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Analog Gateways

Modular VoIP Gateways that fit any need

"The beroNet Gateway proved itself to be a robust and fail-proof carrier grade system from day one, handling up to 5000 calls per day."

Ercan Yapalak, IT DEPARTMENT ZEHNDER GMBH

OVERVIEW

beroNet Modular VoIP Gateways hold up to two modules. Fully expandable, the devices can be custom built for any potential need and be managed via the beroNet Cloud. Powered by beroNet OS you can add SIP-to-SIP software licenses and with apps transform a Modular VoIP Gateway into a Survival Branch Appliance or Mini-Appliance. Compatible with all PBX systems and usable for almost any VoIP provider.

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Base Models

EXPANDABLE WITH ADDON MODULES

Model	NIC	Module Slots Available	Max Concurrent Channels	Max Concurrent SIPtoSIP Sessions Transparent / Transcoding
BF400Box	1	2	16	128 / 8
BNSBC-M	2	2	16	128 / 8
BF1600Box	1	2	64	128 / 32
BF6400Box	1	2	128	128 / 64

Standard Configurations

Model	Description	Concurrent PSTN Channels	Additional Module Slots Available
EXPANDABLE WITH ADDON MODULES			
BF4004FXOBox	4 FXO Modular VoIP Gateway	4	1
BF4002S02FXSBox	2 FXS / 2 BRI Modular VoIP Gateway	6	1
BF4004FXSBox	4 FXS Modular VoIP Gateway	4	1
BNSBC-M-8FXS	8 FXS Modular SBC-VoIP Gateway	8	0
NOT EXPANDABLE WITH ADDON MODULES			
BNSBC-L-24FXS	24 FXS Non modular SBC-VoIP Gateway	24	0

Cloud Managed

Compatible with any PBX

Fast Installation

Tough, no moving parts

Energy Efficient

Modular & Flexible

100% Silent

Easy Expandable

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Modular technology for control and flexibility

beroNet Gateway's modular design enables this device to meet any unique need. Modular VoIP technology increases adaptability and flexibility by allowing you to change the modules instead of the entire device if it is needed for a different VoIP installation.

Modular beroNet VoIP Gateways can be equipped with up to two modules. Analog (FXS/FXO) and digital ISDN (BRI/PRI) are available and can be combined. Thanks to their flexibility the beroNet VoIP Gateways always offer the right solution for different customer requirements.
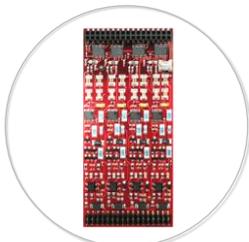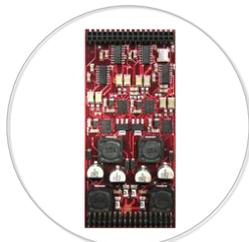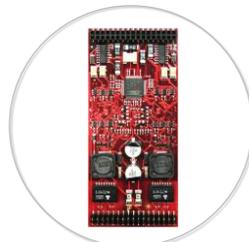
| FXO | FXS | Hybrid 2 BRI / 2 FXS | BRI | PRI |
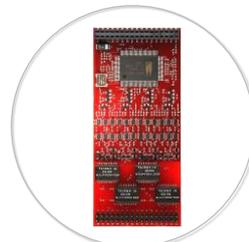
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Interface	Model	Description
Analog	BNMO-4FXO	adds 4 FXO ports
Analog	BNMO-4FXS	adds 4 FXS ports
Analog / ISDN	BNMO-2HYB	adds 2 FXS and 2 BRI ports
ISDN	BNMO-4BRI	adds 4 BRI ports with High Precision Clock for DECT
ISDN	BNMO-1E1	adds 1 PRI E1 port with High Precision Clock for DECT
ISDN	BNMO-2E1	adds 2 PRI E1 ports with High Precision Clock for DECT
ISDN	BNMO-1PRI	adds 1 PRI T1/E1 port with High Precision Clock for DECT
ISDN	BNMO-2PRI	adds 2 PRI T1/E1 ports with High Precision Clock for DECT
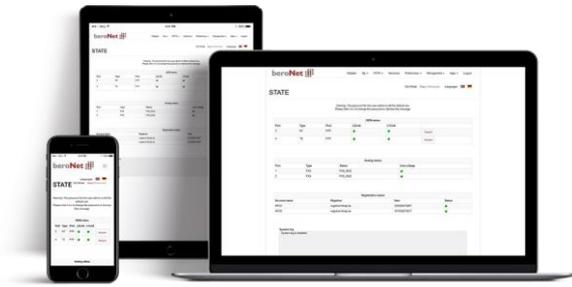
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Powered by beroNet OS

beroNet OS allows you to easy configure your VoIP Gateway via an intuitive web interface, to directly provision your devices with XML and to register it in the beroNet Cloud for remote monitoring and management. Take advantage of a deep range of intelligent and customizable features. Work smarter, not harder.

