USER Manual

Blue Gate ISDN Brave

Content

Dear customer,
We congratulate you on purchase our product. Our wish is to make you satisfied with the BRI Gate completely and for a long time.

! Important!
Before you start installing this product, check whether the delivery is complete and read this manual thoroughly. The manufacturer cannot be held responsible for any damages that occurred due to incorrect use of this product in contradiction to this manual. The guarantee terms do not cover damages of the product caused by rough handling, incorrect storage or by exceeding the quoted technical parameters.

Blue Gate ISDN Brave is a compact highly sophisticated system. It supports full remote supervision and configuration via an IP network or USB port. The system has been designed and works with a lot of highly sophisticated functions, which make it fully client-oriented and highly reliable in cooperation with both GSM networks and ISDN.

Basic general features

- 2 GSM channels
- Integrated LCR
- Calls managed by groups
- Integrated router
- Voice CallBack
- SMS Server
- Mobility extension
- Smart CallBack
- DISA
- Advanced credit management
- CDR
- Time Synchronization
- Configuration by PC through a program for Windows XP,VISTA, WINDOWS 7
  - local via USB port
  - remote access via LAN network

Benefits

- Connection to the exchange through ISDN BRI interface with DSS1 signaling
- The outgoing calls from PBX extensions are routed via the GSM/UMTS modules in the Gateway or direct to PSTN
- Direct Inward System Access (DISA)
- Alarm indication
- Advice of charge (AOC)
- Channel association 1:1with GSM/UMTS modules
- SIM card protection using PIN
- You can manage the Gateway using a Configuration SW running under the Windows XP, Vista, Windows 7 via USB or LAN port
- Diagnostics of ISDN lines, ISDN lines Credit, GSM/UMTS Modules Status and Credit
- Status of modules with signal quality

1 Overview

1.1 Description

Blue Gate ISDN Brave manage the connection between GSM and ISDN networks. On the ISDN network it is usually interface of the PBX with BRA access. Blue Gate ISDN Brave is primarily intended for make voice connection between these networks, but it is also possible to use it for sending and receiving short text messages. You can enter the text for unanswered calls too.

Telephone Cost Cuts

This device considerably saves telecommunications fees because normally calls between fixed and mobile networks are charging with the interconnection fees that cause this type of call is the most expensive for the user. In general, the gateway converts outgoing call type PSTN -> GSM to call type GSM -> GSM and incoming call GSM -> PSTN to GSM -> GSM. All parameters needed for routing to reduce telecommunications charges can be set via the configuration software and implemented to device.

Analyze Outgoing Calls

Blue Gate ISDN Brave analyzes outgoing calls from ISDN to GSM network by the specified routing rules, consider the specific assignment of SIM to mobile operator, the current credit and other features necessary to make connections cheapest way. The public ISDN and PSTN line can be connected to gateway and it is possible outgoing connection not only to the GSM network but also the fixed public network PSTN.

Analyze Incoming Calls

Incoming calls from GSM network can be sent to the ISDN network following the specified routing rules either directly specify the destination number (usually a PBX subscriber numbers), or you can also dial caller's subscriber numbers of PBX by DISA. The tones or announcements (you can enter them) help to inform the calling party.

Options of Connection

Blue Gate ISDN Brave provides multiple connection options to suit the needs of users of GSM and ISDN networks to be interconnected. There are four switches for connecting 100 Ohm terminal resistors that provide the proper electrical characteristics of a particular interface.

1.2 Safety Precautions

It is prohibited to use the gateways (as any transmitters) in areas where explosives are used, such as quarries.
It is prohibited to use the gateways at petrol stations where mobile telephones are

also prohibited.
GSM/UMTS devices (as GSM phones) may affect sensitive life-saving devices in medical centers. Therefore, it is forbidden to use gateways, in such facilities.
In general, any prohibition regarding mobile phones based on RF energy radiation applies to GSM/UMTS devices too.
If necessary, the GSM gateways may be installed at a safe distance from the prohibited area and connected with the original place through an Ethernet cable.

1.3 Terms and Symbols Used

ISDN->Common - Channel association 1:1 with GSM/UMTS modules Direct_Access
ISDN->Common - Ring back tone – R – Delay_before_Alerting
ISDN->Line->Mode - Our line TE is synchronized with the opposite line
AOC – activating in Routing Table Advice Of Charge
GSM->*GSM outgoing groups* - GSM outgoing groups

1.4 Configuration software

There is **configuration software** BluegateISDN_xxx.exe that allows administrator access to either local or remote via a USB or data interface. Using the data interface makes it possible not only to configure the device from a remote site, but also collect detailed records of calls, the remaining credits of SIM, perform the firmware upgrade, configuration, collect statistics, alarms, and perform maintenance and diagnostic activities. The device provides information on the status of GSM and ISDN ports either by LED or via administrator access.

Configuration software offers setup many other features that supports the Blue Gate ISDN Brave. There are for instance adjust the volume levels of individual GSM/UMTS modules, time synchronization according to the specified server, CLIP, credit restoration times of GSM/UMTS modules, and many others. Although the Blue Gate ISDN Brave is ready for use practically out of the box, the full utilization of the maximum saving telecommunications charges to take effect after a good configured. For this reason, in the next section will be described in detail a list of features and their efficacy for use in real ISDN and GSM networks. We recommended it to study in detail and verified it in a particular deployment. We also recommend to save this settings at the user and use it in other Blue Gate ISDN Brave with modifications. So you need not configure each device from the beginning.

1.5 Installation Conditions

You place Blue Gate ISDN Brave outside range of sensitive equipment due to the radiated electromagnetic interference. Blue Gate ISDN Brave may interfere with other wireless devices. Telephone line to the Blue Gate ISDN Brave place as far away from the antenna. Connected phone or PBX place at a sufficient distance.

- **SMS server**

When using the SMS-Mail application the GSM gate allow transmission or receipt of SMS messages. If SMS communication is working you can see status of card in Diagnostics.

1.6 Device description

1.6.1 Before you start

Product completeness Check

Before installing this product, check whether the 2N® BRI Enterprise delivery complies with the following packing list:

BlueGate ISDN Brave
Power supply adapter
Antennae 1-2 (depends on SIM)
USB cable
CD User manual

The system consists of box with GSM gate, 2 antennae and power adapter.

1.6.2 Connectors

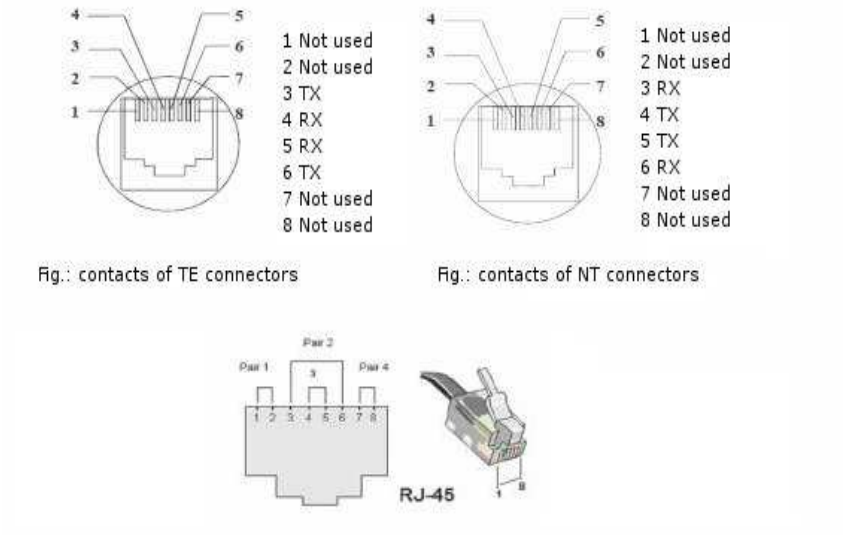
The following connectors are available on the Blue Gate ISDN Brave bottom:

Power	DC Jack 2.1mm supply connector
ISDN TE	RJ45 Connector
ISDN NT	RJ45 Connector
LAN	10/100BaseT Ethernet connector
USB	mini USB

The following connectors are mounted on the Blue Gate ISDN Brave upper side:
SIM1 and SIM2 slots – for SIM cards.
Antenna connectors per GSM module, SMA female.

- ***RJ45 Connector***

The RJ45 connector is commonly used for network cabling and for telephony applications. It's also used in our device to connect Blue Gate ISDN Brave between GSM and ISDN networks depend on mode as needed.



TE and NT Connector Pins

1.6.3 Status Indicators

There are three types of LEDs
LED- ISDN – indicate status of ISDN line (active/ not active)

Description of ISDN-LED value		
GREEN	**YELLOW**	Description
LIGHT	**X**	ISDN line is ACTIVE
DARK	**X**	ISDN line is NOT ACTIVE

LED-LAN – signals LAN connection

Description of LED-LAN value		
GREEN	**YELLOW**	Description
LIGHT	DARK	Connection is OK
LIGHT	FLASH	Connection is OK, LAN is under way

GSM1, GSM2 – indicate status of GSM modules.

Description of LED-GSM modules (Telit GE864)	
LED status	Description
PERMANENTLY OFF	The device is switched 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

Description of LED-UMTS modules (CINTERION EU3)	
LED status	Description
PERMANENTLY OFF	The device is switched off
FAST BLINKING (Period 0,5s, Ton 0,5s)	Net search / Not registered / Turning off
SLOW BLINKING (Period 4s, Ton 0,2s)	Registered full service
FAST BLINKING (Period 1s, Ton 0,2s)	A call is active

1.6.4 Potential GSM/UMTS Troubles

Blue Gate ISDN Brave works reliably under a long-time full load. The following problems may be caused by GSM/UMTS networks:

The GSM/UMTS module(s) log in slowly, cannot log in, or log out occasionally. This problem may be caused by any of the following situations:

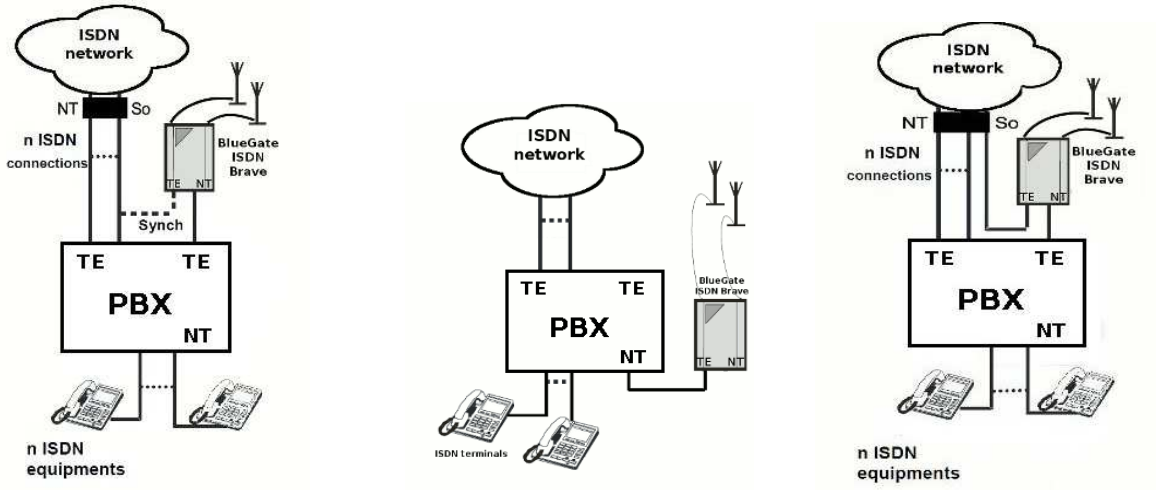
- The GSM/UMTS signal is low. The minimum signal level should be approximately **-80dBm**. If lower, change the antenna position or type!
- The GSM/UMTS cell (BTS) to which the GSM/UMTS modules are trying to log in is overloaded. Change the antenna position or reduce the count of the logged-in GSM/UMTS modules.

1.7 Installation Guide

Install BlueGate ISDN Brave Configuration software on your PC. Please, follow instructions in **Installation.pdf** on CD.

1.7.1 Type of connection

Blue Gate ISDN Brave can be connected in 3 ways (mode) as shown in Figure below.

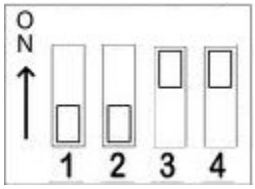


Synchro mode TE mode Router

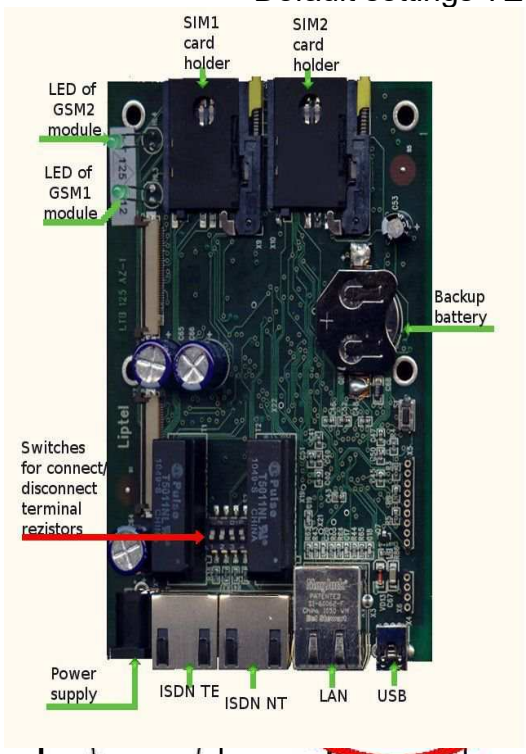
If you want to connect Blue Gate ISDN Brave in synchro mode skip next chapter. You can set the mode in Configuration software in section ISDN->Lines.

1.7.1.1 Mode Synchro / TE mode or router

Open the box and set switches for terminal rezistors.
There are 4 switches for connecting 100 Ohm terminal resistors. Switches 1, 2 are used for TE mode, switches 3, 4 are used for NT mode.

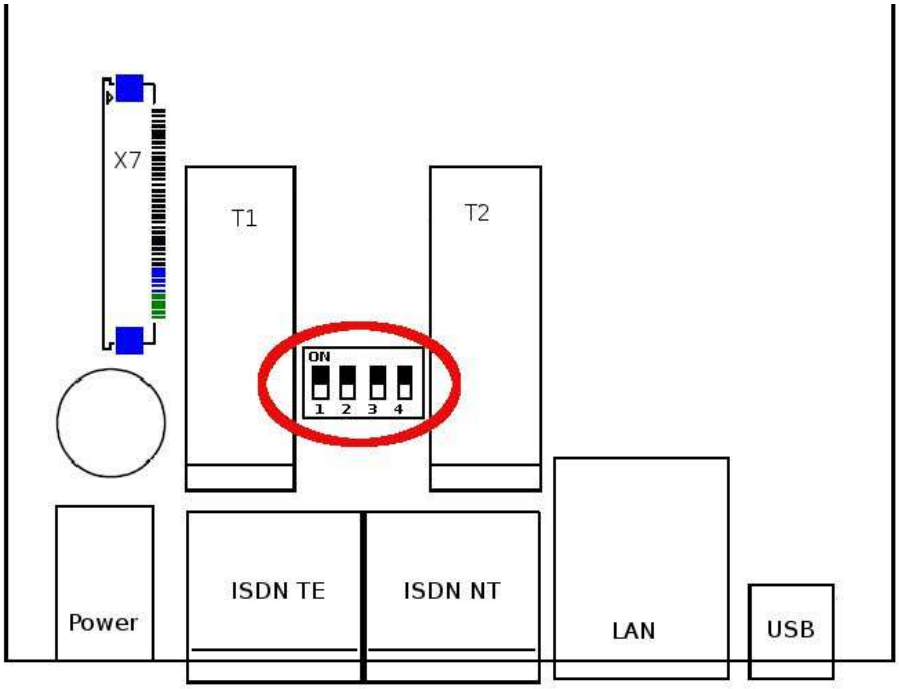


Default settings TE - off, NT -on



It is necessary to check whether the terminal resistors So of the bus (100R) are in the socket.
If the terminal resistors are in the socket, the corresponding switch must be turned off for the appropriate ISDN line.

Setting for Synchro mode *(Default settings)*



Setting for Router or TE mode

1.7.2 PIN Code

If you have not PIN code on your SIM card skip this chapter.

If you have a SIM card with PIN code, find out it (at various mobile phone) and remember it. When you run Configuration SW you must type it in configuration data GSM->GSM Modules ->PINcode.

1.7.3 SIM card Inserting/Removing

The device support only GSM SIM card.
Push the yellow pinhole on the right of SIM by pen or pin to release SIMcard holder.

Put the SIM card into card tray, then insert back (turn the holder). Be careful that your

SIM card is properly established. If it is inserted well, it will buckle down. If it is inserted badly, you could pull the card tray without poke the yellow pinhole.

1.7.4 Antenna Connection

BlueGate ISDN Brave is equipped with a SMA female antenna connector

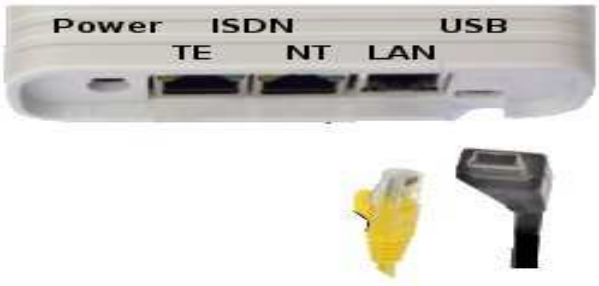
Connect GSM Antenna to the equipment.
Tighten the antenna connector gently with your hand – never use a wrench!

Select up the available place for installation of gateway following point of view:

- Distance from PBX lines – possibility of GSM interferences
- Main 230 V for power supply of BlueGate ISDN Brave
- Quality of GSM signal at the installation place

1.7.5 Connection with PC

Connect the gateway to your PC using a USB cable terminated with a mini USB connector or Ethernet Cable.



- ***Ethernet Cable Connection***

To connect gateway into an Ethernet network, use a standard straight cable terminated with RJ-45 connectors. The GSM gateway supports the 10BaseT and 100BaseT standards. The Ethernet connection status is indicated by the status of indicators located on the RJ-45 connector.(see LED-LAN – signals LAN connection)
Refer to Subs. Network for configuration LAN connection.

1.7.6 ISDN lines Connection

1.7.7 Power Supply Connection

Use only the power supply adapter included in the delivery.

1.7.8 Configuration Software Installation

The BlueGate ISDN Brave has been designed and works with a lot of highly sophisticated functions, which make it fully client-oriented and highly reliable in cooperation with both GSM networks and ISDN. Gateway is fully client-oriented and, therefore, some parameters must be set according to the client (First_Launch).

Insert he installation CD in the CD-ROM drive. Find the configuration program BluegateISDN_x.x.x.x in folder Configuration SW. Follow the installer instructions and wait until the installation has been completed successfully. Configuration Software Launch

Start BlueGate ISDN Brave configuration SW on the PC

- ***First Launch***

Click on New file and set at least following parameters:

in section **System**:

1. General -> Name (assigned name is useful for controling multiply gateways with one configuration software.)
2. Network (it is useful for connecting with PC)

in section **ISDN**:

1. Common - Dial tone (if you use other than Morse Tone A)
2. Lines - parameters for LineNT/TE mode according to the connected PBX – default is Synchro mode.

