



RAX721-C Series

With the constantly rising of user bandwidth, operators also put forward higher demands for the port bandwidth and performance of aggregator.

Raisecom RAX721-C series are next-generation carrier-class pre-aggregation and aggregation products that provide high performance, high reliability and high densities 1GE, 10GE, 25GE, 40GE and 100GE port types in a compact standard 1U enclosure, flexibly adapting to diversified operator's network bandwidth requirements. They support rich Layer 2 and Layer 3 features, with advanced QoS features, customers' services at different levels can be flexibly and finely scheduled, and support various VPN services over IP/MPLS networks, to implement services isolation through network virtualization, greatly improved network capacity and utilization, and help customers build a powerful next-generation packet transport network.



RAX721-C-2C24



RAX721-C-6C48

Highlights >>

Power Reliability	Dual hot-swappable power supplies with voltage/temperature monitoring
Flexible Service Delivery	Standard CE2.0 service (E-Line, E-LAN, E-Tree, E-Access) delivery VPWS, VPLS, H-VPLS, MS-PW, L3VPN, 6PE/6VPE over MPLS EVPN over MPLS/SR on roadmap* Flexible traffic classification guarantees customer-defined service SLA
Multicast	Full set of multicast routing and control protocols implemented for flexible multiple service access and aggregation
Committed Network Resiliency	Protection mechanism including STP/RSTP/MSTP, switchport backup, IEEE802.1ax Link Aggregation, MC-LAG, ITU-T G.8032 ERPS, Static/dynamic IP FRR, TE/LDP/VPN/EVPN* FRR, VRRP, MPLS PW redundancy, MPLS TE hot-standby* guarantee network resiliency in chain, star, mesh, dual-homing and ring topologies
OAM & Hardware-based SLA	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 with test result showing on user-friendly GUI BFD helps customer achieve fast fault detection for dynamic IP services and MPLS services
IPv4/v6 Dual-Stack	IPv6 for management and services 6PE/6VPE support helps customers plan their future network evolution

* Features that will be available in future release

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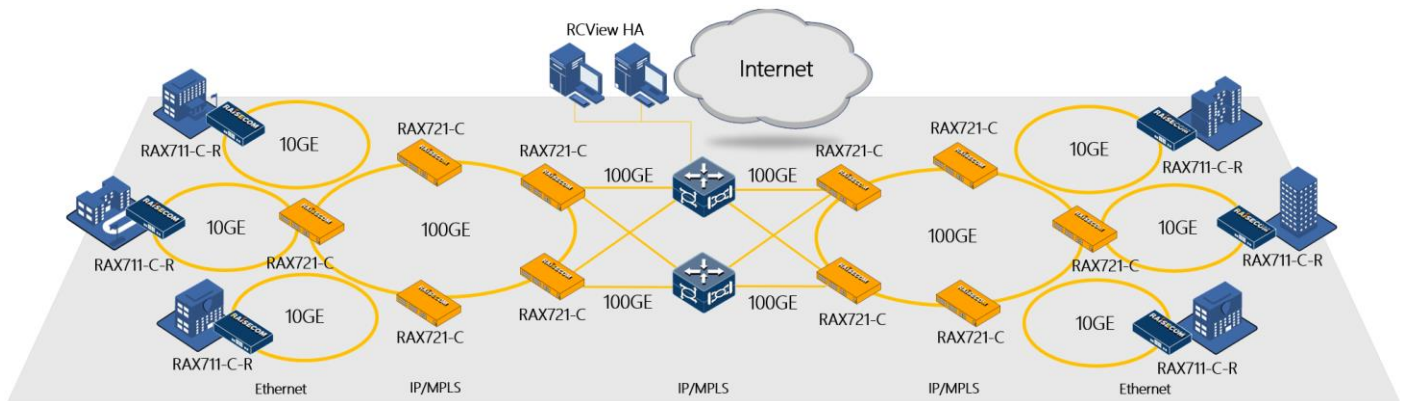
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Application >>

