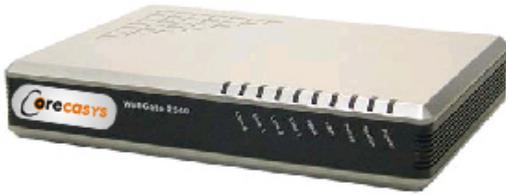


# CORECASYS FXO-4

## 4-Line FXO SIP IP Gateway



Core FXO-4 front view



Core FXO-4 rear view

- Dual IP Stack : IPv6 and IPv4 Simultaneously
- Support up to 4 SIP Trunk Servers
- Support different SIP Trunk to each FXO line
- Auto HTTP Provision feature
- Flexible Routes Plan, Dial Plan, Digit Manipulation
- Redundant Firmware Image

Core FXO-4 is an 4-Line FXO gateway with SIP protocol IP device which allows to connect 4 Lines of analog PSTN telephone line or connect to analog extension of PABX to make or receive VoIP call over Internet or VPN network. This device is suitable for office IP-PBX application at office to office or office to branch office to call between PSTN Line and IP Call.

### To select up to 4 SIP TRUNK Accounts

Core FXO-4 is appropriate to use four VoIP SIP Trunk or IP Centrex service or IP-PBX within offices and remote branch offices. One of four SIP Servers ( or ITSP Service provider or alternative IP-PBX ) can be configured freely at each line ( FXO port ) to make or receive IP Call. It provides 4 service platforms according to your dial number or routes plan.

### IPv6 VoIP Gateway is ready to Market

IPv6 address was developed for years, however, it was not practical to our life up to date. More and more electronic devices are able to link to IP Network, this makes existing IPv4 address supply in shortage to global market. Meanwhile, the emerging countries are not able to increase IPv4 address supply due to strong market demand on broadband services. Core FXO-4 is an SIP based FXO gateway which built-in both IPv6 and IPv4 IP address. No matter when you are ready to deploy IPv6 network now, or reserve the future expansion to IPv6 from existing IPv4 address, Core FXO-4 is ready to grow up with you. Both IPv6 and IPv4 address are working simultaneously at Voice IP Call. Its flexibility of both IPv6 and IPv4 accept and interwork both addresses on today and tomorrow whenever you need

### Flexible Dial plan and Route Plan Features

Core FXO-4 provides flexible Dial Plan between FXO and IP Trunk (SIP Soft Switch). Dial Plan is to configure in what condition the digits can be sent out to/from IP network. The dialing inter-digit time before dialing is configurable to meet local PSTN line or PBX's extension line. Dial Rule is able to detect the prefix code and maximum digits reached and then dial automatically. The Digit Manipulation (DM) allows you to configure matched prefix code, digits length, start and stop digit position to be replaced digits as well.



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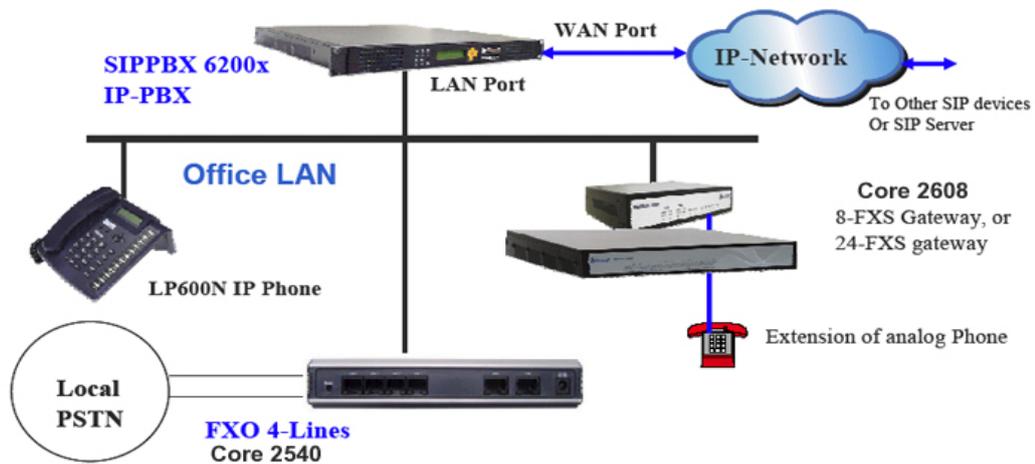
# CORECASYS FXO-4

