

version 1.02



APEXS, INC.

Applied Expert Systems & Software, Inc.

We put technology to work for you

GH3000

Quick-Start user manual

www.apexvalue.com

en

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This chapter introduces the device and helps to start its use quickly. Also, you will find out how to configure the device using SMS messages.



Product introduction Quick start guide

Welcome!

Thank you for purchasing our device!

We hope it will satisfy your expectations and you will enjoy its particular features.

Please, find several minutes to read this document before beginning work with GH3000.

1. Preface

1.1 Introduction

Gh3000 is a device with built-in functions characteristic of a mobile phone and an integrated A-GPS receiver. This device is intended for the surveillance and protection of people, cargo and objects. The A-GPS receiver may define the current location of the device and sends this data to a person in charge or the operation center.

1.2 Protection of copyrights

All rights protected. ©2012 Apexs, Inc.

All rights are owned by the author. You may not copy, compile or transfer the present information to third parties or distribute it without a prior written consent by Apexs, Inc.

Other products and company names mentioned in this Manual may be trademarks or names of products of such companies.

1.3 Contacts

In case you have problems with the use of the product beyond your possibilities to solve it, please address them to the Technical Assistance Center (TAC) by e-Mail apexsinc@mozcom.com. It or contact your local seller. We would be pleased to be of any assistance to you.



Notice!

Apexs, Inc. recommends to read User Manual carefully. Apexs, Inc. does not take any responsibility for problems that occur due to an inappropriate usage of a device, incorrect configuration or usage of software that was issued by a third party.

Apexs, Inc. reserves a right to modify the functionality of the device without any prior notice.

2. General information

2.1. Package contents

- 1 x Handheld A-GPS/GSM Tracker GH3000
- 1 x Li-Ion 1050mAh battery 3.7V
- 1 x USB - micro USB cable
- 1 x 230V to 5V USB charger
- 1 x SETUP CD with User's Manual and software
- 1 x Printed User's Quick-Start Manual
- 1 x Mini screw driver
- 1 x Neck strap



Notice!

The manufacturer's set does not include any SIM card which is necessary to connect to the GSM network. A SIM card can be acquired from your local supplier of GSM services.

If any part is missing in the set, please contact the representative of the manufacturer or dealer (www.apexvalue.com).

2.2. Defaults

The device automatically logging its position into the memory and has other default configuration.

Periodical logging interval - every 600 sec. (10 min.)

Alarm duration time - 300 sec. (5 min.)

Alarm SMS sending interval - every 60 sec. (1 min)

Track logging Interval then Alarm is active - 5 sec.

SMS tracking Interval - every 600 sec. (10 min)

Time in the SMS messages - GMT (+0:00)

