



THE GSM TRUNK MODULE

USER MANUAL

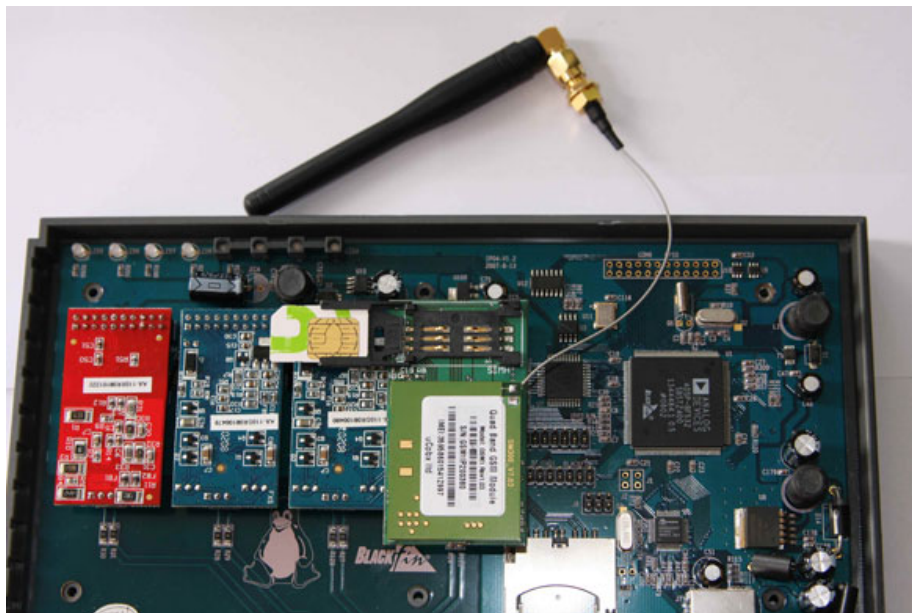


Table of Contents

1. General overview	3
2. Technical information	5
2.1 System : Astfin	5
2.3 Applications	6
2.4. Additional information	6
3. Installation and setup of GSM1	7
3.2. SIM Card	7
3.3. SIM card PIN number protection	8
3.4. Installation of antenna on IP0x box.....	8
4. Software and Configuration tips. Working with the GUI	11
4.1. System Status Menu	11
4.2. Firmware	11
4.3. Create GSM trunk.	11
4.4. Setup Outgoing Calling Rules.....	13
4.5. Setup Incoming calling rules.....	15

