



BlueGate A

GSM Gateway



User guide V2.0



Basic features:

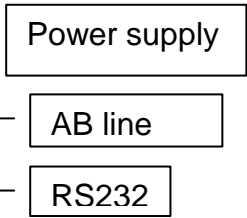
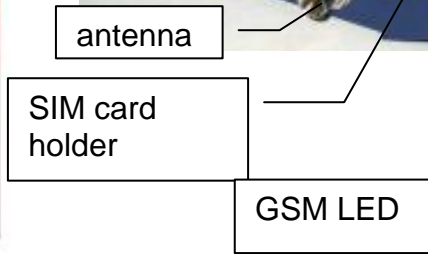
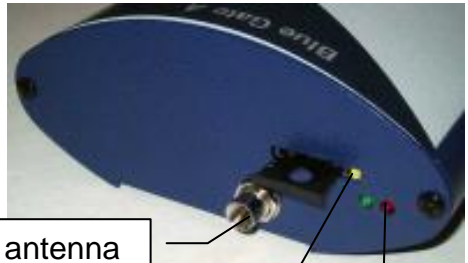
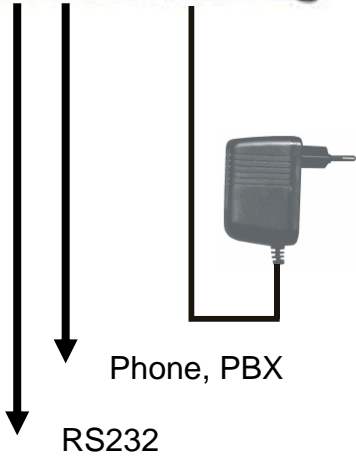
Blue gate compact dual band is GSM Gate based on Siemens GSM module TC 35 equipped by a lot of adjustable features increased comfort of service. It is solved by modularity system enables extending of gate features (CLIP + 16/12kHz charge pulses, Module for connection to extension, FAX module etc..). It has been designed for GSM network 900 MHz as same as 1800 MHz.

When you connect Blue Gate dual band to your PBX:

- **All extensions is calling over GSM network**
- **All extensions is receiving incoming calls from GSM network**
- **All extensions is calling cheaper long distance or international calls (GSM-GSM)**
- **You enable to your partners call to your company cheaper (GSM-GSM!) even with DISA using!;**
- **You extend number of external lines**
- **You can substitute public lines by GSM lines in situation where public lines are unreachable**
- **You can you advantages of GSM operators for international calls**
- **Integrated serial port RS 232 with can be shipped with SMS mail software enables sending as same as receiving SMS messages as e mails under your outlook. Further provides connection to internet, faxing from your PC etc..**

Thanks of many Blue Gate features you can satisfy very wide group of customers. By setting of permitted numbers to memory of Blue Gate you can restrict unrequested calls (to public numbers).As same as you can set Blue Gate to provided only incoming calls.

INSTALLATION



By pressing of yellow button remove the SIM card keeper. Insert the SIM card and replace the SIM card keeper. **Before inserting the SIM card we recommend checking at various mobile phone state of the SIM card (starting with or without PIN, PIN, etc.) and set starting without PIN. When you want starting with PIN you have to preprogrammed this PIN and set starting with PIN (via table of programming).Without this setting the Gate wont work.** DO NOT FORGET ANTENNA CONNECTION. The Gate fix on the wall by 2 holes on the back cover. The available place choose up following point of view:

1. distance from PBX – possibility of GSM interferences to other PBX lines as same as lenght of line from Gate to PBX (max. 200m)
2. main 230 V for power supply of Gate
3. Quality of GSM signal at the installation place of GSM Gate

Quality of GSM signal

The sound quality depends on BTS setting where you are connected by the Gate. To find best place for antenna mounting you can use either mobile phone or feature 29 (table of programming). The suitable signal power is 3 scales of mobile graduation.

Connection of antenna

When you connect magnetic antenna keep on mounting at bigger iron subject. This subject makes „against-weight“ at its depends the power of radiated signal.