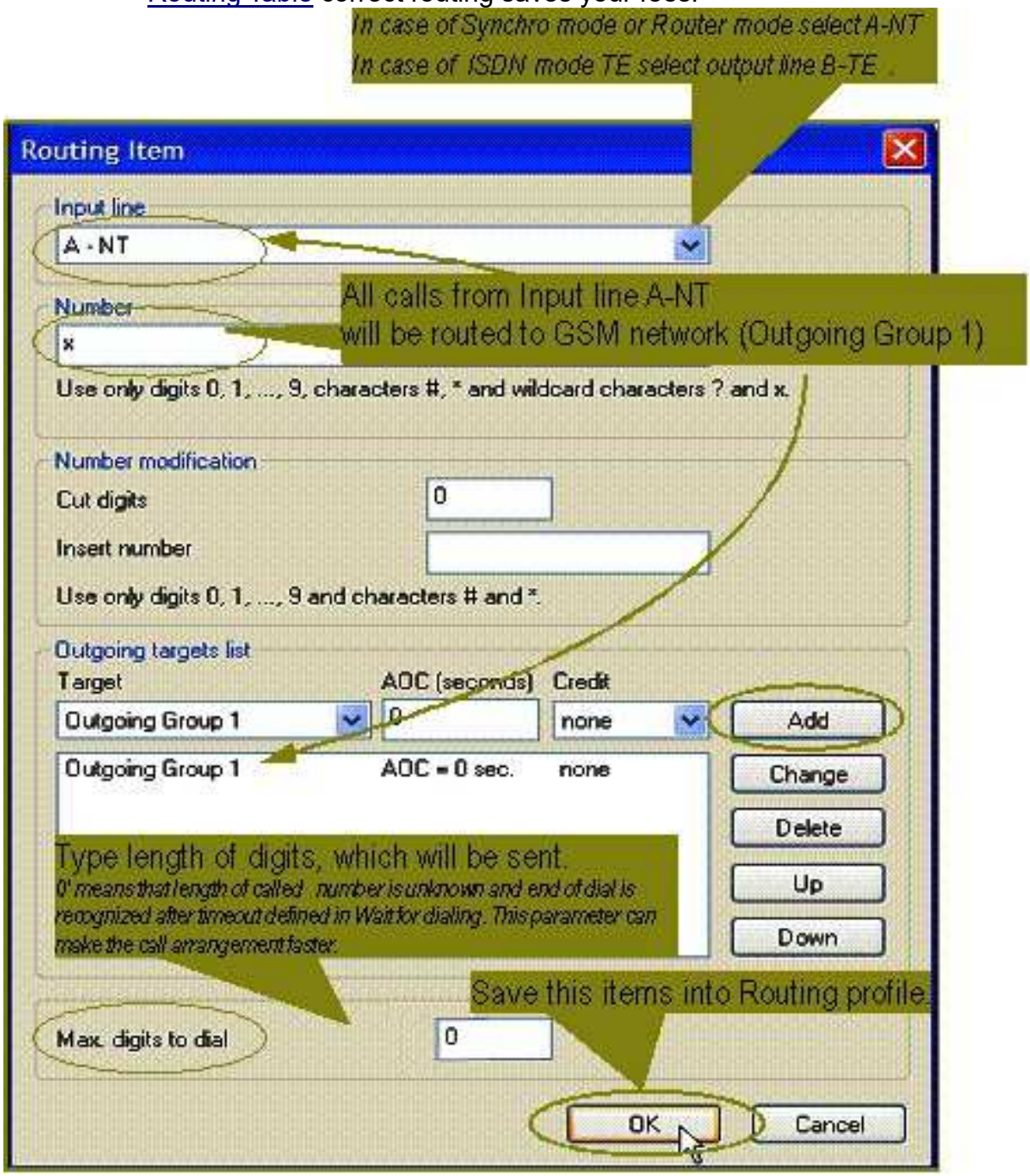
in section **GSM**:

1. If there is PIN Code on your SIM card type it.GSM Modules->PINcode
2. GSM Incoming Group GSM1 and GSM2 modules are default assignment to group1
3. If you use DISA (Direct Inward System Access) set time ≠ 0 and also set the min. and maximum length of DTMF digits Waiting For DISA

4. Output Line Default setting is A-NT (Mode Synchro , NT)
   Set output line B-TE in case of ISDN mode TE
5. Extensions Enter the number where incoming calls are directed. All calls are routed to the extension entered in this table (in order), if the parameter Waiting for DISA is 0 or count of called digits is less then Minimal extension length.
   Max. count of this extension is 5.

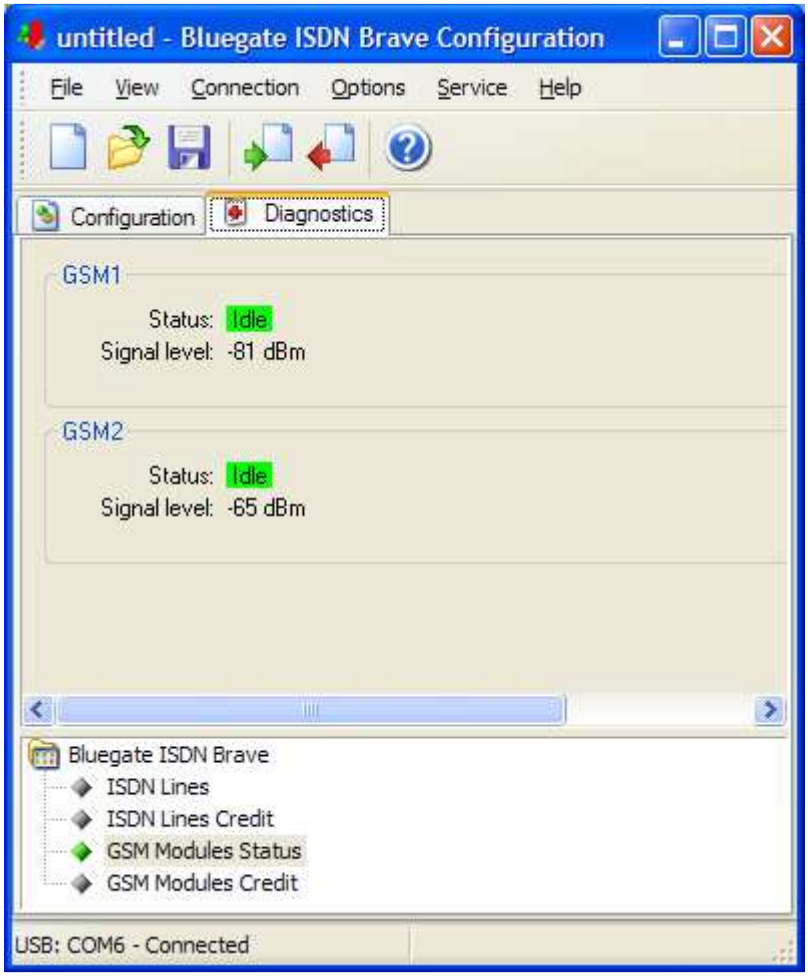
in section LCR:

Routing Table correct routing saves your fees.



Now it is time to save your setting into device.Upload to Gateway

After 40 seconds the Led of GSM starts fast blinking. Then if GSM is registered and full service, the Led is blinking slow.
In another case see in Blue gate ISDN Brave Configuration in Diagnostics ->GSM/UMTS modules status what is the matter.



Now you can make your first call through BlueGate ISDN Brave.

2 Gateway Configuration

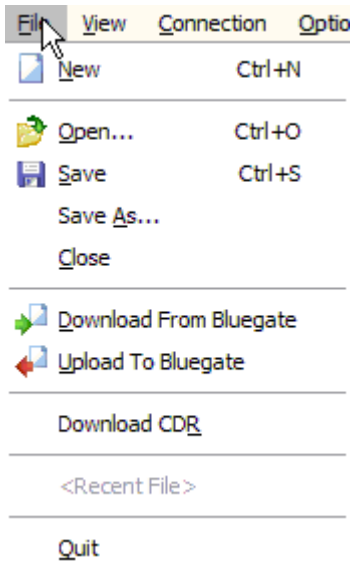
This program allows you to configure and control your gateway. In top menu you can set all parameters through items *File, View*, *Connection* and *Options*.

First you install proper interface in menu Option-Interface to configure other items.

Some parameters you can set through the use of item in toolbar (*New*, *Open*, *Save*, *Download from Gateway* and *Upload to Gateway*).

2.1 File

Section File allows you to define New File of configuration and save it as a *.cfg or open an existing configuration file. After setting configuration you can save it or upload to gateway. It contains an item for program end too.



2.1.1 New

In this pane you can create the new configuration and load default setting in the tree and set or change it.

2.1.2 Open

Program opens a file from a folder selected by you.

2.1.3 Save

Program saves a file of configuration.

2.1.4 Save as

Program saves the file into a folder selected by you.

2.1.5 Close

Terminates setting configuration.

2.1.6 Download from *Gateway*

If you extract from Menu File this item you can download last-saved configuration file from gateway.

2.1.7 Upload to *Gateway*

This item allows you to save your configuration file to gateway.

2.1.8 Download CDR

If you extract from Menu File this item you can download call detailed records (*.csv) from gateway. Description of cdr line is in Appendix.

2.1.9 Recent file

There are recent saved files of configuration (last 6).

2.1.10 Quit

Terminates the program.

2.2 View

2.2.1 Toolbar

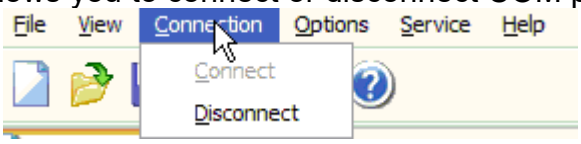
Display or hide toolbar with items *New*, *Open*, *Save*, *Download from Gateway*, *Upload to Gateway All* and information about program.

2.2.2 Status

Display or hide status line on the bottom of pane.

2.3 Connection

Section Connection allows you to connect or disconnect COM port.



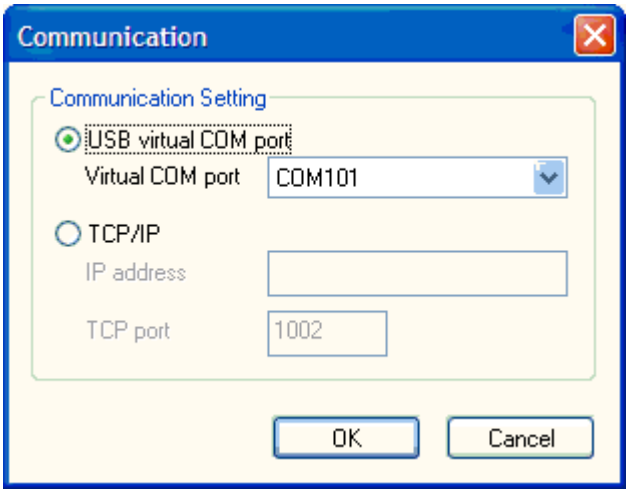
2.4 Options

This section is used for setting *Communication*, *Modem*, *Password*, *Language and Date and Time*.

2.4.1 Communication

Select properly communication via USB port or LAN network:

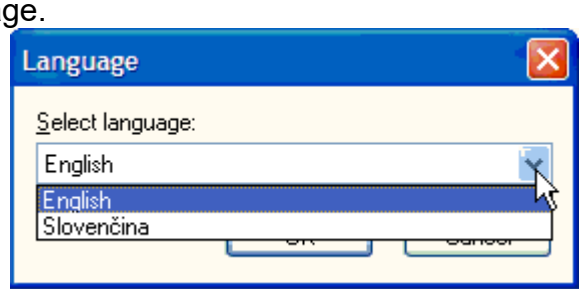
- **USB virtual COM port**
  Choose proper COM port, which makes communication of gateway with your PC.



- **TCP/IP**
  Set IP adress and TCP port.

2.4.2 Language

You can select language.

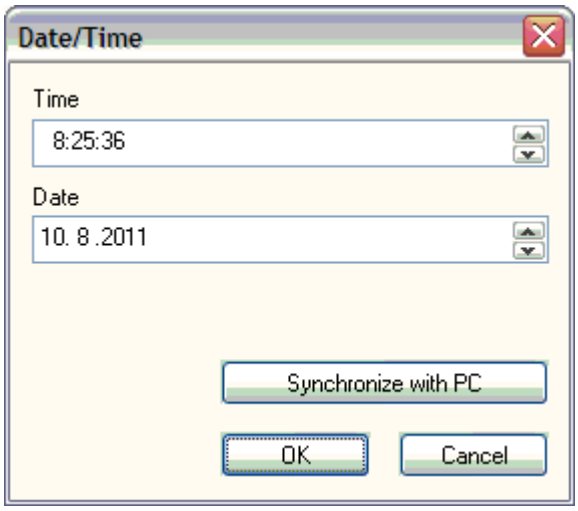


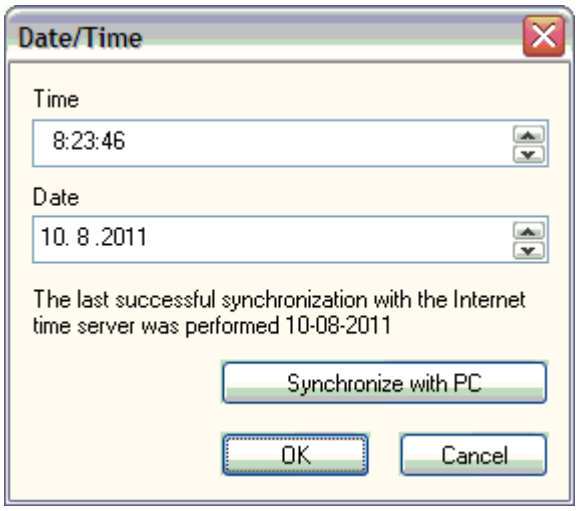
2.4.3 Password

You can set or change password for access to gateway. Password is saved in *Gateway*.

2.4.4 Date/Time

You can set or change date and time in the gateway.

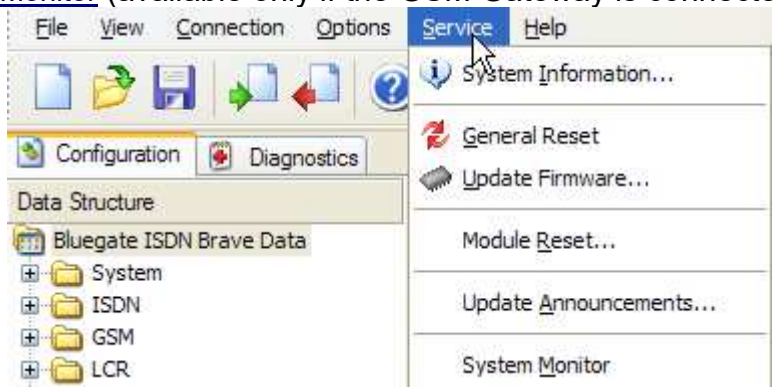




If you tick off System->General->Time synchronization there will appear the text "The last successful synchronization with the Internet..."

2.5 Service

Section Service displays System Information and contains commands for the gateway as General Reset, Update Firmware, Module Reset, Update announcements and allows display System Monitor (available only if the GSM Gateway is connected).

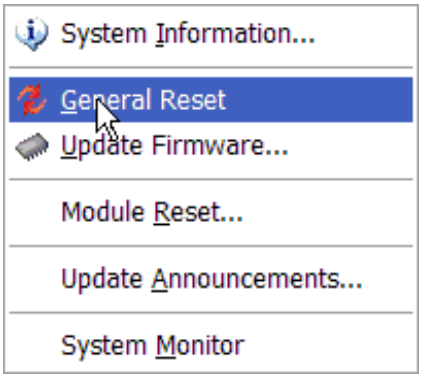


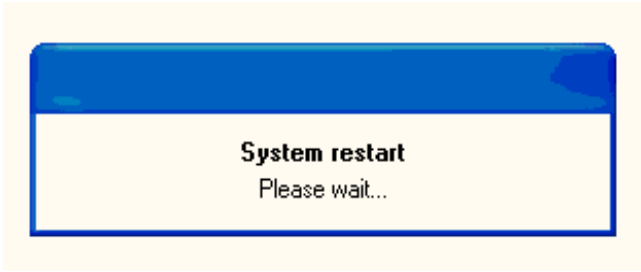
2.5.1 System Information

This item displays System information.

2.5.2 General reset

System restarts the gateway and initializes all Gateway boards (the gateway communication is not discontinued but all current calls and SMS to be sent are terminated!).

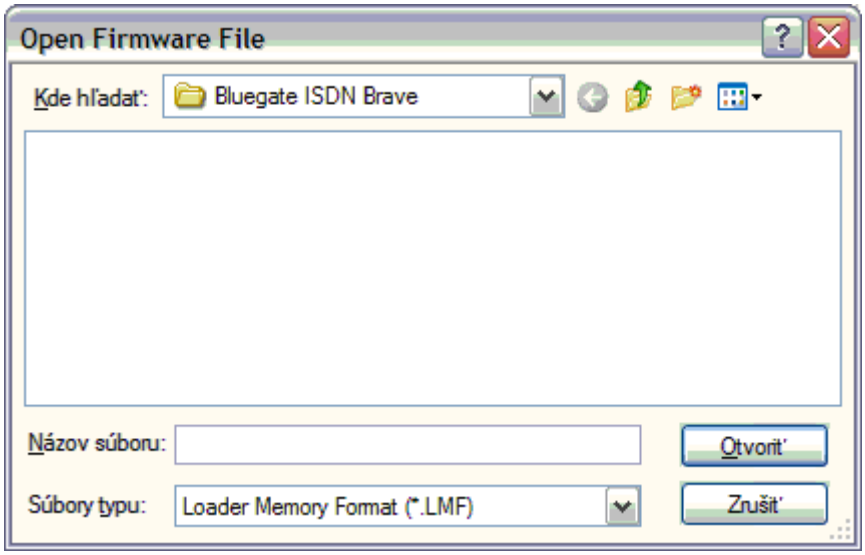




2.5.3 Update firmware

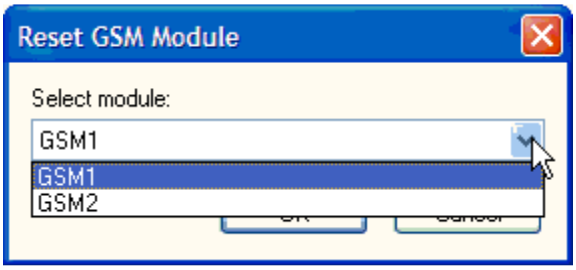
System writes firmware (file *.LMF) into Gateway.

Warning! If you can write firmware from network and the connection is unstable it is possible failure of update firmware.



2.5.4 Module reset

You can choose the GSM/UMTS module to reset it.