1.General overview

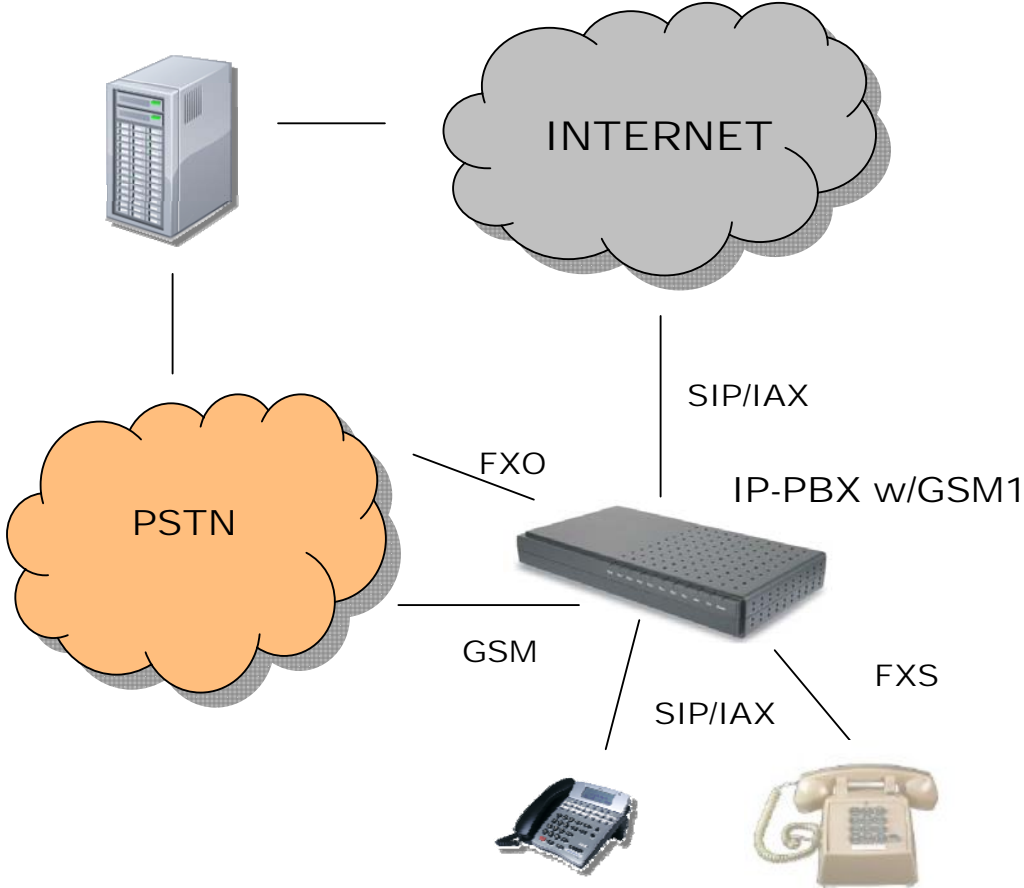


**picture with magnetic type antenna and SIM card*

What is the GSM1 trunk module?

GSM1 is a single quad band GSM module compatible with IP04,IP08,FX08 PBXs.

Telco / VoIP Provider



2. Technical information



**picture with panel mount type antenna, no SIM card*

2.1 System : **Astfin**

2.2. Hardware

- Quad Band 850,900,1800,1850MHz
- Compatible with IP04,IP08,FX02 and FX08
- Single trunk (like FXO) to GSM network
- Transmit Power class 4 (2W) @ 850/900Mhz
- Transmit Power class 1 (1W) @ 1800/1900Mhz
- Power Consumption in SLEEP mode 3mA

2.3. Applications

- VoIP / GSM Gateways
- TDM / GSM Gateways
- PBX / IVR functionality
- Backup / Mobile trunking
- Mobile / Portable applications
- Custom platforms
- Leased Cost routing (LCR)
- Custom development

2.4. Additional information

- Power supply from PBX
- Dimensions: 35 x 63 x 16mm
- External antenna is included

3. Installation and setup of GSM1

3.1. After you have your GSM module you need to install it properly. You have to open the box of your PBX (IP04, IP08, FX08), you need a free analog port in your PBX.

Install the GSM module properly in place



**picture of a IP04 PBX with 1 GSM1,1 FXO and 2 FXS modules*

3.2. SIM Card

- Next step is installing the SIM card into the GSM module.
- Open the SIM card holder after you unlock the latch
- Put the SIM card



**picture of a IP04 PBX with 1 GSM,1 FXO and 2 FXS modules*

3.3. SIM card PIN number protection

- You must use a regular cell phone and disable the PIN protection of the SIM card. After that you can put the card in to the GSM module. Close the SIM card holder and lock the latch.

3.4. Installation of antenna on IP0x box

- If you do not have factory drilled hole for antenna on your PBX you have to drill one.
- The hole diameter needs to be 6,5 mm. You have to remove the top cover of the PBX and to drill the hole in left from the Port connectors for IP02,IP04 PBX. For IP08 the place is above the SD card connector hole.