Metro Ethernet Pre-aggregation and Aggregation

RAX721-C series working with Raisecom intelligent CPE RAX711 series can deliver high-capacity 1GE/10GE/40GE/100GE diversified metro ethernet pre-aggregation and aggregation. support complete standard CE2.0 E-Line, E-LAN, E-Tree and E-Access services, as well as VPWS, VPLS, H-VPLS, MS-PW, and BGP L3VPN services over MPLS, 6PE, 6VPE over MPLS, EVPN* over SR MPLS and EVPN* over SRv6* as a PE device. The service delivery can be very flexible and reliable. ZTP and hardware-based CFM and SLA offer service providers an easier way to deploy and manage either devices or services. Various fault detection and protection mechanisms guarantee high availability and stability of services. The whole solution is simply and completely managed on brand new B/S structured RCView system.



Key Features >>

Ethernet Service

- MAC addresses
- Jumbo frame up to 12288 Bytes
- 4,094 VLANs, IEEE802.1Q, IEEE802.1P, IEEE802.1ad QinQ
- Layer 2 control protocol (L2CP) handling
- Super VLANs
- Private VLAN (PVLAN) with primary, community and isolated type

IP Service

- IPv4/v6 static routing
- RIPv1/v2/ng, OSPFv2/v3, ISISv4/v6 and BGP4/4+
- SR-MPLS
- PMTU IPv4/v6
- VRF Lite IPv4/v6
- DHCPv4/v6* server, client, relay, snooping

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MPLS Service	<ul style="list-style-type: none">• MPLS L2VPN: VPWS, VPLS, H-VPLS, MS-PW• MPLS L3VPN• MPLS EVPN*• 6PE/6VPE• Inter-AS MPLS L2VPN Option A, C• Inter-AS MPLS L3VPN Option A, C• Static CR-LSP, LDP, CSPF, RSVP-TE, tunnel policy
Multicast	<ul style="list-style-type: none">• IGMP v1, v2, v3• IGMP Snooping, MVR, VLAN copy, Proxy• MLD v1, v2*• MLD Snooping*• PIM-SM and PIM-SSM IPv4/v6*• NG-MVPN
QoS	<ul style="list-style-type: none">• Flexible Traffic classification base on MAC, IP, Port, VLAN, CoS, DSCP, etc.• Traffic policing• Hierarchical CAR• H-QoS*• 8 local priority, 8 queues per port• WRED• Traffic shaping per queue/port• SP/WRR/SP+WRR queue scheduling• 3-level H-QoS
Reliability	<ul style="list-style-type: none">• NSF• IEEE802.1ax Link aggregation group, manual, LACP• Multi-chassis LAG*• Switchport backup• STP, RSTP, MSTP, MRSTP• ITU-T G.8032 ERPS based on port or CFM, switchover time less than 50ms• Loop detection• Ethernet fault propagation, MPLS PW fault propagation• ULDP• IPv4/v6 ECMP• Static/dynamic IPv4/v6 FRR, TE/LDP/VPN FRR• VRRP• MPLS PW redundancy, MPLS TE hot-standby*
OAM	<ul style="list-style-type: none">• 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

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- TWAMP-Lite for Ethernet, IP, MPLS L3VPN, 6PE/6VPE*
- SAT: RFC2544, Y.1564
- Layer 2 loopback with MAC swap
- MPLS ping and traceroute
- VCCV ping and traceroute
- BFD for interface, static routing, RIP, OSPF, ISIS, BGP, LDP, LSP, CR-LSP*, PW, MS-PW*, VRRP, FRR, PIM*
- Dying Gasp in case of power failure

Security

- CPU CAR
- CPU anti-attack
- DHCPv4/v6 Snooping
- ARP filter, DAI
- IPv4/v6* IPSP
- DOT1X
- ACL based on VLAN, CoS, MAC, EtherType, IP or user-define
- RADIUS, TACACS+
- Storm control (broadcast, multicast, DLF)
- Port-security MAC

Maintenance and Management

- Zero-Touch Provisioning
- SNMP v1/v2/v3
- Netconf, Telemetry*
- 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
- IEEE1588v2 TC*
- Sync E