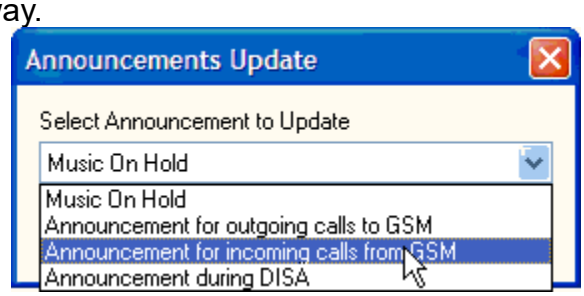


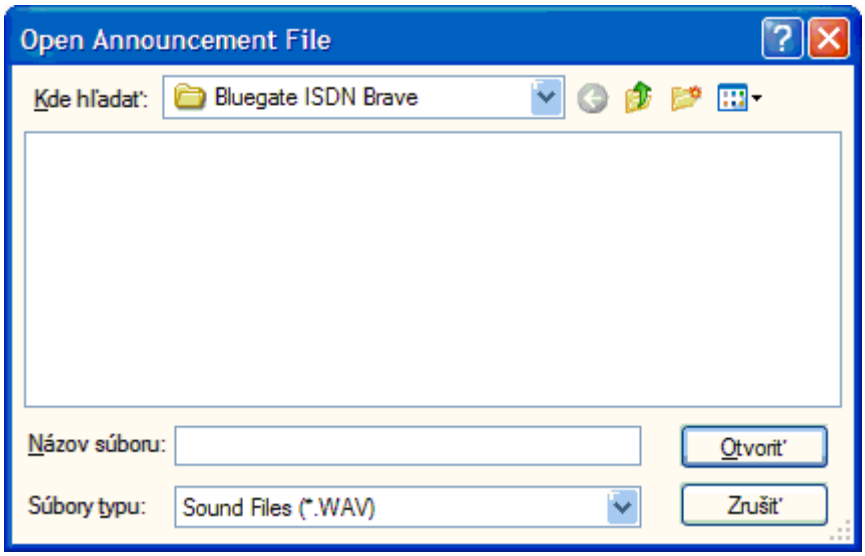
2.5.5 Update announcements

There are loaded default announcements in the gateway, which can be updated to suit your needs.

Parameters of wav file	
Sample Rate	8000 samples/s
Channels	mono
Resolution	8 bit/sample
Audio format	G.711 A-law
Max length	32second

Select the type of the announcement to update and system writes Announcements (file *.wav) into Gateway.

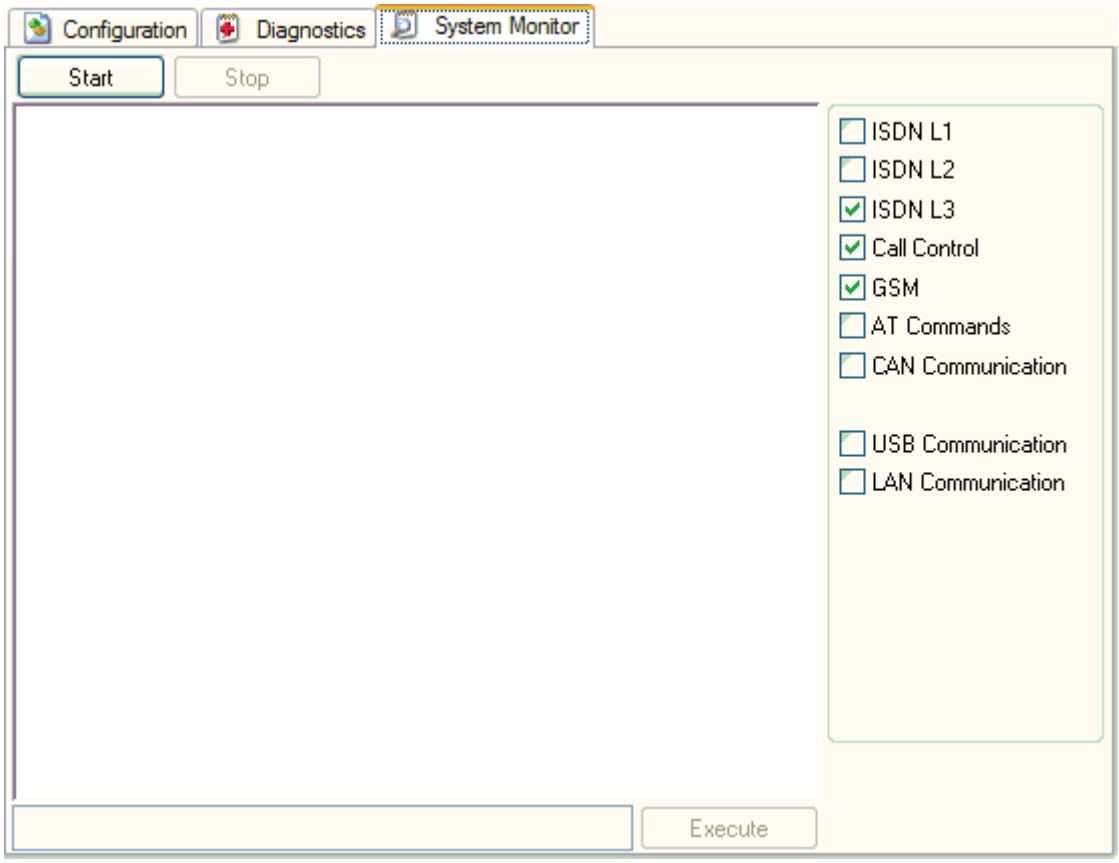




You can turn on/off the announcements as you like in System->General->Announcements.

2.5.6 System Monitor

This pane is used for storing traces from ISDN layers (sending and receiving messages) for possible check in case of problems.

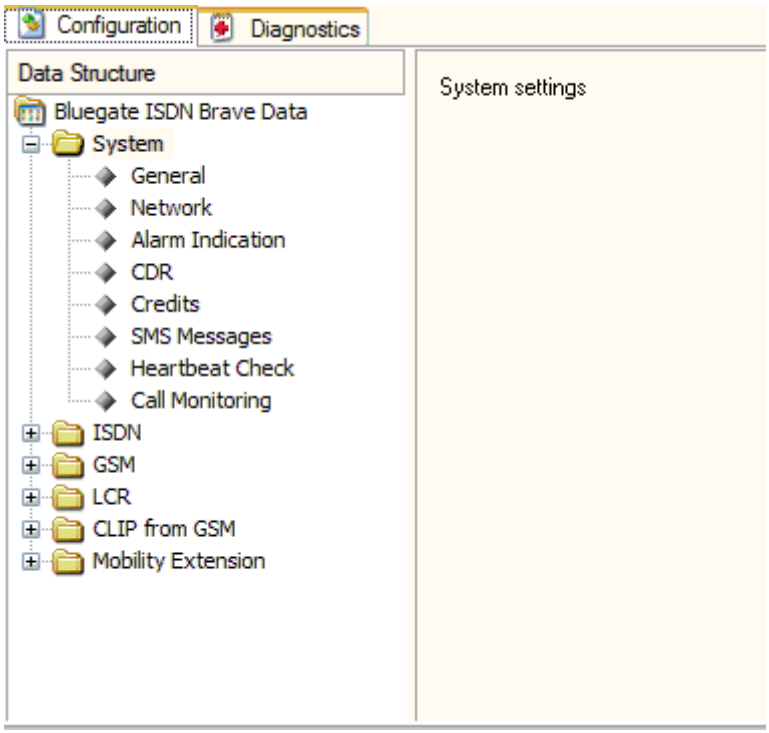


3 Configuration SW

In the bookmark of Configuration you can set Gateway parameters as *System*, *ISDN*,*GSM*, *LCR* (Least Cost Routing), *CLIP from GSM* and numbers for *Mobility Extension*.

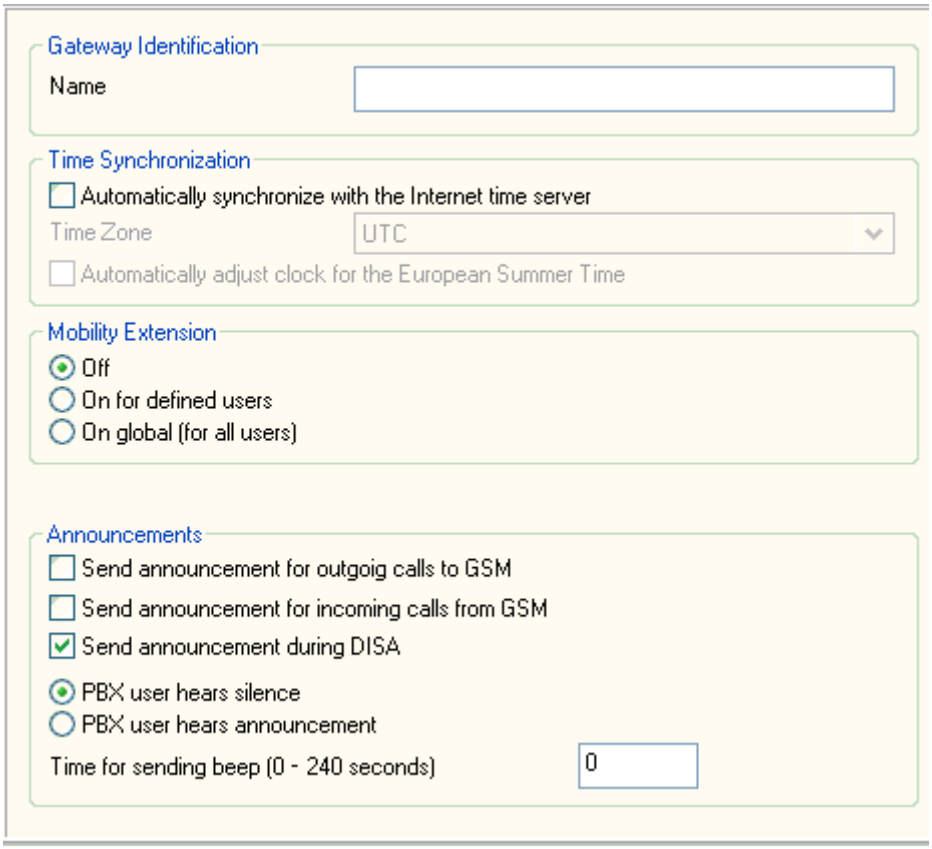
3.1 System

This pane allows you to assign General parameters, to set Network parameters, parameters for Alarm Indication, CDR, Credits, parameters for transmission of received SMS messages, the Heartbeat Check and Call Monitoring.



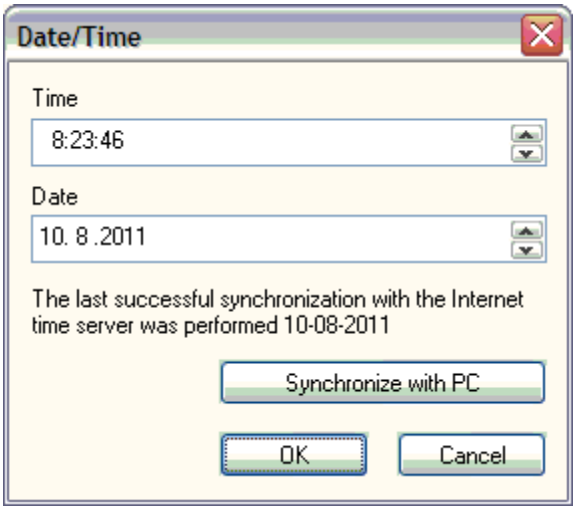
3.1.1 General

In this section you can assign name of your equipment in *Gateway Identification,* and set *Time synchronization*, application of *Mobility Extension*, and *Announcements*.



- **-Time synchronization**

You can set to synchronize Time with the Internet time server, Time Zone and Automatically adjust clock for the European Summer Time.
If you tick off Automatically synchronize the last successful synchronization with the Internet appears in *(Options->Date/Time)*.



To synchronize time with the Internet time server should be set at least two network parameters:

- default gateway
- DNS server.

- **Mobility Extension**

Off
Mobility Extension is disabled.
On for defined users
Mobility Extension is allowed only for users defined in List of GSM numbers in *CLIP from GSM*, other users cannot use this function.
On global (for all users)
Mobility Extension is allowed for all GSM users.
The **Mobility Extension** is the service that turns your call to other user.
Example:
You have one call and you need to consult with other user. By pressing "*" on your mobile phone you hold your first call. *(Hold allows you to park a call until it can be transferred or managed.)*
You can dial the number of other user and the hold user is listening music.
When other user answers the call (or is ringing) you can transfer this user with the hold user by hanging up your mobile phone.
If you have two calls on your mobile phone you can retrieve to hold user and disconnected other user by pressing "*" .
When other user does not answer the call you can retrieve to hold user by pressing "*".
If you dial wrong number of other user you can retrieve to hold user by pressing another "*".

- **Announcements**

If your default announcements were loaded to the gateway in Service->Update Announcements you can set:

Send announcement for outgoing calls to GSM
PBX subscriber calls to GSM networks.
Subscriber of GSM network will listen to announcement for outgoing calls at the beginning of the call (after lifting).
PBX subscriber hears silence or voice message according to setting below.
When announcement expires GSM user automatically connects to the calling subscriber.
Send announcement for incoming calls from GSM
Subscriber of GSM network calls to the PBX.
PBX user picked up call and GSM user will hear the announcement for incoming calls.
PBX subscriber hears silence or voice message according to setting below.
When announcement expires both users are automatically in the call.
Send announcement during DISA
Subscriber of GSM network calls the number of the Blue Gate ISDN Brave (GSM1 or GSM2). He will listen to the announcement, dials the extension (DISA) and the extension is ringing. When not dials any extension the switchboard operator is ringing.

For the first two cases you can choose:

PBX user hears silence or
PBX user hears announcement The announcement for outgoing/incoming calls is also listened by PBX user.

If the user hears the announcement you can set time for transmission of beeps during a call from 0 - 240 seconds.

Time for sending beep
Set the interval in which the beep will repeat. Default "0" means means no beep.

3.1.2 Network

In this section you can set parameters as IP address, Subnet mask, Default gateway, number of the Port and DNS servers.

Note: Default gateway and DNS server should be set at least to synchronize time with the Internet time server if you set System->General->Time synchronization .

3.1.3 Alarm indication

Gateway will send alarm message to assigned GSM number or IP address in case of trouble with some GSM/UMTS module. Description of Alarm Message is in appendix.

- **GSM numbers for SMS alarm indication**

In this section you can set max 5 numbers for SMS message.
If this numbers aren't filled alarm messages are not sent.

- **Address for IP alarm indication**

You can set the address for IP alarm indication and the number of port.
You can type the IP address in two formats
- for example 192.168.1.14
- or www.my_name.com *(in this case you must set DNS server in* Network Setting for Remote access*)*

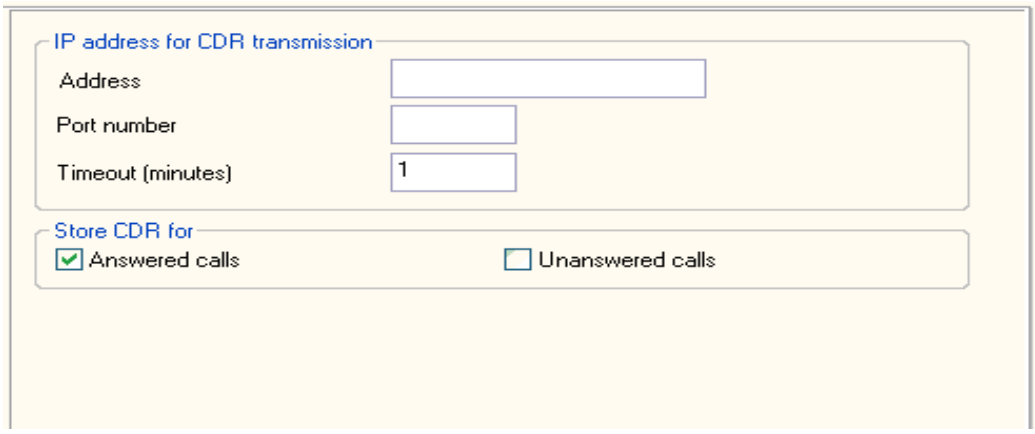
and supervisory program will send the alarm message in syslog protocol.
The port number has max 5 digit.
If this address isn't filled alarm messages are not sent.

- **SMTP account for E-mail alarm indication**

You can set account for e-mail alarm indication

3.1.4 Call detail record (CDR)

The gateway sends Call Detail Record (CDR) containing details of a call passed through it. Description of cdr line is in Appendix except the first column, which is heading described in syslog protocol.



IP address for CDR transmission
You can set the address for IP of CDR transmission and the number of port.
You can type the IP address in two formats
for example 192.168.1.14

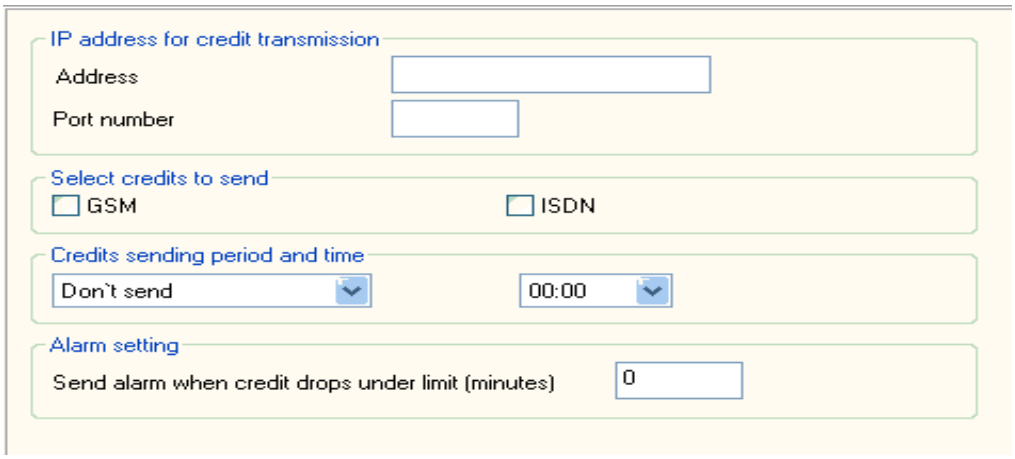
or www.my_name.com (in this case you must set DNS server in Network Setting for Remote access)
and supervisory program will send the CDR message in syslog protocol.
If this address isn't filled CDR messages are not sent.

- Timeout (minutes)
  You can set period for transmission of CDR.
  The value is from 1 to 65534 minutes.

Store CDR for
You can choose storing Answered and/or Unanswered calls

3.1.5 Credits

The BlueGate ISDN Brave sends Credits from GSM or ISDN lines or both.



