UMG FXS 1600 / 2400 / 4000 / 4800

User Media Gateway FXS and VoIP

Main features

- Up to 48 FXS channels
- Up to 3 Ethernet network interfaces
- Route failover
- Registration of up to 40 SIP accounts
- Up to 60 simultaneous SBC calls
- Centronics connector*
- Survival (SAS)*

* *Optional feature*

Applications

- Connecting FXS extensions to VoIP links with advanced features

Overview

The UMG FXS is a voice gateway from Khomp's Media Gateways line, developed to connect conventional telephone networks to VoIP networks without needing to discard existing equipment and infrastructure. With up to 3 Ethernet network ports and up to 48 FXS channels, the UMG FXS features dedicated processing for critical telephony tasks such as signaling and echo cancellation, along with advanced features like survivability and SBC calls. A dynamic and simplified web interface

allows users to adjust the gateway's operating parameters, monitor channels in real-time, and establish specific routing rules for each scenario.

Key features of the UMG line

- Web Interface for device monitoring, configuration, diagnostics, and administration
- Web Interface access control with username and password authentication
- Remote username and password update
- Different user profiles can be created in the system
- Allows system management via computer through the ETH interface
- The TCP/UDP management port can be changed for system security
- Supports SSH for local management
- The firmware can be updated via a local or remote connection, maintaining system settings
- Intelligent routing
- Route failover
- Support for telephony interfaces: E1/T1* (R2 and ISDN), FXS, FXO, and GSM (according to model).
- Support for SIP signaling
- Codecs: G.711 (a-law and μ-law), G.729A, G.723, and G.726
- Echo cancellation
- Customizable CDR
- Log generation for diagnostics
- SNMP support
- Clean design and easy installation
- Up to 50 route registrations
- Up to 10 VoIP (SIP) account registrations
- Physical switching between FXS-FXO in case of power failure, through the 2FXS/2FXO module
- Has two 10/100 Mbps Ethernet ports
- Supports NTP, DHCP and NAT protocols
- The system features silence suppression, CNG, and VAD
- Operates with dynamic jitter buffer

* T1 is available only from version 2.2.1.

Models

Model	FXS Channels (RJ11)	Network ports (RJ45)
UMG FXS 1600	16	2
UMG FXS 2400	24	2
UMG FXS 4000	40	3
UMG FXS 4800	48	3

Product Images

Caption: *(image 1) side view of the UMG FXS 4800.*

Caption: *(image 2) rear view of the UMG FXS 4800.*

Technical specifications

Attention

- The product may undergo changes without prior notice.
- When changes occur, the product will operate with equivalent or greater potential than the previous configuration.

FXS

- Up to 48 channels
- Up to two 50-way Centronics connectors*
- Ring voltage: 50–70 Vpp/25 Hz
- Extension numbering plan
- Setting the dialing timeout
- End of dialing marker
- Setting known numbers (Dial plan)
- Setting the ring cadence. Ring differentiation
- Setting internal and external ringing
- Generating caller ID via DTMF or FSK
- Flash validation time
- Operation on extensions:
  - Call Waiting
  - Assisted Transfer
  - Blind Transfer
  - Pendulum

Security

- Access to the Web Interface via Password
- Access via HTTP or HTTPS protocol
- ACL – Web Interface Access Control List
- Network topology hiding in VoIP/VoIP routing (SBC)**

Survival (SAS)*

- With the Survival mode enabled, if the IP PBX does not respond to monitoring, the UMG takes over the responsibility of continuing the process and executing the basic functions of the PBX.
- It supports up to 120 extensions registered in Survival mode.

Other features

- CSimplified web configuration
- One-step initial configuration wizard
- Diagnostic interface
- Dashboard with channel status and call statistics
- Line volume adjustment
- DTMF suppression
- Customizable CDR
- SNMP support
- Local or remote server logging
- FTP access

Warranties and certifications

- Full warranty (legal + Khomp warranty): 3 years
  - Legal warranty: 90 days
  - Khomp warranty: 2 years and 9 months
- Anatel certification
- ISO 9001 certified industry

VoIP

- Up to 40 VoIP accounts with or without registration
- Supported codecs:
  - G.711 (a-law and μ-law)
  - G.729A (up to 120 simultaneous calls in this configuration)
  - G.723
  - G.726
- Network port selection for SIP and RTP protocol for each VoIP account
- SIP using TCP protocol
- RTP using SRTP protocol
- Keep Alive support (SIP OPTIONS)
- Source port bypass option
- Use of destination number via URI
- Q.850 cause report
- DTMF sending mode selection:
  - In band
  - Out band – RTP (RFC 2833)
  - Out band – SIP Info
- T.38 fax support and pass-through
- Echo cancellation:
  - Standard filter: G.168/2002
  - Dual filter: G.168/2004
  - Adjustment of tail-length up to 128 ms
- VPN support
- NAT traversal using STUN
- NAT traversal setting fixed external IP

Intelligent modular routing

- Route selection by prefix
- Route selection by regular expressions
- Modification of destination and source numbers
- Forcing codec and destination profile on the route with VoIP output
- Route failover
- Using "Display name" as caller ID
- Registration of up to 50 routes

Physical/Environmental

- Internal power supply:
  - 100–240 VAC 50/60 Hz
  - Max power consumption: 60 W
- External power supply:
  - Input: 100–240 VAC 50/60 Hz
  - Output: 12 V, 5 A
  - Max power consumption: 60 W
- Dimensions (W x H x D): 370 x 44.5 x 443 mm
- Approximate weight: 7 kg (without packaging)
- Standard 1U module and 19-inch rack
- (includes fixing tab)
- Up to 3 x RJ45 gigabit ethernet 10/100/1000 Mbps
- Reset button

•.1. Model and serial number identification

This information is on the equipment box and can also be seen on the label stuck to the outside of the cabinet.