When you inserted SIM card as same as all cables are connected (do not forget that Blue gate is connected on external line not on extension) connect device to main 230V. The LED of „power supply,, is light up . After a few seconds will start flashing a red diod on the board with TC 35 module – log into GSM network. Till 15 seconds starts flashing LED „communication to GSM,, in cca 2 sec. period and LED „operation AB,, not lights. Then device is ready to work. When pick up connected analogue phone or call to Blue Gate from PBX the LED of analogue line lights up („operation AB,,). In the phone is hearing dial tone of Blue Gate.

The most often problems during Blue Gate compact installation:

- All LED is not lighting. Problem in power supply. Check connection to main 230V as same as connection of adapter to Blue Gate.
- The LED „communication to GSM,, is flashing. After calling to Blue gate is not light up LED „operation AB,, in analogue phone is busy tone. The SIM card requires PIN, which is not preprogrammed or is preprogrammed wrongly.
- The LED „communication to GSM,, is flash shortly one for 2 sec. After calling to Blue Gate you are hearing busy tone. Blue Gate is not log into GSM network – bad signal.
- The LED „communication to GSM,, is flashing. After calling to Blue gate is not light up LED „operation AB,, in analogue phone is quiet. It interrupted conduction of analogue line or so much big resistance in current loop (for example:(longer cabel between PBX and Blue Gate).

- The LED „communication to GSM,, is flashing as same as the LED „operation AB“ is lighting. , in phone is quite. PBX keep the line ON HOOK. By calling to to this line you will remove this problem. Otherwise progress up your manual to your PBX.
- The Gate is working but sound is disturbed by GSM interferences. Bad position of antenna regard to line(s) of PBX which are disturbing by GSM interferences. Change related position of antenna and line(s).
- The Blue Gate is working but in calling is ECHO hearing. The sound efect is creating during uncorrectly impedance adjusting of BTS chanel where you are connected.The ECHO remove by balancing of impedance by corresponding trimr. (mark starting position!).

Note. Default is reachable by 99 dialing (via. Table of programming).

All tones variants as same as LED meanings are mentioned at the table at the end of manual.

RS232

The Gate is equipped by serial port RS232 for direct control of GSM module Siemens TC35 (or MC35 or MC39 for GPRS). The Gate you can further use ordinary GSM modem for data transmission, internet connection or for SMS messages.

When unit is working as GSM modem then is busy for voice connection. When you pick up the line you will hear busy tone. The unit is monitoring data transmission by modem. The data transmission can not be permanent therefore the unit stays in data mode 30 seconds after finishing of data transmission. Then is going back to Voice mode (calling).

The same is when you are calling over unit. It is busy for data transmission.

The optional sw supply to unit for sending and receiving SMS messages is SMS mail. It is working under Outlook, Outlook Express, Opera etc. And you can work with SMS as with normal e mails. (see manual for SMS mail).

The next occassion of serial port is monitoring of unit operation. It enables recording outgoing as same as incoming calls including time and CLIP, power of signla etc..(*available in June 2004).

CONFIGURATION

The programming mode is set after acknowledgement dialing to Blue Gate. In the analogue phone is waiting tone. After password inserting is tone changing to programming tone. Then you can programming each features of Blue Gate (via table of programming)

Progress of programming:

- ❶ Dial 2 digits number of programming feature.
- ❷ Dial 1 to 4 digits number for feature value programming.
- ❸ Wait for a tone of confirming request (3 short tones).
- ❹ Confirm the feature by dialling acknowledgement (#)
- ❺ Wait for confirming tone.
- ❻ Follow programming tone again.
- ❼ Finish programming by hang up a phone.

Example: programming of new permitted fix numbers (02) to memory 09:

Dial acknowledgement (default is #). In phone you are hearing waiting tone (■—■—■—■—). Dial password (default 0000). Waiting tone is changing to programming tone (■—■—■—■—). Dial 1902. Wait for tone of confirming request (3 short tones). Confirm the feature by dialling acknowledgement (#). Wait for confirming tone (one long tone). Finish programming mode by hang up a phone.

Warning: After dialling of parametr value you have to wait for 3 short tones and then dial acknowledgement # . Wait for long tone confirm acceptance of this parametr .

