GSMPBX
version 1.3

Datasheet

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(preliminary data)

Figure 1 - GSMPBX

Introduction

The **GSMPBX** is designed to commute phone calls between a cellular network (GSM) and the wired public switched telephony network (PSTN). On one side it is connected to the landline like a regular phone while having a GSM modem on the other side, which allows connecting to a cellular network provider. The **GSMPBX** is reachable on two phone numbers: a landline number and a cellular phone number.

Features

- Built-in FXO port for landline connectivity
- Built-in Tri-band GSM modem (900/1800/1900 MHz)
- Integrated configurable software
- Fully configurable through text messages (SMS)
- Remote alarming
- Remote control

Technical Specification

|	
GSM 900/1800/1900 channels	1
PSTN Channels	1
Configuration options	SMS
SIM card reader	Built-in
SIM card type	Phase 2 GSM11.14 - SIM 3V
Firmware	Yes
Input	
FXO Ports	1
FXS Ports	1
Power	
Power supply	External stabilized +12V DC
Power consumption	Idle mode: 50mA – Talk mode: 250mA During transmission: 3A peak max.
Voltage regulator	Internal voltage regulator
Power protection	Reverse-polarity protection
Environmental Conditions	
Normal operational temperature range	-10…+55°C
Board dimension	

Add GSMPBX to your home or office to save money

free calls to/from mobiles from/to a landline or discount long distance calls
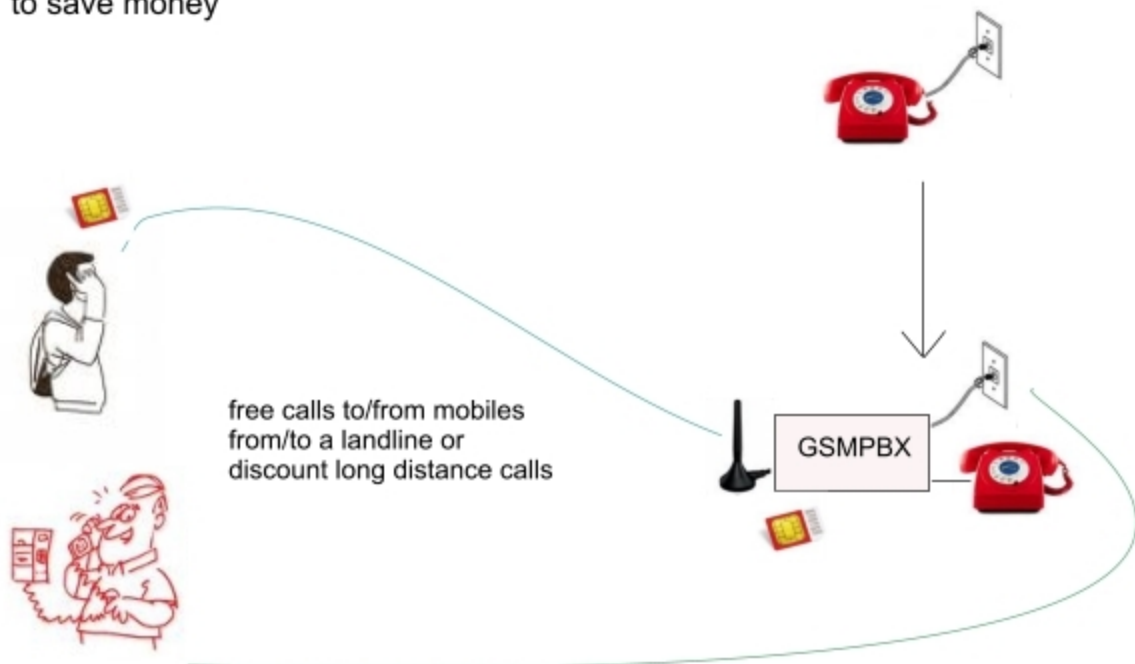
GSMPBX