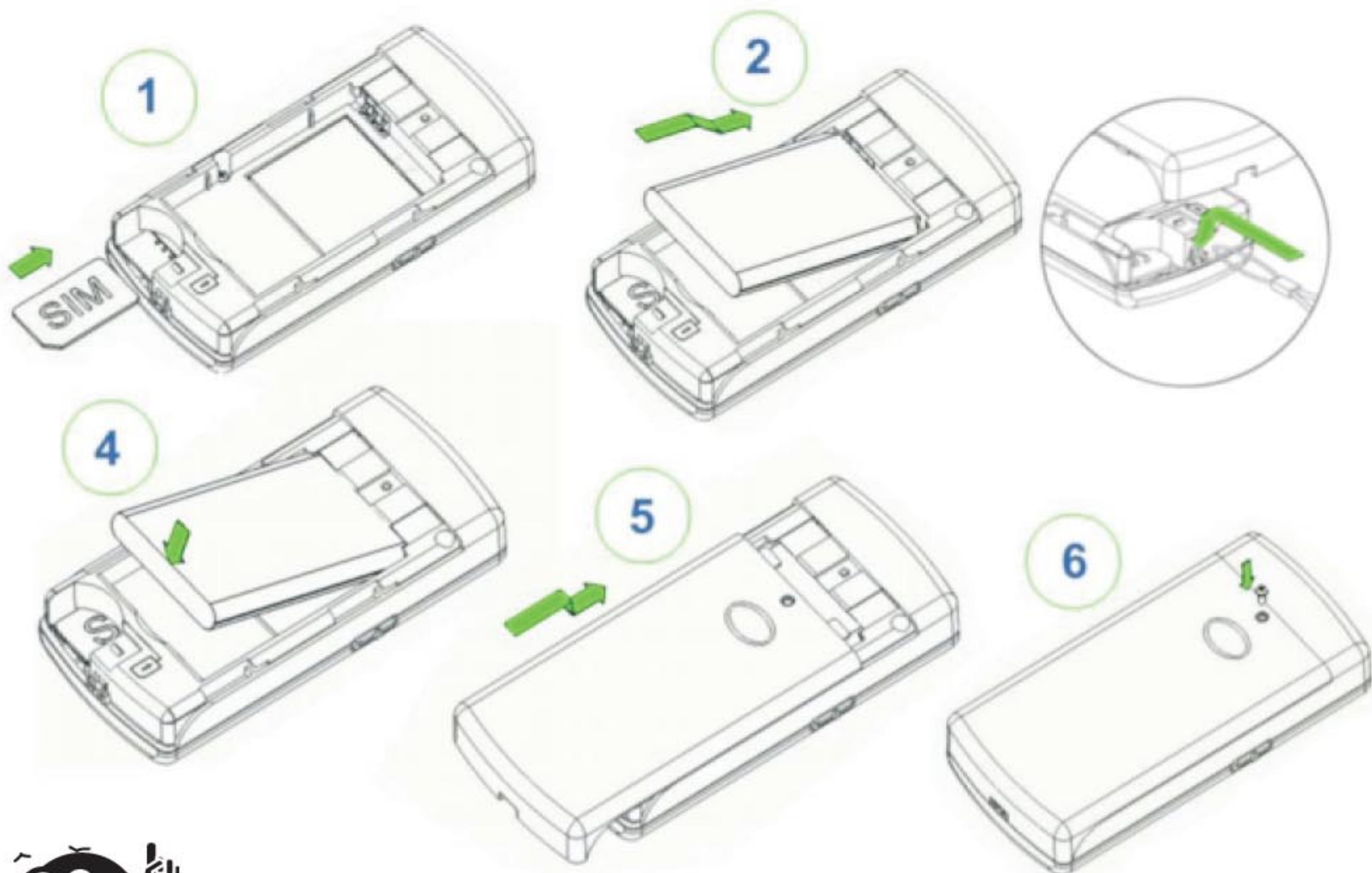
Ringling melody - Pink Panther

Low battery alarm messages - then 30%

3. Getting started

3.1 Insert SIM card, battery and neck strap

All SIM cards must be kept in a safe place. You may request your SIM card supplier to provide SIM cards and information about the use of SIM card-related services. The supplier may be a service supplier, a network operator or another seller. The SIM card must be inserted in the way as set below.



Notice!

