



## SIMADO GFX11

### Fixed Cellular Terminal for Voice Applications

In addition to the obvious advantage of mobility, the GSM network also offers significant cost advantage to the subscribers. This motivates organizations to switch to mobile networks. They want to use the GSM networks for making and receiving calls even during office hours from their desks using their existing PBX.

Presenting SIMADO GFX11, a compact and intelligent terminal that satisfies all your voice communication needs using the GSM line. The FXS port of the SIMADO GFX11 can be interfaced to the trunk (CO) port of any PBX. This allows all users of the PBX to make and receive calls through the GSM line.

Let Matrix SIMADO GFX11 be the bridge between your PBX and the GSM networks and add a competitive edge to your business by reducing telephony cost!

Matrix SIMADO GFX11 is a gateway to interface GSM and Plain Old Telephone System (POTS) networks. On the GSM side, it supports quad-band operation allowing it to work with any GSM network. On the POTS side, the FXS port can be connected to any existing PBX.

Incoming calls on the GSM port are routed to the FXS port to reach the operator or any extension of the PBX. For outgoing calls, the PBX users continue dialing the numbers as if dialing on the normal trunk (CO) lines. Thus, the existing PBX users can avail the low tariff of GSM networks by connecting SIMADO GFX11 with the PBX without changing their existing infrastructure. In addition, Matrix SIMADO GFX11 can also be used in a stand-alone mode.

## ■ KEY FEATURES

### 3G Network Support

Matrix SIMADO GFX11 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

SIMADO GFX11 offers 5 programmable numbers of 16 digits each separately in Allowed and Denied Lists. This is a very useful feature to avoid unnecessary long distance and international calls while allowing calls to only required numbers.

### Automatic Number Translation

SIMADO GFX11 modifies the dialed number or part thereof so that it matches with the numbering plan of the destination network. For example, GSM Networks require dialing of complete number including the area code. If a caller has dialed just the local number, the SIMADO GFX11 adds area code as appropriate prefix. Translation table of SIMADO GFX11 offers maximum 8 entries.

### Disconnect Signaling on FXS Port

SIMADO GFX11 can send call release signal on its FXS port. This signal is then sensed by PBX or other equipment to release the port when a call is terminated by the caller on the GSM side of the network. This prevents port getting stuck and provides accurate billing.

### Call Progress Tones and Rings

Programmable Call Progress Tones like Dial Tone, Ring Back Tone and Busy Tone etc. are offered by SIMADO GFX11. This allows SIMADO GFX11 to match the tones of the country standard, where it is getting installed. Similarly, Ring cadences can also be selected.

### Emergency Number Dialing

SIMADO GFX11 allows user to dial emergency numbers for services like Police, Fire Brigade or Ambulance without SIM or without network registration. Maximum 4 emergency numbers of 4 digits can be programmed.

### Hotline

A particular phone number required to be dialed frequently, it can be programmed as a hotline number. Whenever a user reaches SIMADO GFX11, it waits for some time for the user to dial a number of his choice. If user does not dial any number, the SIMADO GFX11 dials out the hotline number automatically.

### International Mobile Equipment Identity (IMEI) Number

International Mobile Equipment Identity (IMEI) number provided on SIMADO GFX11 GSM engine is a unique 15 digit code to identify an individual GSM port. This number can be used to associate and tie the equipment with a particular GSM network.

### LED Indications

Status of the Power, SIM card, Network and FXS port are displayed on the LEDs provided on the product.

### Location Information Indication

SIMADO GFX11 gives the information of the location where it is installed. This feature is useful for people on the move e.g. transportation and logistic vehicles.

Access to long distance and international dialing can be controlled by programming Allowed and Denied Lists. This logic allows flexibility of allowing access to certain numbers while restricting to all others. Number Translation feature automatically adds area code as prefix to a number before dialing it out on the GSM. Moreover, features like Hotline, Signal Strength Indication and Location Information Indication and Network Selection are also supported.

Matrix SIMADO GFX11 finds its applications in corporate offices, factories, call centers, hotels, residences and other such establishments.

### Multi-Stage Dialing

Useful for the applications where series of digits have to dial before dialing the actual number. For Example, to call using ITC Card. A user has to dial a 14-Digit PIN followed by a number before dialing a destination number can be eliminated by programming it in ANT Table, Calling card password table or Calling card service provider table.

### Network Selection

SIMADO GFX11 provides flexibility to user to select the network manually or automatically. SIMADO GFX11 can be programmed to work only with selected networks, preventing it from registering with other costly networks. This is useful when the installation is close to a state or national border where local and foreign GSM networks are simultaneously available but registration must happen only with the desired network. Maximum 4 networks can be programmed.

### Service Provider Lock

SIMADO GFX11 can be programmed to work with the specific Service Provider only. The Password is different from SE and SA Password. Very useful feature for Service Providers. Avoid churning.

### Short Message Services (SMS)

SIMADO GFX11 can receive SMS. The user can read the received messages on the LCD display of the FSK Compatible Phone. The user is notified about the receipt of a new message in the form of ring signal on the phone.

