MATRIX
TELECOM SOLUTIONS

Researched, Designed &
Manufactured in
INDIA
50+ Countries | 1M+ Customers

GSM FCT for Voice Applications

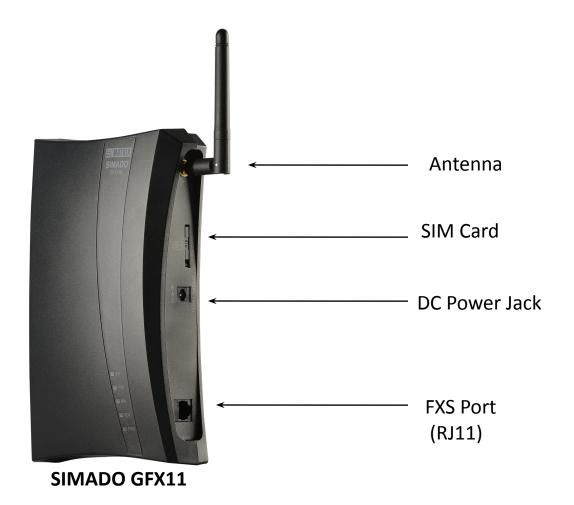Matrix SIMADO GFX11

EXPECT MORE.

INTRODUCTION

- Reliable, Compact and Sturdy design

- ETSI GSM phase 2/2+ compliance

- Superior call routing techniques

- Penta-band for UMTS and Quad-band for GSM network support

- Compatible with any TDM PBX

INTRODUCTION

- Fixed cellular terminal for voice applications

- Incoming calls on GSM are routed to the FXS port

- Outgoing calls from FXS port are routed through GSM network

- Can be used as a stand-alone system

- Can be connected with any existing PBX

- ETSI GSM phase 2/2+ compliance

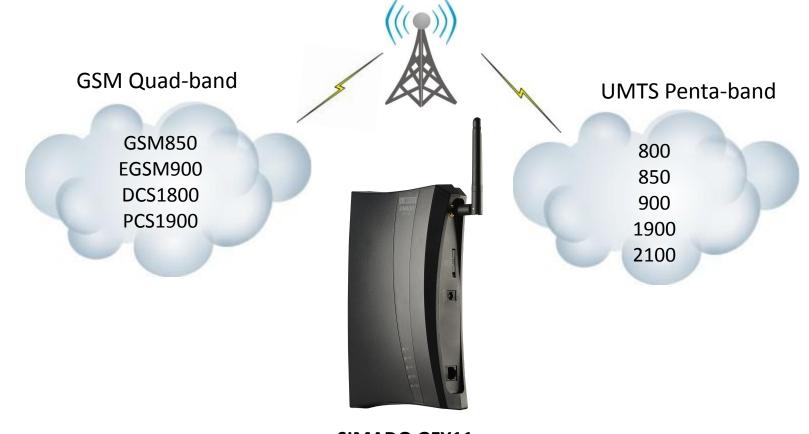- Penta-band UMTS and Quad-band for GSM network support

System Interfaces

Antenna

SIM Card

DC Power Jack

FXS Port
(RJ11)

SIMADO GFX11

GSM FCT for Voice Application

Product Variants

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 3G Port , 1 FXS

Network Support

GSM Quad-band

GSM850
EGSM900
DCS1800
PCS1900

UMTS Penta-band

800
850
900
1900
2100

SIMADO GFX11

3G Network Support

- Matrix SIMADO GFX11 3G supports:

  ✔ 2G Network: Quad-band support for GSM network

  ✔ 3G Network: Penta-band support for UMTS network

- Call established over 3G network offer:

  ✔ Noise-free, stanch voice quality

  ✔ Enhanced security

- Fallback compatibility

  ✔ Flexibility to switch to alternate network (2G)

  ✔ Assures round-the-clock network connectivity

  ✔ Users can traverse between regions uninterruptedly

LED Indications

SIMADO GFX11

- FXS (Phone On/Off Hook)

- NW (Network Availability)

- SIM (SIM Card)

- Power On

System Features

- Allowed and Denied List

- Automatic Number Translation

- Call Divert

- Call Duration Display

- Call Progress Tones

- Calling Line Identification and Presentation (CLIP)

- Calling Line Identification Restriction (CLIR)

System Features

- Emergency Number Dialing

- Hotline

- International Mobile Equipment Identity (IMEI)