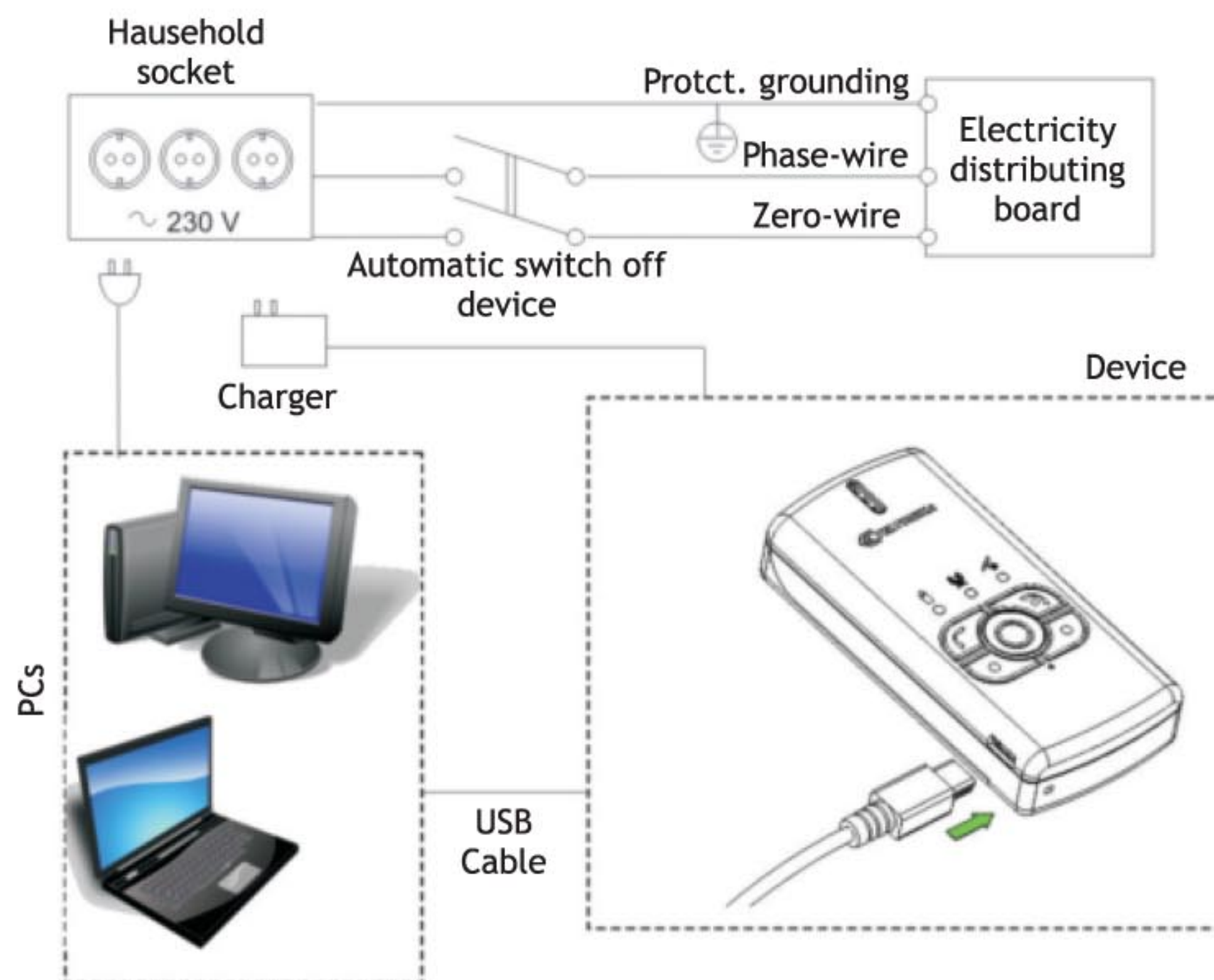
Before removing the cover, switch off the device and disconnect it from the charger or PC. The device must be always kept and used with a cover and the screw screwed tightly.

If an unsuitable SIM card has been inserted or the device fails to detect it, the device will reload automatically and tries to start the connection anew (if SIM card is not inserted the device will reloads three times). If the reconnection fails, the device will show it by its indicator. If the card has been inserted later, the device must be switched off and switched on again or has to be reloaded.

3.2 Charging the battery

Just connect the charger and the device by using an USB cable and plug the charger in the alternating current wall socket. After the device is connected to the PC or alternating current wall socket, the battery charging will start. Charging is indicated by the indicator.