### Signal Strength Indication

SIMADO GFX11 gives the indication of signal strength available for communication. Thus the possibility of network availability can be found. The signal strength indication is shown on the LCD of the telephone instrument supporting FSK CLIP.

### SIM PIN

SIMADO GFX11 allows user to program 4 digits PIN number (Personal Identification Number) which prevents the SIM against unauthorized use. User has to enter PIN for making any operations. User can change the SIM PIN as and when required. SIM gets blocked if PIN is entered wrongly thrice in a row.

### SIM PUK

PUK (Personal Unlock Key) number provided by service provider can be entered in SIMADO GFX11. It is an 8-digit number which is assigned to the SIM card. The SIM PUK is required to unlock the SIM which gets blocked on entering SIM PIN wrongly thrice in a row.



## ■ IMPORTANT APPLICATION AREAS

### Service Providers

GSM operators can increase their revenue by replacing existing analog lines with SIMADO GFX11 and offer customers to switch to their GSM/3G network.

### Offices

SIMADO GFX11 helps in reducing company's telecommunication cost up to 30%. By connecting SIMADO to the existing PBX, all calls made to the mobile phones will be routed through SIMADO GFX11.

### Payphones (PCO)

SIMADO GFX11 can be connected to a payphone thus allowing it to be used anywhere within GSM coverage area. It provides Battery Polarity Reversal on its FXS port to activate the payphone metering mechanism.

### Emergency Applications

SIMADO GFX11 supports programming of a help-line or emergency number as a Hotline number. Hence, during any emergency situation the caller can dial the emergency number just by lifting the handset. SIMADO has important usage at places like National Highways, Hospitals, Railways, Airports, etc., which are prone to high-emergency occurrence.



**SIMADO GFX11 in Stand-alone Mode**



**SIMADO GFX11 With PBX**

## ■ TECHNICAL SPECIFICATIONS

### GSM Port

GSM Band	: Quad Band: GSM850, EGSM900 DCS1800, PCS1900 Tri Band: WCDMA 850/1900/2100 MHz
SIM Card	: One SIM
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 -102dBm at GSM850/EGSM900/DCS1800/PCS1900 Better than -106dBm at WCDMA 850 Better than -108dBm at WCDMA 1900/2100
External Antenna	: 1.8/2.5 dBi, 50Ω, TNC (Male) Connector, Fixed Omni Directional Swivel Antenna
Speech Gain (Transmit- Receive)	: Programmable in step of 1dB

### FXS (SLT) Port

Connection	: RJ11
Off Hook AC Impedance	: 600Ω
Loop Limit	: 250Ω (Max) Excluding Telephone Set
Loop Feed	: 40mA (Max)
Ringing Voltage	: 55Vrms @25Hz Trapezoidal
Pulse Dialing	: 10 PPS +/- 10%, Make/Break=33:67ms
DTMF Dialing and Reception	: ITU-T Q.23 and Q.24
Caller ID Presentation (CLIP)	: DTMF, FSK ITU-T V.23 and FSK Bellcore 202A
Call Maturity	: Polarity Reversal
LED Indications Protection	: Power Supply, Network, SIM and FXS : Solid state (Over Voltage) built-in Secondary Protection

### Power Supply

Input	: 12VDC @1.25A Through External Adaptor (90- 265VAC, 47-65Hz)
Power Consumption	: 5W (Typical)
Connector	: Casio DC Power Jack

### Mechanical

Dimensions (WxHxD)	: 13.35x19.8x4.46cm (5.26"x7.80"x1.76")
Unit Weight	: 0.45kg (1.0lbs) Approx.
Shipping Weight	: 1.1kg (2.4lbs) Approx.
Material	: ABS Plastic
Installation Mounting	: Wall and Table-Top

### Environmental

Operating Temperature	: 0°C to +55°C (34°F to +131°F)
Storage Temperature	: -40°C to +85°C (-40°F to +185°F)
Operating Humidity	: 5-95% RH, Non-Condensing
Storage Humidity	: 0-95% RH, Non-Condensing

## ■ COMPLIANCES

### EMI/EMC

Conducted Emission	: CISPR 22 Class A
Radiated Emission	: CISPR 22 Class A
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 A
Radiated Emission	: FCC Part 15 Sub Part B Class A

### EC Directives

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

### Safety

IEC 60950-1	: 2001 First Edition
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\* Depends on GSM Frequency Band

## FEATURES LIST

### Software Features

- Answer Signaling on FXS Port
- Allowed and Denied Lists
- Automatic Number Translation
- Call Divert
- Call Duration Display
- Call Progress Tones and Rings
- Calling Line Identification and Presentation (CLIP)
- Calling Line Identity Restriction (CLIR)
- Disconnect Signaling on FXS Port
- Emergency Number Dialing
- Hotline
- IMEI Number
- LED Indications
- Location Information Indication
- Network Selection

- Programming through the FXS port
- Service Provider Lock
- Signal Strength Indication
- SIM PIN
- SIM PUK
- SMS (Receive and Delete)
- System Password

### Hardware Features

- 3G Network Support
- Compact and Sturdy Design
- LED Indications
- 2G Quad-Band Support
- SMT Technology
- Wall and Table-top Mounting

## 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

• 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 contact:



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