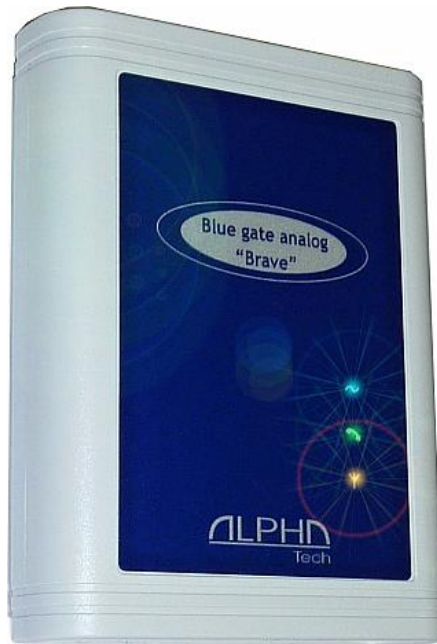


G S M G A T E

# Blue Gate A *Brave*



**Installation guide V 2.4**

## Basic features:

Blue Gate A Brave is dual band GSM Gate based on Telit GL865 equipped by a lot of adjustable features increased comfort of service. It has been designed for GSM network 850/900/1800/1900Mhz.

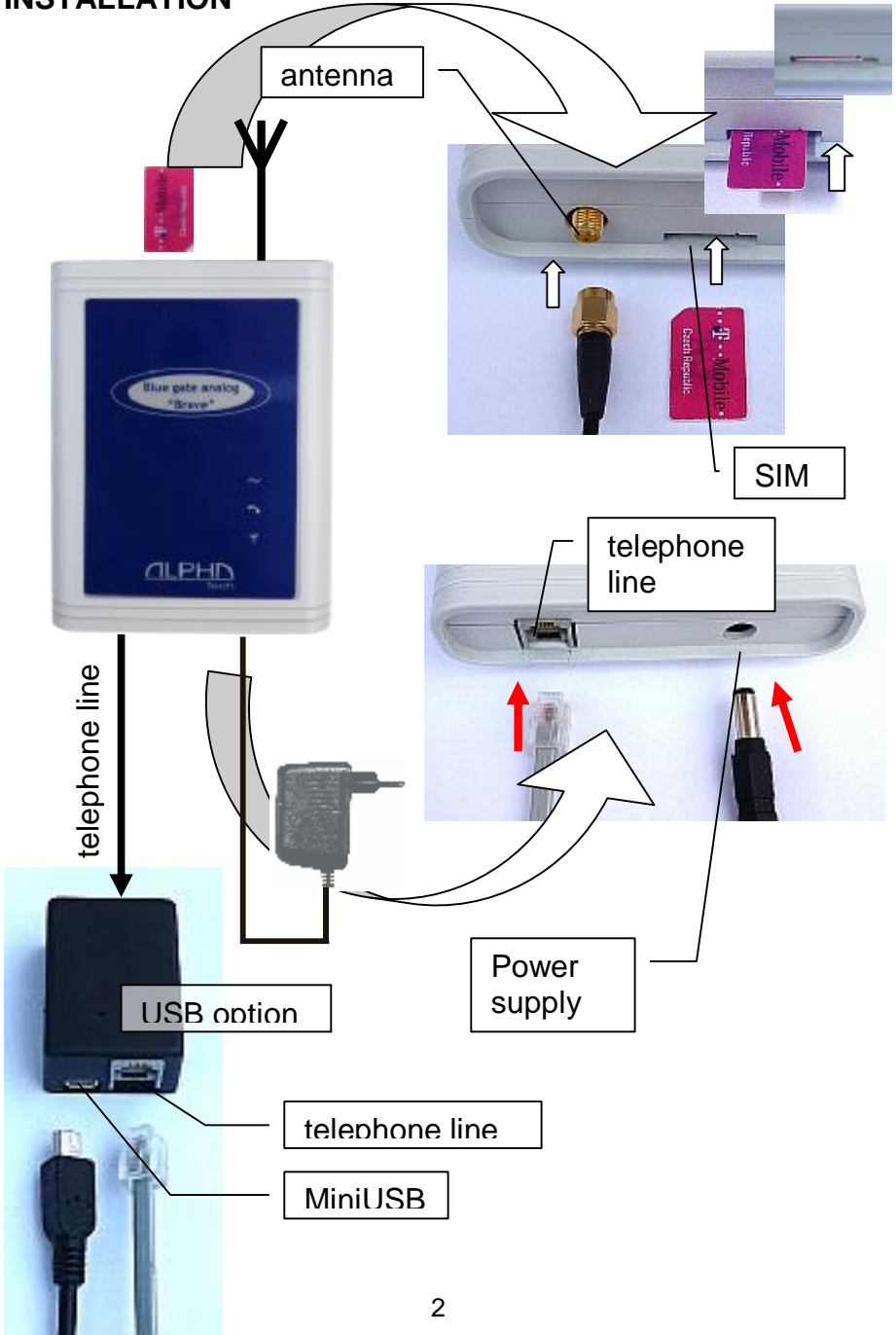
- Polarity reversal of telephone line allows exact detection of start and end of call.
- CLIP support all ordinary protocol.
- Call billing allows control exact call duration due tax pulses 12/16 kHz (1. pulse when outgoing call is picked up).
- Beeps in minute period into the call allows easy identification of GSM call.
- Monitoring system allows sending SMS to preprogrammed number when voltage of Back up batteries drops, unit is logged to GSM network, no picks up number of ringing called person/connected device doesn't react for ringing etc.
- Possibility of individual ECHO canceler setting up local conditions