* Features that will be available in future release

Model Comparison >>

Model	RAX721-C-2C24	RAX721-C-6C48
Switching capacity	640Gbps	2.88Tbps
Interface	2 x 100G/40G QSFP28/QSFP+	6 x 100G/40G QSFP28/QSFP+

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	24 x 10G/1G/100M SFP+/SFP	48 x 10G/1G SFP+/SFP
Power Supplies	2 hot-swappable AC/DC power supplies provide 1+1 redundancy AC:220V, 100~240VAC DC: -48V, -36~-72V	2 hot-swappable AC/DC power supplies provide 1+1 redundancy AC:220V, 100~240VAC DC: -48V, -36~-72V
Power consumption	≤ 73W	≤ 347.8W
Operating Temperature (Below altitude 1800m)	-5~55°C*	-10~55°C*
Humidity	10~90% non-condensing	10~90% non-condensing
Physical Specification	1RU 444(W)mm x 360(D)mm x 44(H)mm Weight: 4.47kg	1RU 440(W)mm x 360(D)mm x 44(H)mm Weight: 7.68kg

* The maximum operating temperature is reduced to 45°C when using 100G 80KM Optical module, and 50°C when using 100G 40KM Optical module

Compliances >>

Standards & Protocols

CE, UL, FCC compliance

EMC Class A

RoHS compliance

IEEE802.3, 802.3u, 802.3z, 802.3-2008

IEEE802.1AB, 802.1D, 802.1Q, 802.1p, 802.1ad, 802.1ax,

IEEE802.3ah, 802.1ag,

IEEE1588v2

ITU-T G.8031, G.8032, ITU-T Y.1731

MEF CE2.0 Compliance, MEF6, 9, 10, 11, 13, 14, 16, 17, 20, 31, 36

RFC826, 768, 792, 793, 1112, 1195, 1771, 1772, 1997, 2131, 2132, 2236, 2328, 2362, 2439, 2710, 2763, 2966, 3031, 3032, 3034, 3035, 3036, 3037, 3046, 3065, 3101, 3107, 3137, 3209, 3277, 3315, 3376, 3473, 3567, 3618, 3623, 3630, 4090, 4182, 4271, 4273, 4377, 4378, 4379, 4443, 4447, 4448, 4541, 4605, 4649, 4760, 4761, 4762, 4893, 5036, 5187, 5286, 5357, 5462, 5575, 5659, 5883, 6511, 7130

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Ordering Information >>

Equipment

Part No.	Description
RAX721-C-2C24	Standard 1U, 19" standalone IP/MPLS pre-aggregation device, 2 x 100G/40G QSFP28/QSFP+ for uplink, 24 x 10G/1G/100M SFP+/SFP for downlink, CONSOLE and SNMP ports for management -AC/D: dual hot-swappable AC power supply -AC/S: single hot-swappable AC power supply and single FANS310 module -DC/D: dual hot-swappable DC power supply -DC/S: single hot-swappable DC power supply and single FANS310 module -AC_DC: one hot-swappable AC power supply and one hot-swappable DC power supply
RAX721-C-6C48	Standard 1U, 19" standalone IP/MPLS pre-aggregation device, 6 x 100G/40G QSFP28/QSFP+ for uplink, 48 x 10G/1G SFP+/SFP for downlink, 2FANS, CONSOLE and SNMP ports for management -AC/D: dual hot-swappable AC power supply -AC/S: single hot-swappable AC power supply -DC/D: dual hot-swappable DC power supply -DC/S: single hot-swappable DC power supply -AC_DC: one hot-swappable AC power supply and one hot-swappable DC power supply

Power Supplies

Part No.	Description
RPA1221-S-220S12	AC power supply module for RAX721-C-2C24
RPD1241-48S12	DC power supply module for RAX721-C-2C24
PAK550-220D12+12-CRPS	AC power supply module for RAX721-C-6C48
PDK550-48D12+12-CRPS	DC power supply module for RAX721-C-6C48

Fan Module

Part No.	Description
FANS310	Fan module for RAX721-C-2C24
FANS339	Fan module for RAX721-C-6C48

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