



RG-RSR30-XA Series 10GE Multi-service Access Routers



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Product Pictures



Front View of the RG-RSR30-XA



Rear View of the RG-RSR30-XA

Product Overview

The RG-RSR30-XA series 10GE multi-service access router is the next-generation fixed aggregation router innovatively launched by Ruijie Network to cope with enterprise network cloud architecture and cloud service demands.

It provides high-density 10GE interfaces, while comprehensively enhancing performance, forwarding capacity, reliability, and other aspects. It comes with a built-in stateful firewall function, providing excellent capabilities to defend against traffic attacks. It also boasts a wide range of software features, including Multiprotocol Label Switching (MPLS), Virtual Private Network (VPN), multicast, IPv6, and Network Address Translation (NAT). Additionally, it offers rich backup solutions and QoS features, without the need for separate software licenses or service cards, saving investment costs.

It supports the next-generation expansion module HSIC card. The HSIC card supports up to 10 Gbps bus bandwidth, and LAN and WAN HSIC cards are available to support more combined applications. The HSIC card is hot-swappable, which is only available on a high-end router. The line card can be added or replaced online without affecting forwarding of other services. The router also supports power module redundancy, which enhances device reliability.

It has one model: RG-RSR30-XA-24.

It is fit for the egress of a larger-scale campus for finance, government, and enterprise sectors, and can function as the aggregation device of the headquarters.

| Product Highlights

Full-Featured Service Router in Diverse Scenarios

- Routing, switching, security (IPsec), egress (NAT), and 4G/5G
- E1/POS/GE/10GE rates

Carrier-Class Reliability

- BOOT dual planes, ensuring stable operation with 99.999% uptime
- Redundancy of key components such as fan modules and power modules

| Product Features

Multi-service Integration and All-in-One

Advanced Hardware Architecture

Multi-core processor and distributed hardware architecture, meeting diversified network access needs
Distributed hardware architecture that separates the control plane from the forwarding plane, and delivers excellent forwarding performance and reliability

Powerful Routing Capabilities

IPv4/IPv6 static routing and dynamic routing protocols including the Open Shortest Path First (OSPF), Routing Information Protocol (RIP), Intermediate System to Intermediate System (IS-IS), and Border Gateway Protocol (BGP), adapting to different networking requirements of various industries
Policy-based routing (PBR) used to flexibly control and schedule network traffic, satisfying routing requirements of finance, government, and enterprise networks
High-performance flow table, fast forwarding technologies, and functions such as Graceful Restart (GR), Fast Reroute (FRR), and Bidirectional Forwarding Detection (BFD), realizing fast convergence of traditional routing protocols on large-sized networks

Low Cost, High Performance

The RG-RSR30-XA has a height of up to 1 RU (1.75 in.). It provides high-density 10GE interfaces, adopts cutting-edge orchestration technology, and uses the hardware engine to accelerate service processing, while delivering high-performance, high-reliability service forwarding capabilities.

Rich VPN Features

Internet Protocol Security (IPsec), Generic Routing Encapsulation (GRE), Dynamic Multipoint Virtual Private Network (DMVPN), and other VPN applications
Multiprotocol Label Switching (MPLS) L3VPN applications
Layer 2 Tunneling Protocol (L2TP) for Virtual Private Dialup Network (VPDN) applications, and L2TP/PPTP pass-through for Network Address Translation (NAT) applications

Various Security Features

Built-in encryption engine, substantially improving encryption and decryption performance
Rich security features, including the firewall, IPsec VPN, Secure Shell (SSH), intrusion defense, DDoS defense, attack defense, anti-ARP spoofing, DHCP snooping, and digital certificate
Authentication, Authorization, and Accounting (AAA), and RADIUS and TACACS+ authentication

All-round MPLS Functions

All-round MPLS protocols including MPLS L2VPN and L3VPN, providing a high-performance, secure, and hierarchical MPLS VPN solution
Distributed multicast VPN, enabling high-performance multicast services on an MPLS VPN network to cope with multicast services such as video conferencing and distance learning
MPLS Label Distribution Protocol (LDP) FRR for fast label switched path (LSP) switching

Complete IPv6 Solutions

IPv4/IPv6 dual stack, and multiple IPv6 routing technologies such as static routing, Equal-cost Multi-path Routing (ECMP), PBR, OSPFv3, RIPng, BGP4+, and IS-ISv6, supporting future deployment of large-scale IPv6 networks

Diverse multicast functions including Internet Group Management Protocol (IGMP), Protocol Independent Multicast - Dense Mode (PIM-DM), Distance Vector Multicast Routing Protocol (DVMRP), and PIM Sparse Mode (PIM-SM) to meet video application requirements

Ease of Use and Management

Command line interface (CLI), web, Simple Network Management Protocol (SNMP), and other modes

Onboarding through Zero Touch Provisioning (ZTP), and onsite configuration import and software upgrade through the USB flash drive and wizard, avoiding complex CLI operations, simplifying device deployment, and greatly improving deployment efficiency

High Reliability

BFD, BFD for static routes, and BFD for RIP/OSPF/BGP/IS-IS, achieving FRR and millisecond-level switching

Hot swapping of line cards: Services are not affected when line cards are added or replaced online, which improves the device reliability.