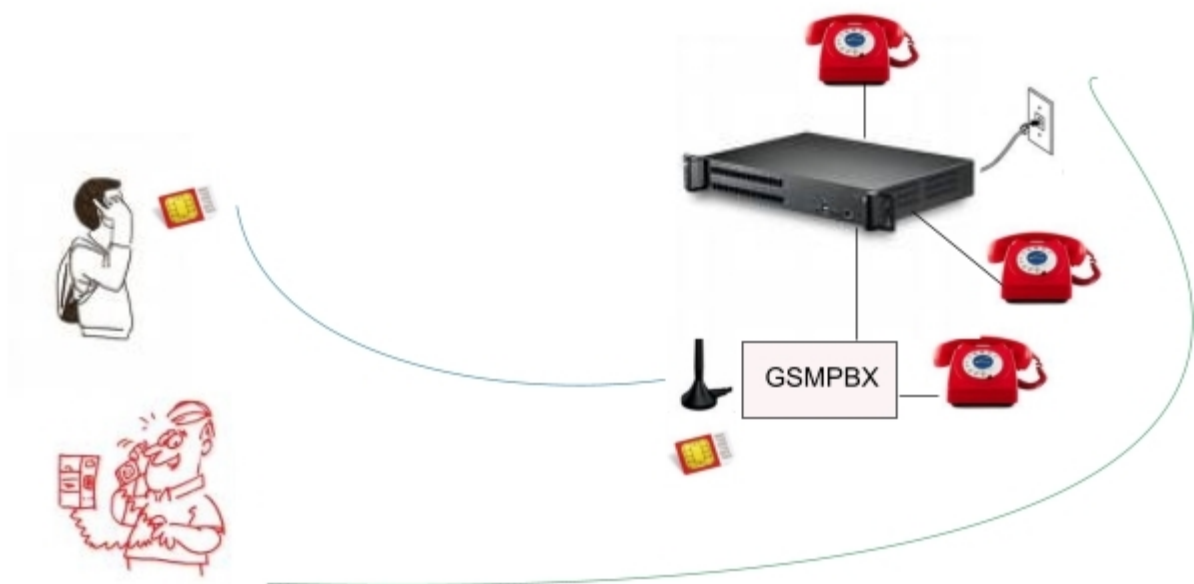*Figure 2 – GSMPBX connection*

Add GSMPBX to your home or office to save money
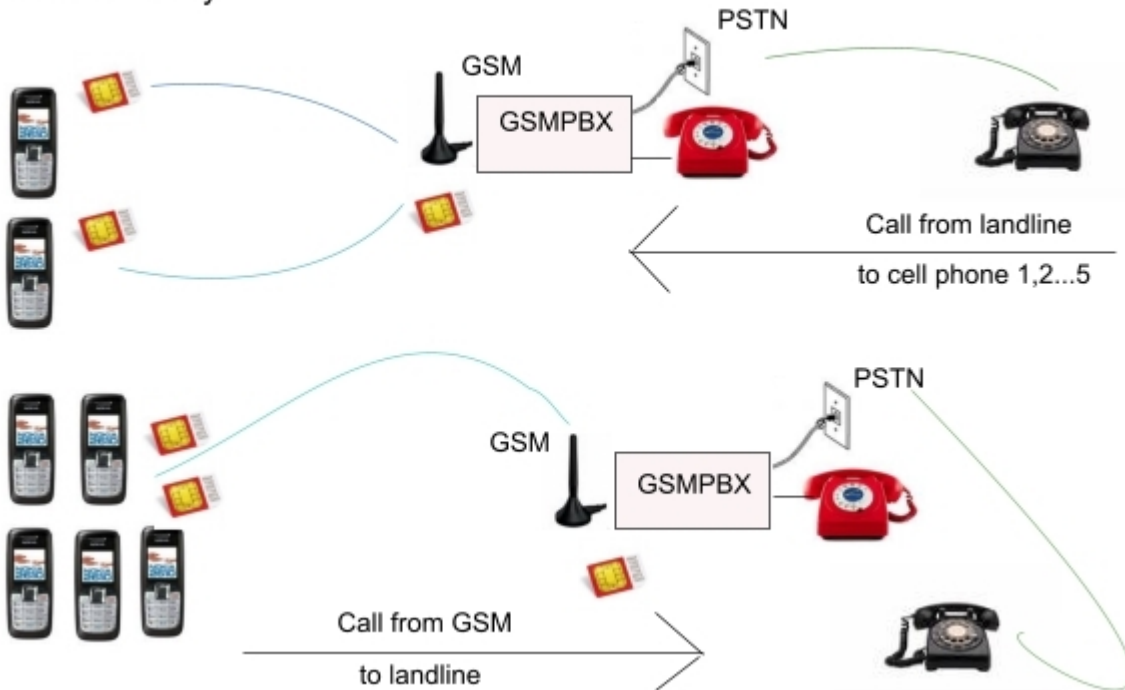
Figure 3 – Call process with use GSMPBX