- Location Information Indication

- Multi-Stage Dialing

- Network Selection

- Reinstate Default Setting
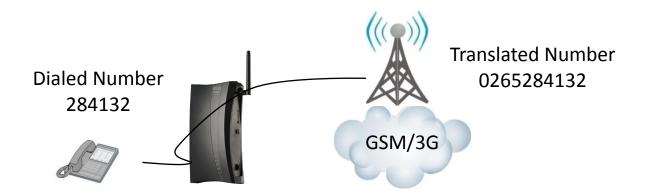
- Security Code

System Features

- Service Provider Lock

- Short Message Services (Receive and Delete)

- Signal Strength Indication

- SIM PIN

- Software Version and Revision Display

- System Programming

- System Restart

- System Security

Allowed and Denied List

- Program Allowed and Denied Number Lists

- Allow/Restrict Dialing of the Programmed Numbers

- 5 Numbers, Each of 16 Digits Can be Programmed in Allowed and Denied Number List Individually

- Based on "Best Match Found" Logic, Calls are Allowed/Denied

- Programmed Emergency Numbers are Excluded From Such Verification

- Useful to Control Telephone Call Cost

- Trim the Use of System's National/International Dialing Facility as per Requirement

Automatic Number Translation

- Translates dialed number string into an understandable format by the GSM/3G network, Example:

  ✔ While placing calls to landline numbers

  ✔ User may dial only the number

  ✔ GFX11 prefixes the area code

  ✔ The number string will be understood by the GSM network

- No need to change dialing habits

- Aids in speed dialing and multi-stage dialing set-ups

Dialed Number
284132

Translated Number
0265284132

GSM/3G

Call Divert

- Diverts incoming calls on mobile port to a configured alternate destination:

  ✔ Unconditionally

  ✔ When FXS port is busy

  ✔ When FXS Port does not answer

  ✔ When GFX11 is switched-off or out of coverage area

  - This feature requires activation from SIM service provider

Call Duration Display

- Duration of calls made or received on FXS port can be viewed on LCD enabled

  phones

- Display options:

  ✔ Duration of last dialed or received call

  ✔ Total duration of calls made

Call Progress Tones

- Different Types of Tones: Dial Tone, Ring Back Tone, Busy Tone, Error Tone

- Different call progress tones and ring cadence for different regions

Calling Line Identification and Presentation

- Detection and presentation of calling party number on FXS port

- Signaling Types:

  ✔ DTMF

  ✔ ITU-T V.23 FSK

  ✔ Bellcore FSK

Calling Line Identification Restriction

- Restrict displaying ones identity while placing calls

- This feature is service provider specific

Emergency Number Dialing

- Configure 4 emergency numbers (Ex. Ambulance, Police, Fire Brigade and Others)

    ✔ Place call even if SIM is not present

- Configured emergency numbers are excluded from such verification

    ✔ In case, no emergency number is programmed

    ✔ Emergency number stored in SIM will be dialed

    ✔ Else default emergency number stored in the firmware will be dialed

Hotline (Fixed Dialing)

- Just by lifting the handset, the frequently dialed number can be dialed-out

- Configure the fixed numbers after which delay happens

- Any other number can be dialed, before configured delay elapses

- Beneficial in point-to-point connectivity set-ups

International Mobile Equipment Identity

- 15/17 digit code used to identify a GSM module on GSM network

- When SIMADO GFX11 is switched-on

- IMEI number is verified with service providers list of authorized users

- In case of lost/stolen equipment

  ✔ Get IMEI number blocked

  ✔ Prevent misuse of information stored in the gateway

Location Information Indication

- Displays the information of the location where the device has been placed

- Information can be viewed on LCD enabled phones

- This feature requires activation from SIM service provider

- Best fits in

  ✔ Logistics and Transportation vehicles

Multi-Stage Dialing

- At times, series of numbers have to be dialed before dialing the actual number

- Example: while using a virtual calling cards (ITC card)

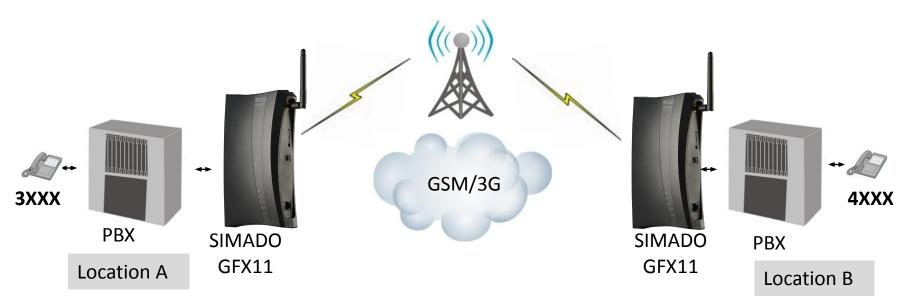 ✔ User is required to dial long number strings