The RG-RSR30-XA series supports dual power module redundancy to enhance reliability.

Product Specifications

Hardware Specifications

Hardware Specifications	RG-RSR30-XA-24
Interface Specifications	
Fixed WAN port	8 x 10GE optical ports 16 x GE electrical ports
Power modules	2 redundant power modules (hot swapping)
Fixed management ports	1 x console port, 1 x USB 2.0 port
Expansion slot	4
System Specifications	
Switching capacity	10 Gbps
ARP table size	24,000
Number of IPv4 unicast routes	300,000

Hardware Specifications	RG-RSR30-XA-24
Number of IPv4 multicast routes	2,048
Number of IPv6 unicast routes	300,000
Number of IPv6 multicast routes	1,024
Number of IGMP groups	1,000
Number of MLD groups	1,000
Number of ACEs	Ingress: 16,000 Egress: 16,000
Dimensions and Weight	
Dimensions (W x D x H)	440 mm x 420 mm x 44 mm (17.32 inch. x 16.56 in. x 1.73 in.), 1 RU
Weight (full configuration)	< 7.8 kg (17.20 lbs) (excluding packaging)
Power and Consumption	
Maximum power consumption	< 150 W
Maximum output power	RG-PA150IB-F: 150 W @ 10 A power cord
Rated input voltage	RG-PA150IB-F: 100 V AC to 240 V AC, 50 Hz to 60 Hz
Maximum input voltage	RG-PA150IB-F: 90 V AC to 264 V AC, 47Hz~63Hz
Environment and Reliability	
MTBF	> 100,000 hours
Operating temperature	0°C to 50°C (32°F to 122°F)
Storage temperature	-40°C to +70°C (-40°F to +158°F)
Operating humidity	10% to 90% RH (non-condensing)

Hardware Specifications	RG-RSR30-XA-24
Storage humidity	5% to 95% RH (non-condensing)
Interface surge protection	6 kV
Operating altitude	0–3000 m (0–9,842.52 ft.)

Software Specifications

RG-RSR30-XA Series	
Model	Description
Ethernet switching	Jumbo frame length: 1,578 bytes
	802.3az EEE
	LLDP/LLDP-MED
IP service	Static and dynamic ARP
	DHCP server, DHCP relay, and DHCP client
	FTP, TFTP, FTPv6, and TFTPv6
	NTP, SNTP, and NTPv6
	NAT
	Strict and loose RPF uRPF ignoring default routes
	ND
	DNS
	IPv4/IPv6 VRF

RG-RSR30-XA Series	
Model	Description
IP service	DHCP server, DHCPv6 client, and DHCPv6 relay
	ND and ND snooping
	IPv6 GRE tunnel
IP routing	IPv4 and IPv6 static routing, and static blackhole routes
	RIP v1/v2 and RIPng
	OSPFv2 and OSPFv3
	IS-ISv4 and IS-ISv6
	BGP and BGP4+
	Routing policies
	BGP4, BGP4+, and MP-BGP
	IPv4 VRRP v2/v3 and IPv6 VRRP v3
	IPv4 and IPv6 PBR
Multicast	IGMP v1/v2/v3
	Static multicast routing
	PIM-DM, PIM-SM, PIM-SSM, PIM-SSMv6, PIM-SMv6, and other multicast routing protocols
	MSDP for inter-domain multicast
	MLDv1/v2

RG-RSR30-XA Series	
Model	Description
MPLS	Basic MPLS functions
	MPLS forwarding
	6PE/6VPE interconnection with IPv4/IPv6 MPLS backbone network
	MPLS MIB (RFC 1273, 4265, 4382)
	L3VPN
	LSP
	LDP
ACL and QoS	Standard IP ACLs
	Extended IP ACLs
	Extended MAC ACLs
	IPv6 ACLs
	Applying ACLs to interfaces
	MPLS QoS
Security	Multiple AAA modes
	RADIUS authentication, authorization, and accounting
	TACACS+
	Attack defense
	Password security