- Than you need to screw the antenna connector which is part of the GSM1 module

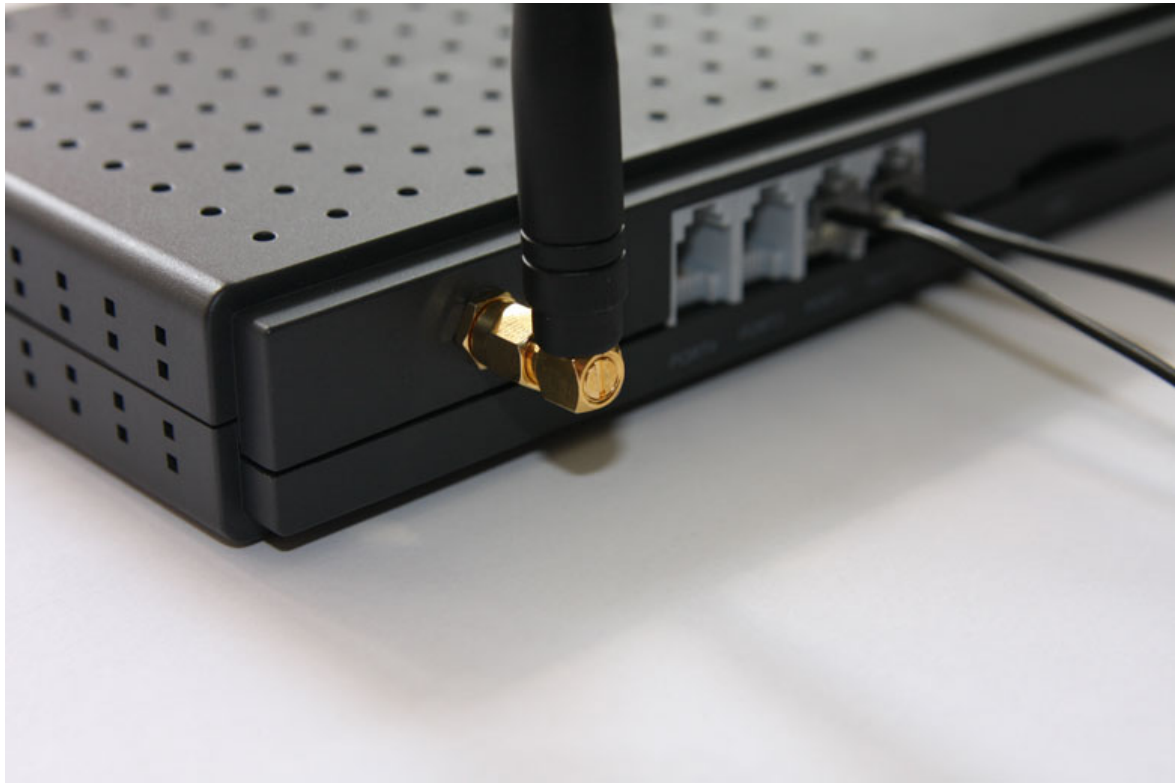


- Close the box of the PBX

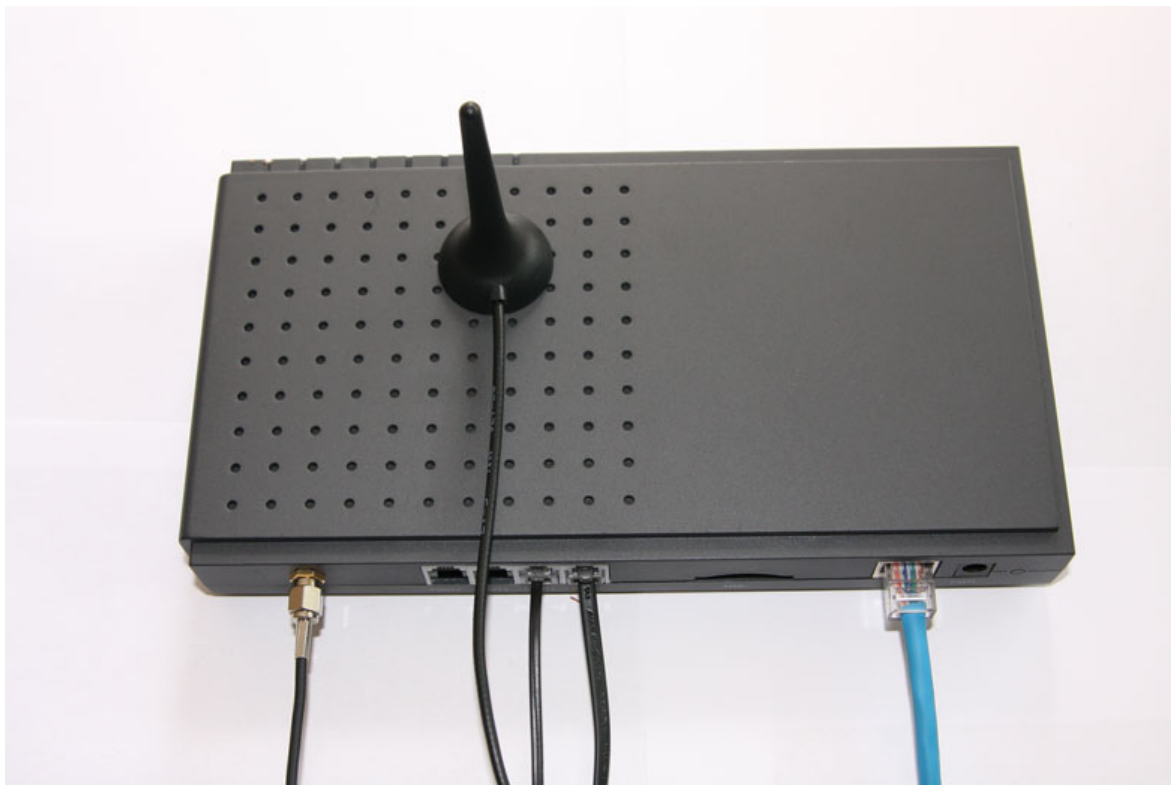


**Picture with 1GSM,1FXO and 2 FXS modules*

- IP0x box with surface mount antenna



- IP0x box with magnetic type antenna



4. Software and Configuration tips.

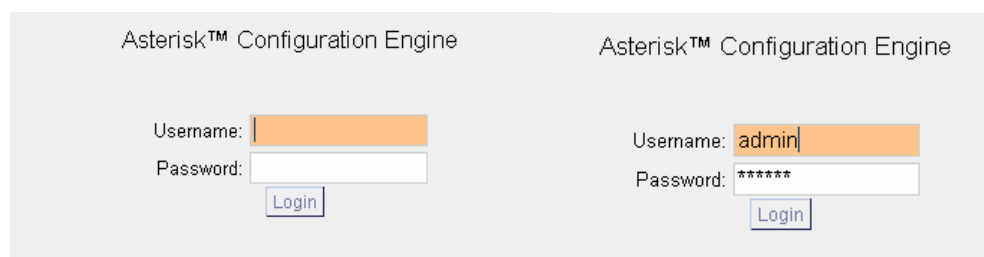
Working with the GUI

4.1. System Status Menu

After all the interfaces are connected and your IP0x is powered up you can connect to the GUI through your preferred Web browser. By default all IP0x are preconfigured with 192.168.1.100 IP address. Please change the IP address on the computer you will be using to configure the IP0x to be a part of 192.168.1.x /24 network (for example: 192.168.1.2).

At this point you can connect to the GUI by selecting the following URL:
<http://192.168.1.100>

When the initial page finishes loading you will be prompted to authenticate. Our default user name is **admin** and password is **astfin**



The image shows two side-by-side screenshots of the Asterisk Configuration Engine login page. Both screenshots have the title 'Asterisk™ Configuration Engine'. The left screenshot shows the login form with empty fields for 'Username:' and 'Password:', and a 'Login' button. The right screenshot shows the same form with 'admin' entered in the 'Username:' field and '*****' in the 'Password:' field, and the 'Login' button highlighted.

After successful login, you will see the system status page.

The GSM module is detected like FXO module so remember the port when you install the GSM.