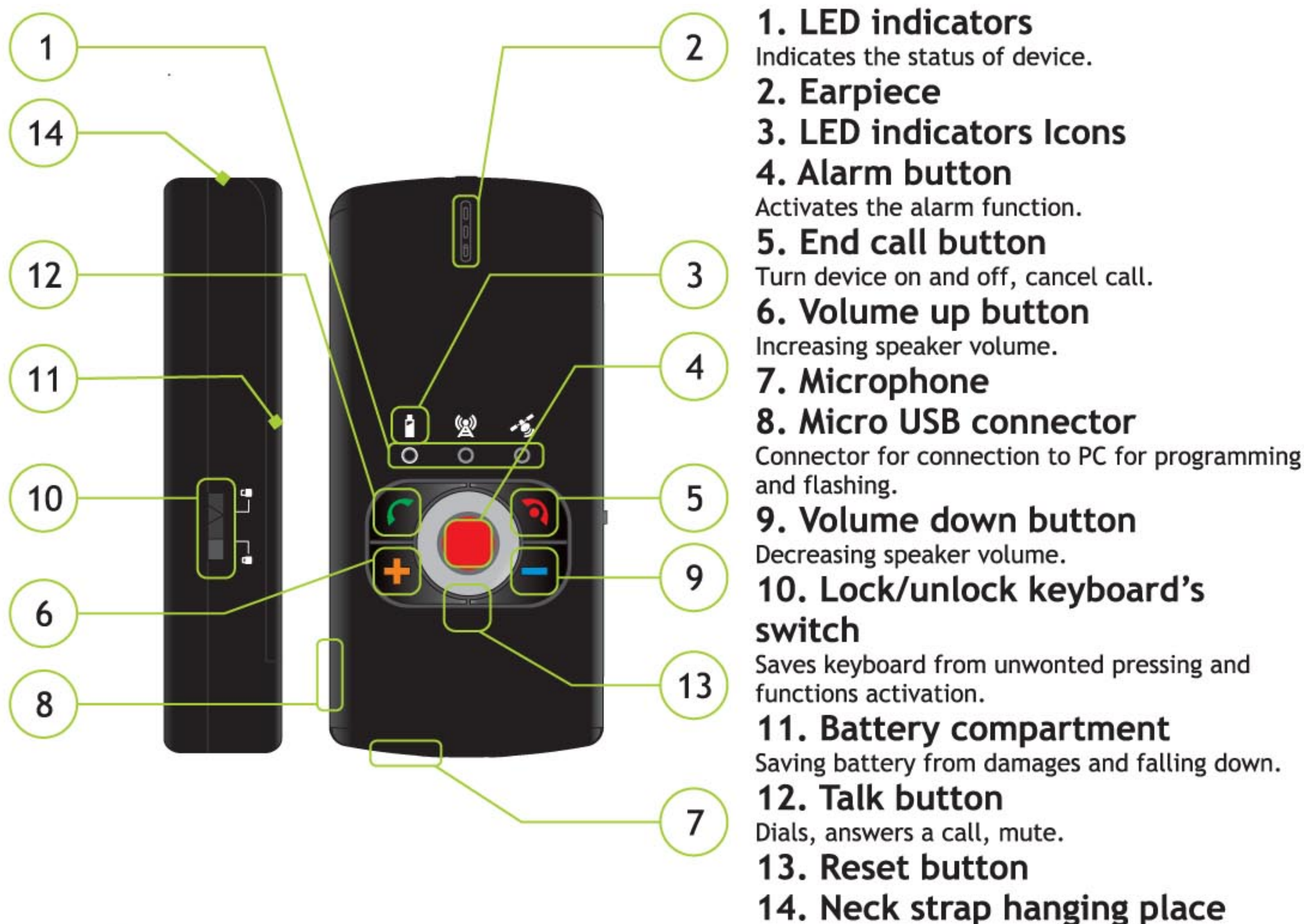
By connecting the device to one of the USB connectors of a PC or by using the 230V - 5V charger available in the set, it is possible to charge the internal battery of the device. For the first time it is advisable to charge the battery using the 230-5V charger (not via PC). The common charge time for the battery is less than 3,5h.



Notice!

Only approved batteries, chargers and supplements supplied by APEXS should be used with this device. By using other sorts of batteries, chargers and supplements you risk to be deprived of all guaranties and it may also be dangerous for you and your environment.

4. Getting to know the device



4.1 Turning device on

If you wish to turn on the device, push the (5) button and wait few seconds until green battery LED turns off. After that device will vibrate shortly and play melody. If device will not turn on, check lock/unlock (10) switch, it should be unlocked or charge the device battery.

4.2 Turning device off

If you wish to turn off the device, push the (5) button and hold until battery LED (1) indicator starts light red and green at the same time, release the button and device will switch off.

5. Quick configuration via SMS

Quick configuration allows to configure your device without any connection to the PC, just send simply SMS messages to the device and it will be ready to work.

If configuration message is correct device will answer you confirmation SMS message back, otherwise it will not answer at all. The separator of commands and parameter values is the space bar.

5.1 Change configuration password

Before start configuring the device you need to create your own configuration password or leave it by default. To create your own configuration password is not necessary but recommended.

Default configuration password is "0000". For creating configuration password use only (aA-zZ) and (0-9) symbols.

```
psw<old configuration password> ch<New configuration password>
```



Example: psw0000 ch1111

Result: before password 0000 after 1111

Notice!

Remember your created password, otherwise you will not be able to change any configuration parameters of the device.