RG-RSR30-XA Series	
Model	Description
Security	RNFP
	CPP
	FPM
	PKI
	IPsec VPN
	VPDN
	SSHv1 and SSHv2
	Global IP-MAC binding
	Login authentication and password security
Reliability	BFD
	GR
	DLDP
	ECMP
	Hot swapping
NMS and maintenance	SPAN and ERSPAN
	SNMP v1/v2c/v3
	System operation logging
	IPFIX
	Command line configuration through console, AUX Modem, Telnet, and SSH

RG-RSR30-XA Series	
Model	Description
NMS and maintenance	RMON (1, 2, 3, 9)
	NETCONF
	CWMP
	gRPC
Interface	Ethernet interface, E1/CE1 interface, and 4G interface

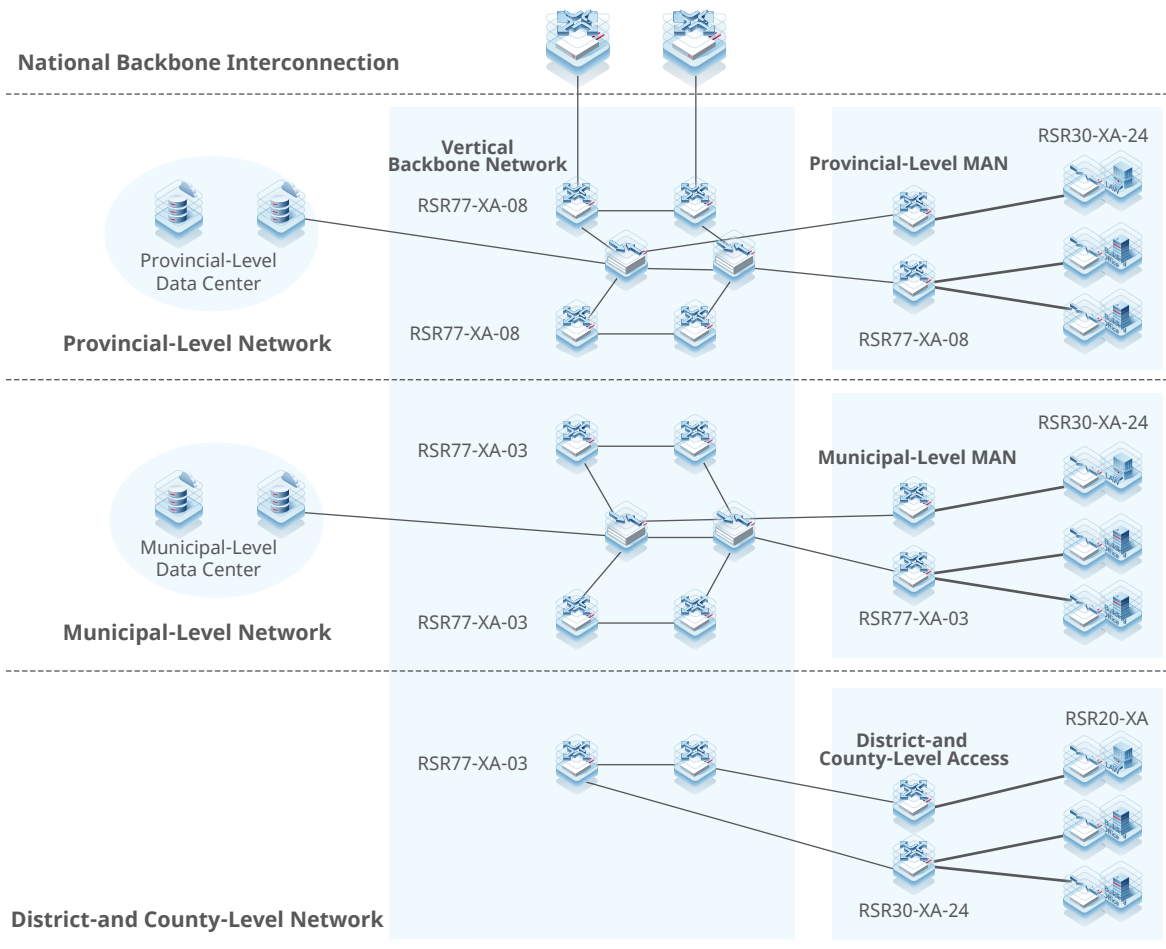
Protocol Compliance

RG-RSR30-XA Series	
Organization	Standards and Protocol
IETF	RFC 1157 A Simple Network Management Protocol (SNMP) RFC 1305 Network Time Protocol Version 3 (NTP) RFC 1349 Internet Protocol (IP) RFC 1350 TFTP Protocol (revision 2) RFC 1519 CIDR RFC 1591 Domain Name System Structure and Delegation RFC 1643 Ethernet Interface MIB RFC 1757 Remote Network Monitoring (RMON) RFC 1812 Requirements for IP Version 4 Router RFC 1901 Introduction to Community-based SNMPv2 RFC 1902-1907 SNMP v2 RFC 1918 Address Allocation for Private Internet RFC 2131 Dynamic Host Configuration Protocol (DHCP) RFC 2132 DHCP Options and BOOTP Vendor Extensions RFC 2571 SNMP Management Frameworks RFC 2863 The Interfaces Group MIB RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only) RFC 3046 DHCP Option82 RFC 3417 (SNMP Transport Mappings) RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP) RFC 4022 MIB for TCP RFC 768 User Datagram Protocol (UDP) RFC 783 TFTP Protocol (revision 2) RFC 792 Internet Control Message Protocol (ICMP) RFC 793 Transmission Control Protocol (TCP) RFC 813 Window and Acknowledgement Strategy in TCP RFC 815 IP datagram reassembly algorithms RFC 826 Ethernet Address Resolution Protocol (ARP)

RG-RSR30-XA Series	
Organization	Standards and Protocol