    ⬜ **Toll-free Number Provided by the Service Provider + ITC Card Number +** Destination Number to be Called

  ✔ Eliminates dialing long number strings

  ✔ Configure ANT table, calling card password table and calling card service provider table

  ✔ User can now dial only the destination number

  - Used in Organizations with multiple branch offices

  - Connect various locations via GSM network

Multi-Stage Dialing: Application Scenario

3XXX

PBX

SIMADO
GFX11

Location A
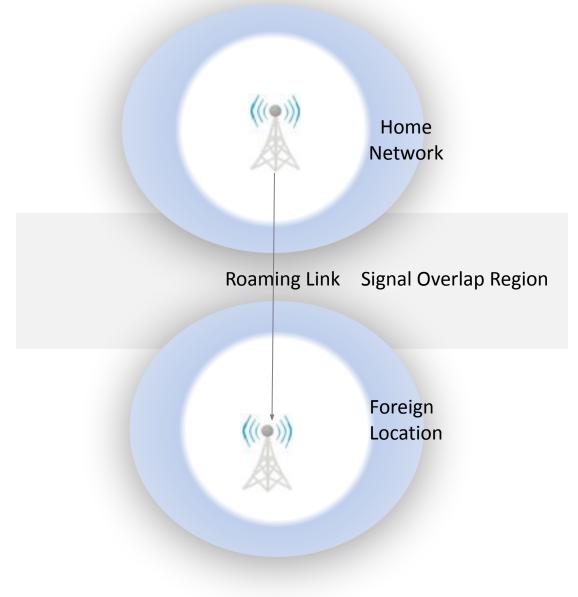
GSM/3G

SIMADO
GFX11

PBX

4XXX

Location B

- Connect SIMADO GFX11 in front of the pre-installed PBX system

- Avail CUG (closed user group) services from the service provider for free dialing
  between the offices

- Calls can be easily established between the two locations

- System supports differentiated tones to indicate various dialing stages

Network Selection

- Once the Power is ON, system searches and registers itself with the available network

    ✔ Network is selected as per network signal strength

    ✔ Ensures round-the-clock connectivity by registering with an available network

- System can be configured for manual network selection mode

    ✔ Avoids unnecessary charges due to registration with unwanted networks

    ✔ Network is selected as per assigned priority in a priority table

- Single GSM port can be programmed for maximum of 4 networks

- Multiple attempts are made to register with an available network

Network Selection

Home
Network

Roaming Link   Signal Overlap Region

Foreign
Location

- Network signals may overlap in the expanse of a national border

- Set the system for manual network selection mode

- Avoid false roaming charges, due to registration with a foreign network

Reinstate Default Settings

- SIMADO GFX11 is supplied with default settings for various parameters

- Any operating mistake may necessitate defaulting the system

- Default the system by entering se mode from the telephone

- Minimizes configuring labor

Security Code

GSM/3G

SIMADO GFX11

Payphone

Payphone
User

- Interface GFX11 with the Payphone

- Route all calls through GSM/3G network

- Bypasses toll charges borne while placing inter-network calls

- Program security code in SIMADO GFX11 to restrict its use

Service Provider Lock

- Locks SIMADO GFX11 to work with specific service provider

- The password is different from SE and SA

- An immense utility feature for the service providers

- Locks or unlocks the system, even when a SIM card is not inserted

Short Messaging Service

- Notifies receipt of a new SMS

- Notification is in the form of signal or alert on phone

- Received messages are stored at various locations (indexes) in the SIM/RUIM

- Read or delete received messages with phone supporting FSK CLI

Signal Strength

- Gauge available signal strength

- 15 step signal strength indication on telephone instrument's LCD screen

- Telephone instrument should be FSK compatible

SIM PIN

- SIM is a smart card with subscriber specific data stored in it

- SIM PIN is a security feature used by the GSM network

- A PIN (Personal Identification Number) can be enabled in the SIM

- At each Power-on, device is authenticated for PIN

- This PIN should match with the stored SIM PIN

- System will attempt registration to a GSM network after correct SIM PIN is issued