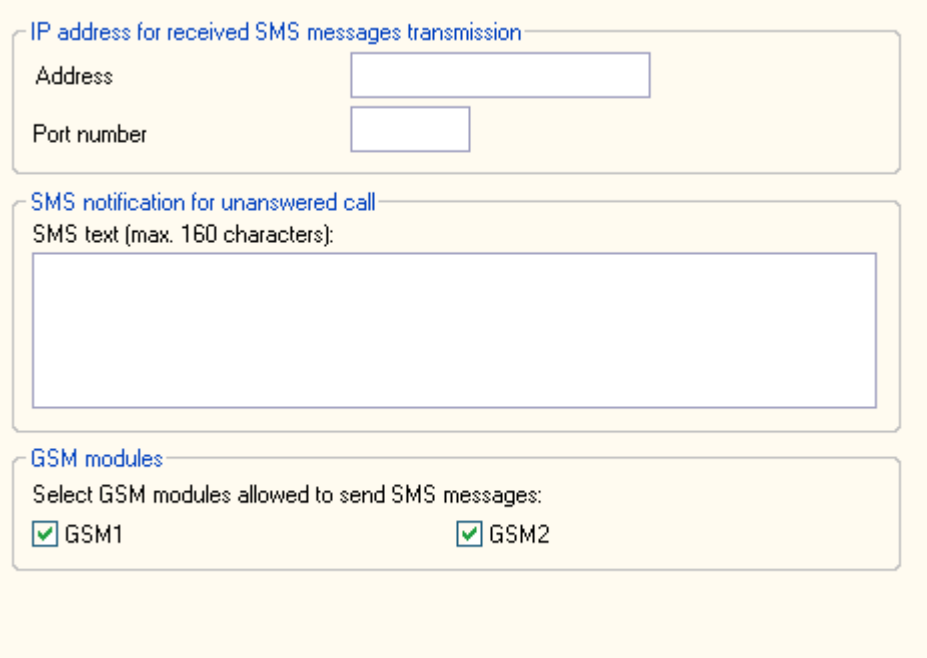
- **IP address for Credits transmission**
  You can set **the address** for IP of Credits transmission and **the number of port**.
  You can type the IP adress in two formats
  - for example 192.168.1.14
  - or www.my_name.com *(in this case you must set DNS server in Network Setting for Remote access)*

and supervisory program will send the Credits message in syslog protocol.
If this address isn't filled Credits messages are not sent.

- **Select credits to send**
  You can choose GSM/UMTS modules or ISDN lines or both to send credits.
- **Credits sending period and time**
  You can set period and time for sending credits.

- **Alarm setting**
  Enter the number of minutes when the alarm is sent.

3.1.6 SMS Messages



- **IP address for received SMS messages transmission**

The gateway sends received SMS message if Address and Port number is filled.
You can set the address for IP of received SMS messages and the number of port.
You can type the IP address in two formats
for example 192.168.1.14
or www.my_name.com (in this case you must set DNS server in Network Setting for Remote access)
and supervisory program will send the received SMS message in syslog protocol.
If this address isn't filled received SMS messages are not sent.

- **SMS notification for unanswered call**

- **SMS text**

You can type the text (max. 160 characters), which is sending to the user of GSM network if the call is unanswered.
If text of SMS message contain string ?????? (6x question mark) this string will be replaced by the extension of caller.

- **Select GSM/UMTS modules allowed to send SMS messages**

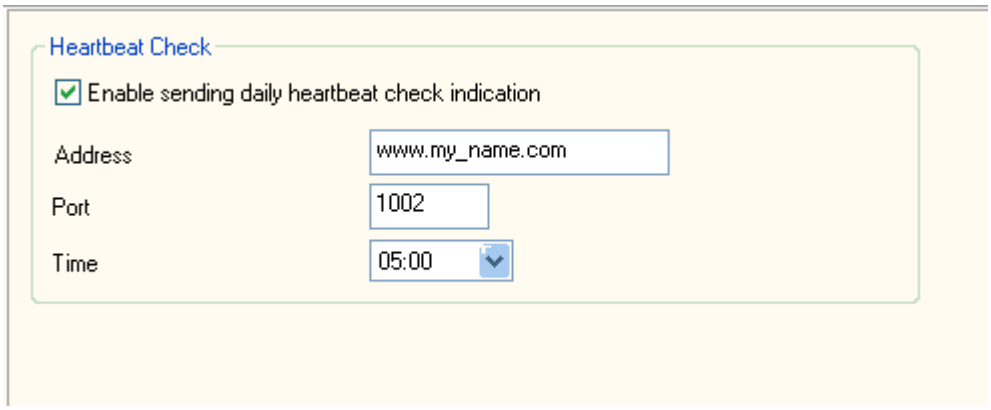
Each outgoing SMS message (except the Alarm messages) will be sending by GSM/UMTS modules which you select.
You can select All or separately GSM/UMTS modules.

- **SMS server**

When using the SMS-Mail application the GSM gate allow transmission or receipt of SMS messages.

3.1.7 Heartbeat Check

If this feature is enabled and all necessary parameters are set then the unit will send a daily heartbeat message including the total number and the total duration of successful incoming and outgoing calls at a certain time from IP port.



Tick if this feature is enabled
default it is not allowed.
IP address
You can set **the address** for IP and **the number of port**.
You can type the IP address in two formats
for example 192.168.1.14
or www.my_name.com (in this case you must set DNS server in *Network Setting for Remote access*)
and supervisory program will send the heartbeat message in syslog protocol.
If this address isn't filled heartbeat messages are not sent.
Set time of sending message
You can set the certain time to send a daily heartbeat message.

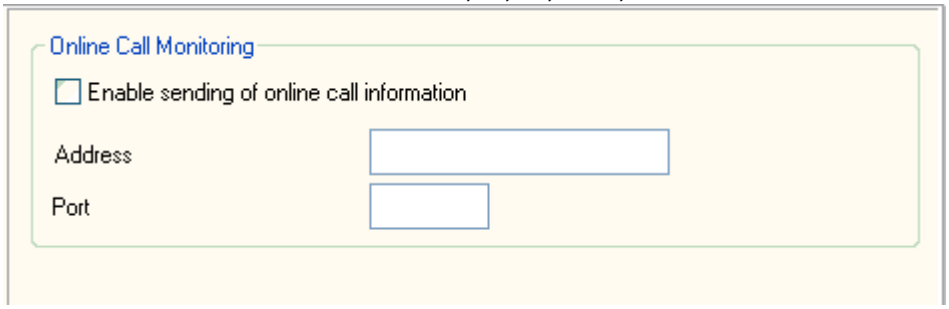
- ***Description of the heartbeat message***

date time ID_name,
the total number of successful outgoing calls to GSM,
duration of them,
the total number of successful incoming calls from GSM,
duration of them,
the total number of call attempts from PBX to GSM
for example ID is "BRI_LIPTEL" will look in the Syslog server:
"May 13 05:00:00 BRI_LIPTEL, 120, 25420, 15, 305, 123"

3.1.8 Online Call Monitoring

If this feature is enabled and all necessary parameters are set then the unit will send online syslog message:
<14>Mmm dd hh:mm:ss hostname , S/E, O/I, CallingPN, CalledPN
where
<14> (according to RFC 3164) is syslog message Facility and Severity where:

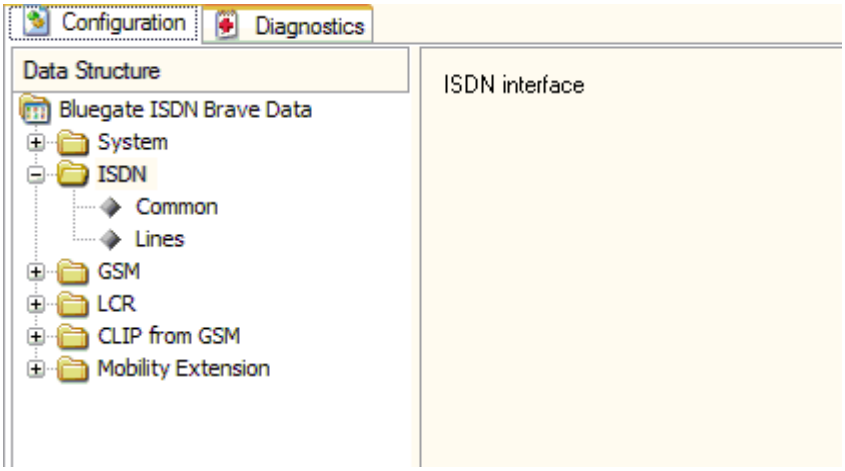
Facility = 1 user-level messages
Severity = 6 informational messages (modulo 8)
Mmm dd hh:mm:ss
Mmm are the first three letters of the month (English name)
dd is the day of the month
hh:mm:ss is the hour, minute and second of the record (beginning or end of the call)
hostname is the name of BRI gateway, which is specified in the configuration data *(System-> General-> Gateway Identification)*.
S/E S - start of the call or E - end of the call,
O/I O - outgoing call or I - incoming call,
CallingPN calling party number and
CalledPN called party number, separated by commas.
for example :
<14>Jun 18 14:50:34 hostname , S, O, 264, 0904123456
<14>Jun 18 14:51:45 hostname , E, O, 264, 0904123456



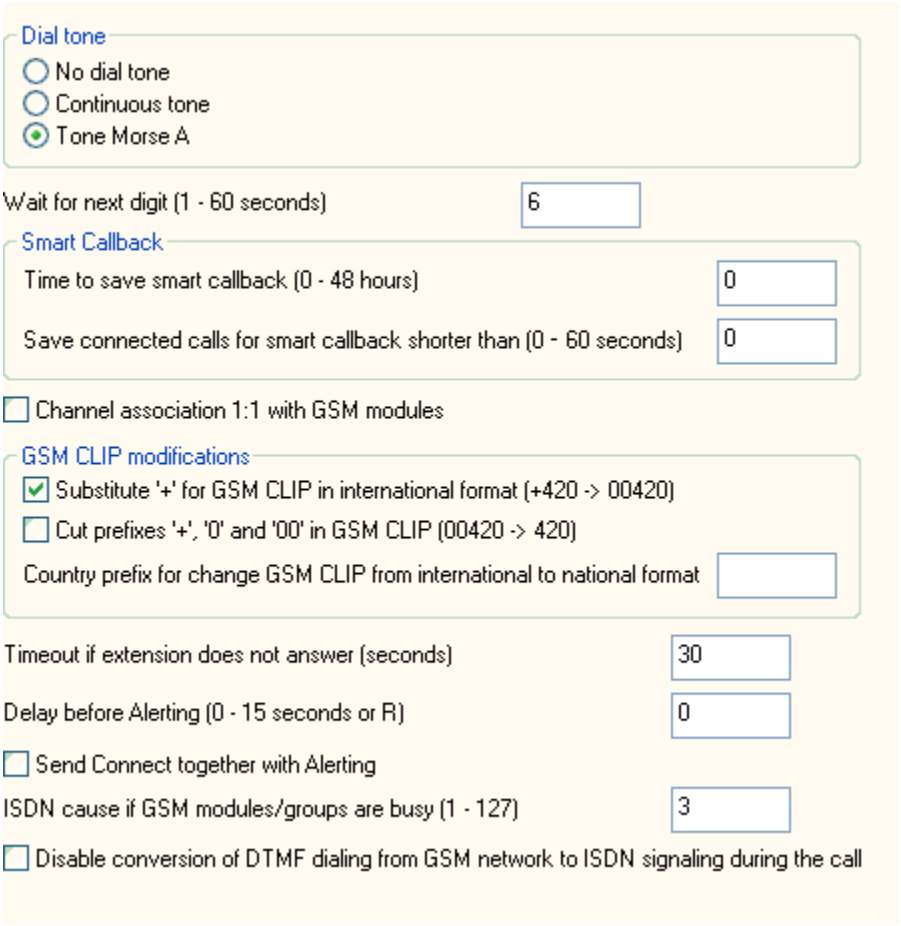
Tick if this feature is enabled
default it is not allowed.
IP address
You can set **the address** for IP and **the number of port**.
You can type the IP address in two formats
for example 192.168.1.14
or www.my_name.com (in this case you must set DNS server in *Network Setting for Remote access*)
and supervisory program will send the online message in syslog protocol.
If this address isn't filled monitoring messages are not sent.

3.2 ISDN

This pane contains setting of ISDN line. You can set *Common* properties, options for each *Lines*.



3.2.1 Common



Dial tone

No dial tone

Gateway will not send any dial tone towards PBX on empty SETUP (in case that receive SETUP message without called party number).
Continuous tone
Gateway *s*ends continuous dial tone.
Tone Morse A
*S*election of type of dial tone (330 ms pulse, 330 ms pause, 660 ms pulse, 660 ms pause).

Wait for dialing

Time (1-60 seconds) to wait for next digit. This timeout causes the end of dialing from PBX.

Time to save smart callback

Time (0-240 hours) for saving callback information in *Gateway* smart callback table. '0' means that smart callback function is disabled.

Save connected calls for smart callback shorter than (0-60 seconds)
For example: If you have the voice mail and call is shorter than the preset time.
'0' means that no active calls are stored in the GSM gateway.

Channel association 1:1 with GSM/UMTS modules

(Direct Access)
Each channel from PBX has fix channel of GSM/UMTS module.
1.voice channel is connected to 1. GSM/UMTS module and vice verse.

GSM CLIP modifications

- **Substitute '+' for GSM CLIP in international format (+420 -> 00420)**

Supply '+' in international format or not.

- **Cut prefixes '+', '0' and '00' in GSM CLIP (00420 -> 420)**

Default - this function is not use.

- **Country prefix for change GSM CLIP from international to national format**

You can set the national format.
For example: You type 420
If you tick off "Cut prefixes...." 004206x -> 6x
If you do not tick off "Cut prefixes...." 004206 -> 06x

Timeout if extension does not answer

Time in seconds. Default is 30 seconds.

Delay before Alerting

Time in seconds or ***R***. Default is 0 seconds.
R means that gateway generates its own ring back tone in case that Call progress tone is OFF.
If Call progress tone is ON ***R*** is no use.

Send CONNECT together with ALERTING

If you tick off this item the message ALERTING and CONNECT will be sending together. *Only for call from PBX to GSM network.*

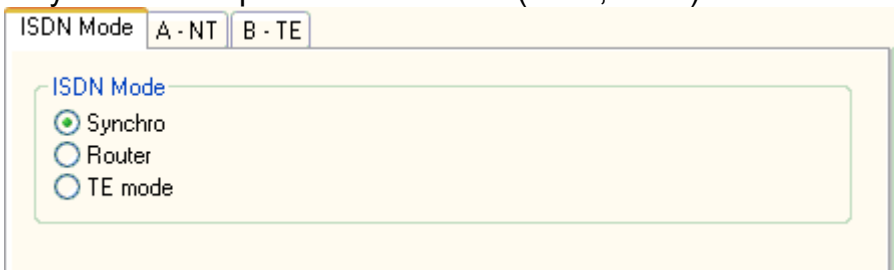
ISDN cause if GSM/UMTS modules/groups are busy

You can set cause (1-127) if the GSM/UMTS modules/groups are busy. Default value is cause 3 (No route to destination).

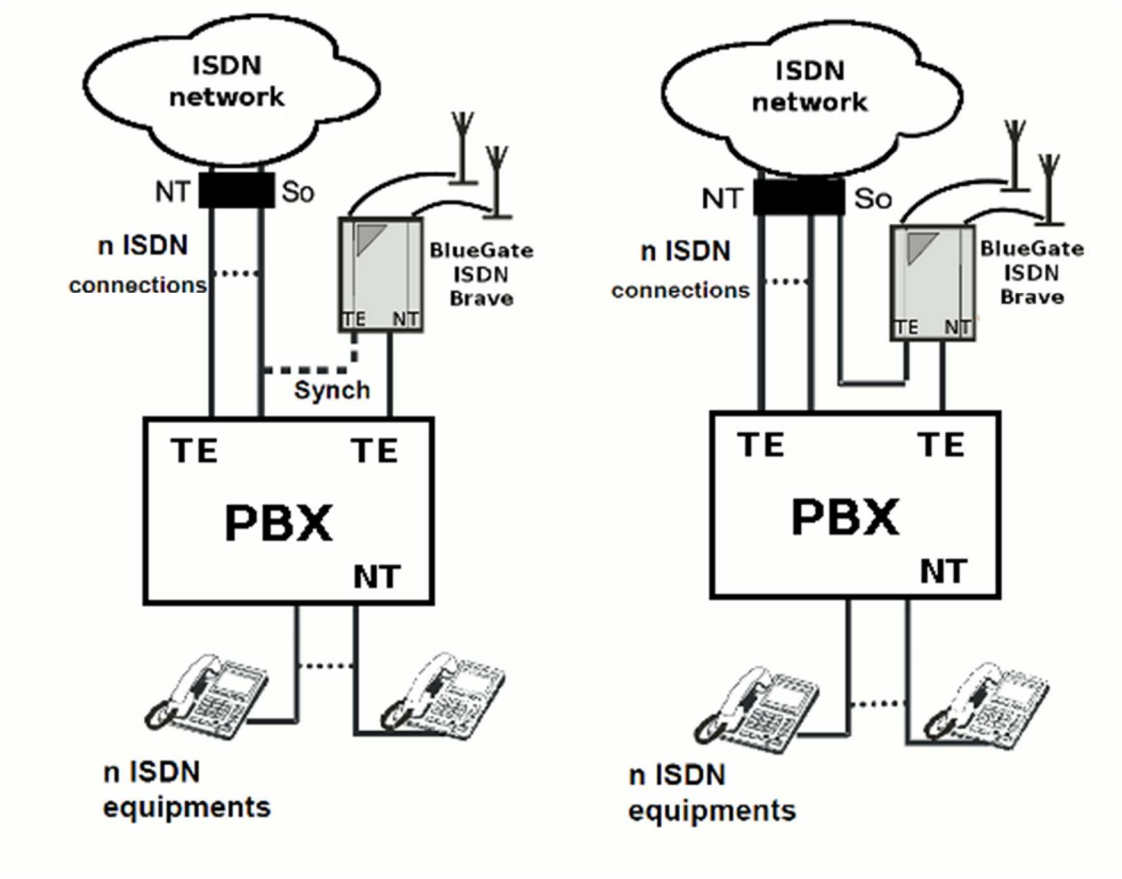
Disable conversion of DTMF dialing from GSM network to ISDN signaling during the call

3.2.2 Lines

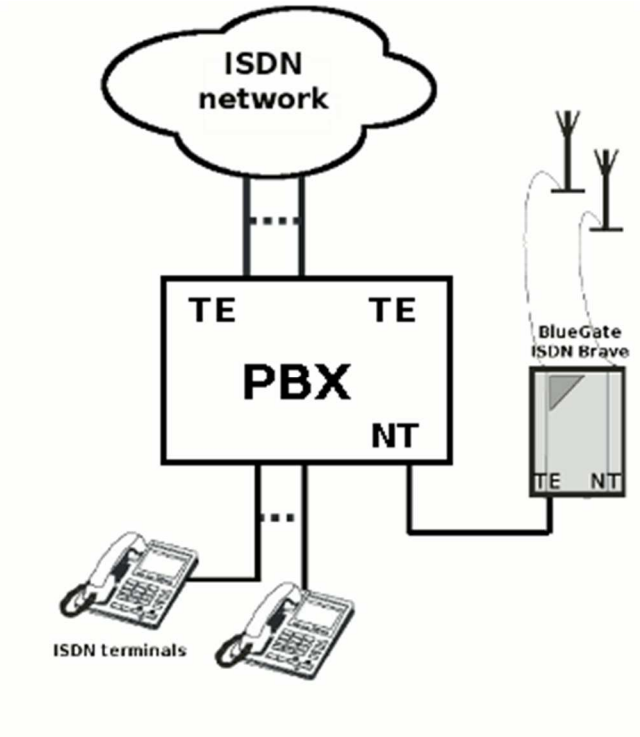
In this section you can set options for each line (A-NT, B-TE).



