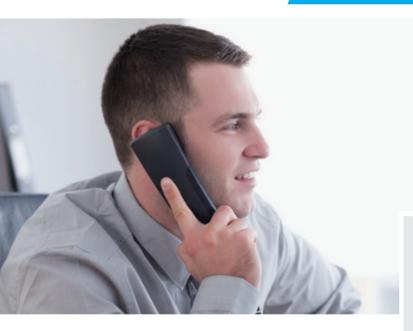# HX4E/MX8A VoIP Gateways

HX4E

Max. FXS/FXO ports: 4

Max. concurrent calls: 4

MX8A

Max. FXS/FXO ports: 8

Max. concurrent calls: 8

Features

- Flexible configuration of FXS/FXO ports
- SIP/MGCP protocols
- 500 routing and number manipulation rules
- Support Smart Fax over IP (SFoIP)
- PSTN failover
- TLS/SRTP
- Auto provisioning
- Remote access via New Rock Cloud (US: YoubiquITy)
- Management with New Rock or third-party EMS (TR-069, SNMP)
- Interoperability with popular SIP servers, such as Cisco CallManager/ CUCM, Broadsoft, Microsoft Skype for Business (Lync), Huawei IMS, VoS, FreeSWITCH and Asterisk/Elastix
- Class I lightning protection

Developed for small businesses, SOHO and residential IP telephony applications, the HX4E/MX8A gateways are integrated VoIP devices that provide reliable and cost efficient access methods flexible for deploying converged communication solutions for network operators and enterprises as well.

HX4E/MX8A are designed as compact units with 2 or 8 FXS/FXO ports, 1 WAN port, and 1 PC port, which allow users to apply them as N-to-1 systems 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, HX4E/MX8A 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 most scenarios.

High Reliability

The hardware design of the HX4E/MX8A, 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

HX4E/MX8A 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 HX4E/MX8A 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, remote and packet capture.

Specification

Protocols

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

Media Processing

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

Voice

Call transfer	Blind transfer, Consultative transfer
Call forward	Call forward all, Call forward no answer, Call forward busy
Call recording storage	Remote recording server for storage
Call settings	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

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

High Availability

Redundancy	Primary-Standby, Active-Standby, Load balancing
PSTN failover	Power failure, Network failure

Provisioning, Administration and Maintenance

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

Included Software

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

Hardware

	HX4E	MX8A
CPU	700 MHz	700 MHz
RAM	64 MB	128 MB
Flash	16 MB	32 MB
H×W×D (1U)	30 × 150 × 109 mm	35 × 228 × 135.5 mm
Weight (net)	0.3 kg	0.825 kg
Power	12VDC/1.5V	12VDC/1.5V
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)	

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