- Wrong PIN attempt thrice would block the SIM

- A blocked SIM can be opened by entering the SIM PUK provided by the GSM operator

- Prevents misuse of SIM card

System Programming

- Program the device with a phone

- Two differentiated programming levels:

    ✔ System Engineer (SE) Level:

        □ Grants full system access

        □ Password authentication is required to enter SE programming mode

    ✔ System Administrator (SA) Level:

        □ Authorized to program only administrative system features

        □ Password authentication is required to enter SA programming mode
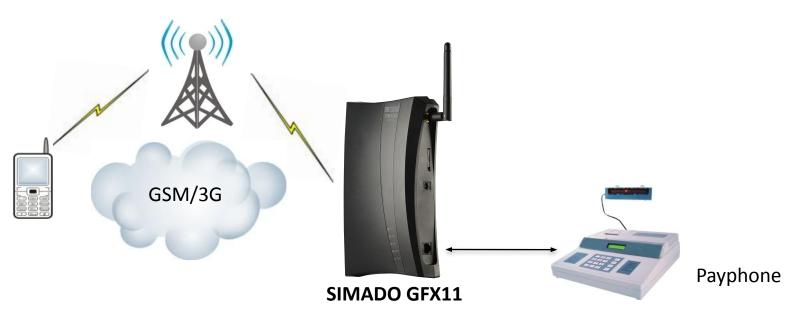
System Restart

- When physical reach to system is difficult

- Restart the system from telephone instrument connected to phone

System Security

- SIMADO GFX11 is secured with passwords at two levels:

  1) System Engineer (SE) Level

  2) System Administrator (SA) Level

  - System Engineer can alter SA password if required

  - Technique to default SE password in case of forgotten password

  - Prevents unauthorized alterations and misuse of system features and facilities
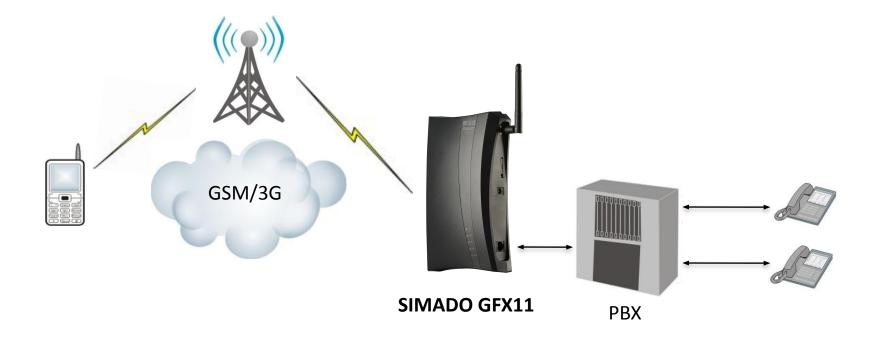
Applications

Payphone Application

GSM/3G

SIMADO GFX11

Payphone

- Interface GFX11 with the Payphone

- Route all calls through GSM/3G network

- Supports polarity reversal, ensuring accurate billing

- Security Code: Limits system usage to a Payphone

- Works with most Payphones, no need of changing existing Payphone

GSM FCT with existing PBX Application

SIMADO GFX11

PBX

- PBX Can be Interfaced With System's FXS Ports

- PBX Users Can Make/Receive Calls to/from Mobile Terminals

- Works With All PBX, No Need of Changing Existing PBX

Specifications

Power Supply	External Adaptor 12V DC/1.25A (Universal Input Range 100-240VAC, 47- 63Hz) Casio DC Power Jack
Power Consumption (Typical)	5W (Typical)
RF Sensitivity	-110dBm@UMTS Bands -108.5dBm@GSM 850/900MHz -108dBm@GSM 1800/1900MHz
Dimensions (W X H X D)	5.26"X7.80"X1.76"
Unit Weight GFX11	395 Grams
Mounting Options	Wall Mount and Table Top
Antenna Connector	SMA (Male)

- Type of Presentation: Product Presentation

- Number of Slides: 40

- Revised On: 1st Dec 2016

- Version-Release Number: V3R1

For Further Information Please Contact:

Email ID: Inquiry@MatrixComsec.com

Visit us at www.MatrixTeleSol.com/gsm-fcts.html