General Specifications

- Connect SIP to analog (FXO), for connection to the public telephone network or to an internal analog port of the PBX

- FXO: Flash hook

- Extend analog devices (FXS) to SIP

- FXS: Hold, retrieve, transfer / MWI (Stutter, FSK)

- CLIP, CNIP

- G.711 and echo cancellation, (up to: 16 channels with BF400, 64 channels with BF1600, 128 channels with BF6400)

- G.723.1 and Annex A, G.729 a/b, G.726, (up to: 4 channels with BF400, 16 channels with BF1600, 64 channels with BF6400)

- G.168/G.165 echo cancellation with echo path change detection, up to 128ms

- T.38 Fax Relay (V.27, V.29 and V.17) (up to: 4 channels with BF400, 16 channels with BF1600, 32 channels with BF6400)

- DTMF digit detection and generation

- Voice activity detection / comfort noise generation

- SIP user agent IETF RFC3261 compatible

- SIP over UDP/TCP with optional TLS 1.2 support, SRTP

- Two module slots (PRI, BRI, FXO, FXS, hybrid)

- "TDM Bridging" of two beroNet devices via PCM Bus

- Power supply: 110−230V, operating 12V DC at 2A

- Average power consumption: 6 Watts (24W max.)

- CE, FCC and ACMA compliant

- Storage temperature: -20° to 70°C

- Operating temperature: 0° to 70°C

- Humidity: up to 90%, non-condensing

- High quality aluminium housing

- Dimensions: 168 x 168 x 42 mm

- Weight: 800 g

- Mounting 1U, optional available: 19" rack brackets

- Virtual CAPI available

- Optional remote management via beroCloud

5 Good Reasons for beroNet Gateways

Less time training and more time with your customers

Cloud integration simplifies remote updates and backups

Free and premium support if you come across any issues

Flexibility and adaptability for long-term use

Enhanced with Apps for additional functionality

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4 FXO VoIP Gateway

The beroNet 4 FXO VoIP Gateway (BF4004FXOBox) is equipped with 4 analog FXO ports (Foreign Exchange Office). With the 4 FXO ports a soft PBX can be connected to an ordinary analog telephone provider. The Gateway connects SIP with analog in order to be connected to the public telephone network or to an internal analog connection of the telephone system. It can be easily extended by an additional module.

General Specifications

- 4 FXO ports

- Compatible with any IP PBX, on site or Cloud based

- CLIP, CNIP

- Flash hook

- G.711 and echo cancellation, (up to 16 channels)

- G.723.1 and Annex A, G.729 a/b, G.726, (up to 4 channels)

- G.168/G.165 echo cancellation with echo path change detection, up to 128ms

- T.38 Fax Relay (V.27, V.29 and V.17) (up to 4 channels)

- Voice activity detection / comfort noise generation

- DTMF digit detection and generation

- SIP user agent IETF RFC3261 compatible

- SIP over UDP/TCP with optional TLS 1.2 support, SRTP

- One additional module slot (PRI, BRI, FXO, FXS, hybrid)

- "TDM Bridging" of two beroNet devices via PCM Bus

- Power supply: 110−230V, operating 12V DC at 2A

- Average power consumption: 6 Watts (24W max.)

- CE, FCC and ACMA compliant

- Storage temperature: -20° to 70°C

- Operating temperature: 0° to 70°C

- Humidity: up to 90%, non-condensing

- Dimensions: 168 x 168 x 42 mm

- Weight: 800 g

- Mounting 1U, optional available: 19" rack brackets

- Virtual CAPI available (fax, voice)

- Optional remote management via beroCloud

Possible Scenarios

Analog Sip Gateway:

- Advantages of both worlds: Analog & VoIP As Failover solution for analog telephone exchange systems

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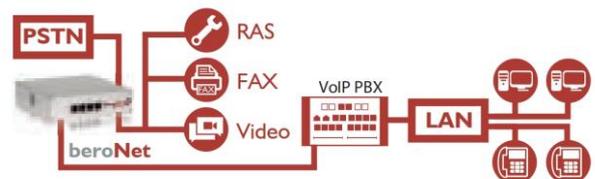
4 FXS VoIP Gateway

The beroNet 4 FXS VoIP Gateway (BF4004FXSBox) provides 4 analog FXS ports for the easy integration of analog devices (telephone, fax, door voice, alarm system, payment terminal) into IP infrastructures, on site or Cloud based. With transparent hardware bridging, potentially difficult services like modem or fax devices can be connected to SIP Trunk or IP PBX through a beroNet Gateway.