•.2. Route failover

UMG has route failover, which prevents calls from being inoperable in the event of a VoIP server failure. Failover is implemented using routes together with VoIP server monitoring through the Keep Alive feature. When Keep Alive is activated, UMG starts sending OPTIONS messages to the VoIP server to monitor its status. When this server does not respond to the OPTIONS command, UMG starts ignoring the route in which this server is being used and searches for another compatible route.

•.3. Simultaneous call board

The 1600 and 2400 models have 56 available VoIP channels that can be used for calls between FXS channels and VoIP, or between VoIP channels (SBC). The table below shows the maximum number of SBC calls that can be made according to the number of active VoIP/FXS calls.

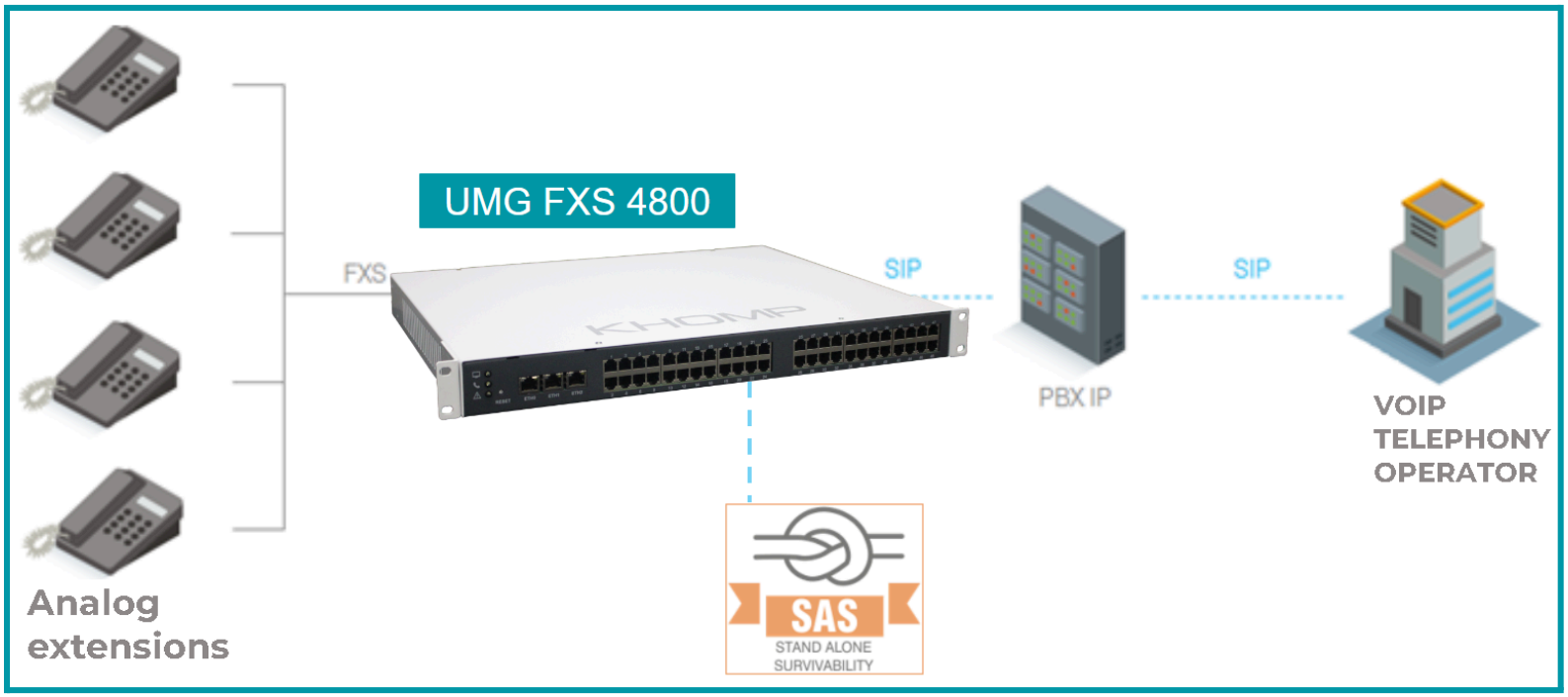
Number of VoIP calls ↔ FXS, with G.711 codec, on UMG FXS 1600/2400	Maximum concurrent SBC calls**		
	with codec G.711 ↔ G.711	with codec G.729 ↔ G.711	with codec G.729 ↔ G.729
0	28	19	14
5	26	17	13
10	23	15	11
15	21	14	9
20	18	12	8
24	16	10	7

The 4000 and 4800 models have 120 available VoIP channels, and in this case, the number of SBC calls is independent of the audio codecs used. The table

below shows the maximum number of SBC calls that can be made according to the number of active VoIP/FXS calls for these two models.

Number of VoIP calls ↔ FXS, with G.711 codec, on UMG FXS 4000/4800	Maximum concurrent SBC calls**		
	with codec G.711 ↔ G.711	with codec G.729 ↔ G.711	with codec G.729 ↔ G.729
0	60	60	60
24	48	48	48
32	44	44	44
40	40	40	40
48	36	36	36

• Application model



Caption: *Application model of the UMG FXS 4800 connecting multiple services.*

KHOMP
Rua Joe Collaço, 253 - Florianópolis, SC
+55 (48) 3722.2900
comercial@khomp.com