SIMADO GBR

Multi-Port GSM/3G-ISDN BRI Gateway

Different telecom networks offer advantages in different aspects. Today's businesses expect the specific benefits from each of these networks. The ISDN and GSM are two such omni-present networks. Most of the establishments have access to both these networks and need to bridge and interconnect them. This allows them to dynamically select one of the networks on per-call basis for obvious benefits of cost and quality of service (QoS).

Matrix SIMADO GBR is one such gateway equipment offering interfaces for four GSM and two ISDN BRI ports. It can be used with any brand of existing PBX or even in a stand-alone mode. SIMADO GBR supports flexible and intelligent Least Cost Routing (LCR) options providing significant cost savings and round-the-clock connectivity.

Let Matrix SIMADO GBR add a competitive edge to your business by reducing telephone costs!

Matrix SIMADO GBR is a gateway to interface GSM and ISDN BRI networks. On the GSM side, it supports quad-band operation allowing it to work with any GSM network. The ISDN BRI port supports both TE and NT modes. Incoming calls on GSM ports can be routed on BRI TE or BRI NT and GSM ports. Outgoing calls from NT are routed either on GSM ports or on BRI TE ports depending on the least cost routing logic. It can handle calls on all the ports simultaneously allowing full traffic on all the ports.

Existing PBX users can avail the benefit of the low-tariff of GSM networks by connecting SIMADO GBR with the PBX without changing their existing infrastructure. The users continue to make and receive calls without worrying on which network their calls are routed. Matrix SIMADO GBR routes the calls either on ISDN or GSM network depending on the dialed destination numbers and on the type of routing option selected by the users. In addition, SIMADO GBR can also be used without a PBX in stand-alone mode by connecting ISDN terminals directly on the NT port.

Intelligent and flexible routing is the forte of the SIMADO GBR. Various Least Cost Routing (LCR) schemes are offered. The elaborate routing algorithm encompasses different attributes like Port, Calling Number, Called Number and Time. It selects the most cost-effective route for a given number at specified time. In addition, it allows the flexibility of reserving ports for important users. Numbers received from calling network are converted by Automatic Number Translation (ANT) to match with the destination network.

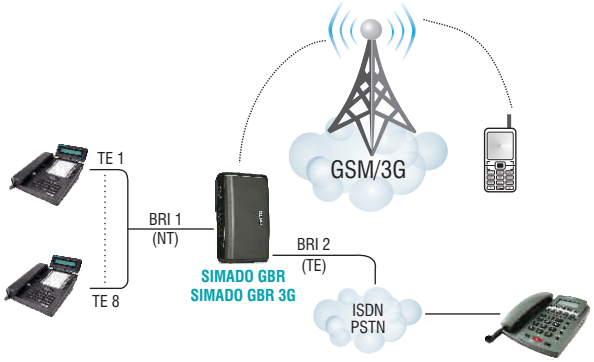
The SIMADO GBR is very easy to install and operate. Jeeves is a Windows based multi-lingual GUI tool used to configure various parameters. The SIM cards can be accessed after removing its top cover. Antenna mixer (4 to 1) is built-in and hence only single antenna is required. The SIMADO GBR can be mounted on a wall or a table-top.