## 4-Line FXO SIP IP Gateway

Route Plan is to configure the incoming and outgoing call routes which you desired this call to go out or allow to income. For instance, IP incoming call may Reach to one FXO port with Priority or Cyclic access. You can also configure IP incoming call by Matched prefix digits, Matched dialing number to FXO line and Matched digit length. For FXO outgoing call to IP routes, the hunting type supports Priority or Cyclic or Simultaneously to select which SIP trunk ( SIP Proxy Server ) to go. FXO outgoing call routes also support by Matched prefix digits, Matched outgoing SIP Trunk number and Matched digit length. Both direction supports No Answer time out and Backup Routes

### Suit to IP-PBX to access local PSTN Line

Core FXO-4 is a SIP IP device to connect with IP-PBX to access local PSTN network with FXO interface. Its telephony features, for instance, Caller ID detection and Releasing FXO port after call was dropped, are easy to integrate with Legend Telephony Line with IP-PBX in office and branch office IP call application. It is compatible with local Telecom network regulation and your office IP network to transmit analog voice between them



### SPECIFICATION

#### Interface :

Ethernet port (RJ-45, 10/100 base-T)  
1-WAN port, connect to IP Network  
1-LAN port connect to PC with NAT  
Support Bridge, NAT and Gateway mode  
Telephony port connect to local PSTN line (RJ-11 x 4 pcs)  
DC +12V power input Jack  
LED Indicator for System, SIP and FXO status

#### IP Network connection :

IPv4 (RFC 791) and IPv6 Simultaneously  
IPv6 Auto Configuration (RFC 4862)  
IPv6 Only, IPv4 Only or dual stack  
MAC Address (IEEE 802.3) ,MAC Clone Setting  
Vendor Class ID  
IP/ICMP/ARP/RARP/SNTP , Static IP  
DHCP Client (RFC 2131), WAN port  
DHCP Server, LAN port

NAT Server (RFC 1631)  
PPPoE Client  
DDNS ( DynDNS ) , DNS Client  
Firewall , URL Filter , IP Filter  
MAC Address Filter  
Application program Filter  
Port Filter , Port Forwarding (TCP, UDP or both)  
Bandwidth Control (Download and Upload)URL Filter  
UPnP Server at LAN port  
Behind NAT, use DMZ for NAT traversal  
SNTP with time zone and Daylight Saving  
TCP/UDP (RFC 793/768)  
RTP/RTCP (RFC 1889/1890)  
IPV4 ICMP (RFC 792),  
TFTP Client  
VoIP VLAN Support 802.1Q, 802.1P



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## 4-Line FXO SIP IP Gateway

VLAN ID Range : 2 to 4094

VLAN Priority : 0 to 7 (Highest Priority)

QoS : DiffServ (RFC 2475), TOS (RFC791, 1394)

### SIP Protocol :

RFC3261 compliance

Support up-to 4 SIP Trunk to Register

SIP UDP Protocol

Support SIP compact Form

Support SIP HOLD Type: Send Only, 0.0.0.0 or inactive

SIP Session Timer (RFC 4028)

SIP Session Refresher: UAC or UAS

SIP Encryption

MD5 Digest Authentication (RFC2069/RFC2617)

Reliability of provision response PRACK (RFC3262)

Early/Delay Media support

Offer/Answer (RFC3264)

Message Waiting Indication (RFC3842)

Event Notification (RFC3265)

REFER (RFC3515)

Support Outbound Proxy

Support Primary and Backup SIP Server

Support STUN NAT Traversal

Support "rport" parameter (RFC 3581)

Configure SIP local Port

SIP QoS Type: DiffServe or QoS

Accept Proxy Only : YES or NO

### Audio Codec :

G.711 A-law/ $\mu$ -law, G.729A, G.723.1 (6.3K, 5.3K)

Select voice codec priority : Local or Remote

Voice Payload size (ms) configuration

Silence Suppression

VAD/CNG

LEC : Line Echo Canceller

Max Echo Tail Length (G.168): 32, 64 and 128ms

Packet Loss Compensation

Automatic Gain Control

In-band/out of band DTMF (RFC4733, RFC2833 / SIP INFO)

Adaptive/Configurable Jitter Buffer

G.168 Acoustic Echo Cancellation

Configure RTP basic Port

RTP QoS Type : DiffServ or TOS

Phone Book ( 50 records ) for peer to peer calls

Dialing Plan with drop, replace, Insert dialing digits

Select First digit and Inter digit timeout duration (Sec)

Selectable Call Progress Tone

Support Specified Line Calling

### Call Features :

4-Line FXO connect to PSTN or PBX simultaneously

Caller ID recognition DTMF (before/after 1 ring) and FSK (before 1st ring ), ETSI and Bellcore