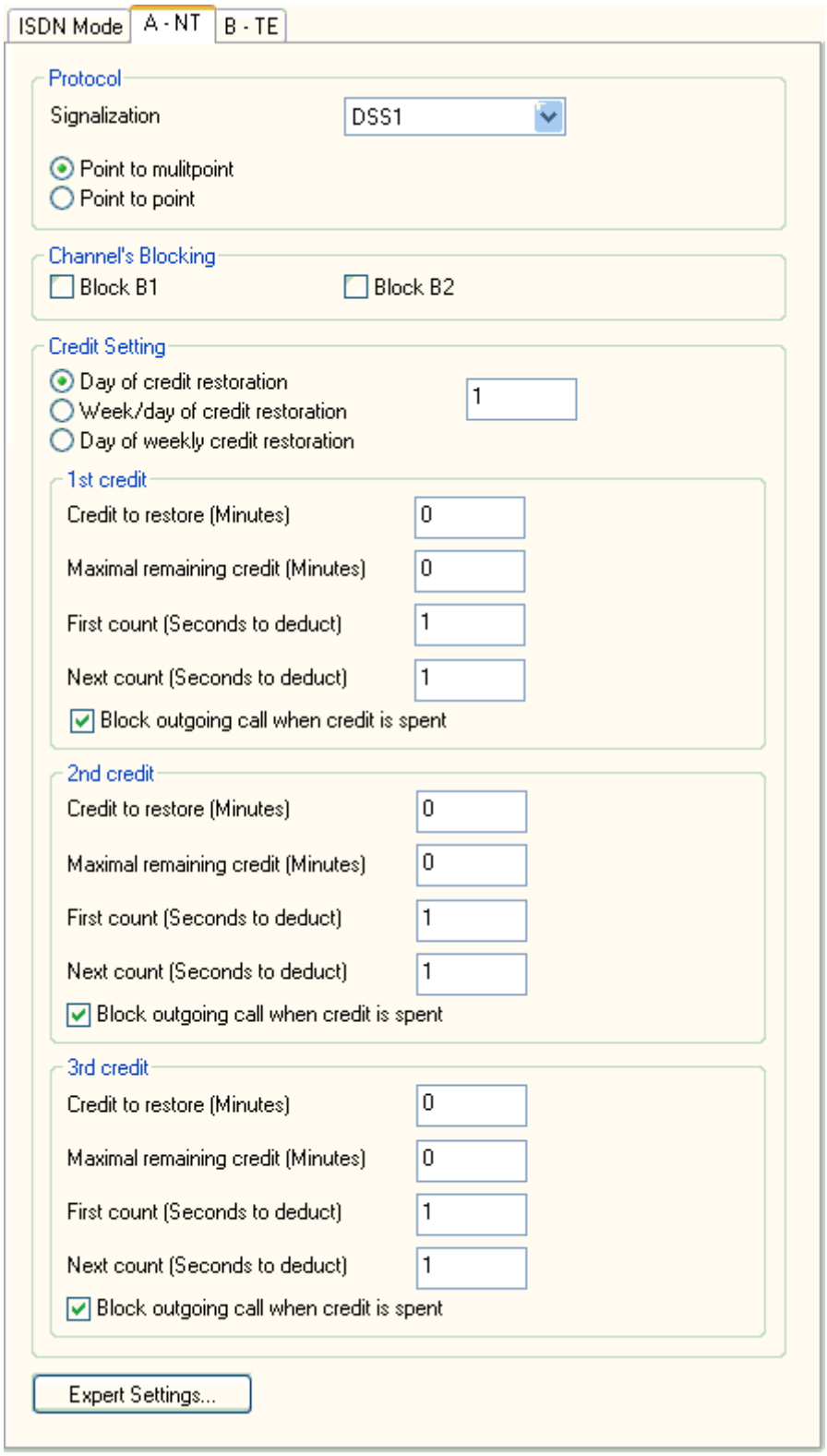
You can choose Synchro, Router or TE mode.
Check correct setting of switches for connecting 100 Ohm terminal resistors.



Connection of the Blue Gate ISDN Brave in the SYNCHRO mode and as the ROUTER.



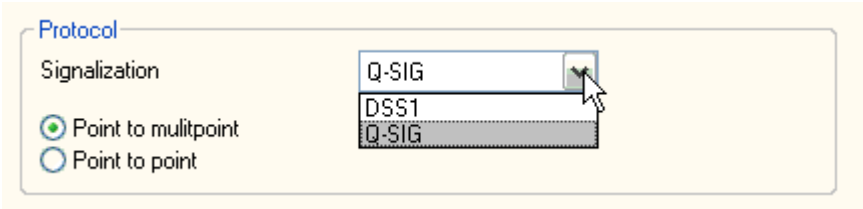
Connection of the Blue Gate ISDN Brave in TE mode.


ISDN Mode
A - NT
B - TE
Protocol
Signalization
DSS1
Point to mulitpoint
Point to point
Channel's Blocking
Block B1
Block B2
Credit Setting
Day of credit restoration
Week/day of credit restoration
Day of weekly credit restoration
1
1st credit
Credit to restore (Minutes)
0
Maximal remaining credit (Minutes)
0
First count (Seconds to deduct)
1
Next count (Seconds to deduct)
1
Block outgoing call when credit is spent
2nd credit
Credit to restore (Minutes)
0
Maximal remaining credit (Minutes)
0
First count (Seconds to deduct)
1
Next count (Seconds to deduct)
1
Block outgoing call when credit is spent
3rd credit
Credit to restore (Minutes)
0
Maximal remaining credit (Minutes)
0
First count (Seconds to deduct)
1
Next count (Seconds to deduct)
1
Block outgoing call when credit is spent
Expert Settings...

Protocol

In this section you can set protocol.

- **Signalization**



You can define type of signalization:

- DSS1 (ITU-T Q.931)
- Q-SIG

You can configure the line as network (NT) or terminal (TE).

Channel's Blocking

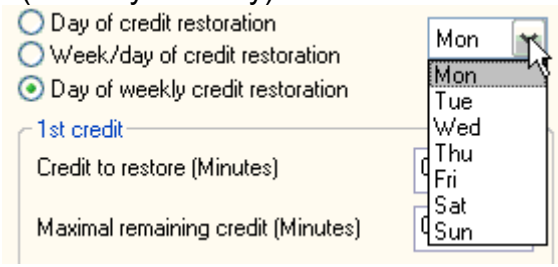
This setting allows to block unused channel.

Credit setting

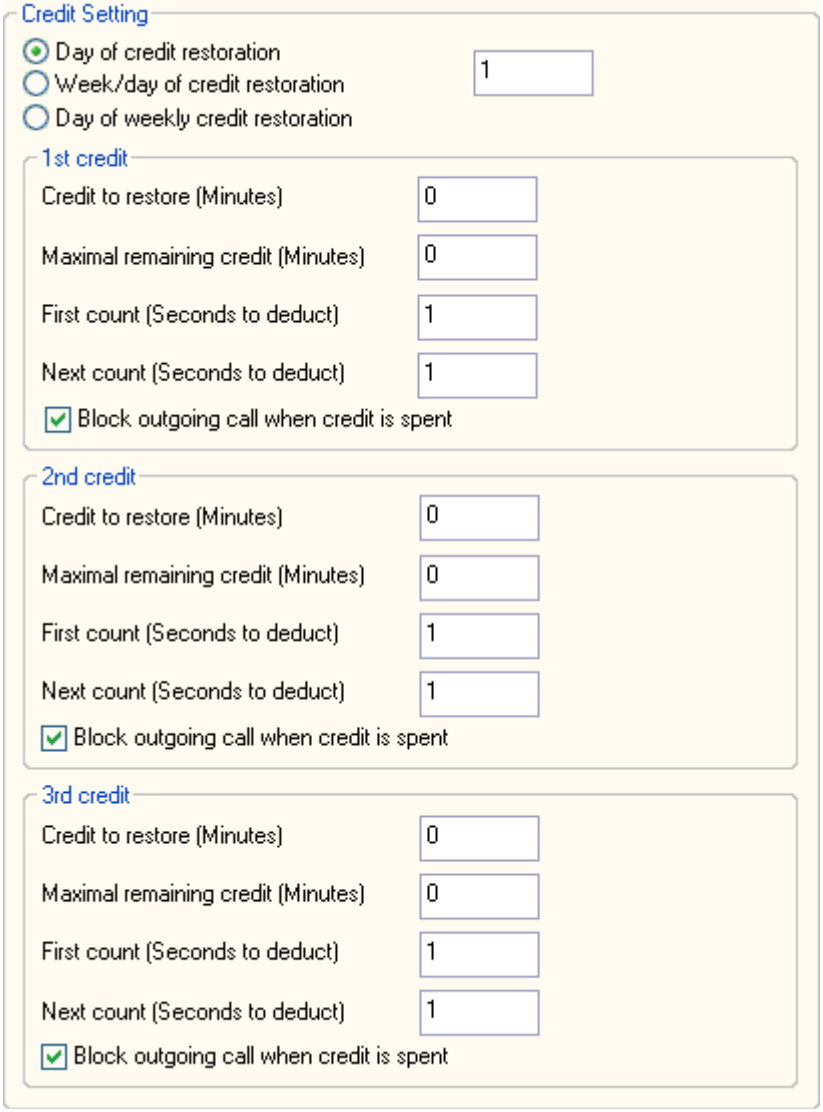
Day of credit restoration (1-31)
Set day of month when credit is automatic restoring.

Week/Day of credit restoration (1-31)
Set week in month (1-4) and day of the week (Monday - Sunday) when credit is automatic restoring.

Day of weekly credit restoration (Monday-Sunday)
Set day of the week (Monday-Sunday) when credit is automatic restoring.



There are 3 different credits. You can set each of them.



- **Credit to restore**
  Set amount of credit (tariff) in minutes, which is restoring. If this credit is spent the outgoing call via ISDN-line which used this credit can be blocked (if you set Block outgoing call when credit is spent) or it will be routed to GSM network according to CLIP Table and Routing Table. Max value of credit is 44640 min (one month). Credit without limit is signified "0". You can see it in pane of *Diagnostics* (ISDN lines Credit).
- **Maximal remaining credit**
  Set amount of remaining minutes, which you have not spend yet, these will be rolled over to the next month and added to your credit.
- **First count (in seconds)**
  First count (in seconds)
- **Next count (in seconds)**
  Length of the next period (1 to 250 seconds)

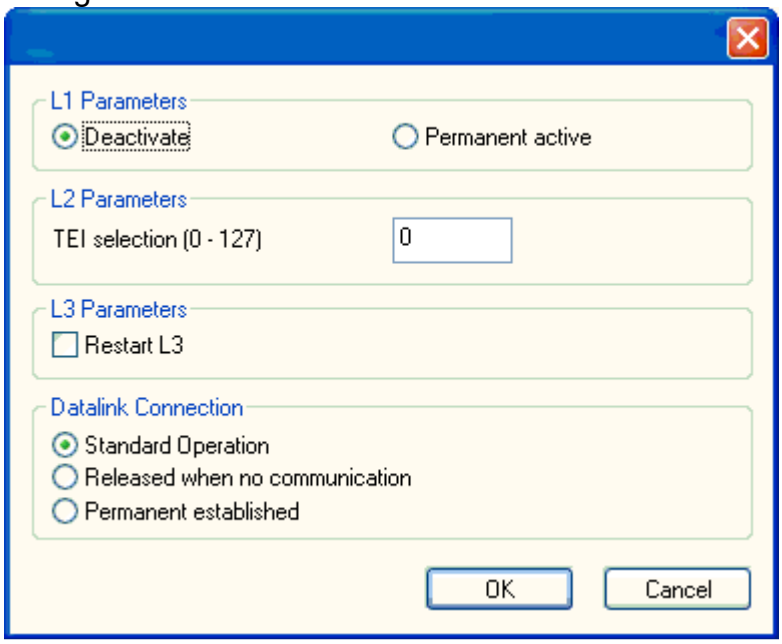
  Parameters First count and Next count are used for account of the real length of the call from the view of the carrier.
  Example 1: If the call is charged per second - set both parameters to 1.

Example 2: If you are charged immediately after answering a call for the whole first minute and then second by second - set first count to 60 and next count to 1. Proper setting of these parameters helps you to keep real record of the minutes spent and charged for each ISDN line.

- **Block outgoing call** when credit is spent. Outgoing call is default blocked when credit is spent. The next outgoing call will be routed to GSM network according to CLIP Table and Routing Table.

Expert Settings

This pane contains other parameters of lines. This setting is not recommended to change.



- **L1 Parameters**

You can deactivate parameters of Layer 1 or set them permanent active.

- **L2 Parameters**

This setting is not recommended to change.
TEI selection (0-127)
Gateway identification address (0 by default, 127 max.).
This parameter is meaningful only if there is point-to-point communication

- **L3 Parameters**

You can define to restart L3 layer during initialization or no.

- **Datalink Connection**
  - ***Standard Operation***

    Data Link connection is built before communication and disconnection of it is left to on the opposite side.

- ***Released when no communication***

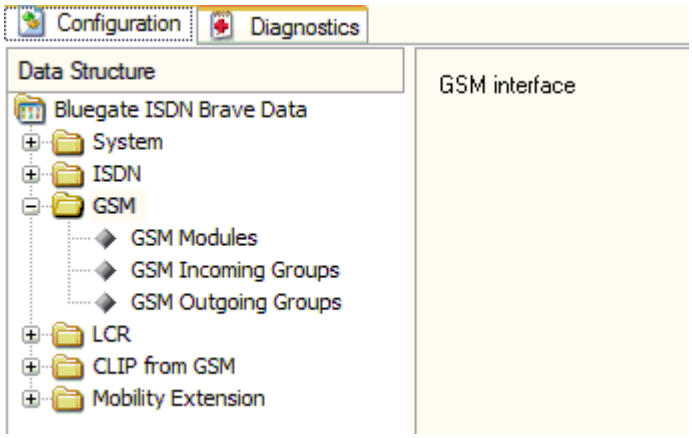
  Data Link connection is released in the 30s after the end of communication.

- ***Permannent established***

  Data Link connection (DLC) is not released at all, and if DLC is released by the opposite party, DLC is built again.

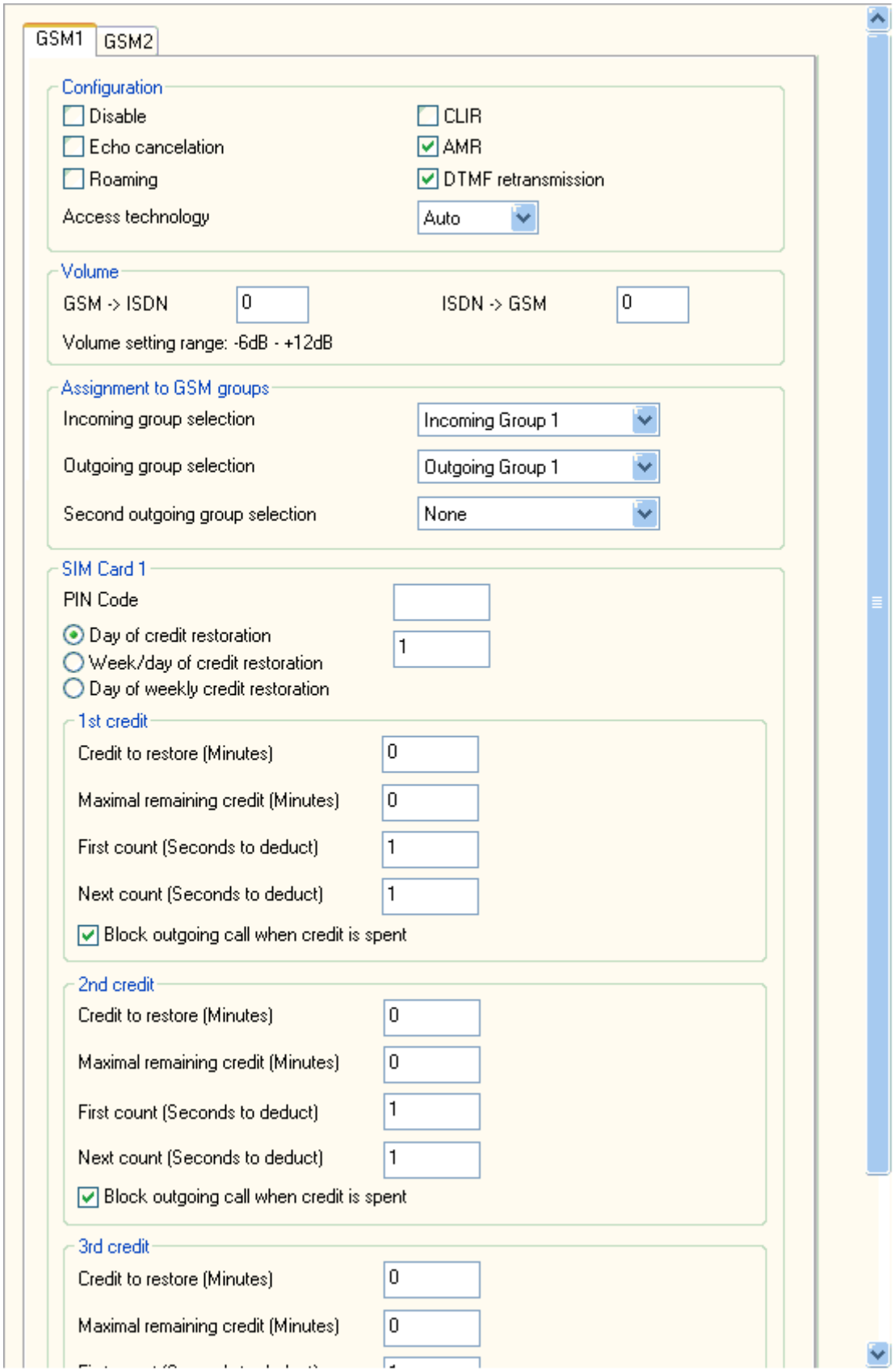
3.3 GSM

This section defines properties for GSM/UMTS modules and GSM incoming/outgoing Groups.

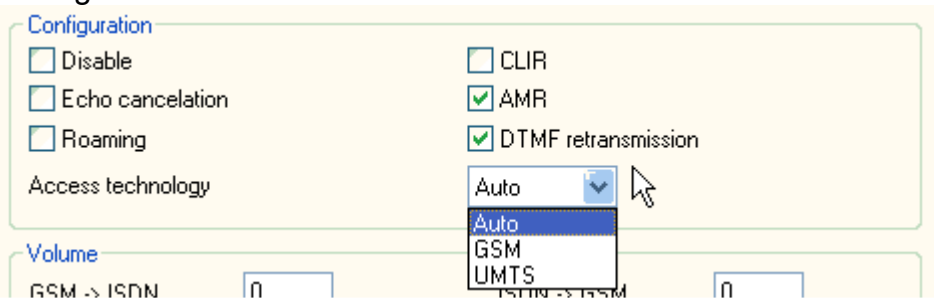


3.3.1 GSM/UMTS Modules

This section defines assignment GSM/UMTS modules to GSM group and allows setting SIM card.


