slots,2*main control slots,1*hot plug fan disk, no main control boards, no power supply)
OP-GETR16	18slots(16*service slots,2*main control slots,2*hot plug fan disk, no main control boards, no power supply)
OP-MAIN01	OP-GETR04, main control boards
OP-MAIN02	OP-GETR08/16, main control boards-I
OP-MAIN03	OP-GETR08/16, main control boards-II
OP-PWR750A1	750W dual power supply module A1
OP-PWR1000A1	1000W dual power supply power A1
OP-EP08SA	EPON service card,8*EPON SFP,4*1000BaseX SFP,2*100/1000Base-T, SI

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OP-GP08SA	GPON service card,8*GPON SFP,4*1000BaseX SFP,2*100/1000Base-T, SI
OP-EP08MA	EPON service card,8*EPON SFP,4*1000BaseX SFP,2*100/1000Base-T, MI
OP-GP08MA	GPON service card,8*GPON SFP,4*1000BaseX SFP,2*100/1000Base-T, MI
OP-GS24SA	switch routing service card,24*1000BaseX SFP interface, SI
OP-GT24SA	switch routing service card,24*10/100/1000BaseT interface, SI
OP-SFP+04SA	switch routing service card,4*10GE SFP+10GE interface, SI
OP-SFP+08SA	switch routing service card,8*10GE SFP+10GE interface, SI
OP-SFP+12SA	switch routing service card,12*10GE SFP+10GE interface, SI
OP-GS24MA	switch routing service card,24*1000BaseX SFP interface, MI
OP-GT24MA	switch routing service card,24*10/100/1000BaseT interface, MI
OP-SFP+04MA	switch routing service card,4*10GE SFP+10GE interface, MI
OP-SFP+08MA	switch routing service card,8*10GE SFP+10GE interface, MI
OP-SFP+12MA	switch routing service card,12*10GE SFP+10GE interface, MI

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