

# **Ruijie RG-RSR20-X**

## **Multi-Service Router Series**

### **Datasheet**

Ruijie Networks Co., Ltd.

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# 1 Product Pictures



RSR20-X-28 Multi-Service Router (front view)



RSR20-X-28 Multi-Service Router (rear view)

## 2 Product Overview

The RG-RSR20-X Gigabit Router Series, integrating routing, switching and security into one piece, is Ruijie's next-generation access product as an extension of the successful RSR (Reliable Multi-Service Router) Series. In addition to the comprehensive upgrade in terms of performance, port density, speed and reliability, the RG-RSR20-X Series provides an integrated solution which enables scalable deployment of new applications for the financial sector, government and enterprises while minimizing the investment cost.

Operating on Ruijie's patented RGOS system, the RG-RSR20-X Multi-Service Router Series can run a breadth of services without compromising the forwarding performance, enabled by Ruijie's VCPU, REF, X-Flow and other patented technologies. The built-in firewall feature advances the traffic attack protection. The router series provides abundant software features and supports a variety of technologies such as MPLS, VPN, multicast, IPv6, NAT and MVRP, enriched backup solutions as well as QoS/HQoS to significantly save user investment without any further purchase of software licenses or service modules.

The RSR20-X Series, supporting the next-generation HSIC expansion module, can offer up to 10G bandwidth and can be expanded to provide enriched and comprehensive features. The hot swapping feature of the HSIC module, which is exclusive on the high-end routers, enables adding or replacing line cards without interruption to the operation of other services. In addition, the RSR20-X Series supports AC power redundancy, thereby tremendously improving the reliability of the devices.

## 3 Product Features

### 3.1 Multi-Service Integration

#### 3.1.1 Powerful Routing Capabilities

- The Ruijie RG-RSR20-X Series supports IPv4/IPv6 static routing and IPv4/IPv6 dynamic routing including OSPF, RIP, ISIS and BGP to meet the diverse networking requirements.
- The policy routing feature can flexibly control and schedule the network traffic to satisfy the routing requirements of finance, government, enterprises and other sectors.
- Powered by the high-performance flow table and fast forwarding technology, the RG-RSR20-X Series improves the convergence mechanism of the traditional routing protocol with GR, FRR, BFD and other features to achieve fast convergence of the large-scale networks.

#### 3.1.2 Comprehensive Switching Features

- The fixed Ethernet switch ports of the RG-RSR20-X Series realize the integration of router and switch to significantly reduce user investment and maintenance costs.
- The switch ports support comprehensive switching features and Gigabit forwarding at line rate.

#### 3.1.3 Abundant VPN Features

- Supports IPsec, GRE, DMVPN and other VPN features.
- Supports MPLS L2/L3 VPN features.
- Supports L2TP/PPTP VPDN and L2TP/PPTP penetration for NAT.

### 3.1.4 Robust Security Design

- The built-in encryption engine significantly enhances the encryption and decryption performance.
- The abundant security features include firewall, IPsec VPN, Secure Shell (SSH), intrusion protection, DDoS protection, attack protection, anti-ARP spoofing, DHCP snooping and digital certification.
- The RG-RSR20-X Series supports Authentication, Authorization and Accounting (AAA), RADIUS and TACACS+ authentication.
- The RG-RSR20-X Series supports 802.1x, web and other access authentication modes.

### 3.1.5 Extensive MPLS Features

- Supports extensive MPLS protocols as well as comprehensive MPLS L2 VPN and L3 VPN to ensure the high-performance, high-security and multi-layer MPLS VPN solutions.
- Multicast VPN is also supported by the RG-RSR20-X Series. It can enable the high-performance multicast service online in the MPLS VPN in order to guarantee multicast services such as video conferencing and distant learning.
- Supports MPLS LDP FRR to ensure the fast LSP switching.

### 3.1.6 Integrated IPv6 Solution

- Fully supports IPv4/IPv6 dual stack and multiple IPv6 routing technologies, including static routing, ECMP, PBR, OSPFv3, RIPng, BGP4+ and IS-ISv6 to meet the requirements of large-scale IPv6 network deployment.
- Supports multiple IPv4-to-IPv6 transition technologies, such as dual stack, manual tunnel, ISATAP and 6to4 tunnel, to effectively facilitate the transition from IPv4 network to IPv6 network. Other IPv6-related supporting technologies include automatic address configuration, ICMPv6, ICMPv6 redirection, ACL for IPv6, TCP/UDP for IPv6, etc.

### 3.1.7 Video Playback and Optimization

- Supports rich multi-cast features, including IGMP, PIM-DM, DVMRP, PIM-SM

and other multi-cast protocols to meet the requirements of video applications.

- The exclusive ITO patented technology eliminates the problem of video playback interruptions caused by network jitter.

### 3.1.8 Comprehensive H-QoS/QoS Policies

- The RG-RSR20-X Series supports H-QoS which enables grouping of network traffic into 5 levels according to services, users, user groups and ports to achieve the hierarchical QoS. The service level, which is the lowest level, ensures the QoS among the multi-service traffic of each user, and the next level guarantees the QoS within multiple users of the same group. Thereafter the corresponding QoS of the user groups and physical ports are achieved so that ultimately the router could centrally manage the end-to-end QoS control. This would increase the QoS accuracy of the aggregation devices while elevating the user service quality of the entire network.
- The series supports a variety of QoS queue scheduling policies such as PQ, CQ, FIFO, WFQ, CBWFQ, LLQ, and RTPQ, as well as H-QoS queue scheduling policies such as GQ, UQ, GQ, VoQ, CQ and LPQ.