GSM1
GSM2
Configuration
Disable
Echo cancelation
Roaming
CLIR
AMR
DTMF retransmission
Access technology
Auto
Volume
GSM -> ISDN
0
ISDN -> GSM
0
Volume setting range: -6dB - +12dB
Assignment to GSM groups
Incoming group selection
Incoming Group 1
Outgoing group selection
Outgoing Group 1
Second outgoing group selection
None
SIM Card 1
PIN Code
Day of credit restoration
Week/day of credit restoration
Day of weekly credit restoration
1
1st credit
Credit to restore (Minutes)
0
Maximal remaining credit (Minutes)
0
First count (Seconds to deduct)
1
Next count (Seconds to deduct)
1
Block outgoing call when credit is spent
2nd credit
Credit to restore (Minutes)
0
Maximal remaining credit (Minutes)
0
First count (Seconds to deduct)
1
Next count (Seconds to deduct)
1
Block outgoing call when credit is spent
3rd credit
Credit to restore (Minutes)
0
Maximal remaining credit (Minutes)
0

Configuration



- **Disable**

You can define unused GSM card if you tick off *Disable.*

- **Echo cancellation**

You can choose ON/OFF echo.

- **Roaming**

You can permit or forbid to register GSM/UMTS module to roaming.

- **CLIR**

Number of calling subscriber is restricted or not.

- **AMR**

This parameter can be used to control the usage of the feature "Adaptive Multi Rate". You can choose enabled or disabled AMR.
Note: Only for module MC55

- **DTMF retransmission**

You can choose retransmission of DTMF digits coming from PBX user as the message to GSM network. *Only for call from PBX to GSM network.*

- **Access technology** *Note: Only for UMTS module*

You can choose access
auto - the network access is selected by UMTS module
only to the GSM network
only to UMTS network

Volume

It is possible to set volume from GSM->ISDN and from ISDN->GSM. Range of volume is from -6 dB to +12 dB.

Assignment to GSM groups

It is possible to set each module and assign its GSM Incoming Groups, its GSM Outgoing groups and second outgoing group or no (default).

SIM card

In this window we can set:

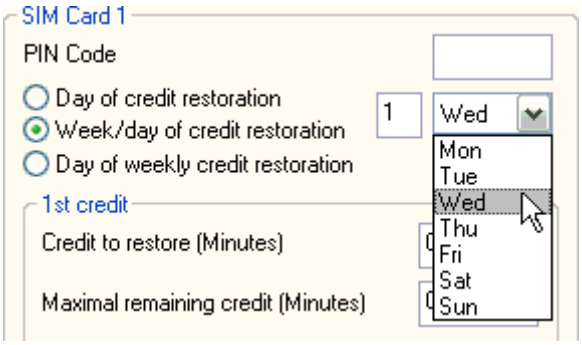
PIN code

Set number of PIN code for SIM card. Length of PIN code is 8. You can enter PIN code twice. After 2 wrong setting you must remove SIM card from Gateway and enter proper PIN code using any mobile phone.

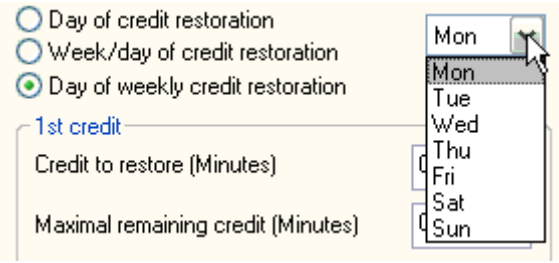
Credit Setting

- **Day of credit restoration (1-31)**
  Set day of month when credit is automatic restoring.

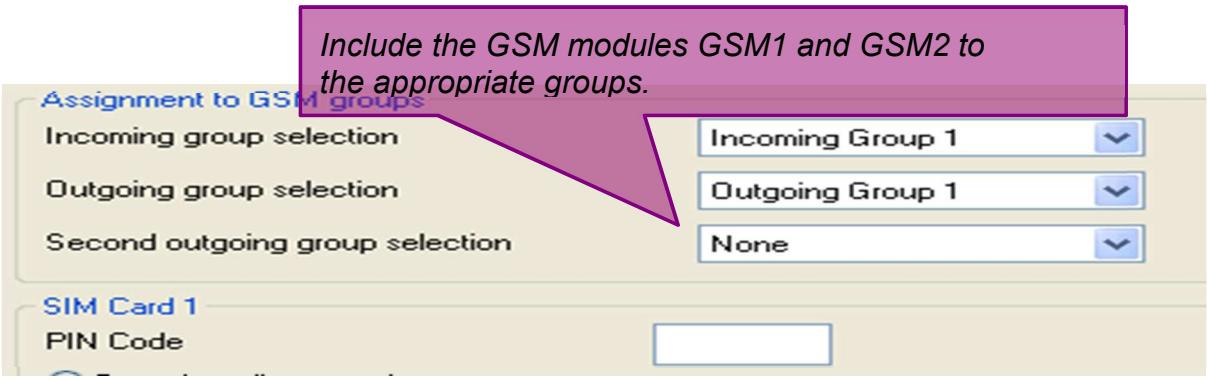
- **Week/Day of credit restoration (1-31)**
  Set week in month (1-4) and day of the week (Monday-Sunday) when credit is automatic restoring.



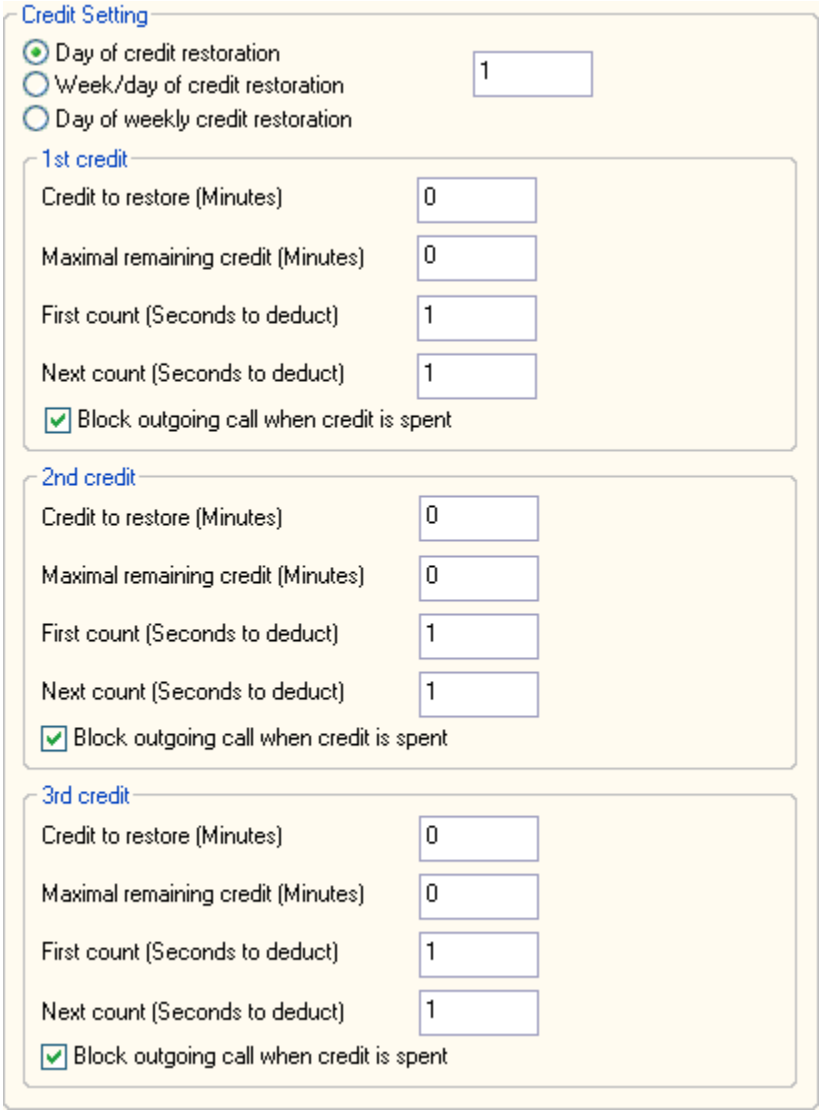
- **Day of weekly credit restoration (Monday-Sunday)**



Set day of the week (Monday-Sunday) when credit is automatic restoring.



There are 3 different credits. You can set each of them.



Credit to restore
Set amount of credit (tariff) in minutes, which is restoring. If this credit is spent GSM/UMTS module is blocked for outgoing calls. Max value of credit is 44640 min (one month). Credit without limit is signified "0". You can see it in pane of *Diagnostics* (GSM/UMTS Modules Credit).

- **Maximal remaining credit**

Set amount of remaining minutes, which you have not spend yet, these will be rolled over to the next month and added to your credit.

- **First count (in seconds)**

First count (in seconds)

- **Next count (in seconds)**

Length of the next period (1 to 250 seconds)

Parameters First count and Next count are used for account of the real length of the call from the view of GSM operator.

Example 1: If the call is charged per second - set both parameters to 1.
Example 2: If you are charged immediately after answering a call for the whole first minute and then second by second - set first count to 60 and next count to 1.
Proper setting of these parameters helps you to keep real record of the minutes spent and charged for each SIM.

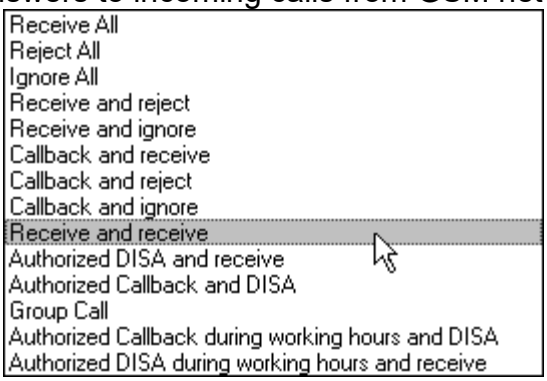
- **Block outgoing call** when credit is spent. Outgoing call is default blocked when credit is spent except you have defined overflow in Routing Table

3.3.2 GSM Incoming Group

In this section you can set rules for incoming calls.

Mode

Mode, how Gateway answers to incoming calls from GSM network.



- **Receive All**

All incoming calls will be routed to ISDN interface according to following parameters.

- **Reject All**

By selecting this item you barring GSM incoming calls (the calling subscriber gets the busy tone).

- **Ignore All**

By selecting this item you ignore GSM incoming calls (but the calling subscriber gets the ringing tone).

- **Receive and reject**

By selecting this item you barring GSM incoming calls (the calling subscriber gets the busy tone) except calls, which CLIP are at list of GSM numbers (see section List of GSM numbers).

- **Receive and ignore**

By selecting this item you ignore GSM incoming calls (but the calling subscriber gets the ringing tone) except calls, which CLIP are at list of GSM numbers (see section List of GSM numbers).

- **Callback and receive**

You can activate callback (see section List of GSM numbers) in GSM incoming group which can use callback function, other calls will be routed to ISDN interface.

- **Callback and reject**

You can activate callback (see section List of GSM numbers) in GSM incoming group, which can use callback function, other calls will be rejected.

- **Callback and ignore**

You can activate callback (see section List of GSM numbers) in GSM incoming group, which can use callback function, other calls will be ignored.

- **Receive and receive**

By selecting this item you activate second extensions for calls not in list of GSM numbers (see section List of GSM numbers).

- **Authorized DISA and receive**

By selecting this item the calls, which CLIP is in list of GSM numbers (see section List of GSM numbers), are behaved as PBX user. It mean that these calls wil be routed according the rules defined in Routing table for PBX users. If there does not exist rule for dialed number in Routing table, this call will be routed to PBX. Other calls (which CLIP is not in list of GSM number) are routed to the extension entered in table extensions.

- **Authorized Callback and DISA**

You can activate callback (see section List of GSM numbers) in GSM incoming group which can use callback function, other calls will be routed to PBX.

- **Group Call**

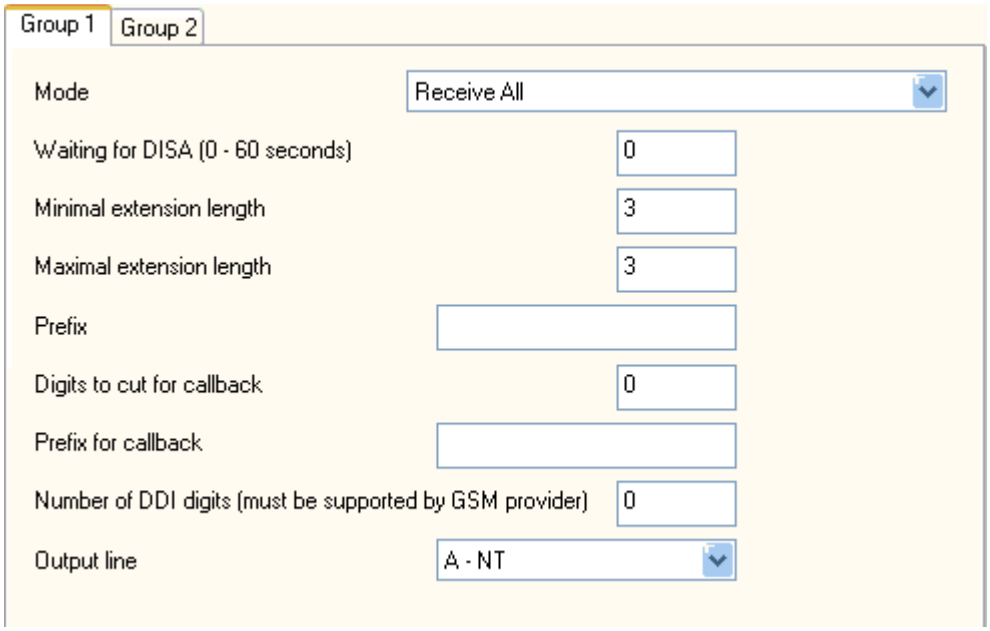
By selecting this item the call will cause ringing all numbers entered in table extensions. Numbers can be PBX extensions, PSTN or GSM numbers. First user which picks up phone is connected and other stop ringing.

- **Authorized Callback during working hours and DISA**

You can activate callback (see section List of GSM numbers) in GSM incoming group which can use callback function - during working hours, other calls will be routed to PBX.

- **Authorized DISA during working hours and receive**

You can activate **Authorized DISA and receive** - during working hours. Other calls (which CLIP is not in list of GSM number or time is out of the working hours) are routed to the extension entered in table extensions.



- ***Waiting for DISA (0 – 60 seconds)***

This is interval how long gateway will wait for DISA (Direct Inward System Access). If there is 0, all calls will be routed immediately to ISDN interface.

- ***Minimal extension length***

Minimum of DTMF digits in DTMF dial-in.

- ***Maximal extension length***

Maximum number of digits which be DTMF-dialed for incoming calls. After the last DTMF dialing, which is the maximum, an ISDN call is made automatically with the currently selected DISA (or DTMF prefix if necessary).

- ***Prefix***

Prefix, which the gateway adds before dialed DTMF numbers.

- ***Digits to cut for callback***

You can define length of cut digits from calling number.

- ***Prefix for callback***

You can define length of inserting digits before calling number.

- ***Number of DDI digits***

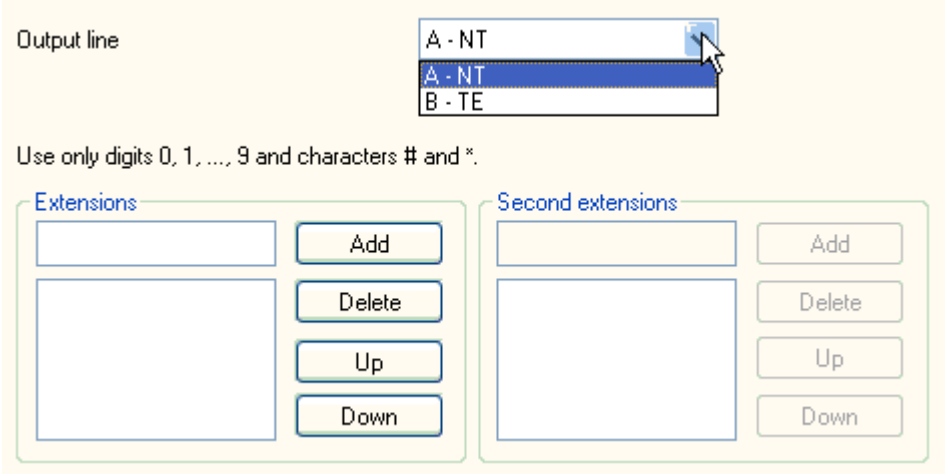
  Default value is 0.

This setting is not recommended to change.
Mobile operator must support this function.

You can define length of number for manipulating the CLI and/or Dialed digits. BlueGate ISDN Brave is able to divide calling party number in to pieces and use them.
Example: Number of DDI digits you set 4.
The GSM number "053221022015000" is calling a SIM in the BlueGate ISDN Brave, then it routes this call to extension "5000" at the PBX and present the CLI = "05322102201".

- ***Output line***

You can define destination BRI line for incoming calls from GSM network.
A-NT default (mode Synchro and Router)
B-NT for mode TE



- ***Extensions***

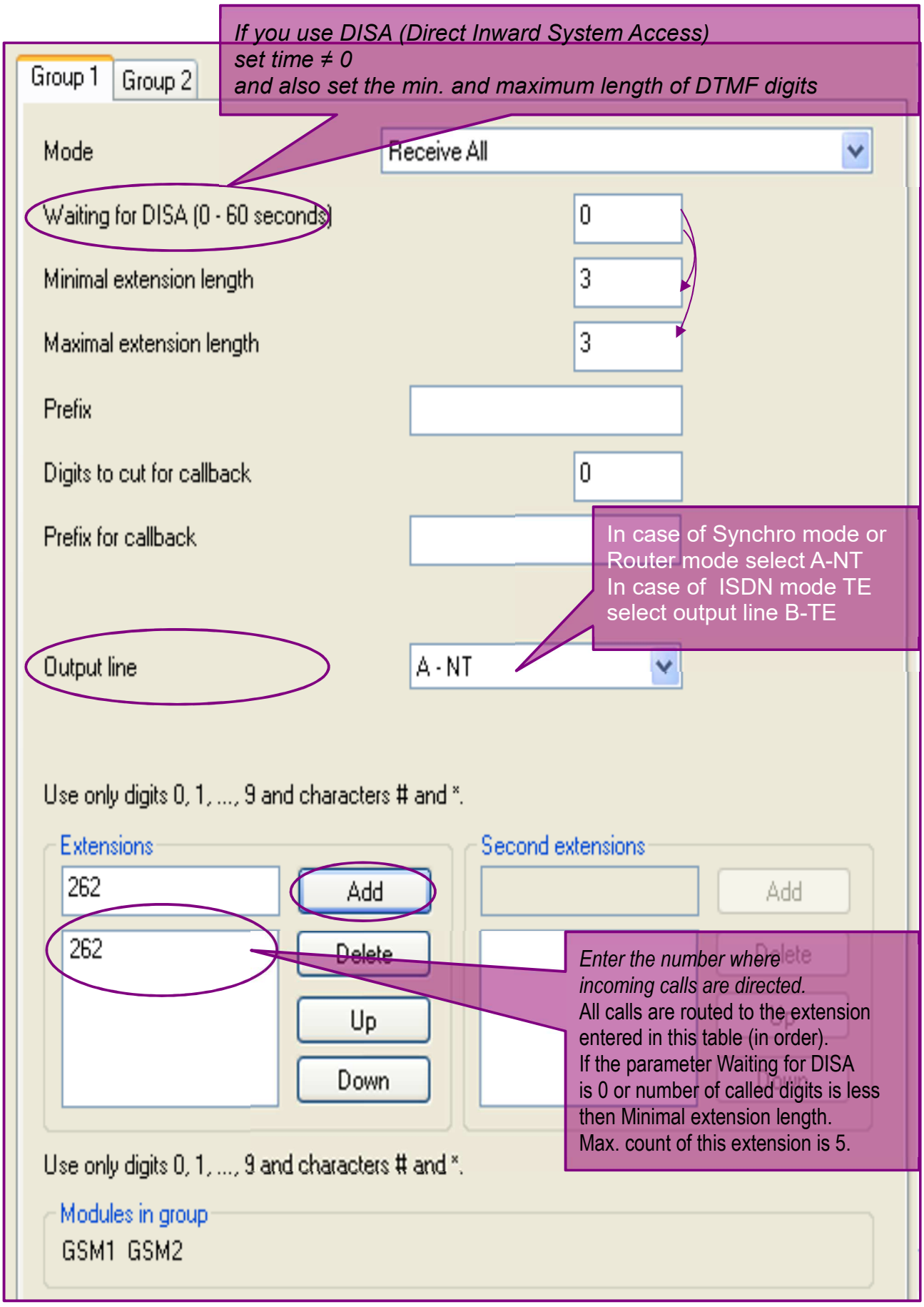
All calls from List of GSM numbers are routed to the extension entered in table Extensions (in order), if the parameter Waiting for DISA (0 - 60 seconds) is setting in 0 or number of called digits is less then Minimal extension length. Maximal count of this extension is 5 extensions.