General Specifications

- 4 FXS ports
- Operate analog devices as extensions of the VoIP system
- Compatible with any IP PBX, on site or Cloud based
- Modem and fax over IP (Clear Channel according RFC4040)
- CLIP, CNIP
- Hold, Retrieve, Transfer
- MWI (Stutter, FSK)
- G.711 and echo cancellation, (up to 16 channels)
- G.723.1 and Annex A, G.729 a/b, G.726, (up to 4 channels)
- G.168/G.165 echo cancellation with echo path change detection, up to 128ms
- T.38 Fax Relay (V.27, V.29 and V.17) (up to 4 channels)
- Voice activity detection / comfort noise generation
- DTMF digit detection and generation

- SIP user agent IETF RFC3261 compatible
- SIP over UDP/TCP with optional TLS 1.2 support, SRTP
- One additional module slot (PRI, BRI, FXO, FXS, hybrid)
- "TDM Bridging" of two beroNet devices via PCM Bus
- Power supply: 110−230V, operating 12V DC at 2A
- Average power consumption: 6 Watts (24W max.)
- CE, FCC and ACMA compliant
- Storage temperature: -20° to 70°C
- Operating temperature: 0° to 70°C
- Humidity: up to 90%, non-condensing
- Dimensions: 168 x 168 x 42 mm
- Weight: 800 g
- Mounting 1U, optional available: 19" rack brackets
- Virtual CAPI available (fax, voice)
- Optional remote management via beroCloud

Possible Scenarios

Analog Sip Gateway:

- Operation of analog devices
- Top quality Fax over IP
- Modems over IP

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8 FXS VoIP Gateway

The beroNet 8 FXS VoIP Gateway (BNSBC-M-8FXS) provides 8 analog FXS ports for the easy integration of analog devices (telephone, fax, door voice, alarm system, payment terminal) into IP infrastructures, on site or Cloud based. With transparent hardware bridging, potentially difficult services like modem or fax devices can be connected to SIP Trunk or IP PBX through a beroNet Gateway.

General Specifications

- 8 FXS ports
- Operate analog devices as extensions of the VoIP system
- Compatible with any IP PBX, on site or Cloud based
- Modem and fax over IP (Clear Channel according RFC4040)
- CLIP, CNIP
- Hold, Retrieve, Transfer
- MWI (Stutter, FSK)
- G.711 and echo cancellation, (up to 16 channels)
- G.723.1 and Annex A, G.729 a/b, G.726, (up to 4 channels)
- G.168/G.165 echo cancellation with echo path change detection, up to 128ms
- T.38 Fax Relay (V.27, V.29 and V.17) (up to 4 channels)
- Voice activity detection / comfort noise generation
- DTMF digit detection and generation

- SIP user agent IETF RFC3261 compatible
- SIP over UDP/TCP with optional TLS 1.2 support, SRTP
- 8 RJ45 ports reachable with beroNet BFTAdapters
- Two 100Mbit network ports (LAN / WAN)
- Power supply: 110−230V, operating 12V DC at 2A
- Average power consumption: 6 Watts (24W max.)
- CE, FCC and ACMA compliant
- Storage temperature: -20° to 70°C
- Operating temperature: 0° to 70°C
- Humidity: up to 90%, non-condensing
- Dimensions: 168 x 168 x 42 mm
- Weight: 800 g
- Mounting 1U, optional available: 19" rack brackets
- Virtual CAPI available (fax, voice)
- Optional remote management via beroCloud

Possible Scenarios

Analog Sip Gateway:

- Operation of analog devices
- Top quality Fax over IP
- Modems over IP
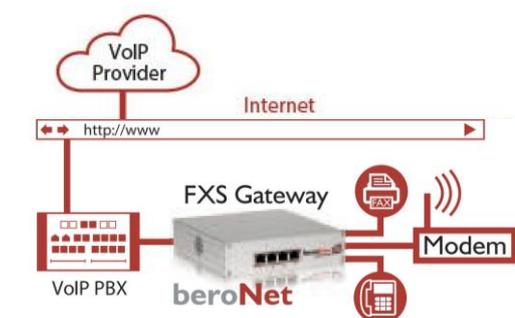
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24 FXS SBC VoIP Gateway

The beroNet 24 FXS SBC (BNSBC-L-24FXS) has been designed to allow an easy integration of older telephone systems into IP infrastructures. It can connect up to 24 analog devices (telephone or fax) to an IP PBX, on site or Cloud based. With two network interface cards and a choice of SBC software licenses, beroNet VoIP SBCs are also a security solution for VoIP networks and make IP PBX Systems and VoIP providers compatible. This device can also be Cloud managed with beroCloud.