### Options:

- Option USB port with PC software allows you easy configuration as same as sending and receiving SMS messages ( via SMS mail sw)\* or data transmission.
- You can add a backup battery for up to 10 h of operation at power failure.
- Sending of status SMS : 1-30 days (adjustable);
- 2 inputs with SMS sending feature when inputs status is changed (up settings);

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

# INSTALLATION



Insert the SIM card up the picture and by press fix it in operation position. **Before inserting the SIM card we recommend checking at various mobile phone state of the SIM card (logging with or without PIN, PIN, etc.) and set logging without PIN. When you want logging with PIN you have to preprogrammed this PIN and set logging with PIN (via table of programming). Without this setting the Gate wont work.**

**DO NOT FORGET ANTENNA CONNECTION!** The available place for installation select 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 yellow LED flashing on front of unit (via. Table at the end of manual). The suitable signal power is 3 scales of mobile graduation.

To check and find best position from GSM signal point of view you can use also GG SET ( configuration sw). More in manual for GG SET.

## ***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. Blue LED “feeding” lights up (via LED table) and starts flashing yellow GSM LED in rhythm of busy tone. After cca 30 seconds the yellow LED start flashing up GSM signal strength ( via LED table).When pick up connected analogue phone or call to BlueGate from PBX the LED of analogue line lights up (green LED). In the phone is hearing dial tone of BlueGate. It is ready to use.

## **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 BlueGate.
- The LED “power supply” lights. When you make connection to Gate green LED is ON and in handset you hear busy tone. Yellow LED flashing in period „GSM modul doesnt communicate with CPU“. During work with USB could be programmed fix communication rate for GSM modul. Use USB to programm rate on „autobauding“.
- The yellow LED flashing in period „PIN unreadable“. After calling to BlueGate you get 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 BlueGate you are hearing busy tone. BlueGate is not log into GSM network – bad signal.
- The yellow LED „communication to GSM,, is flashing up signal strength“. After calling to BlueGate is not light up green LED is not light up and 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 BlueGate).
- The yellow LED „communication to GSM,, is flashing up signal strength“ as same as green LED lights up. The PBX hold „pick up“ line of GSM Gate. By incoming call you can remove this issue. In other cases check PBX manual.
- The BlueGate works but call is disturbed by interference. Incorrect position of antenna against telephone line. Change antenna position.

*Note:*

Default you make by parametr 99 in programming mode (via programming table at page 11).