If you set mode ReceiveAndReceive all calls which are not in List of GSM numbers are routed to the second extensions (in order).

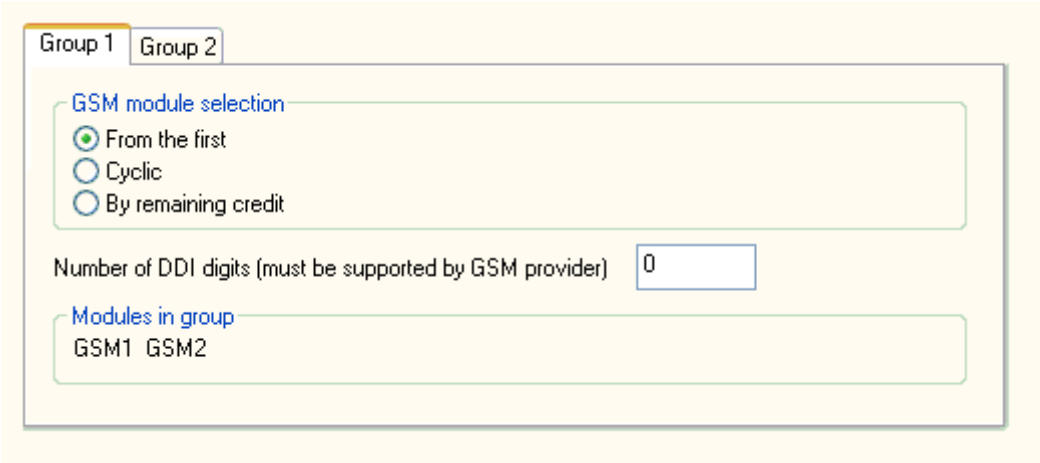
- ***Modules in group***

Bottom section informs about modules in each group.

3.3.3 GSM outgoing groups



In this section you can set rules for outgoing calls from ISDN BRI to GSM networks.



- ***From the first***

All outgoing calls will go through one GSM - the first in Outgoing Group (if it is Idle).
Example: GSM1, GSM2 are in the Outgoing Group 1:
call_1 - **GSM1**; call_2 - **GSM1**(if it is Idle, else GSM2); call_3 - **GSM1**(if it is Idle, else GSM2);

- ***Cyclic***

Outgoing call will be switched between GSM1 and GSM2 (if there are in the same Outgoing Group).
Example: GSM1, GSM2 are in the Outgoing Group 1:
call_1 - **GSM1**; call_2 - **GSM2**; call_3 - **GSM1**; call_4 - **GSM2**

- ***By remaining credit***

The gateway routes calls depending on which SIM card has a higher credit.

Number of DDI digits

Default value is 0.

This setting is not recommended to change.
Mobile operator must support this function.

You can define length of number for manipulating the CLI and/or Dialed digits.
BlueGate ISDN Brave is be able to add the DDI of the extension to the dialed GSM number.
Example: Number of DDI digits you set 4.
The extension "5000" from the PBX is calling the GSM number "05322102201" then BlueGate ISDN Brave dials "05322102201#5000" to the GSM network.

Modules in group

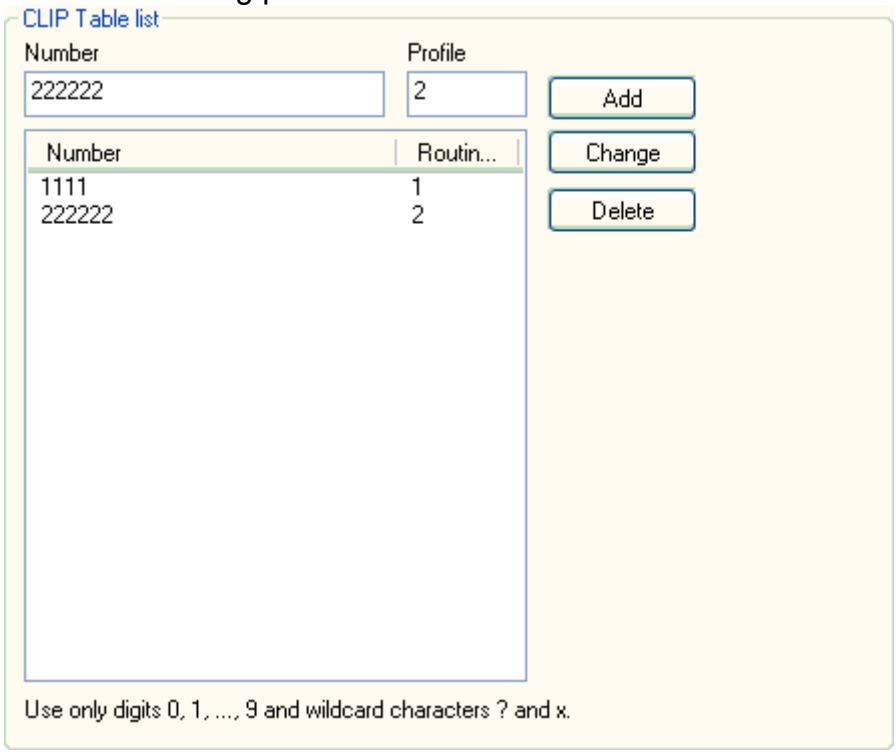
Bottom section informs about modules in each group.

3.4 LCR (Least Cost Routing)

A fully intelligent LCR function is the basic tool, allowing to route outgoing ISDN calls to GSM networks (or ISDN network) by the called number prefix, and calling party number and GSM/UMTS module load in the particular group. Least cost routing (LCR) is the process that provides customers with cheap telephone calls. Each outgoing call from gateway interface will be routed to GSM network according to CLIP table and Routing Table. Gateway at each call check line to line and in case that called prefix is same as prefix stored in Routing Table the call will be routed via defined GSM group(s) or via ISDN-B interface.

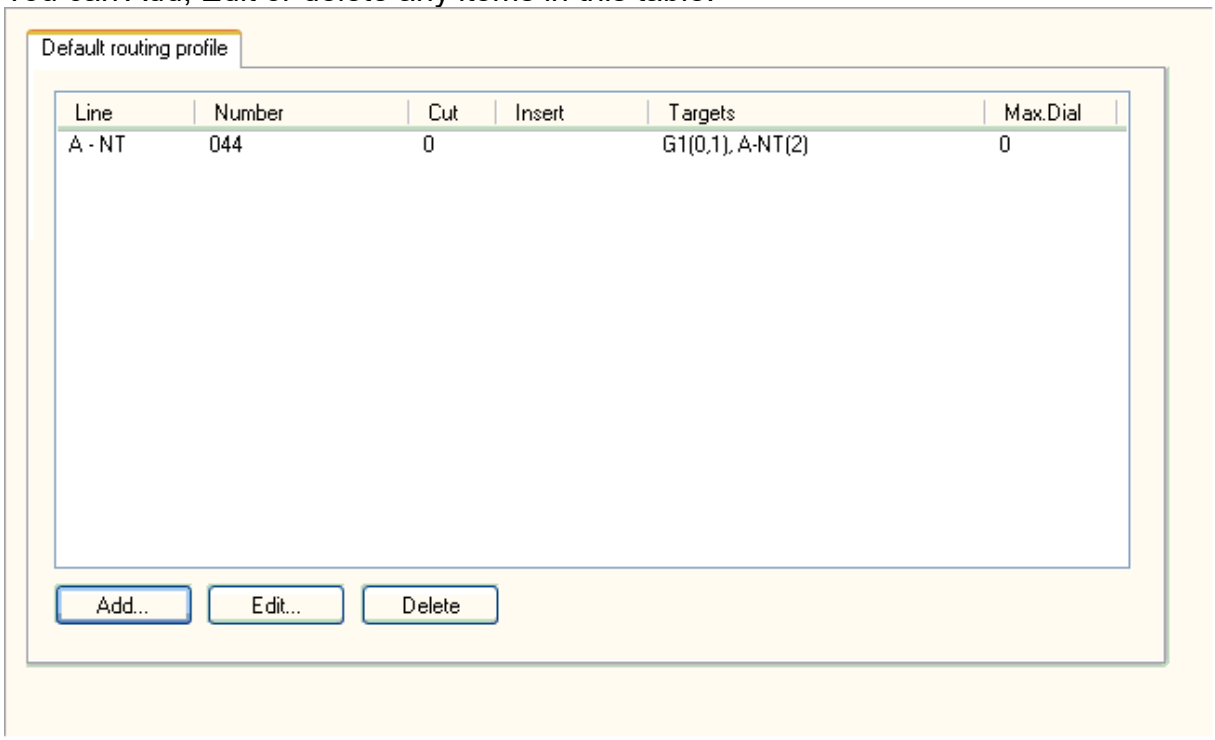
3.4.1 CLIP Table

The Gateway stores a list of telephone numbers that are known to be charged at far greater prices. In this table is possible to create different Routing profile for sorted subscribers. Any calls of this type are not routed via Default routing profile, but via your custom-defined Routing profile.



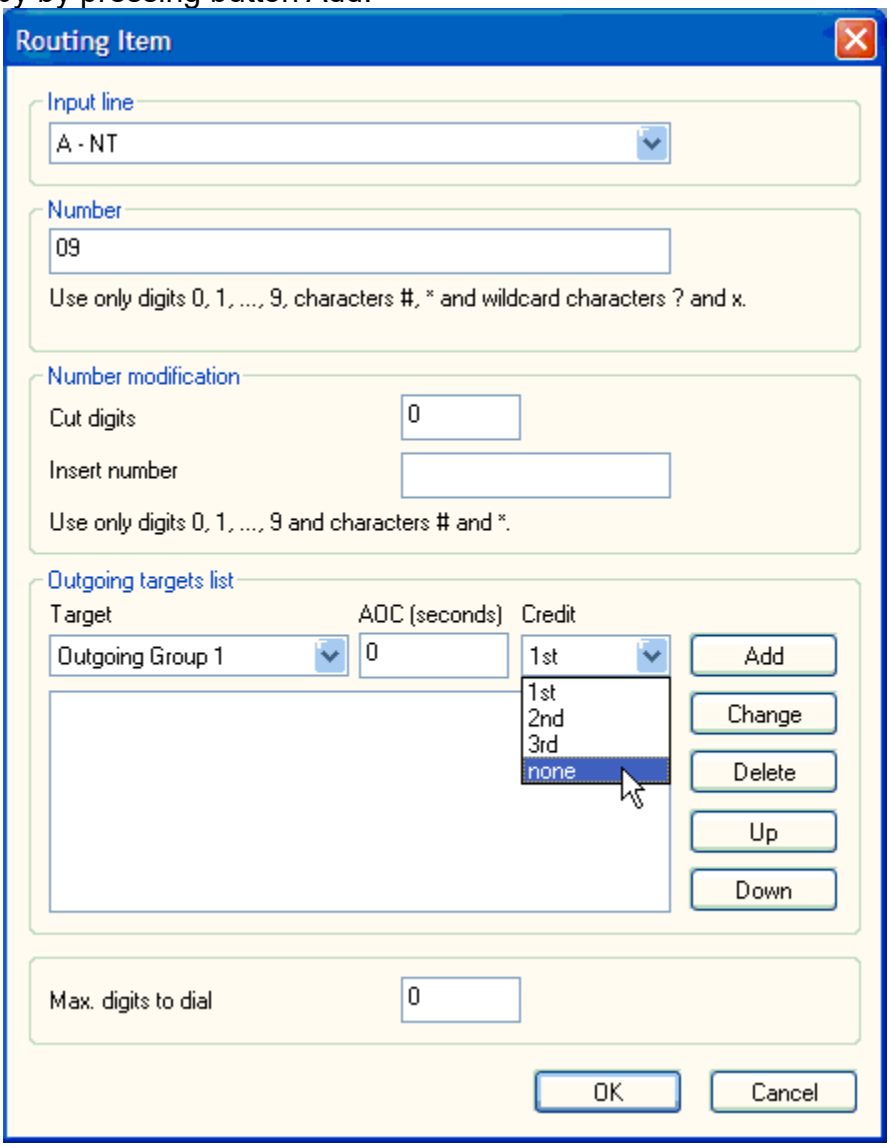
3.4.2 Routing Table

This is pane with Default routing profile and others custom-defined routing profiles. You can Add, Edit or delete any items in this table.



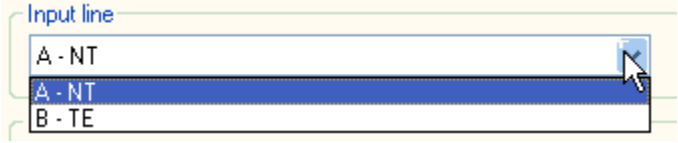
Default routing profile

You can set all routing item Input line, Number, Number modification and Outgoing targets list by by pressing button Add:



- **Input line**

You can choose the input line for routing analyze.
In case of Synchro mode or Router mode select A-NT
In case of ISDN mode TE select output line B-TE.



- **Number**

You can define digits of this routing.
All calls from Input line A-NT will be routed to GSM network (Outgoing Group 1)

- **Number modification**

You can define length of cut digits and digits for inserting before called number.

- **Outgoing targets list**

You can choose one or more outgoing GSM group(s) and add to this list.

AOC - you can set time for advice of charge in seconds. This section is used for activation of advice of charge. You can set period of transmitting tariff unit from 0 to 254.
Example:
If the value is 10, SW of gateway will generate tariff unit each 10 seconds during active call.
If the value is zero it means no charge.
You can choose credit of SIM card which will be decreased.

It is possible to choose routing via PSTN or PBX at the end of listing group(s). It means that in case that call is not possible to make via any outgoing GSM groups from this list, call will be routed via PSTN or PBX. Maximum number of outgoing targets is four.

- **Max. digits to dial**

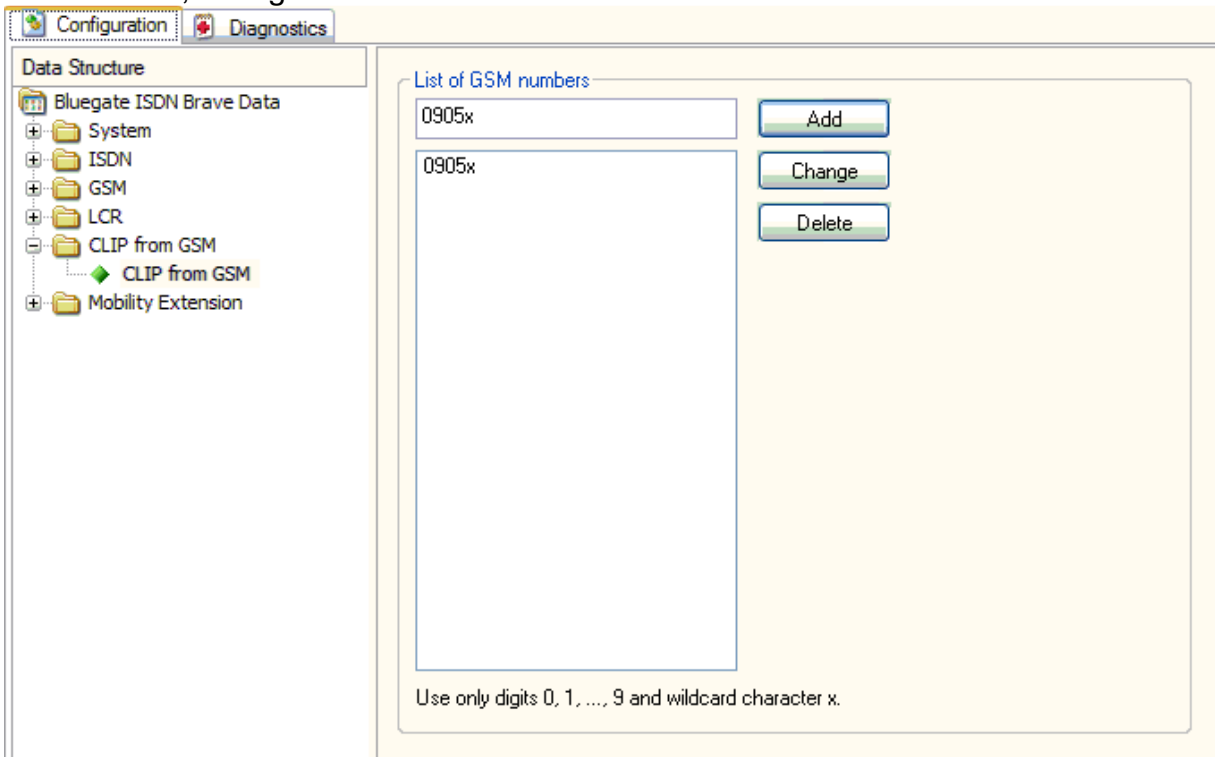
You can define length of digits, which will be sent. ‘0’ means that length of called number is unknown and end of dial is recognized after timeout defined in Wait for dialing. This parameter can make the call arrangement faster.

- ***Routing profile***

There is information about each routing profile (1-254) setting in CLIP table.
Parameters are the same as the Default routing profile.

3.5 CLIP from GSM

You can add, change or delete GSM numbers to List of GSM numbers.