SIMADO GBR PRODUCT RANGE

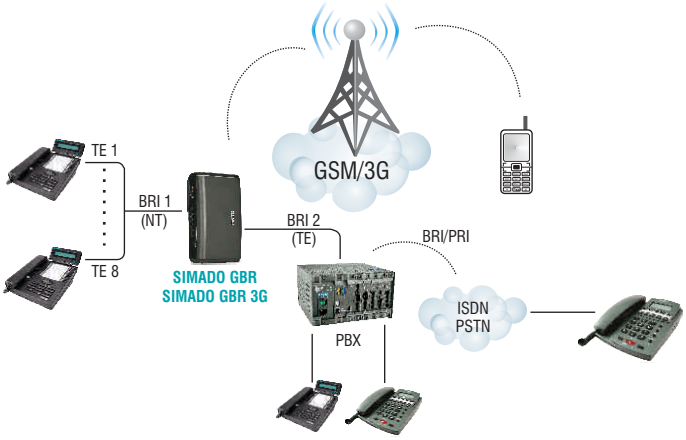
- SIMADO GBR42
- SIMADO GBR42 3G
- SIMADO GBR21
- SIMADO GBR21 3G

SIMADO GBR42

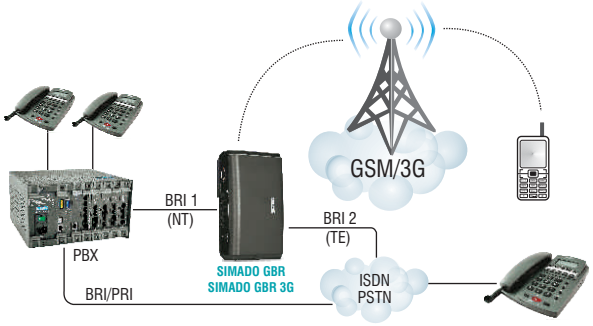
APPLICATIONS OF SIMADO GBR/SIMADO GBR 3G



SIMADO GBR/SIMADO GBR 3G Stand-Alone Application



SIMADO GBR/SIMADO GBR 3G (TE) with PBX (NT) Application



SIMADO GBR/SIMADO GBR 3G (NT) with PBX (TE) Application

KEY FEATURES

3G Network Support
Matrix SIMADO GBR 3G offers accessibility of 3G networks for Voice communication. It supports Quad-band for 2G Network and Tri-band for WCDMA Network. It supports fallback compatibility and hence offers flexibility to access any available network. Users are always assured for connectivity using the alternate network in case the preferred (3G) network signal is weak or unavailable. With 3G power, an organization experiences Noise-free, Stanch and Crystal Clear Voice Quality, Enhanced Security and Utmost Coverage.

Allowed and Denied Lists
Allowed and Denied Lists are used to restrict dialing of long-distance and international numbers. A number is blocked if its prefix matches with any entry in the Denied Lists. On the other hand, a number is allowed to go through if it matches with any entry of Allowed List. This provides flexibility of allowing only specific numbers while blocking all others.

Automatic Call Distribution
The SIMADO GBR offers different schemes to select destination port for an incoming call. They are First Free and Round Robin.

Automatic Number Translation
The SIMADO GBR modifies the incoming number or part thereof so that it matches with the numbering plan of the destination network. The GSM networks require dialing of complete numbers including the area codes. If a caller has dialed just the local number, the SIMADO GBR adds area code as appropriate prefix.

Call Detail Recording (CDR)
The SIMADO GBR stores up to 200 calls made through the gateway in its internal memory. Reports can be generated on the COMM port using filters like Port, Number, Date, Duration, etc.

Call Duration Control (CDC)
Duration of each call made through SIMADO GBR can be controlled. When the duration of a call exceeds the set time limit, the call is forcefully disconnected. This feature can also be used to release ports that are left open accidentally.

Call Progress Tones
Call Progress Tones like Dial Tone, Ring Back Tone and Busy Tone can be selected to match with the tones used in the region or the country standard where SIMADO GBR is installed.

Caller Line Identification Presentation (CLIP)
The SIMADO GBR supports CLIP on GSM and BRI ports.

CLI Based Routing
The SIMADO GBR can route the call based on the calling party number. This allows routing certain callers to specific ports directly.

Compact and Sturdy
The SIMADO GBR is all-integrated gateway equipment. It can be easily installed on a wall or a table surface.

Day Light Saving
The Real Time Clock (RTC) of the SIMADO GBR moves forward or backward automatically in tune with the Day Light Saving requirements of the country, where it is getting installed.

Emergency Number Dialing
SIMADO GBR allows user to dial emergency numbers for services like Police, Fire Brigade or Ambulance without SIM or without network registering. Maximum 4 emergency numbers can be programmed.

Fixed Number Dialing
Pre-configured number can be dialed out as soon as a call lands on a port. This allows point-to-point connectivity without the repeated need of dialing the same number.

International Mobile Equipment Identity (IMEI) Number
International Mobile Equipment Identity (IMEI) number provided on Matrix SIMADO GBR GSM engine is a unique 15 digit code to identify an individual GSM port. This number can be used to associate the GSM port with a particular GSM network.