Alle LEDs flashing as same as tone types are mentioned in tables at the end of manual.

## **USB**

You can purchase USB tool for PC configuration of the unit. It is optional. This tool is connected via 6 wire cable to the units in middle of phone line. (via picture on page 2). You can control GSM modul directly via virtual COM port. 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 10 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 Expres, Opera etc. And you can work with SMS as with normal e mails. ( see manual for SMS mail). It works in batches and allows programm communication interval (1 to 99 minutes) to BlueGate for sending and receiving SMS. Due this we avoid situation that unit is permanentlky blocked by data mode for voice communication.

Further functionality of USB is monitoring BlueGate operation. It is possible record even incoming calls includes time and CLIP, signal strength, etc..

## 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:

- ① Dial 2 digits number of programming feature.
- ② Dial 1 to 4 digits number for feature value programming.
- ③ Wait for a tone of confirming request (3 short tones).
- ④ Confirm the feature by dialling acknowledgement (#)
- ⑤ Wait for confirming tone.
- ⑥ Follow programming tone again.
- ⑦ 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 parametres:

**11 - 19** When you programm some prefixes the BlueGate A Bravellows outgoing calls starts by those prefixes only. The others will get busy tone. When memories will be empty the calling wont be restricted (default). Memory of prefixes can content 1 digit only. If you insert 1 digit only the BlueGate will check first position only.

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.

**22** very important feature is acknowledge character setting. Default is #. When is # used for PBX features you can change it on \*.

**32,35** The GSM phones requested command to connection on inserted number. The BLUE GATE will send a command immediately after acknowledge character dialling (#).

**27,37** These parameters can be entered (if necessary) immediately after switching gates (Go into the programming mode in the busy tone - see note. 3 below). Without their setting, in some cases, may not be available SIM card (PIN, type of SIM card).

## **Notes:**

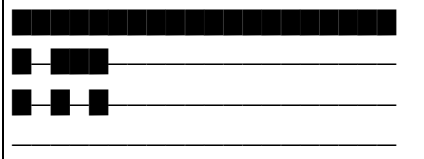
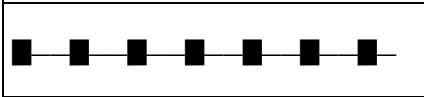
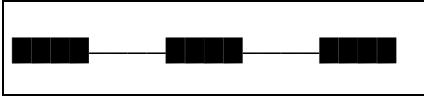
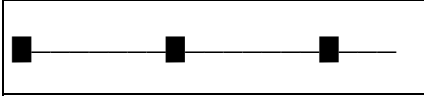
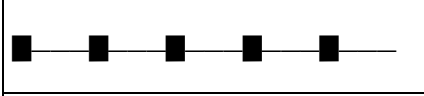
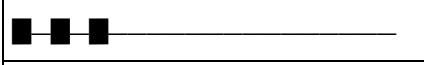
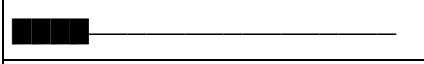
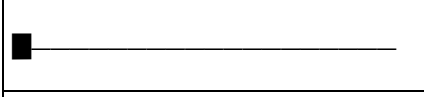
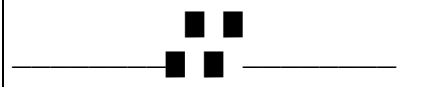
-  Changes are valid after hang up only (finishing of programming mode). It is very important especially in acknowledge character changes- till hang up you must use previous acknowledgement.
-  **After numbers dialing you must wait for confirming request , insert acknowledge character and wait for confirming tone. When you insert acknowledge charater before wont be accepted.**
-  Switch to programming mode is possible even in busy tone.
-  Some parametres are possible to programm by PC only