5.2 Change time and time zone

If the device never had a coordinate before, the default time in the device will be incorrect (2007 01 01). To synchronize internal time you need to get a first coordinate. Put the device for a few minutes on the open sky and wait until GPS indicator starts flashing twice at a time. After synchronization device time will be GMT(00:00). To set your local time send SMS message:

```
psw<configuration password> gmt<+-number>
```

Example: psw0000 gmt+2

Result: before GMT time 10:23:22 after local time 12:23:22

5.3 Change periodical data logging

By default device is logging its position in the memory every 10 minutes (600s). You can change this time by sending simple SMS message

```
psw<configuration password> t<time (sec)>
```

Example: psw0000 t3600

Result: Logging interval before 600s after 3600s

5.4 Change Alarm settings

There are three alarm methods in which device can work: m1-SMS method, m2-Call method and m3-GPRS or SMS method. For more description about these methods please read the manual.

```
psw<configuration password> alarm <method> t<alarm duration time> <Phone numbers>
```

Attention! Alarm duration time will be set in seconds. Phone numbers can be set up to five.

Example: psw0000 alarm m1 t3600 +37066600000

Result: Alarm method: SMS, duration time: 3600s, Alarm SMS destination number:+37066600000

There are two possibilities to delete numbers from alarm number list, one of them is to delete all numbers which are in the list.

```
psw<configuration password> alarm del
```

Example: psw0000 alarm del

Result: alarm number list is empty

And second one is to delete phone numbers separately.

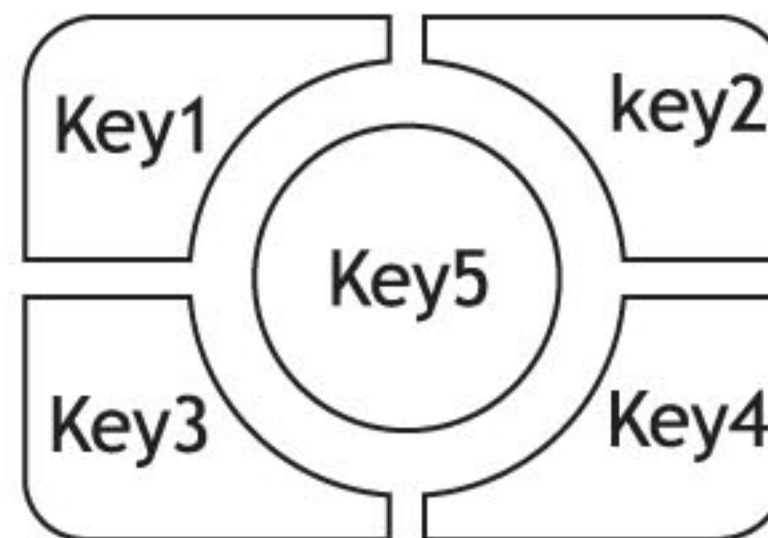
```
psw<configuration password> alarm del <phone number>
```

Example: psw0000 alarm del +37066600000

Result: removed +37066600000 number from alarm phone number list

5.5 Change keyboard settings

Every key on the device keyboard have the number and can be configured call to set phone number. By default key1, key2, key3 and key4 does not have set any function. On the Key5 is already set alarm function.



```
psw<configuration password> key1 <phone number>
```

Example: psw0000 key1 +37066600000

Result: before key1=none after key1=+37066600000

5.6 Change Man-down settings

For enable or disable this function can be used quick configuration SMS messages.

```
psw<password> mandown <on/off>
```

Example: psw0000 mandown on

Result: Man-down function enabled

Example: psw0000 mandown off

Result: Man-down function disabled

5.7 Change parking settings

The minimum radius of parking zone is 200 meters. If you use configuration message without radius, device will set radius as is default or was set last configuration.

```
psw<password> park on r<radius >  
psw<password> park on
```

Example: psw0000 park on r280

Result: parking function enabled parking self geofence zone 280m.

Example: psw0000 park off

Result: parking function disabled

5.8 Change GPRS settings

Use the simple configuration SMS message to configure all necessary parameters of GPRS connection to the server.

Information about your SIM card connection authentication type, APN (Access point name), user name or password can be acquired from your local supplier of GSM services.

The authentication type can be: 0-none, 1-pap, 2-chap.

```
psw<configuration password> gprs sp<send period in sec.>
ip<IP> p<PORT> apn<authentication type>,<Access Point
Name>,username,password
```

*Example: psw0000 gprs sp60 ip127.0.0.1 p8080
apn2,bigcompany.mnc012.mcc345.gprs,internet,mywap*

Result: every 60s device will connect to the server and sends data from the memory. The server data is set: IP: 127.0.0.1 port 8080. GPRS connection settings: connection authentication type-PAP, access point name: bigcompany.mnc012.mcc345.gprs, user name: internet and password: mywap

If the server is not required password or user name you can be send such the SMS message:

```
psw<configuration password> gprs sp<send period in sec.>
ip<IP> p<PORT> apn<authentication type>,<AccessPointName>
```

*Example: psw0000 gprs sp60 ip127.0.0.1
p8080 apn2,bigcompany.mnc012.mcc345.gprs*

Result: every 60s device will connect to the server and sends data from the memory. The server data is set: IP: 127.0.0.1 port 8080. GPRS connection settings: connection authentication type-PAP, access point name: bigcompany.mnc012.mcc345.gprs



Notice!