Notes to each feature:

- 11-19 When you have set some fix-numbers (default is 060, it is GSM operators in Czech republic) through BLUE GATE will dial only numbers starting at this fix-number. At the others received busy tone. When memories will be empty the calling wont be restricted.
Rewriting of memory – by storing of new fix-numbers are old fix-numbers erased.
Erasing of memory - Memory you will erase by storing of „nothing“. You dial only number of memory which you want erase and confirm it.
- 21 The set of this feature is suitable at PBX which detect breakdown on the line. As the line is detected as breakdown then extensions are not connected on its.
- 22 Very important feature is acknowledge character setting. Default is #. When is # used for PBX features you can change it on *.
- 24 An analogue phones are not enable send „+,, which is very used in GSM. In this case is possible to use combination „00,, to send it to mobile phone.
- 31 This feature identified connection of BLUE GATE to external line at some type of PBX (ex.:Siemens Hicom).
- 32,35 The GSM phones requested command to connection on inserted number. The BLUE GATE will send a command immediately after acknowledge character dialling (#).

Notes:





-  Programming is only by tone dial DTMF. Dont forget set even external line at PBX.
-  Changes are valid after hang up only (finishing of programming mode). It is very important especially in acknowledge character changes- till hang up you must use previous acknowledgement.
-  **After numbers dialing you must wait for confirming request , insert acknowledge character and wait for confirming tone. When you insert acknowledge charater before wont be accepted.**
-  Switch to programming mode is possible even in busy tone.

Table of programming

Dial number					Feature	Default		
0	0	n	n	n	Password nnnn to programming mode access	0	0	0
1	1	n	n	n	Memory x for permitted fix number (1 to 4 digits)			
1	2	n	n	n				
1	3	n	n	n				
1	4	n	n	n				
1	5	n	n	n				
1	6	n	n	n				
1	7	n	n	n				
1	8	n	n	n				
1	9	n	n	n				
2	1	n			Reaction of GSM GATE at disconnection of GSM module n=0 during disconnection is busy tone on the line n=1 during disconnection is interrupted loop current	0		
2	2	n			Acknowledge character setting n=0 - # n=1 - *	0		
2	3	n			Type of dial tone n n=0 – dial tone according table of tones n=1 – dial tone of public lines operator n=2 - quiet	0		
2	4	n			Turning on combination for dialling „+„ to mobile phone n=0 – combination turn off n=1 – sending „+„ to mobile after „00„ dialling	0		
2	5	n			Signalization to the call – short tone each minute n=0 – tone is turn off n=1 – tone is turn on	0		
2	6	n			Restriction of call duration n=0 – without restriction n=1 – call duration restricted at 10 minutes	0		
2	7	n			PIN n=0 – start without PIN n=1 – start with PIN			
2	8	n			Type of acceptable dial of telephone number n=0 – tone and pulse dial is acceptable n=1 – pulse dial is acceptable only n=2 – tone dial is acceptable only			
2	9				Indication of signal power. Power is indicated by frequency of short tones. Max. frequency is 5/ sec.			
3	1	n	n		Ringling after inicialization nn decimal of sec. (00 to 99 it is 9,9 sec) („00„, not ringling during inicialization)	0	0	
3	2	n	n		Waiting for last number nn sec. (01 to 15) (after finishing of dial by acknowledge character is sending immediatly)	0	6	
3	3	n	n		Waiting nn sec. for dial after pick up (00 to 99 it is 9.9 sec) („00„, waiting is not limited)	0	0	
3	4	n	n		Reaction of BLUE GATE on finishing of dial from GSM module nn=00 – busy tone nn=01-19 disconnecting of loop current on set time	0	0	

3	5	n	n			Number of dialled numeral, after its is dial send immediatelly (lenght of telephone number) nn=00 – function none active nn=01-19 – number of numeral telephone number	0	0		
3	6	n	n			Ignoration of dial nn decimal of sec. After picking up nn=00-99 decimal of seconds	0	0		
3	7	n	n	n	n	Storing of PIN				
3	8	n				Amplification of sound in outgoing direction (1 to 4)	1			
3	9	n				CLIR feature, switching OFF outgoing CLIP (#31#) n=0 OFF n=1 ON	0			
9	9					rewriting present setting by default				










Table of programming for extension module:

4	1	n				Number of rings before picking up N= 1 to 9	2			
4	2	n				Permission of automatic dial by extension N=0 prohibited N=1 permitted	0			
4	3	n				Waiting time for automatic dial by extension N=1 to 9 seconds	9			
5	1	n	n	n	n	The phone number dial by extension – maximum 6 digits				
8	1	n	n	n	n	The password for outgoing calls over Gate extension				








