



KNFX-8

Max. FXS/FXO ports: 8

Max. concurrent calls: 8

## VOIP Gateway

### 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 KNFX-8 gateway is integrated VoIP devices that provide reliable and cost efficient access methods flexible for deploying converged communication solutions for network operators and enterprises as well.

KNFX-8 is 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, KNFX-8 is 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 KNFX-8, 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

KNFX-8 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 KNFX-8 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

<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
<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) Support Smart Fax over IP (SfOIP)
<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 EMS, TR-069 management (TR-069, TR-104 and TR-106), SNMP
<b>Remote access over TCP</b>	New Rock Cloud (US: Youbiquity)

<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

### Included 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

KNFX-8	
CPU	700 MHz
RAM	128 MB
Flash	32 MB
H×W×D (1U)	35 × 228 × 135.5 mm
Weight (net)	0.825 kg
Power	12VDC/1.5V
Power consumption	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)

CE FC RoHS