Jeeves
Jeeves is a Windows based GUI software tool for programming the SIMADO GBR. It is intuitive, user friendly and supports many languages like English, French, Spanish, German, Russian, Portuguese and Italian

Least Cost Routing (LCR)
The SIMADO GBR selects a port that is offering the least cost for an outgoing call. It supports LCR algorithms based on Time and Number. Port-wise LCR logic not only differentiates between GSM and BRI ports, but also selects the most cost-effective among GSM ports. Thus, each call can be routed on the most economical route

LED Indications
Total 8 dual colour LEDs are provided to indicate current status of calls on GSM and BRI ports. Four LEDs-one for each GSM ports and four LEDs showing status of each B-channel of two BRI ports are provided.

Network Selection
Each GSM port can be programmed to work only with a few selected networks preventing a GSM port from registering with an overlapping but costly network. This flexibility is very useful when SIMADO GBR is installed near a state or national border.

PCM-TDM Platform
The SIMADO GBR uses digital switching platform based on PCM-TDM concepts. This architecture provides better speech quality and higher noise immunity.

Port Status
The SIMADO GBR monitors availability of all the ports. If a port is not available for any reason, SIMADO GBR routes the call on the next best-fit port.

Remote Programming
It is possible to change the configuration of the SIMADO GBR from anywhere in the world. System engineer can call on GSM, BRI TE or BRI NT ports and by dialing password he can enter into programming mode to change any configuration.

Returned Calls to Original Caller (RCOC)
The SIMADO GBR maintains records of all the unsuccessful calls on GSM network due to No Answer and such conditions. When such a call is returned, it routes the call to the original caller.

Speech Gain
The SIMADO GBR allows user to set receive and transmit gains of GSM port to improve quality of speech.

Time Zones
Call routing can adapt to different routing needs during day time, lunch time and night hours. Four different time zones can be programmed and each port can be programmed to behave differently in each time zone.

Universal Routing
A call received on a GSM port can be routed on any channel of BRI ports or even another GSM port. Similarly, a call received on any BRI channel can be placed on a GSM port or even another BRI channel.

FEATURES LIST

Software Features

- Allowed-Denied Lists
- Automatic Call Distribution
- Auto Port Sensing
- Automatic Number Translation
- Call Detail Recording (CDR)
- Call Duration Control (CDC)
- Call Progress Tones
- CLIP
- Dialed Number Based Routing
- Emergency Number Dialing
- Fixed Number Dialing
- International Mobile Equipment Identity(IMEI)
- Jeeves (Windows based Multilingual GUI Tool)
- Least Cost Routing (LCR)
- Network Code Display
- Network Selection
- Password Protection
- Remote Programming
- Speech Gain Setting
- SIM PIN
- Universal Routing

Hardware Features

- 2G Quad-band Support
- 3G Network Support
- Compact and Sturdy Design
- Digital Switching Platform (PCM-TDM)
- LED Indications
- Real Time Clock (RTC)
- RS232C (COM) Port
- Wall and Table-top Mounting

TECHNICAL SPECIFICATIONS

GSM Port

GSM Band	: Quad Band: GSM850, EGSM900, DCS1800, PCS1900 Tri Band: WCDMA 850/1900/2100 MHz
Compliant	: ETSI GSM Phase2/2+
SIM Card	: One SIM per GSM Port
SIM Interface	: 1.8V, 3V
Transmission Power	: Class 4 (2W) at GSM 850 and EGSM900 MHz band Class 1 (1W) at DCS1800 and PCS1900 MHZ band Class 3 (0.25W) at WCDMA 850/1900/2100
RF Sensitivity	: Better than -106dBm at GSM850/EGSM900/DCS1800/PCS1900 Better than -106dBm at WCDMA 850 Better than -108dBm at WCDMA 1900/2100
External Antenna	: (1) 3.0dBi, 50W, SMA (Male) Connector, Omni Directional with cable of 3 meters length (2) 2.5dBi, 50W, SMA (Male) Connector, Fixed Omni Directional Swivel Antenna
Speech Gain (Transmit and Receive)	: Programmable

BRI Port

Channels	: 2B+D
Personality	: NT or TE (User Programmable)
Signaling	: ITU I.430, Q.921,Q.931
Interface	: S/T Interface, Point to Point and Point to Multipoint
ISDN Switch Variant	: ETSI - EURO ISDN NET3 BRI (BRI NET3)
Connection	: RJ45 (120W)
Call Progress Tones	: Programmable
Rs232 (COMM) Port	: DB9 Male
LED Indications	: GSM - 1 LED per Port for Network and Call Status BRI - 2 LED per Port for Each B-channel Status