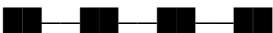


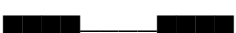


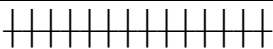
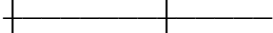
Table of programming for CLIP and TARIFF module:

7	1	x	x	y	y	Xx= 00 No charging pulses Xx= 12 12 kHz charging pulses Xx= 16 16 kHz charging pulses Yy= 00 1 pulse only at the moment of connection Yy= 01 to 99 seconds. Pulses each 01 up 99 seconds				
7	3	n				N= 0 CLIP is switch OFF N= 1 FSK CLIP Bell N= 2 FSK CLIP BT N= 3 DTMF CLIP	1			

The tones at analog line of the Blue Gate

	<p>Dial tone – tone of public line + short tone at the end Blue Gate is ready accept of dial</p>
	<p>Busy tone – repeated short tone Called number is busy, dont exist, not permitted or service is refused</p>
	<p>Ringing tone – long tone and space repeatedly Called number is ringed</p>
	<p>Waiting tone – short tone with speed frequency Blue Gate wait for password inserting</p>
	<p>Programming – short tone with speeder frequency Programming mode of Blue Gate features</p>
	<p>Confirming request – 3 short tones Request for programmed feature confirming</p>
	<p>Confirming tone – one long tone Accept and confirmed setting of feature</p>
	<p>Dial ringing tone - Dial tone combined with 4 short tones Blue Gate warned for incoming call to already picked up line. The dial is ignored in this case. After hanged up Blue gate is ringing.</p>
	<p>Minute tone – short tone each minute Blue Gate noticed at call duration</p>

LED diods signalling

		Permanent light power supply
		
		Flashing in 2 sec. interval GSM Gate is ready, hanged up
		Flashing in dial tone period Picked up, dial tone, the gate is ready for dial ling of number
		Flashing in 1 sec. period establishing of connection on GSM, calling
		Permanent light The Gate is in mode for extension
		Flashing in 2 sec. period Changed mode („trunk line“/“extension“) is not active yet. It is activated after switch OFF/ ON power supply
		Flashing in 0,5 sec. period missing or wrong PIN
		Flashing in 0,25 sec. period GSM module TC 35 is not found
		Flash 0,25 sec. in each 2 sec. low GSM signal

Technical parametres:

Generally

Type	Blu Gate dual band
Operating position	various
Operating conditions	temperature: +5° C ÷ +40° C, humidity: 10% ÷ 80% at 30° C
Dimensions (š/v/h)	140 x 150 x 65 mm
Weight	max.1 kg

Part of power supply

Supply voltage	230 V ($\pm 10\%$) (adapter)
Power input	max. 15 VA
Protection	thermal fuse in adapter
Safety group	ČSN EN 60950 group 2

Analogue telephopne line

telephone interface	2-wires
telephone conector	RJ 11
Impedance	600 $\Omega \pm 20\%$
Dial	- pulse 28-200 : 20-200 ms - tone DTMF $t_t > 30$ ms
Supply conduction	symmetrical 24V
Current loop	max 38 mA
Resistance of subscribers conduction	max. 500 Ω
Ringing	55 V_{ef} / 50 Hz
Signalization	425 Hz ± 20 Hz

GSM:

mobile network	compactible for GSM 900 and GSM 1800
provider	according SIM card (3V and 1.8 V)

Service

waiting for dial after picking up	1 - 99 s or without restriction
waiting for last numeral of dial	1 - 15 s
dialling after set numeral number	dialling send after 1 - 19 numeral
dialling is send immediatelly	according setting # or \square
Checking of dialled numbers	9 memories for 4 digits fix
numbers	
Prefix dialling	1 memory for 4 digits prefix
ringing after inicialization	0,1 - 9,9 s or none
ignorating of dialling after picking up	0 - 9,9 s
disconnection of loop after call finishing	0 - 19 s



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Company is registered in the Commercial Register
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Banking details:

Komerční banka, account No. 43-7671450207/0100
IBAN: CZ0801000000437671450207
SWIFT: KOMBCZPPXXX