Please pay attention the parameters after the **apn** should be written without empty symbol (space bar)

5.9 Battery notification

If you need to be informed about the battery charge level turn on the battery notification function. By default this function is activated and you need to set the messages destination number only. To perform that write the message within the text:

```
psw<password> battery on <Phone number>
```

Example: psw0000 battery on +37060011111

Result: device will send SMS message then the battery charge level becomes less than the level is set.

if you want to turn off the notification, send the SMS message within the text:

```
psw<password> battery off
```

Example: psw0000 battery off

Result: device will stop sending notification about battery charge level.

5.10 Restore to factory default

If your device are not work as you want or have been set up and you do not remember what you have done, do not worry, just restore the factory defaults and try again. The restore can be done by SMS within text:

```
psw<password> restore
```

Example: psw0000 restore

Result: all parameters restored to factory defaults.

6. Device monitoring

6.1 Review device location on the map

Step 1 Download *Google Earth* from internet. The program can be found in <http://earth.google.com/download-earth.html>. Or just open your internet browser and type <http://maps.google.com> or <http://maps.live.com>.

Step 2



Send SMS request (Fix?) to get location of the device from your mobile phone. Be sure your device is in the open sky, otherwise device will fail to find its location.

Step 3



Read received SMS message and find out the word *Fix: <numbers>*. These numbers are your device location co-ordinates. If instead numbers is N/A, that means device failed find its location.

Step 4

Open installed *Google Earth* program and in the left size of window find out the field *fly to*. In this field enter the coordinates you got from device and press a button *Begin search*. If you use maps on the browser just type the coordinate into the search field and press a search button, after few seconds you will see your device location.

This chapter describes how the device function works, how to use device safely and how to install *Track Assistant*, what is the system requirement and what function parameters you can change using this software.

We can much
more

7. For your safety

Please read these basic explanations. In disregarding them you may face danger or trespassing of existing laws. In case if you wish to have more information, please read the concise user manual.

7.1 Switch on safely

Do not switch on the device where it is prohibited to use a mobile phone or when such use may cause disturbances or danger.

7.2 Safe traffic is the most important

Do not infringe local legislation. When driving, use your hands for driving the car only. The most important thing you have to think of when driving is the safety of the traffic.

7.3 Disturbances

All wireless equipment may be sensitive to disturbances which may have effect on its operation.

7.4 Switch off in hospitals

Follow all restrictions. You might need to switch off when being in the vicinity of any medical equipment.

7.5 Switch off in the means of transport

Follow all restrictions. Wireless equipment may cause disturbances in air traffic.

7.6 Switch off when fueling

Do not use the device in petrol stations. Do not use it in the vicinity of fuels or chemicals.

7.7 Switch off when being in the vicinity of places of explosions

Follow all restrictions. Do not use the device at places where explosion works are carried out.

7.8 Prepare your computer

Chargers, personal or portable computers to be connected to the device must comply with the requirements of DIN EN 60950-1:2003.

7.9 Use only the batteries supplied by the manufacturer

If a battery of an improperly sort is inserted, there is a possibility for explosion or other harms.

7.10 Use the battery safely

Ensure that the battery doesn't have a contact with water. When storing, keep the device in a cool, dry place.

Ensure that the battery and device are not exposed to hot surfaces or direct sunlight.

When transporting, ensure that the battery is safe from metal articles and do not keep it with metal rings, chains, etc.

Do not damage the battery with nails or sharp objects.

Do not try to charge the battery directly from a household socket. This may lead to explosion or other harms.

7.11 Safely disconnect the device

The device may be disconnected from the PC or charger by pulling out the USB connection from the computer USB socket or by pulling out the micro USB connection from GH3000.

To avoid mechanical damages, it is advisable to carry the equipment in a blow-proof package.