Power Supply

Input	: 12VDC @2A Through External Adaptor (90-265VAC, 47-63Hz)
Power Consumption	: 10W (Typical)
Connector	: DC Power jack

Mechanical Parameter

Dimension (WxHxD)	: 20.0x28.3x6.0 cm (7.9”x11.1”x2.4”)
Unit Weight	: 1.5kg (3.3lbs) Approx.
Shipping Weight	: 2.5kg (5.5lbs) Approx.
Material	: ABS Plastic
Installation Mounting	: Wall and Table-Top

Environmental

Operating Temperature	: -10^{0}C to +50^{0}C (-14^{0}F to +122^{0}F)
Storage Temperature	: -40^{0}C to +85^{0}C (-40^{0}F to +185^{0}F)
Operating Humidity	: 5-95% RH (Non-Condensing)
Storage Humidity	: 0-95% RH (Non Condensing) at 40^{0}C

COMPLIANCES

EMI/EMC

Conducted Emission	: CISPR 22 Class B
Radiated Emission	: CISPR 22 Class B
Harmonic Current Emission	: IEC 61000-3-2
Voltage Flicker	: IEC 61000-3-3
Electro-static Discharge	: IEC 61000-4-2
Radiated Susceptibility	: IEC 61000-4-3
Electrical Fast Transient	: IEC 61000-4-4
Surge	: IEC 61000-4-5
Conducted Immunity	: IEC 61000-4-6
Power Frequency Magnetic Field	: IEC 61000-4-8
Voltage Interruption & Dips	: IEC 61000-4-11

FCC

Conducted Emission	: FCC Part 15 Sub Part B Class B
Radiated Emission	: FCC Part 15 Sub Part B Class B

EC Directives

R&TTE 1999/5/EC
LVD 73/23/EEC
EMC 89/336EEC

Safety

IEC 60950-1: 2001 First Edition

GSM PRODUCTS FROM MATRIX

SIMADO GDT11	GSM FCT for Data Applications with 1 GSM Port and 1 RS232C Port
SIMADO GFX11	GSM FCT for Voice Applications with 1 GSM Port and 1 FXS Port
SIMADO GFX11 3G	GSM FCT for Voice Applications with 1 GSM Port and 1 FXS Port with 3G Support
SIMADO GFXD1111S	GSM FCT Router for Voice and Data Applications with 1 GSM Port, 1 FXO Port 1 FXS Port and 1 RS232C Port
SIMADO GFXD1111S 3G	GSM FCT Router for Voice Applications with 1 GSM Port, 1 FXO Port 1 FXS Port and 1 RS232C Port with 3G Network Support
SIMADO GFX44	GSM-FXS Gateway with 4 GSM Ports and 4 FXS Ports
SIMADO GFX44 3G	GSM-FXS Gateway with 4 GSM Ports and 4 FXS Ports with 3G Support
SIMADO GBR21	GSM-ISDN BRI Gateway with 2 GSM Ports and 1 ISDN BRI Port
SIMADO GBR21 3G	GSM-ISDN BRI Gateway with 2 GSM Ports and 1 ISDN BRI Port with 3G Support
SIMADO GBR42	GSM-ISDN BRI Gateway with 4 GSM Ports and 2 ISDN BRI Ports
SIMADO GBR42 3G	GSM-ISDN BRI Gateway with 4 GSM Ports and 2 ISDN BRI Ports with 3G Support

ABOUT MATRIX

CE FC RoHS COMPLIANT

An ISO 9001 Company, Matrix is a leader in Telecom and Security solutions for modern businesses and enterprises. An innovative, technology driven and customer focused organization; the company is committed to keep pace with the revolutions in the telecom and security industries. With around 30% of its human resources dedicated to the development of new products, Matrix has launched cutting-edge telecom products like IP-PBX, Universal Gateways, VoIP Gateways and Terminals, GSM Gateways, Access Control and Time-Attendance Systems and Fire Alarm Systems. These solutions are feature-rich, reliable and conform to the international standards. Having global foot-prints in Asia, Europe, North America, South America and Africa through an extensive network of more than 500 channel partners, Matrix ensures that the products serve the needs of its customers faster and longer. Matrix has gained trust and admiration of more than 150,000 customers representing the entire spectrum of industries. Matrix has won many awards for its innovative products.

For further information, please Contact

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Due to continuous technology upgradations, product specifications are subject to change without notice.