Connection to PABX

Figure 4 - GSMPBX connection to PABX

Add GSMPBX to your PABX to save money
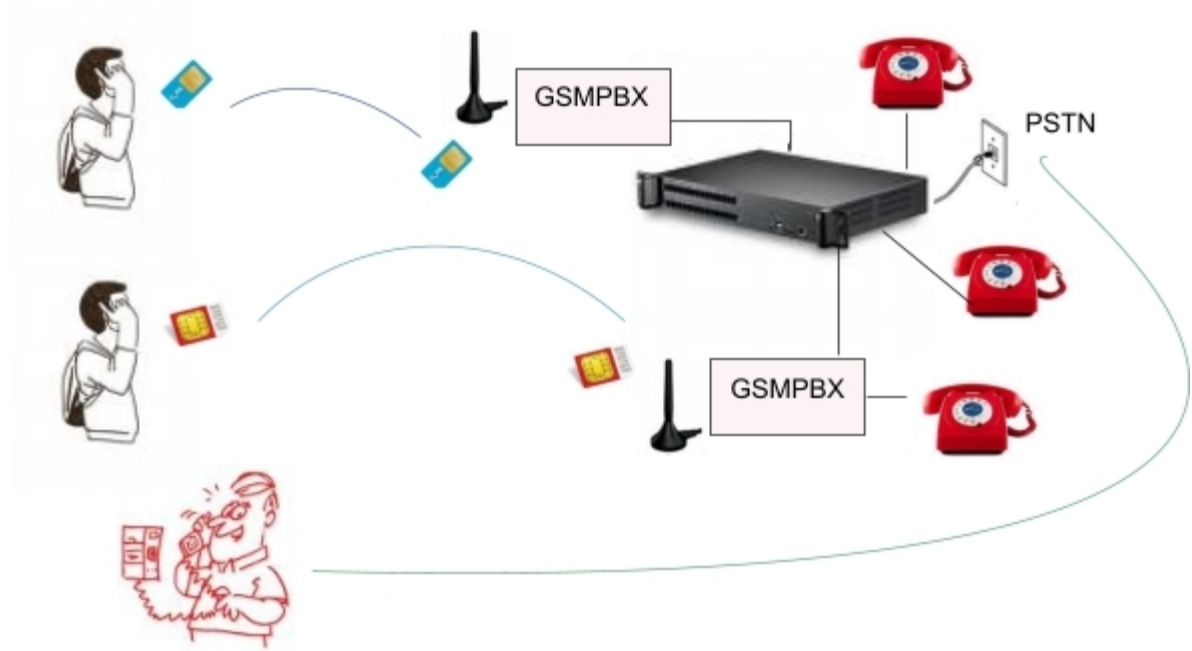
Figure 5 – Two GSMPBX connection to PABX
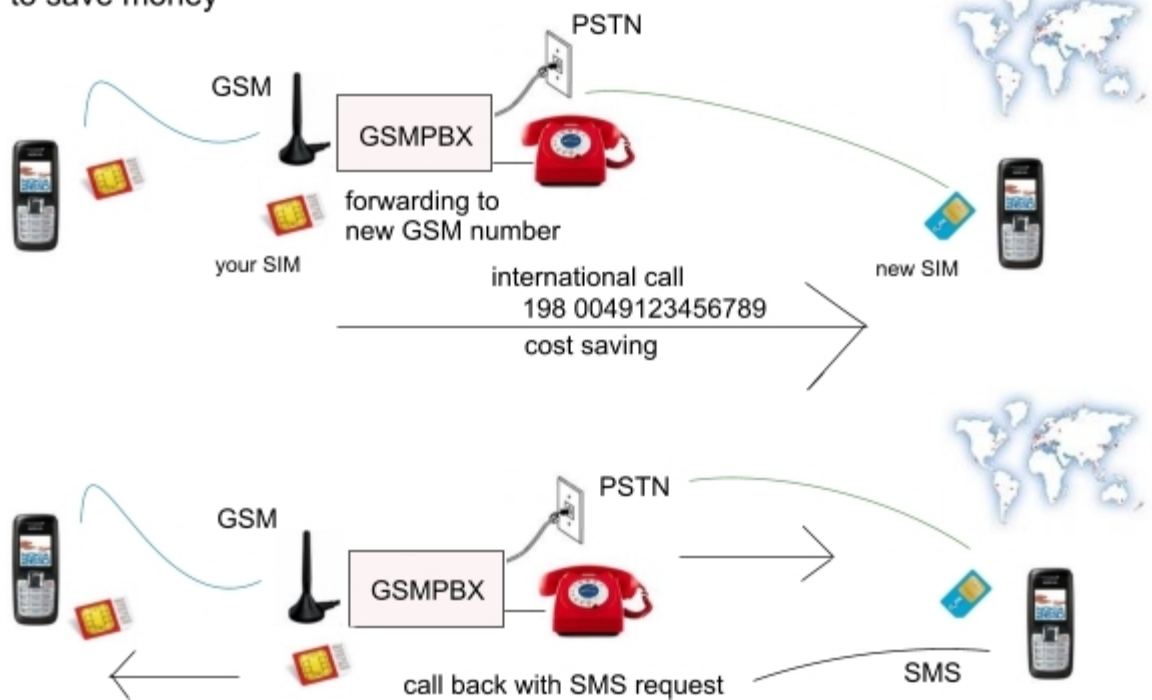
Roaming Mode

