



**HX4G**

Max. FXS/FXO ports: 4

Max. concurrent calls: 4



**MX8G**

Max. FXS/FXO ports: 8

Max. concurrent calls: 8

## Features

- IMS/SIP/MGCP protocols
- Unequalled configurability of FXS and FXO ports
- TLS/SRTP
- L2TP/OpenVPN client
- 500 routing and number-manipulation rules
- Configurable SIP ports and IP-address whitelist
- High-speed fax with maximum rate of 33,600 bps by T.38 or G.711 pass-through
- Polarity-reversal/busy-tone detection
- High availability & PSTN failover
- Auto provisioning
- Remote access via the New Rock Cloud
- Management with New Rock or third-party Element Management Systems (TR-069, SNMP)
- Interoperability with popular SIP servers, such as Cisco CallManager/ CUCM, Broadsoft, Microsoft Skype for Business (Lync), Huawei IMS, and Asterisk/Elastix
- Class I lightning protection

Developed for low-port-count applications, such as fax-terminal connectivity, small businesses, SOHO, and residential IP-telephony applications, the HX4G/MX8G gateways are integrated VoIP-FoIP devices that provide reliable and cost-efficient access methods for deploying converged communication solutions for network operators and enterprises.

The HX4G/MX8G are designed as a compact unit with 2, 4, or 8 FXS/FXO ports, 1 WAN port and 1 PC port (both are 10/100/1000Mbps Ethernet ports), which allows users to apply it as an All-in-One system capable of providing versatile solutions by connecting analog phone, fax and POS machine, IP telephony and PSTN.

## Comprehensive Feature Set with Intelligent Engine

As intelligent gateways running on embedded Linux operating system, the HX4G/MX8G are compatible with many highlighted features such as call forward, call transfer, 3-way conference, caller ID, DND, color ringback, forking, automatic routing, digitmap, PSTN failover, and much more to provide a complete and highly reliable VoIP solution applicable to nearly every application scenarios.

## High Reliability

The hardware design of the HX4G/MX8G, from architecture to component selection, take full consideration of improving their reliability.

In addition, with high availability featuring primary-standby, active-standby and load balance as well as PSTN failover designed to handle the failure of the SIP proxy servers, power supply and network, the users are provided with carrier class reliability with minimized potential downtime.

## Robust Protection against Intrusions

The HX4G/MX8G provide rich set of features to support perimeter protection against malicious intrusions, such as brute force logins and SIP attacks, ensuring a high level of security in your IP telephony environment.

## Remote Management and NAT Traversal

The HX4G/MX8G include the New Rock Cloud client, providing easy access with NAT traversal to endpoint devices and value-added applications for remote, real-time monitoring, maintenance, software upgrades, troubleshooting, data analysis, alarm notification, and remote packet capture.

## Specification

### Protocols

<b>Call control</b>	SIP/UDP and SIP/TCP (RFC3261), IMS (3GPP), MGCP (RFC3435)
<b>Network</b>	SSH, HTTP, HTTPS, DHCP/PPPoE client, Radius, DNS (A/SRV record), STUN

### Media Processing

<b>Caller ID</b>	Bellcore/Telcordia, ETSI, BT, DTMF
<b>Codec</b>	G.711 (a/μ), G.729a, G.722, G.722.2 Roadmap feature
<b>DTMF</b>	In-band audio, RFC2833, SIP-INFO
<b>Hook-flash</b>	Local processing, RFC2833, SIP-INFO
<b>Fax over IP</b>	T.38, G.711 pass-through T.38 compliant Group 3 Fax Relay Maximum fax rate of 33,600 bps (T.38)
<b>Disconnect modes</b>	Polarity reversal, Busy tone detection, Loop current
<b>QoS</b>	DiffServ, TOS, 802.1P/Q VLAN tagging
<b>Voice-quality enhancement</b>	Echo cancellation (G.168-2004), Jitter buffer, Silence suppression (VAD, CNG), PLC

### Voice

<b>Call transfer</b>	Blind transfer, Consultative transfer
<b>Call forward</b>	Call forward all, Call forward no answer, Call forward busy
<b>Call recording storage</b>	Remote recording server for storage
<b>Call settings</b>	Routing based on the caller or callee number, Digit map, 3-way calling, Speed dialing, Do not disturb, Call forking, Color ringback tones, Hunt group, Ring cadence, Message Waiting Indicator (MWI)

### Security

<b>Protocol</b>	HTTPS, SSH, TLS, SRTP
<b>Encryption</b>	Encrypted password/PIN
<b>Intrusion prevention</b>	Brute force login protection, Access list, Firewall, SIP-allowed IP addresses, Alarm and notification
<b>VLAN</b>	Auto discovery via DHCP, Manual configuration
<b>VPN client</b>	L2TP, OpenVPN

### High Availability

<b>Redundancy</b>	Primary-Standby, Active-Standby, Load balancing
<b>PSTN failover</b>	Power failure, Network failure

### Provisioning, Administration and Maintenance

<b>Device management</b>	New Rock Unified Management System, TR-069 management (TR-069, TR-104 and TR-106), SNMP
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<b>Remote access over TCP</b>	New Rock Cloud
<b>Auto provisioning</b>	Download configuration file via TFTP/FTP/HTTP/HTTPS, Obtaining ACS address via DHCP option 66 or redirection
<b>Log management</b>	8-level logs, Syslog
<b>Data capture</b>	Port capture, Packet capture
<b>Status and statistic</b>	Call status and history, Device status monitoring and statistics collection
<b>Upgrade</b>	Firmware upgrade via Web GUI or Auto provisioning

### Add-on Software

<b>Finder</b>	Obtains IP addresses of devices in a LAN environment
<b>Telegreeting</b>	Formats pre-prepared IVR audio files for uploads them into a device
<b>Recording Agent</b>	Receives recording streams in PCM and converts them into MP3 format. Includes management functions such as search, play, delete and backup

## Hardware

	HX4G	MX8G
CPU	Dual core, 880 MHz	Dual core, 880 MHz
RAM	128 MB	128 MB
Flash	16 MB	16 MB
H×W×D	30 × 150 × 109 mm	35 × 228 × 135.5 mm
Weight (net)	0.3 kg	0.825 kg
Power	12VDC/1.5A	12VDC/1.5A
Power consumption	6 W	12 W
Mounting	Desktop	
Operating	Temperature: 0 to 40°C Humidity: 10 to 90% RH (non-condensing)	
Storage	Temperature: -40 to 70°C Humidity: 5 to 90% RH (non-condensing)	

## Models

HX4G	FXS	FXO	MX8G	FXS	FXO
HX420G	0	2	MX8G-8S	8	0
HX402G	2	0	MX8G-8FXO	0	8
HX422G	2	2	MX8G-6S/2	6	2
HX404G	4	0	MX8G-4S/4	4	4
HX440G	0	4			