List of GSM numbers

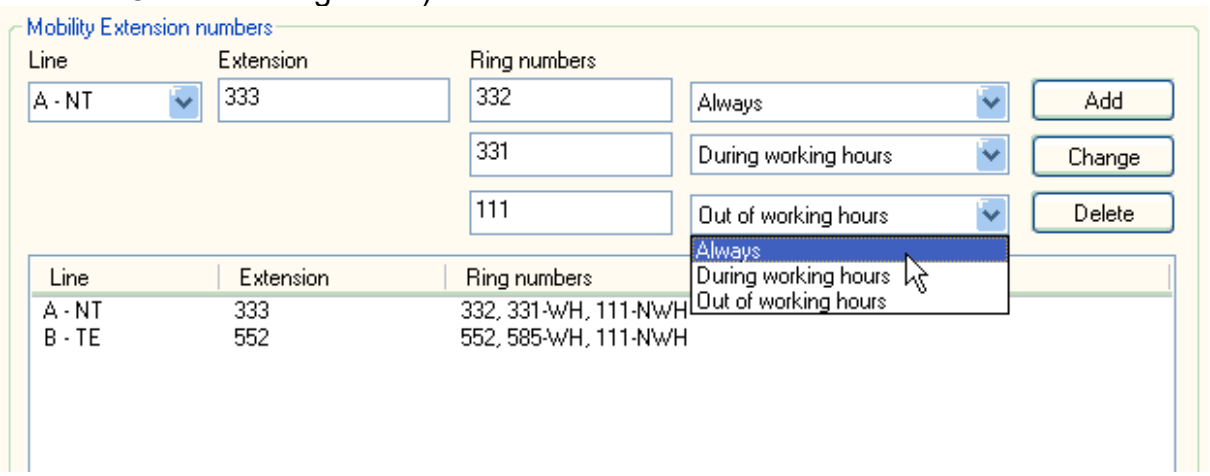
This is list of numbers using in GSM Incoming Group and Mobility Extension.

4 Mobility Extension

In this section you can set rules for Mobility Extension Numbers and Working Hours.

4.1 Mobility Extension Numbers

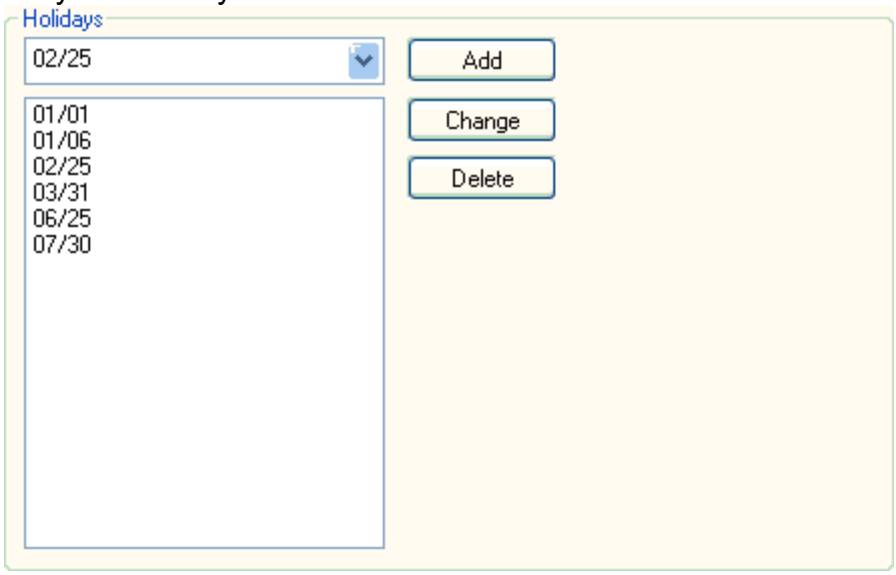
You can set the Extension and the Ring numbers. The Incoming call will cause ringing all entered numbers in compliance with condition. Numbers can be PBX extensions, PSTN or GSM numbers. User which picks up phone first is connected and the others stop ringing. You can set when number rings (Always, During working hours or Out of working hours).



4.2 Working Hours

You can set the time for beginning and end of working hours for each day of week.

You can set days of holidays too

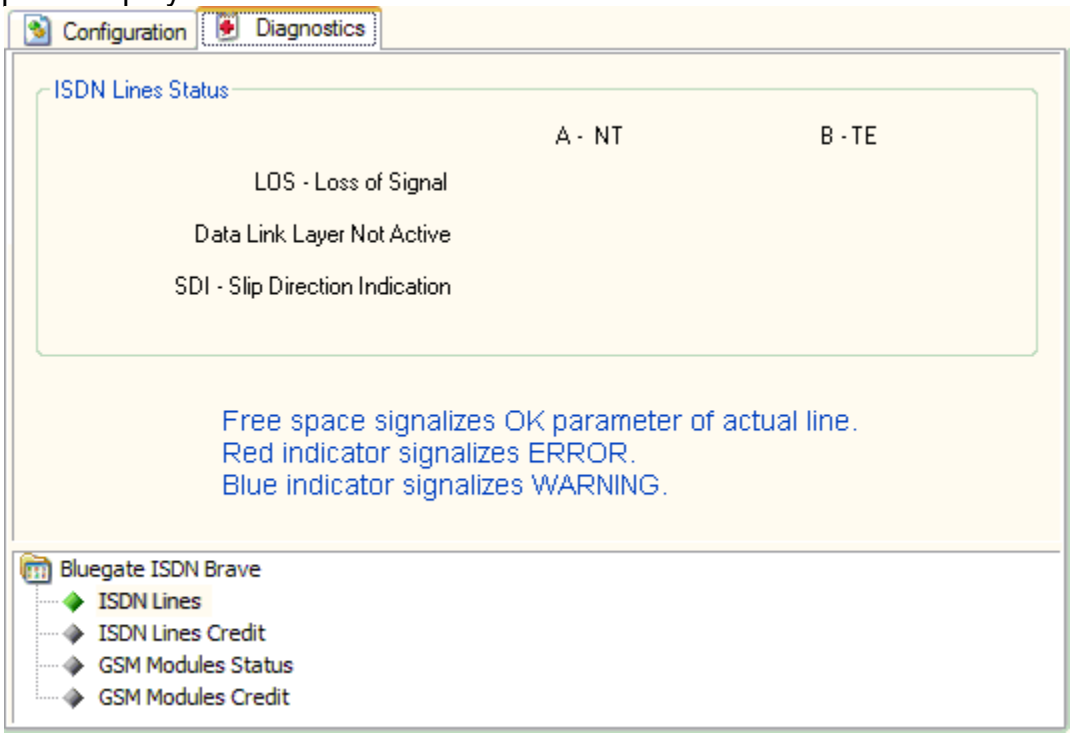


5 Diagnostics

In the bookmark of diagnostics you can see status of ISDN lines and GSM/UMTS modules.

5.1 ISDN lines

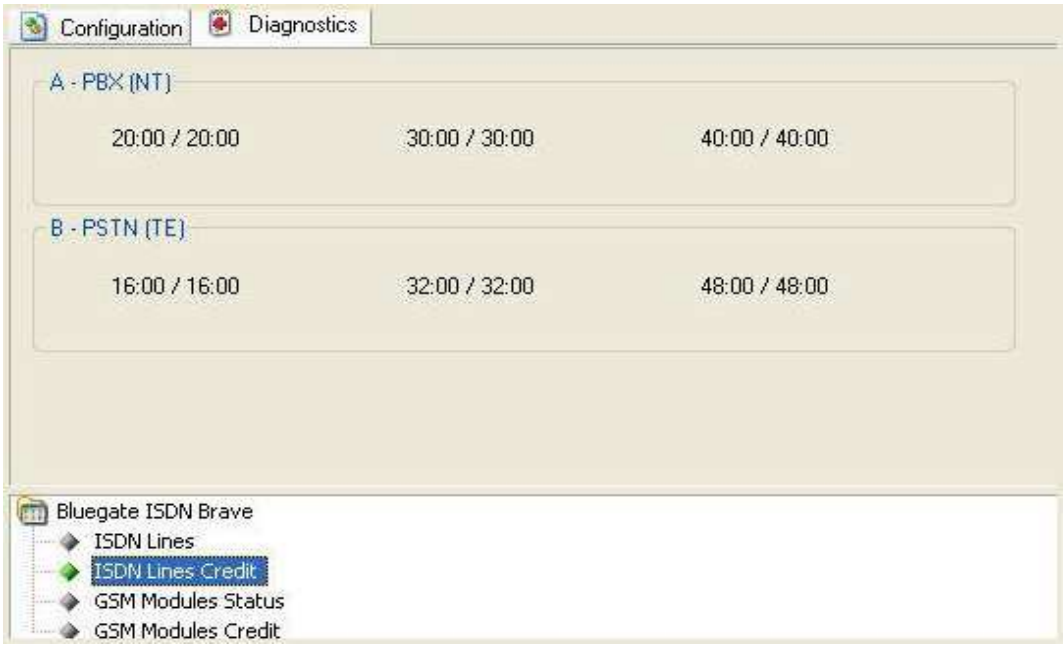
This pane displays status of lines from A and B.



5.2 ISDN lines credit

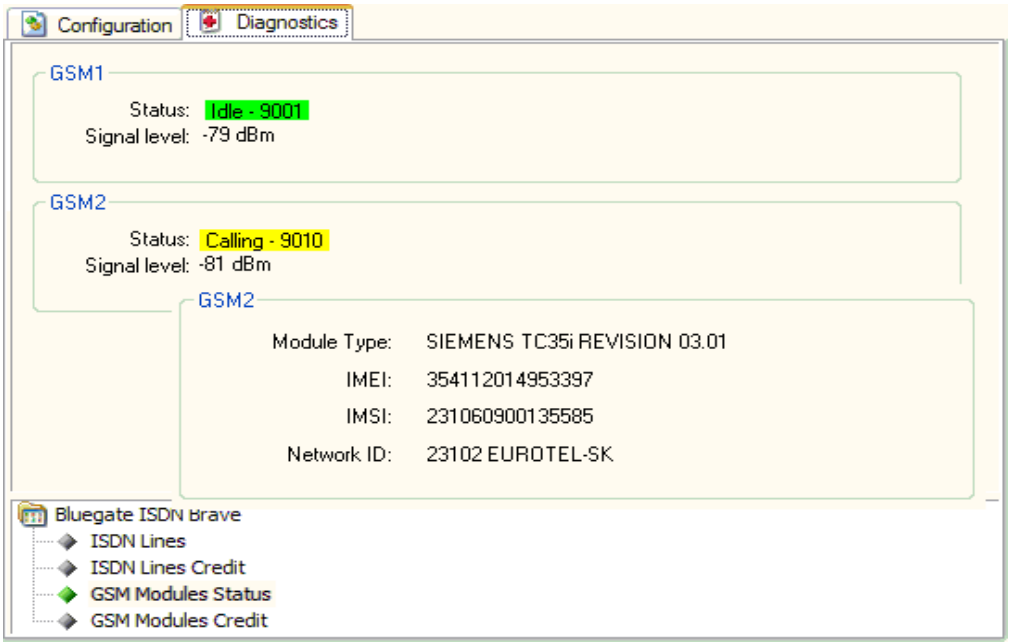
There is information about the credit of ISDN lines.

Each module has credit X/Y.
X is *Credit to restore* and Y is *Remaining credit*.
If X=0 ISDN line is without credit.



5.3 GSM/UMTS modules status

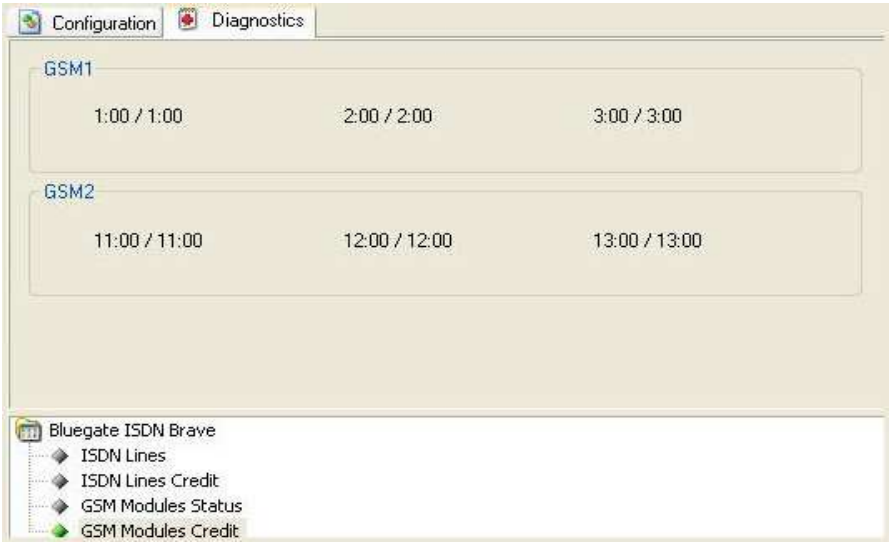
This pane displays status and credit of GSM/UMTS modules. Description of status from GSM/UMTS modules is in Appendix Description of status from GSM/UMTS modules.



Double-clicking on Module displays other GSM/UMTS Module Information as Module Type, IMEI, IMSI, Network ID.

5.4 GSM/UMTS modules credit

There is information about each GSM/UMTS module and its credit.



Each module has credit X/Y.
X is *Credit to restore* and Y is *Remaining credit* from SIM card setting in GSM/UMTS modules.
If X=0 SIM card is without credit.

6 Appendix

6.1 Description of cdr line

Cdr info file name: CDRyymmdd_Number.csv

Number of column	Description	Note
1. column:	Date	dd:mm:yyyy
2. column:	Time of start the call	hh:mm:ss
3. column:	Type of call	17 - Answered call 18 - Unanswered call 19 - Answered smart callback 20 - Unanswered smart callback 21 - Callback
4. column:	Caller ID	Number if calling user
5. column:	Called Number	Number of called user
6. column:	Call Length	hh:mm:ss
7. column:	Input Port	Port(PBX,PSTN,GSM)/number of channel(1,2) or number of GSM/UMTS module
8. column:	Output Port	Port(PBX,PSTN,GSM)/number of channel(1,2) or number of GSM/UMTS module
9. column:	Cause	Cause ETS 300 102

Example CDR110314_01.CSV

1.	2.	3.	4.	5.	6.	7.	8.	9.
Date	Time	Call Type	Caller Id	Called Number	Call Length	Input Port	Output Port	Cause
14.3.2011	16:39:38	Answered Call	265	*50	0:00:04	PBX/1	GSM/2	16
14.3.2011	16:39:54	Answered Call	265	444	0:00:03	PBX/1	GSM/2	16
14.3.2011	16:40:08	Answered Call	265	264	0:00:05	PBX/1	PSTN/1	16
14.3.2011	16:40:24	Answered smart callback	265	264	0:00:05	PSTN/1	PBX/1	16
14.3.2011	16:40:52	Answered smart callback	0445209010	264	0:00:05	GSM/2	PBX/1	16
14.3.2011	16:41:11	Answered smart callback	00421948030586	265	0:00:08	GSM/2	PBX/1	16
14.3.2011	16:41:44	Callback	0445209010	264	0:00:03	GSM/1	PBX/1	16
14.3.2011	16:42:31	Answered Call	265	*50	0:00:04	PBX/1	GSM/2	16
14.3.2011	16:42:54	Answered Call	265	444	0:00:06	PBX/1	GSM/2	16
14.3.2011	16:43:14	Answered Call	264	*50	0:00:07	PBX/1	GSM/1	16

6.2 Description of status from GSM/UMTS modules

Number	Description	Color	Note
1.	None	grey	GSM/UMTS module not detected yet
2.	Initialization	grey	GSM/UMTS module is initiating
3.	Not configured	grey	GSM/UMTS module is not configured
4.	Error states	red	Error GSM/UMTS module - see table below
6.	Idle	green	GSM/UMTS module is ready and OK
7.	Calling	yellow	Outgoing call to GSM/UMTS net
8.	Ringing	blue	Incoming call from GSM/UMTS net
9.	Outgoing Call	yellow	Active call
10.	Incoming Call	blue	Active call
11.	ISDN Disconnect	dark green	ISDN disconnected
12.	GSM Disconnect	dark green	GSM disconnected
13.	SMS communication	magenta	

Error states module is out of work		
Description	Color	Note
GSM/UMTS modul not present	red	
Other PIN required	red	
Wrong PIN 2 times	red	Pin counter less or equal 1; *see* PIN code
SIM PIN required	red	
Error	red	General CME ERROR Codes (GSM 07.07)
Operation not allowed	red	CME Error (3)
Operation not supported	red	CME Error (4)
SIM not inserted	red	CME Error (10)
SIM PIN required	red	CME Error (11)
SIM PUK required	red	CME Error (12)
SIM failure	red	CME Error (13)
SIM busy	red	CME Error (14)
SIM wrong	red	CME Error (15)
Incorrect PIN	red	CME Error (16)
SIM PIN2 required	red	CME Error (17)
SIM PUK2 required	red	CME Error (18)
No network service	red	CME Error (30)
SIM blocked	red	CME Error (262)

6.3 Description of Alarm message

Alarm message is sent to all numbers and/or the IP Address and/or the E-mail account set in Alarm indication.
There are three sources of alarm messages from GSM/UMTS modules, ISDN lines and Gateway.
This message looks like:
Name,Source,Description of error

6.3.1 From GSM/UMTS modules

There are three type of alarm messages General ERROR, GSM ERROR and Credit WARNING.
Name: Gateway Identification setting in (General)
Source: Number of Module (01 – 02)
Description of error: see table below.
Example:
BlueGate,01,No Network

Description of Alarm	
GENERAL	Note
No Network	GSM/UMTS module is not registered in Network
No Module	GSM/UMTS Module is not detected
Bad Module	GSM/UMTS Module is detected but not initialized
Wrong PIN 2 times	Pin counter less or equal 1; *see* PIN code
SIM PIN required	Required PIN code

Description of Alarm	
CME ERROR	Note
SIM not inserted	CME Error (10)
SIM PUK required	CME Error (12)
SIM failure	CME Error (13)
SIM busy	CME Error (14)
SIM wrong	CME Error (15)
Incorrect PIN	CME Error (16)
SIM blocked	CME Error (262)
CME Error(999)	General CME ERROR Codes (GSM 07.07)

Description of Alarm	
Credit WARNING	**Note**
1st credit decrease under limit	
2nd credit decrease under limit	

Description of Alarm	
Credit WARNING	**Note**
3rd credit decrease under limit	
1st credit decrease to zero	
2nd credit decrease to zero	
3rd credit decrease to zero	

6.3.2 From ISDN lines

Name: Gateway Identification setting in (General)
Source: ISDN line (ISDN-NT, ISDN-TE)
Description of error: see table below.

Description of Alarm	
Loss of Signal	ISDN line Not Active *
Mismatch in Point-to-multipoint configuration	Setting up of PBX and Gateway is incompatible

**This alarm is reported only when the ISDN line is configured permanently active (ISDN->Lines->A-NT(B-TE)->L1 Parameters->Permanent active, refer to Expert Settings)*

6.3.3 General Alarm from Gateway

Name: Gateway Identification setting in (General)
Source: General
Description of error: see table below.

Description of Alarm	
General Alarm	**Note**
Trial version expired	

6.4 Technical Conditions for Installation

Subrack

Dimensions (W x H x D)	100 x 130 x 37 mm
Weight (full configuration)	200 g
Power supply	5V DC 3,0 A
Power input	max. 15 VA

GSM/UMTS

Mobile network type	GSM 850, 900,1800, 1900 MHz UMTS 850, 900, 1900, 2100 MHz (only UMTS version)
Transmission output per channel	900MHz / 2W, 1800MHz / 1W
VF connector	RF connector 50 Ohm

BRI Interface(s)

Interface	2 x ISDN BRI
Signaling	Q.931-EDSS1
Type (NT or TE)	1 x NT, 1x TE
TEI number	0 - 63
Connectors	RJ 45

Temperature

Working temperature range	+5°C to + 40°C
Relative humidity max.	10% ÷ 80% at 30° C

Remote Control Line types

Type of line	USB2.0 Ethernet10/100 BaseT