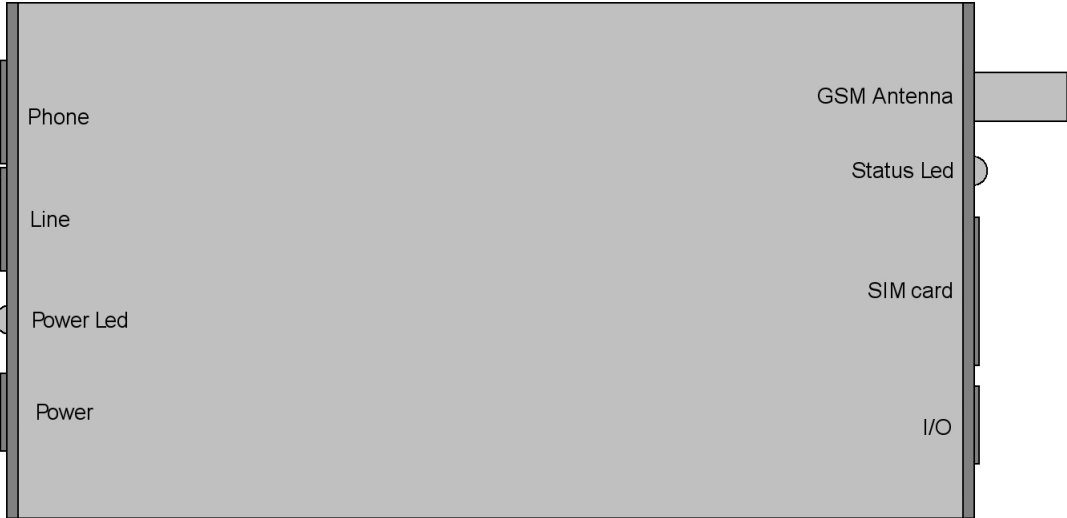*Figure 6 – Call process with use GSMPBX in roaming mode*

Installation

Figure 7 - Top device view

1. Insert your SIM card into the SIM card holder (as shown in figure 7 and 9)
2. Connect the phone line to the jack "LINE"
3. Optional: You may connect your regular phone to the jack "PHONE"

In the initial condition the device is in Switching Mode. In this mode you can place calls from the GSM side. In order to reach the device on the landline you have to set up the cell phone number that is authorized to make calls.

The device may also work in a so called "Roaming-Mode". In this mode all calls to the SIM card will be redirected the number that is saved at the sixth memory position.