## 3.2 Multi-Service Line Rate Concurrency

- The RG-RSR20-X Series supports Ruijie's exclusive X-Flow technology to ensure the router performance is not affected when services such as ACL, QoS, PBR and NAT are initiated, and deliver the perfect integration of service and performance.
- The state-of-the-art VCPU design divides the CPU resources into management resources and data forwarding resources. The two resources can be automatically adjusted and distributed according to resource utilization to ensure that the CLI, SNMP, Telnet, routing protocols and other management applications will not be affected when the routers are performing data forwarding at maximum intensity or under packet attacks.

## 3.3 Ease of Use and Management

- The RG-RSR20-X Series supports a variety of management modes such as command line, web, SNMP and CWMP.
- The series supports zero configuration. On-site configuration import and software upgrades are enabled via USB and configuration wizard to avert the complicated command line operation, reduce the device deployment difficulty

and improve the deployment efficiency.

## 3.4 High Reliability

- Supports BFD, static routing, RIP/OSPF/BGP/ISIS dynamic routing to achieve FRR and ensure failover within milliseconds
- The hot swapping feature of line cards enables adding or replacing line card modules without affecting other services to improve the device reliability.
- The RG-RSR20-X Series supports the dual power redundancy to enhance its reliability.
- The fanless design of RG-RSR20-X-28 reduces the noise level and energy consumption while preventing failure caused by the malfunction of fan component.



## 4 Technical Specifications

Model	RSR20-X-28
Module Slots	4 HSIC slots
Fixed Ports	Fixed Switch Ports: 24 1000BASE-T ports Fixed WAN Ports: 2 1000BASE-T ports, 2 GE combo ports 1 USB port 1 SD card slot 1 console/AUX port
Available Modules	HSIC-2E1/CE1 RG-PA60
Flash	256MB
Memory	1GB
Packet Forwarding Rate	1.6Mpps
LAN Protocol	802.1x authentication, STP / RSTP / MSTP, RLDP, LLDP
WAN Protocol	PPPoE, HDLC, PPP, MP
Routing Protocol	Static routing, RIPv1/v2, OSPFv2/v3, BGP4/BGP4+, RIPng, IS-ISv4/v6, IGMPv1/v2/v3, IGMP proxy, PIM-DM, PIM-SM, PIM-SSM
MPLS	MPLS forwarding, LDP FRR, MPLS ping, MPLS traceroute, MPLS L3 VPN, MPLS L2 VPN, MPLS QoS, MPLS over GRE
IP Application	DHCP, DNS Client, NTP/SNTP, uRPF, TFTP+FTP(LM), Telnet, UDP helper, HTTP server, IPFIX
IPv6	Manual tunnel, Auto tunnel, GRE tunnel, 6to4 tunnel, ISATAP tunnel, 6RD, NAT-PT, NAT64
QoS	LLQ (PQ+CBWFQ), RTPQ/LLQ, CAR, GTS, WRED, HQoS

Network Security	AAA	Local user, Radius, TACACS+
	SSH	SSH v1.5, SSH v2.0
	Firewall	Packet filtering, state detection, URL filtering
	NAT	Static NAT, dynamic NAT, Static NAPT, dynamic NAT, cross VPN NAT
	GRE	Support
	IPIP	Support
	VPDN	L2TP, PPTP, VPE
	IPsec	Support
	ACL	Standard ACL, extended ACL, time-based ACL, IPv6 ACL
IPsec	IPsec Tunnel	150
	IPsec one-way forwarding capacity (AES256)	Up to 193Kpps
High Availability		VRRP, DLDP, BFD, GR
Management		SNMP v1/v2c/v3, syslog, RMON, USB, SD
Dimensions (D x W x H) (mm)		340 x 440 x 44
Rack Height		1U
Weight (Maximum)		7kg (with packaging)
MTBF		>437,864 hours
Power Consumption		<48W
Input Voltage		100VAC~240VAC
Input Frequency		50Hz to 60Hz
Power Redundancy		Support
Temperature		Operating temperature: 0°C to 45°C

	Storage temperature: -40°C to 70°C
Humidity	Operating humidity: 5% to 95% RH (non-condensing)
	Storage humidity: 5% to 95% RH (non-condensing)

## 5 Ordering Information

Model	Description
RSR20-X Switch Series	
RG-RSR20-X-28	RG-RSR20-X-28 Router, 24 fixed 1000BASE-T ports, 4 fixed GE WAN ports, 4 HSIC slots, support hot swapping
HSIC Module	
HSIC-2E1/CE1	2-port E1/CE1 module
Power Module	
RG-PA60	AC power module

## 6 More Information

For more information about the Ruijie RG-RSR20-X Router Series, please visit <http://www.ruijienetworks.com> or contact your local Ruijie sales representative.



For further information, please visit our website <http://www.ruijienetworks.com>

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