IETF	RFC 854 Telnet Protocol RFC 959 File Transfer Protocol (FTP) RFC 1058 Routing Information Protocol (RIP) RFC 1583 OSPF Version 2 RFC 1981 Path MTU Discovery for IP version 6 RFC 1997 BGP Communities Attribute RFC 2236 IGMP RFC 2328 OSPF Version 2 RFC 2385 Protection of BGP Sessions via the TCP MD5 Signature Option RFC 2439 BGP Route Flap Damping RFC 2460 Internet Protocol, Version 6 (IPv6) RFC 2461 Neighbor Discovery for IP Version 6 (IPv6) RFC 2462 IPv6 Stateless Address Auto configuration RFC 2463 Internet Control Message Protocol for IPv6 (ICMPv6) RFC 2545 Use of BGP 4 Multiprotocol Extensions for IPv6 Inter Domain Routing RFC 2711 IPv6 Router Alert Option RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol RFC 2918 Route Refresh Capability for BGP 4 RFC 2934 Protocol Independent Multicast MIB for IPv4 RFC 3065 Autonomous System Confederation for BGP RFC 3101 OSPF Not so stubby area option RFC 3137 OSPF Stub Router Advertisement sFlow RFC 3509 Alternative Implementations of OSPF Area Border Routers RFC 3513 IP Version 6 Addressing Architecture RFC 3623 Graceful OSPF Restart RFC 3768 VRRP RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6 RFC 3973 PIM Dense Mode RFC 4271 A Border Gateway Protocol 4 (BGP 4) RFC 4273 Definitions of Managed Objects for BGP 4 RFC 4360 BGP Extended Communities Attribute RFC 4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP) RFC 4486 Subcodes for BGP Cease Notification Message RFC 4552 Authentication/Confidentiality for OSPFv3 RFC 4724 Graceful Restart Mechanism for BGP RFC 4750 OSPFv2 MIB partial support no SetMIB RFC 4760 Multiprotocol Extensions for BGP 4 RFC 4940 IANA Considerations for OSPF RFC 5065 Autonomous System Confederation for BGP RFC 5187 OSPFv3 Graceful Restart RFC 5340 OSPFv3 for IPv6 RFC 5492 Capabilities Advertisement with BGP 4
IEEE	IEEE 802.2 Logical Link Control IEEE 802.1ab Link Layer Discovery Protocol IEEE 802.1ad Provider Bridges IEEE 802.1ax/IEEE802.3ad Link Aggregation IEEE 802.1D Media Access Control (MAC) Bridges IEEE 802.1Q Virtual Bridged Local Area Networks (VLAN) IEEE 802.3ad Link Aggregation Control Protocol (LACP) IEEE Std 802.3x Full Duplex and flow control