## Table of programming





















Dial number					Feature	Default			
0	0	n	n	n	Password nnnn to programming mode access	0	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			Reversal polarity n=0 OFF n=1 ON	0			
2	2	n			Acknowledge character setting n=0 - # n=1 - *	0			
2	3	n			Type of dial tone n n=0 – permanent tone n=1 – dial tone up table of tones n=2 - dial tone of public lines operator n=3 - quiet	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			Type of SIM card n=0 – SIM n=1 - USIM	0			
2	8	n			outgoing DTMF INBAND/OUTBAND n = 0 – INBAND DTMF n = 1 – OUTBAND DTMF	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 sec) (,00, waiting is not limited)	0	0		
3	5	n	n		Number of dialled numeral, after its is dial send immediatly (lenght of telephone number) nn=00 – function none active nn=01-19 – number of numeral telephone number	0	0		
3	7	n	n	n	Storing of PIN	1	2	3	4
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			

7	1	x	x	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	0	0		
7	2	n			Amplification of sound in incoming direction (1 to 4)	1			
7	3	n			n= 0 CLIP is switch OFF n= 1 FSK CLIP Bell	1			
7	4	n			Call progress tone n=0 – OFF n=1 - ON	0			
7	5	n			Roaming n=0 – prohibited n=1 - permitted	1			
9	9				Default setting				

## Table of tones

	<p><b>Dial tone (up setting)</b> Mini Gate is ready to accept dial</p>
	<p><b>Busy tone – short tone repeated</b> Called part is busy, doesnt exist, not permitted, etc..</p>
	<p><b>Ringing tone – long tone and pause repeated</b> Called part is ringing</p>
	<p><b>Waiting tone – short tone repated with quick cadence.</b> Mini Gate waiting for password insert</p>
	<p><b>Programming – short tone with quick cadence í</b> Programming mode of Mini Gate</p>
	<p><b>Confirmation inquiry - 3 short tones</b> Inquiry to confirm inserted parametr</p>
	<p><b>Confirmation tone – long tone</b> Parametr was saved correctly.</p>
	<p><b>Minute tone – short tone with 1 minute period</b> Minute beep to inform about GSM call.</p>
	<p><b>Call progress tone – short tones 3 s after sending number to GSM</b> Searching of called part.</p>

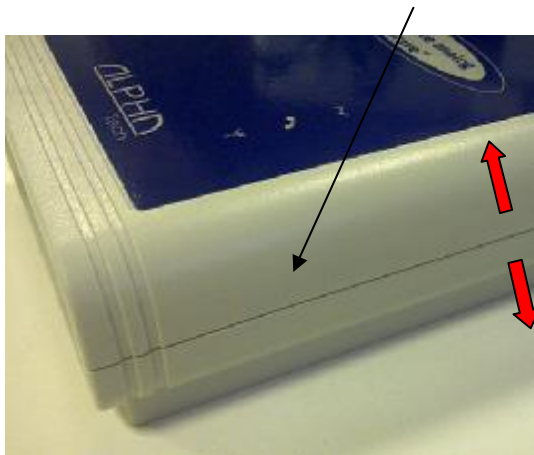
# LED signalling

		<p><b>Permanent light</b> (lights up after power connection) Power supply of GSM unit</p>
		<p><b>Permanent light</b> line OFF HOOK</p>
		<p><b>Doesnt light</b> line ON HOOK</p>
		<p><b>Flashing in rythm of busy tone</b> Programming or PC connection mode</p>
		<p><b>Flashing in rythm of busy tone</b> Initialization mode after power supply connection, restart after programming etc..</p>
		<p><b>1- 5 flashes with period 4 sec.</b> stand by mode. Number of flashes = signal strength</p>
		<p><b>Permanent light</b> GSM connection is running (call)</p>
		<p><b>Short lights off with period 2 sec.</b> GSM modul doesnt communicate to CPU</p>
		<p><b>Flashing in period 2sec</b> SIM is not readed</p>
		<p><b>Short flashes in period 2 sec.</b> Gate is not registrate to GSM network</p>