To use your GSM module you need to setup your PBX thru GUI.

4.2. Firmware

* Important – before you do any further setup on your PBX you need to install the proper firmware, the image you update to has to be with GSM support. Go to the IP0x user manual for complete instruction of “how to” update the firmware.

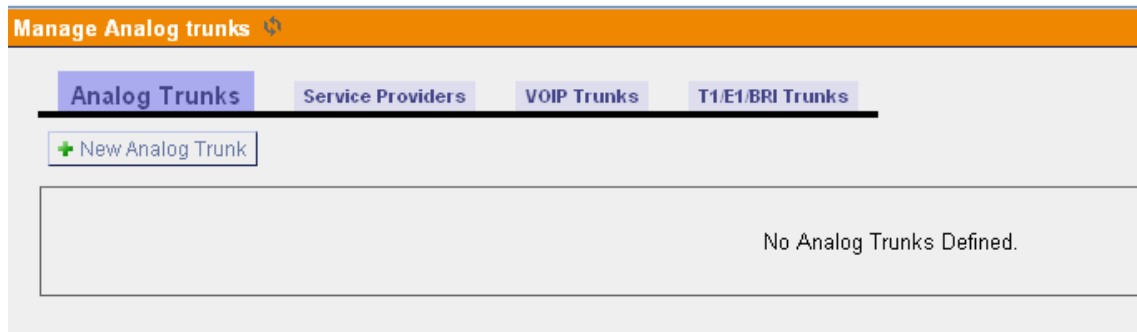
4.3. Create GSM trunk.

- Keep in mind that GSM module is detected in the PBX like normal FXO module. The LED on a port of the PBX will light RED when a GSM module is installed in it.

Click on the button in to main menu



You have to setup an Analog trunk



- In the example here we created a GSM trunk on a IP0x PBX, the GSM module is installed on port 1

New Analog Trunk X

Channels: 1 3 4

Trunk Name ⓘ : **GSM**

Advanced Options

Busy Detection ⓘ : <input type="text" value="No"/>	Busy Count ⓘ : <input type="text" value="3"/>
Busy Pattern ⓘ : <input type="text" value="500,500"/>	Ring Timeout ⓘ : <input type="text" value="8000"/>
Answer on <input type="text" value="No"/>	Hangup on <input type="text" value="No"/>
Polarity Switch ⓘ : <input type="text"/>	Polarity Switch ⓘ : <input type="text"/>
Call Progress ⓘ : <input type="text" value="No"/>	Progress Zone ⓘ : <input type="text" value="US"/>
Use CallerID ⓘ : <input type="text" value="Yes"/>	Caller ID Start ⓘ : <input type="text" value="Ring"/>
CallerID ⓘ : <input type="text" value="As Received"/>	Pulse Dial ⓘ : <input type="text" value="No"/>
CID Signalling ⓘ : <input type="text" value="Bell - USA"/>	mailbox : <input type="text"/>
Flash Timing ⓘ : <input type="text" value="750"/>	Receive Flash Timing ⓘ : <input type="text" value="1250"/>