| Typical Applications

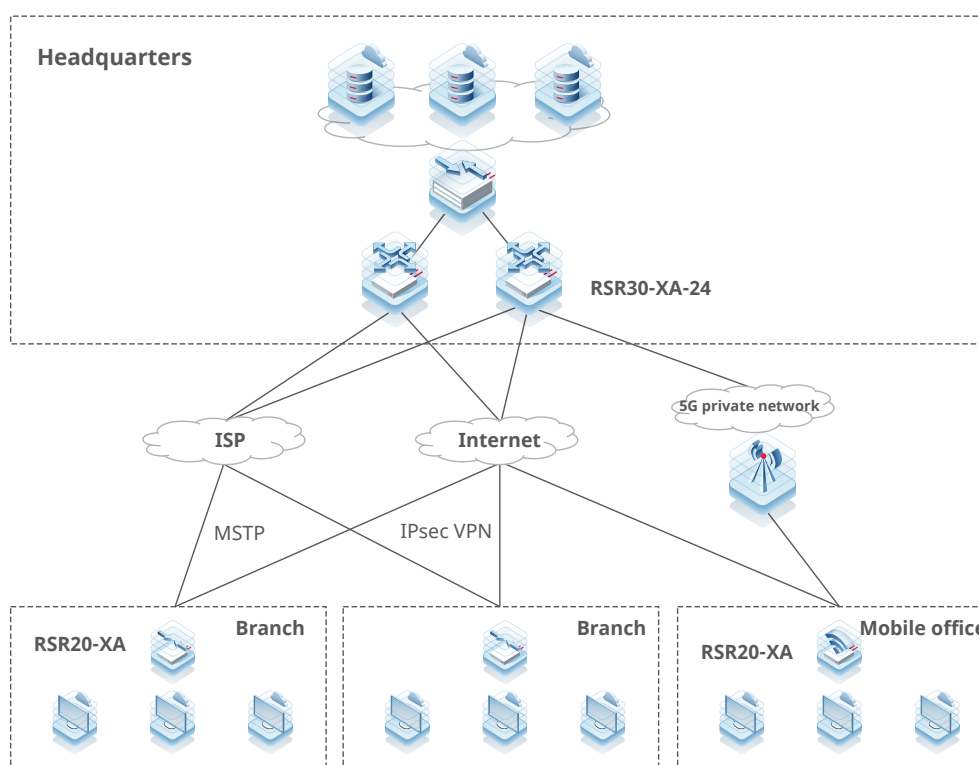
E-government Network



Networking:

High-end Ruijie routers are used as district- and county-level aggregation routers, and street- and community-level sub-bureaus adopt the RSR30-XA series routers as integrated routing and switching devices. The RG-RSR30-XA series supports MSTP, 4G/5G, E1, Ethernet, and other access modes.

Enterprise Branch Interconnection



Networking:

The RSR30-XA series routers are deployed in the headquarters, and the RSR20-XA series routers are deployed in branches.

The RG-RSR30-XA series supports MSTP, GE, E1, 4G/5G, and other access modes.

It supports IPsec VPN, AAA, digital certificates, and other technologies.

Ordering Guide

Perform the following steps to configure an RG-RSR30-XA:

- Select the chassis based on the specific product model.
- Select a power module according to power supply requirements of the device. At least one power module is required.
- Select line cards as needed.
- Select accessories such as optical modules, antennas, cables, and adapters according to interface types.

Models marked with asterisks (*) in the ordering information are available later.

| Ordering Information

Chassis

Model	Description
RG-RSR30-XA-24	RG-RSR30-XA-24 chassis, 8 x 10GE optical WAN ports and 16 x GE electrical WAN ports, 4 x Expansion slots, 1 x USB 2.0 port, 1 x console port

Power Modules

Model	Description
RG-PA150IB-F	150 W AC power module

Line Card

Model	Description
HSIC-2E1/CE1	2-port E1/CE1 module (the cable needs to be purchased separately)
HSIC-4G-LTE-G	1-port full-mode 4G and encryption module (the antenna needs to be purchased separately)
*HSIC-5G-NR	1-port full-mode 5G and encryption module (the antenna needs to be purchased separately)
*HSIC-1POS-STM1	1-port OC-3c/STM-1c POS interface card (the optical module needs to be purchased separately)

Note: The item marked with the asterisk (*) will be available in the future.

| Warranty

For more information about warranty terms and period, contact your local sales agency:

- Warranty terms: <https://www.ruijienetworks.com/support/servicepolicy>
- Warranty period: <https://www.ruijienetworks.com/support/servicepolicy/Service-Support-Summary/>

Note: The warranty terms are subject to the terms of different countries and distributors.

| More Information

For more information about Ruijie Networks, visit the official Ruijie website or contact your local sales agency:

- Ruijie Networks official website: <https://www.ruijienetworks.com/>
- Online support: <https://www.ruijienetworks.com/support>
- Hotline support: <https://www.ruijienetworks.com/support/hotline>
- Email support: service_rj@ruijienetworks.com



Ruijie Networks Co., Ltd.

For more information, visit www.ruijienetworks.com or call 86-400-620-8818.