



RI511-C-R MPLS Switch



RI511-C-R

RI511-C-R is a compact 10G NID providing 4x10G SFP+ network interfaces and 12x1G SFP user interfaces in half 19" space. It can work as a 10G EDD or an MPLS PE device. It is designed for 1G/10G leased-line service delivery and 4G/5G mobile backhaul. The support of standard CE2.0 services (E-Line, E-LAN, E-Tree, E-Access), various service models over MPLS (VPWS, VPLS, H-VPLS, L3VPN), and advanced OAM, SLA, resiliency features, ensures service providers great flexibility and reliability in service design and deployment. Temperature hardened HW design and the support of SyncE make RI511-C-R ready for mobile backhaul.



Highlights>>

Power Reliability	Dual hot-swappable power supply with voltage/temperature monitoring
Compact HW Design	Half-19" in width help service providers save installation space greatly
Temperature Hardened	Operating temperature range from -20 °C to +65 °C
Flexible Service Delivery	Standard CE2.0 service (E-Line, E-LAN, E-Tree, E-Access) deliveryVPWS, VPLS, H-VPLS, L3VPN services over MPLS Flexible traffic classification guarantees customer-defined service SLA
Committed Network Resiliency	Protection mechanism including switchport backup, IEEE802.1ax Link Aggregation, MC-LAG, ITU-T G.8031 ELPS and ITU-T G.8032 ERPS, Static/dynamic IP FRR, TE/LDP/VPN/EVPN FRR, VRRP, MPLS PW redundancy, MPLS TE redundancy, MPLS TE hot-standby guarantee network resiliency in chain, star, mesh, dual-homing and ring topologies
OAM & HardwarebasedSLA	Hardware-based IEEE802.1ag/ITU-T Y.1731 end-to-end CFM (CCM interval 3.3ms), hardware-based ITU-T Y.1731 end-to-end SLA performance monitoring (1us measurement resolution) speed up service provisioning and troubleshooting BFD helps customer achieve fast fault detection for dynamic IP services and MPLS services Standard RFC2544, Y.1564 SAT tests for various types of services available
Synchronization	SyncE and IEEE1588v2 ready for mobile backhaul

Key Features>>	
Ethernet Service	• MAC address table: 32k • Jumbo frame up to 12288 Bytes • 4,094 VLANs, IEEE802.1Q VLAN, IEEE802.1ad QinQ • Layer 2 control protocol (L2CP) handling • Super VLAN • Private VLAN (PVLAN) with primary, community and isolated type
IP Service	• IP static routing • RIP, OSPFv2, ISISv4 and BGP4 • PMTU support • VRF Lite • DHCP server, client, relay, snooping
MPLS Service	• MPLS L2VPN: VPWS, VPLS, H-VPLS, MS-PW • MPLS L3VPN • Static CR-LSP, LDP, CSPF, RSVP-TE, tunnel policy • Inter-AS MPLS L2VPN Option A, B, C • Inter-AS MPLS L3VPN Option A, B, C
Multicast	• IGMP v1, v2, v3 • IGMP Snooping, MVR, VLAN copy, Proxy • PIM-SM and PIM-SSM • MSDP
QoS	• Flexible traffic classification based on MAC, IP, port, VLAN, CoS, DSCP, etc. • Traffic policing with color-aware and color-blind mode, two-rate three-color marker • Hierarchical CAR • 8 local priority, 8 queues per port • WRED • Traffic shaping per queue/port • SP/WRR/SP+WRR queue scheduling
Reliability	• IEEE802.1ax Link aggregation group, manual, LACP • MC-LAG • Switchport backup • STP, RSTP, MSTP, MRSTP • ITU-T G.8031 ELPS and G.8032 ERPS based on port or CFM, switchover time less than 50ms • Port/VLAN-based Ethernet loop detection • Ethernet fault propagation, MPLS PW fault propagation • ULDP • IP ECMP • Static/dynamic IP FRR, TE/LDP/VPN/EVPN FRR • VRRP • MPLS PW redundancy, MPLS TE redundancy, MPLS TE hot-standby

OAM	• IEEE 802.3ah EFM-OAM • IEEE 802.1ag/ITU-T Y.1731 CFM • ITU-T Y.1731 performance monitoring (LM, DM) for Ethernet and MPLS L2VPN • RFC2544 for Ethernet and MPLS L2VPN, Y.1564 for Ethernet, IP, MPLS L2VPN, MPLS L3VPN • 10G throughput test • TWAMP-Lite for Ethernet, IP, MPLS L3VPN • Layer 2 loopback with MAC swap • MPLS ping and traceroute • BFD for interface, static routing, RIP, OSPF, ISIS, BGP, LDP, LSP, CR-LSP, PW, MS-PW, VRRP, FRR, PIM • L2/L3 Dying Gasp in case of power failure
Security	• CPU CAR • CPU anti-attack for Land, Ping of death, ICMP unreachable/redirecting/forward, Tear drop, Smurf, Fraggle, WinNuke, TCP malformed • DHCP Snooping • ARP filter, DAI • IPSG • ACL based on VLAN, CoS, MAC, Ethernet Type, IP or user-define • RADIUS, TACACS+, DOT1X • Storm control (broadcast, multicast, DLF) • Port-security MAC
Maintenance and Management	• Zero-touch provisioning based on standard DHCP • SNMP v1/v2/v3 based GUI management • CLI management by local CONSOLE, Telnet and SSHv2 • KeepAlive, RMON, LLDP, Syslog • SFP digital diagnostic management (DDM) • CPU, memory monitoring • Voltage and temperature monitoring
Synchronization	• NTP, SNTP • SyncE • IEEE1588 v2 TC

Specifications >>	
Performance	Switching capacity: 52Gbps x 2
Physical Interface	1 x CONSOLE (USB); 1 x management port (RJ-45) Client interfaces: 12 x 1G SFP Network interfaces: 4 x 10G SFP+
Power Supply	Dual, hot-swappable version available AC: 220V, 100~240V DC: -48V, -36~-72V Power Consumption: ≤40W
Environmental	Operating: Temperature: -20~65°C Humidity: 10~90% non-condensing Storage and Transportation: Temperature: -25~75°C
Dimensions	220(W)mm x 266(D)mm x 44(H)mm
Weight	2.5Kg

Ordering Information >>	
Part No.	Description
RI511-C-R-AC/S	Compact 10G NID, half-19" wide, 4x10G SFP+ for uplink, 12x1G SFP for downlink, CONSOLE and SNMP ports for management, single hot-swappable AC power supply
RI511-C-R-DC/S	Compact 10G NID, half-19" wide, 4x10G SFP+ for uplink, 12x1G SFP for downlink, CONSOLE and SNMP ports for management, single hot-swappable DC power supply
RI511-C-R-AC/D	Compact 10G NID, half-19" wide, 4x10G SFP+ for uplink, 12x1G SFP for downlink, CONSOLE and SNMP ports for management, dual hot-swappable AC power supply
RI511-C-R-DC/D	Compact 10G NID, half-19" wide, 4x10G SFP+ for uplink, 12x1G SFP for downlink, CONSOLE and SNMP ports for management, dual hot-swappable DC power supply
RI511-C-R-AC_DC	Compact 10G NID, half-19" wide, 4x10G SFP+ for uplink, 12x1G SFP for downlink, CONSOLE and SNMP ports for management, one hot-swappable AC power supply and one hot-swappable DC power supply