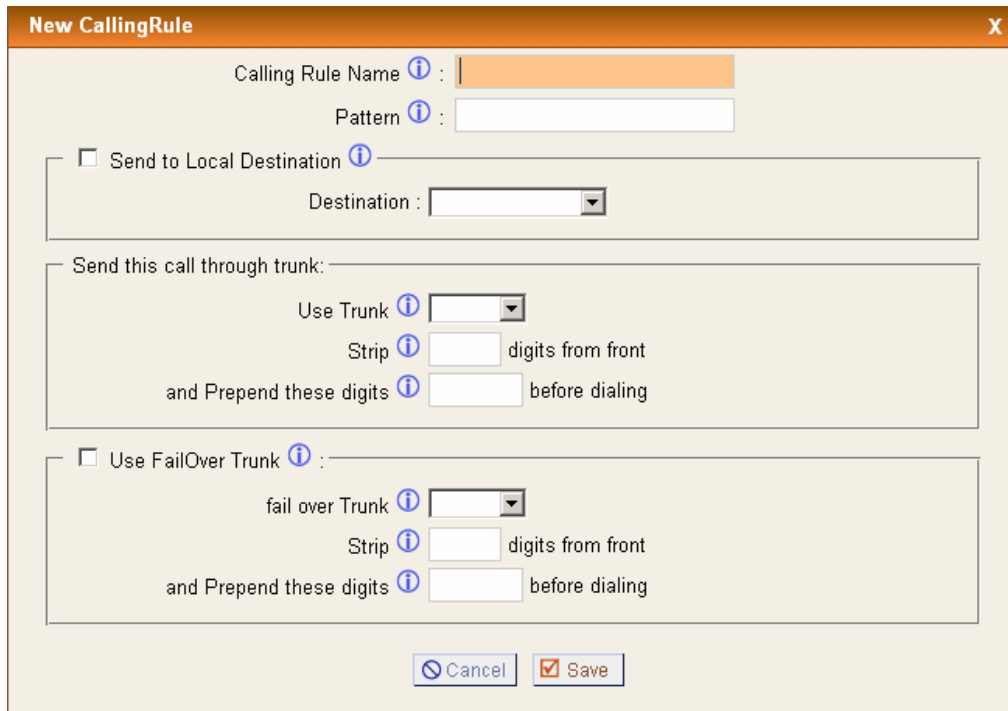
*** Warning** – In order for complete adding of new Trunk , after creating the Trunk you must reboot your PBX from Reboot button in to the Option Menu. This should be done before doing any other changes in to the GUI.

4.4. Setup Outgoing Calling Rules

- You can use your PBX to make outbound calls via the GSM module. You need to setup the outgoing rules



After loading this page on the system which has not been yet configured, you will need to create a “New Calling Rule” The following menu will appear:



**Reminder – You can always use the “i” (info) tooltips for additional information*

- At first you need to assign unique reference name to the new Outgoing rule
- In the second field, “Pattern” standard telephony regular expression patterns needs to be specified:
- “Use trunk” indicates which trunk should be used to handle this call (ie: “GSM”).
- “Strip” indicates how many proceeding digits should be removed from a dialstring.

Calling Rule Name *i* : GSM

Pattern *i* : _8.

Send to Local Destination *i*

Destination :

Send this call through trunk:

Use Trunk *i* : GSM

Strip *i* : 1 | digits from front

and Prepend these digits *i* : before dialing

Use FailOver Trunk *i* :

fail over Trunk *i* : GSM

Strip *i* : digits from front

and Prepend these digits *i* : before dialing

**Reminder – You can always use the “i” (info) tooltips for additional information*

This setup will give us:

- The rule name is “GSM”
- Pattern “_8.” (the digit 8 is just for example, there is no limitation) will work this way. If you have a regular PSTN connection of your PBX and you install a GSM module you have to separate some how the calls thru the FXO and the GSM modules.

With this setup pressing “8” before dialing the extension you need will strip that digit and the extension will be dialed using Trunk “GSM” that means the call will be made using the GSM module.

*For detailed information about calling rules please see IP0x User Manual section 3.4.

4.5. Setup Incoming calling rules.

You can setup your PBX to send all inbound calls from the GSM module to Voice menu or operator.

- Voice menu
 - Go to the main menu and select Incoming calling rules



New Incoming Rule [X]

Trunk : GSM

Time Interval : None (no TimeIntervals matched)

Pattern ⓘ : S

Destination : VoiceMenu -- Greeting

With this setup all inbound calls going thru GSM trunk will be send to Voice menu “Greeting”

- Operator

New Incoming Rule [X]

Trunk : GSM

Time Interval : None (no TimeIntervals matched)

Pattern ⓘ : S

Destination : User Extension -- 6000

With this setup all inbound calls going thru GSM trunk will be send to Extension 6000, which can be your operator extension.