DTMF Caller ID start and stop BIT configurable

Current Drop Detection to release FXO port

Disconnect tone recognition to release FXO port

Tone Generation: Ring Back, Dial, Busy, call waiting, ROH

Warning, Holding, Stutter dial tone and disconnect tone

Configure Tone Frequency, Cadence, Level and Cycle

Select Tone specification by Country name List

Global Country Based Tone Specification

NAT Traversal support STUN, UPNP and Behind NAT

Out-Band DTMF : RFC2833 and SIP Info

RFC2833 Payload type : 101 or 96

DTMF send out ON and OFF Time configure

DTMF incoming recognition Minimum ON and OFF time

DTMF Relay Volume configuration

T.38 FAX Volume configuration

Flash Time transmit via SIP Info (Enable or Disable)

Message Waiting Indication (Stutter Tone Notice)

Block Anonymous Call

Call Hold

Call Transfer

FXO Line Configuration

Activate or deactivate

Line ID

FXO Line Phone number

Polarity Reversal detection for call establish and Billing

Current drop recognition to release port

Incoming call Handle: Hotline or 2 stage dialing

HOT Line to desired phone number

Play voice file to incoming call

Repeat playing voice file counts

Self-recorded voice files to upload

Generate FLASH TIME to PSTN network

T.38 or FAX Relay Type

Incoming and outgoing dB value configurable

Dialing Answer Delay time to establish call path

Answer PSTN incoming call after how many ring cycles

Caller ID detection mode by Country selection

VoIP dial to FXO/PSTN Line: 1 stage dialing and 2 stage dialing

Outgoing SIP Caller ID Selection

Support 4 SIP Trunk

Accept desired SIP Proxy incoming calls Only

Flexible Routing Plan

Prefix Match and Length

Priority Ring

Cyclic Ring

Simultaneous Ring

Programmable Hunting Cycle

Backup Routes with Digit Manipulation

Default Routes

Flexible Dial Plans

Retrieve transfer call from 3rd party by dial Code (default: \*#)

Inter digit time out setting

First digit dial out delay time setting

End of dial keypad number

Dial Rule : Match dial Prefix and Maximum digits length ( 1-15 )

Phone Book can be Exported or Imported

Digit Manipulation (Drop and Replace Rule):

FXO DM Group

VoIP DM Group



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# CORECASYS FXO-4

## 4-Line FXO SIP IP Gateway

DM 1 Group	Notice
DM 2 Group	Information
DM 3 Group	Debug
DM 4 Group	Provides System Status Logs
Matched Prefix	Connect to external SYSLOG Server
Matched digit length	Status display: Network, Line, SIP Trunk status
Replace digit start position	Diagnostics (debug through Syslog Event Notice)
Replace digit stop position	Debug in real time by Telnet
Replace number	Auto Provision via HTTP Server
Incoming Ring frequency recognition range: 10 to 70 Hz	SNMP V2/Trap
Incoming Ring ON time recognition range: 0 to 8000ms	Configuration Backup/Restore
Incoming Ring OFF time recognition range: 0 to 8000ms	Dual Firmware Image Backup
Incoming Ring Level recognition range: 10 to 95Vrms	Reset to factory Default
Support Peer to Peer Dialing	** Support Welltech proprietary encryption protocol at SIP Signal
Flash Time Detection: range from 80 to 800 ms	and Voice codec during transmitting to IP network in order to
Configure Ring Cadence, Frequency and Voltage	Anti-ISP block of VoIP call. This feature only be available with
<b>Management :</b>	core SIP server or SIPPBX6200 IP-PBX
Administrative Telnet CLI and HTTP, HTTPS	<b>Environmental :</b>
HTTP provision through MAC address	Actual Dimension: 17.5(W) 3.2(H) 12.6(D) CM
Multilingual Web User Interface	Weight: 0.5kg (One unit with packing)
3 Levels of User Access Right with Password protection with	<b>Power Adaptor</b>
different Web Language (Administrator, Supervisor and User)	INPUT: AC100V~240V, 50/60Hz
HTTP/HTTPS Service Access limitation from WAN port	OUTPUT: DC 12V, 1.5A
Configure Service ports at HTTP, HTTPS and telnet Services	<b>Approvals:</b>
Phone Debug Module: Device Control, Call Control, DB, Verbose	CE, FCC (Part 15, Class B), LVD and RoHS
SIP Debug Module: Register, Call, SIP Message, Others	<b>Country of origin:</b>
SNTP Debug Module	Made in Taiwan
Device Debug Module	<b>Warranty</b>
DSP Debug	One year
Provide 8 Debug Levels :	
Emergency	
Alert	
Critical	
Error	
Warning	



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