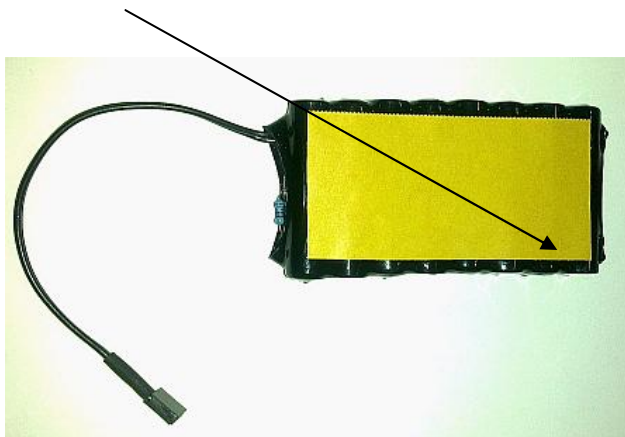
## ACU pack installation

Backup battery 9.6 V/800mAh

1. Open Gateway cabinet



2. Remove cover of glue tape at bottom part of ACU pack



3. Fix the ACU pack into Gateway cabinet. CAUTION for holes for signalling LEDs! DO NOT COVER!



4. ACU pack must be supplied in charged up status. Start the gateway first and wait for network log in. Then connect cable from ACU pack to appropriate connector..



5. Close the gateway cabinet and leave ACU charged up at least 2 hours without power supply disconnection.



## Technical parametres:

Type	BlueGate A Brave
Operating position	various
Operating conditions	temperature: $-20^{\circ}\text{C} \div +40^{\circ}\text{C}$ , humidity: $10\% \div 80\%$ at $30^{\circ}\text{C}$
Dimensions (mm)	100mm x 130mm x 37mm
Weight	

### Part of power supply

Power supply	( adapter) 8-12VAC/DC, 500mA
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	tone DTMF $t_t > 30\ \text{ms}$ outgoing INBAND/OUTBAND
Billing	12/16 kHz
Start and end of connection	Polarity reversal

Supply conduction	24V
Current loop	max 29 mA
Resistance of subscribers conduction	max. $500\ \Omega$
Ringing	$55\ \text{V}_{\text{ef}} / 50\ \text{Hz}$
Signalization	$425\ \text{Hz} \pm 20\text{Hz}$

<b>CLIP</b>	FSK Bell
-------------	----------

### GSM:

mobile network provider	Quad-Band 850/900/1800/1900Mhz according SIM card (3V and 1.8 V)
-------------------------	---

<b>USB</b>	version 1.1, virtual COM
------------	--------------------------

## Functionality:

- Waiting for dial after pick up 1 - 99 sec or unlimited
- Waiting for last digit of dial 1 - 15 sec
- Dial after preprogrammed number of digits 1 - 19
- Immediate dial sent up setting „#“ or „\*“
- Permitted direction ( 9 memories of 4 digits numbers)
- CLIR
- CLIP
- Call billing ( tax pulses 12/16 kHz)
- outgoing DTMF INBAND/OUTBAND
- Reversal polarity ( start and end of call)
- Roaming ON / OFF
- Call duration control
- Time beeps in call
- GSM signal strength identification
- Sending of preprogrammed SMS to preprogrammed number after voltage drops under setup level and taking longer time than setup time
- Sending of preprogrammed SMS to preprogrammed number at every logging to GSM network
- Sending of preprogrammed SMS to preprogrammed number when number of none picks up rings into connected device ( incoming call) is higher than setup level
- Sending of preprogrammed SMS to preprogrammed number when inputs status is changed ( optional board) taking longer time than setup time
- Periodical sending of status SMS in preprogrammed time period 1-30 days. SMS includes: time and date of sending (time setup on gateway clocks), GSM network status, power supply voltage, GSM modul temperature, last call number.



**ALPHA**  
Tech

**Alphatech spol. s r.o.**  
**Jeremenkova 88**  
140 00 Praha 4  
**tel. 272 103 335, fax. 272 103 334**

e-mail: [alphatech@alphatech.cz](mailto:alphatech@alphatech.cz)  
internet: <http://www.alphatech.cz>

naše souřadnice GPS (WGS 84)  
N 50°02'35.5" E 14°25'42.0"

15.1.2013