General Specifications

- 24 separate analog FXS ports

- Supports 0V to -94.5V

- FXS supports 3-5 REN (depending on line length of the line)

- Has current feed 20-41 mA

- Operate analog devices as extensions of the VoIP system

- Modem and fax over IP (Clear Channel according RFC4040)

- CLIP, CNIP

- Hold, Retrieve, Transfer / MWI (Stutter, FSK)

- Ringing frequency, amplitude, waveshape and cadences programmable (by country setting)

- G.711 and echo cancellation, (up to 64 channels)

- G.723.1 and Annex A, G.729 a/b, G.726, (up to 16 channels)

- G.168/G.165 echo cancellation with echo path change detection, up to 128ms

- T.38 Fax Relay (V.27, V.29 and V.17) (up to 16 channels)

- SIP user agent IETF RFC3261 compatible

- SIP over UDP/TCP with optional TLS 1.2 support, SRTP

- Voice activity detection / comfort noise generation

- DTMF digit detection and generation

- Power supply: 110−230V, operating 12V DC at 2A

- CE, FCC and ACMA compliant

- Storage temperature: -20° to 70°C

- Operating temperature: 0° to 70°C

- Humidity: up to 90%, non-condensing

- Dimensions: 340 x 170 x 42 mm

- Weight: 1500 g

- Mounting 1U, optional available: 19" rack brackets

- Virtual CAPI available (fax, voice)

- Optional remote management via beroCloud

Possible Scenarios

Analog adapter:

- Compatible with any IP PBX, on site or Cloud based

- Compatible with common VoIP Providers

- Continued operation of analog devices (telephone and fax devices)

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FXS & BRI VoIP Gateway

The beroNet FXS & BRI VoIP Gateway (BF4002S02FXSBox) contains 2 FXS and 2 BRI ports. It connects SIP with ISDN and analog FXS; ideal for connecting analog devices like telephone, fax, alarm system, ec cash and modems. The switching of TE or NT mode as well as the terminating resistors for each port is done jumper free using the beroNet Web GUI. A fax server can also be connected with a virtual CAPI.

General Specifications

- 2 BRI ISDN and 2 FXS ports

- Every port is separately as TE or NT mode switchable in software (jumper free)

- Termination resistors (100 Ohm) per line configurable

- Layer 2 is Q.921 and Layer 3 is Q.931 (EuroISDN DSS1) compatible

- DSS1 Feature Set: CLIP/No-Screening, CLIR, COLP, UUS, MCID, CD, CNIP AOC-D

- Q.SIG Feature Set: CNIP

- 2 FXS ports / CLIP, CNIP

- G.711 and echo cancellation, (up to 16 channels)

- G.723.1 and Annex A, G.729 a/b, G.726, (up to 4 channels)

- G.168/G.165 echo cancellation with echo path change detection, up to 128ms

- T.38 Fax Relay (V.27, V.29 and V.17) (up to 4 channels)

- Voice activity detection / comfort noise generation

- DTMF digit detection and generation

- SIP user agent IETF RFC3261 compatible

- SIP over UDP/TCP with optional TLS 1.2 support, SRTP

- One additional module slot

- Power supply: 110−230V, operating 12V DC at 2A

- Average power consumption: 6 Watts (24W max.)

- CE, FCC and ACMA compliant

- Storage temperature: -20° to 70°C

- Operating temperature: 0° to 70°C

- Humidity: up to 90%, non-condensing

- Dimensions: 168 x 168 x 42 mm

- Weight: 800 g

- Mounting 1U, optional available: 19" rack brackets

- Virtual CAPI available (fax, voice)

- Optional remote management via beroCloud

Possible Scenarios

PSTN connection without quality degradation:

- Advantages of both world's: ISDN & VoIP

- Further use of high quality ISDN

- Integration of analog devices
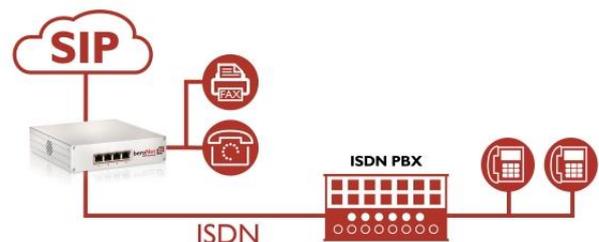
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We can help you with training, consulting and development.

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