Device number memory

You may store up to six numbers in the device number memory

Landline Number	Device number memory
	1. Cellular Number 1
	2. Cellular Number 2
	3. Cellular Number 3
	4. Cellular Number 4
	5. Cellular Number 5
	6. Cellular Number 6 **(number for redirection in Roaming Mode)**
Cellular Number (GSM)	

Operating modes

The device is connected to your land-line just like a regular phone. It has also a built-in GSM modem allowing it to receive calls from a cellular network when you insert a SIM card.
The device supports two operating modes: Switching Mode and Roaming Mode.

Switching Mode

1. Calling the cellular number of the device

When you call the cellular number of the inserted SIM card the device connects you to the landline. That means: once connected to the device you may dial any number and the device connects you through the landline to the desired conversation partner.

→ Cellular Number (GSM)
  → Landline
    → You may call any phone number

2. Calling the landline number of the device

If you call the landline number of the device you will be connected to one of the five numbers that are stored in the devices number memory. To specify the number simply dial the corresponding memory number, e.g. to call the number that is stored in the third place of the memory, dial '3'.
If you don't select a number, you will be connected to the first stored number in the device.

→ Landline
  → GSM
    → Connection to one of the stored number in the memory (1, 2 … 5)

Roaming Mode

1. Calling the cellular number of the device

If you are calling the cellular number of the device you will be connected to the number that is stored in the sixth memory position in the device number memory.

→ Cellular Number (GSM)
  → Landline
    → Automatic redirection to the number stored in the sixth memory place

2. Calling the landline number of the device

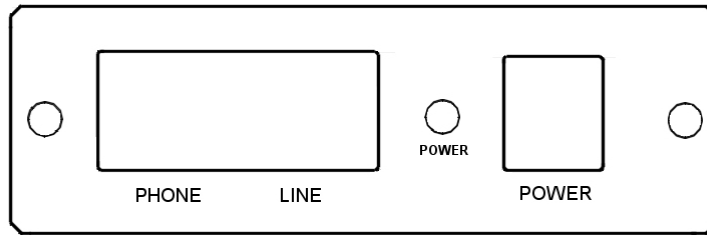When calling the landline number of the device in Roaming Mode the call will not be answered.
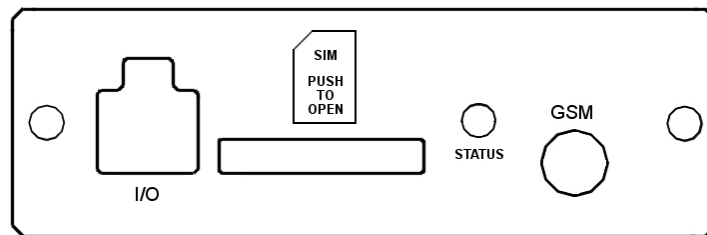
Figure 8 - Front device view

Figure 9 - Back device view

Connectors
- Two connectors: one for the landline and one for a regular landline phone

Power Supply
- Works with +9V DC … +12V DC stabilized power supplies

Antenna
- GSM (900/1800 or 900/1800/1900 MHz) antenna with SMA male connector

SIM Card
- Small SIM-card with 3V technology

LED indicators

- **GSM Modem LED indication (see figure 9)**

LED status	Modem status
Permanently off	Device is turned off
Fast blinking (period 1s, ton 0,5s)	Net search / Not registered / Turning off
Slow blinking (period 3s, ton 0,3s)	Registered: full service
Permanently on	A call is active

- **Power ON LED indication (see figure 8)**
  - Permanently off if power is OFF
  - Permanently on if power is ON

GSM Band Installation

The default GSM band installed for your country.
If the GSM band is not installed, you can set GSM band with following steps:

1. Power off the device
2. Set the jumper (see Figure 4)
3. Power on the device

GSM900/1800 - no Jumper

GSM1900 – with Jumper
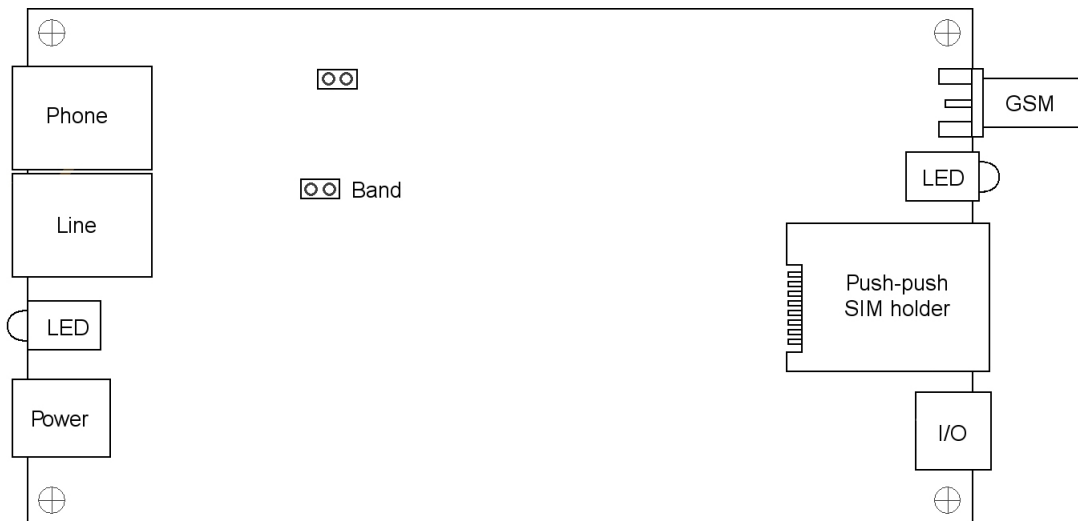
Figure 10 – Cover removed

Please note!

If you are unsure about the GSM band setting you may contact your distributor for help.

Do not set the jumper unless you know exactly what you are doing!

SMS Control Command List

SMS command structure

2345N1 +3719106159

or…

2345S

where…

2345	Device Password (4 digits, needed for every command)
N or **S**	Command (one character)
1	Device number memory position
+3719106159	Telephone number

Command name*	Function	Return Message	Description / Parameters

S	Get current device status	`Answer after 3 rings`
		`Roaming to 0037122832798`
		`IDLE`
		
		`Answer after 3 rings`
		`IDLE`
			`2345S`
			• `3` – waiting 3 rings until pickup
			• `ROAMING` – if device is in Roaming Mode
			• Module status message (`IDLE`, `LINE`, `GSM`)

N	Set a number in the device number memory	`1: +37129106159`
		(Number was saved)
		
		`2:`
		(Number was deleted)
		
		2 SMS with numbers from memory (When requesting the memory status)
			`2345N1 +37129106159`
			Assign Number +37129106159 to number memory 1 (Device Password is e.g. 2345)
			
			`2345N2`
			`Delete` number from memory 2
			
			`2345NE`
			`Delete` all numbers from memory
			
			`2345N`
			Show all currently saved numbers (Device Password is e.g. 2345)

R	Set/Reset Roaming mode	`Answer after 3 rings`
		`Roaming to 0037122832798`
		`IDLE`
		(see `STATUS`)
			`2345R1`
			`2345R0`

C	Set waiting rings until pickup	`Answer after 3 rings`
		`IDLE`
		(see `STATUS`)
			`2345C5`
			`wait n rings until pickup (e.g. 5),`
			`n=3...9`

P	Set new device password	`Passw: 2008`	`2345P2008` e.g. sets the device password to 2008 while the old password was 2345. Reports the new password after setup.
B*	Call back	`Connection with` `requested number`	`2345B +37122832798`
A	Enable/Disable Alarm	`Answer after 3 rings` `IDLE`	`2345A1  -  enable Alarm` `2345A0  -  disable Alarm`
O	Set/Reset Output	`Answer after 3 rings` `IDLE`	`2345O1  -  Set Output` `2345O0  -  Reset Output`
Note 1): Not case sensitive.			

Example: Saving numbers to the memory (using SMS)
```
2345N1 +37122832798
2345N2 +37122832854
2345N3 +37122842913
2345N4 +37122842914
2345N5 +37122842915
2345N6 0037122822798
```


* Optional:
(in "Roaming Mode")
"Call back" via SMS
You send SMS with number. GSMPBX call to you and call to requested number.