The operation environment of the device has effect on its communication quality. If the operation of the device has been disturbed, only qualified maintenance staff may do the repair. It is recommended to deliver the device to a repair center or back to the factory.

Power supply chains available at a place used for connecting GH3000 must have safety devices (automatic bipolar switch off devices) which protect from power supply excess, short circuit and failure of grounding. The switch off device must be installed at a place which is easy to access. Its power must be consistent with the power of the connected device, and the distance between the contacts must not be less than 3 mm.

8. Installing software

Drivers and software necessary for installing are written on a SETUP CD disk supplied with the device. We recommend checking www.apexvalue.com for software updates. The software version indicated on the splash screen.

Minimum system requirements	
Operating Systems (OS):	MS Windows XP SP2/Vista
Disk space:	20 MB
Minimum screen resolution:	1024 x 768 (Full Screen)
Windows Installer	3.0
Microsoft.Net Framework	v.2 (SP2)



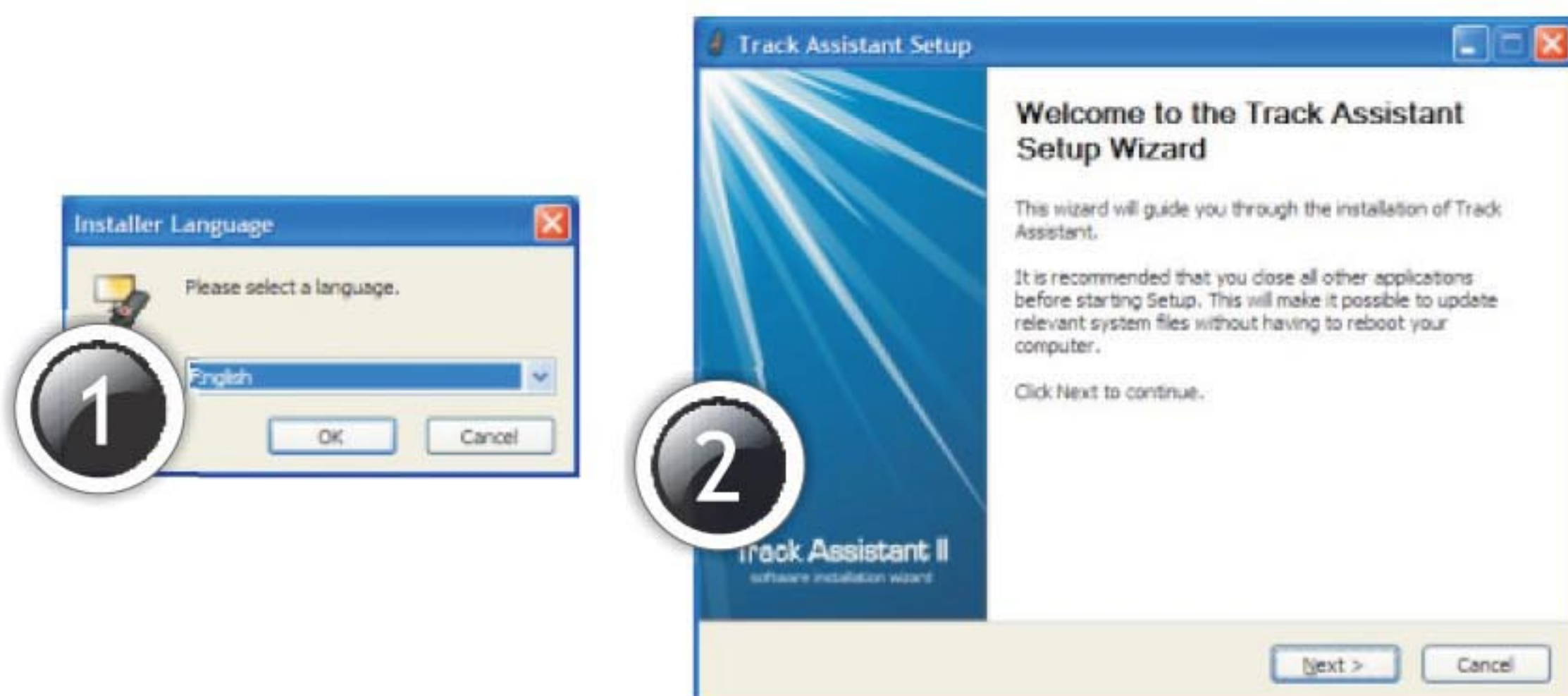
Notice!

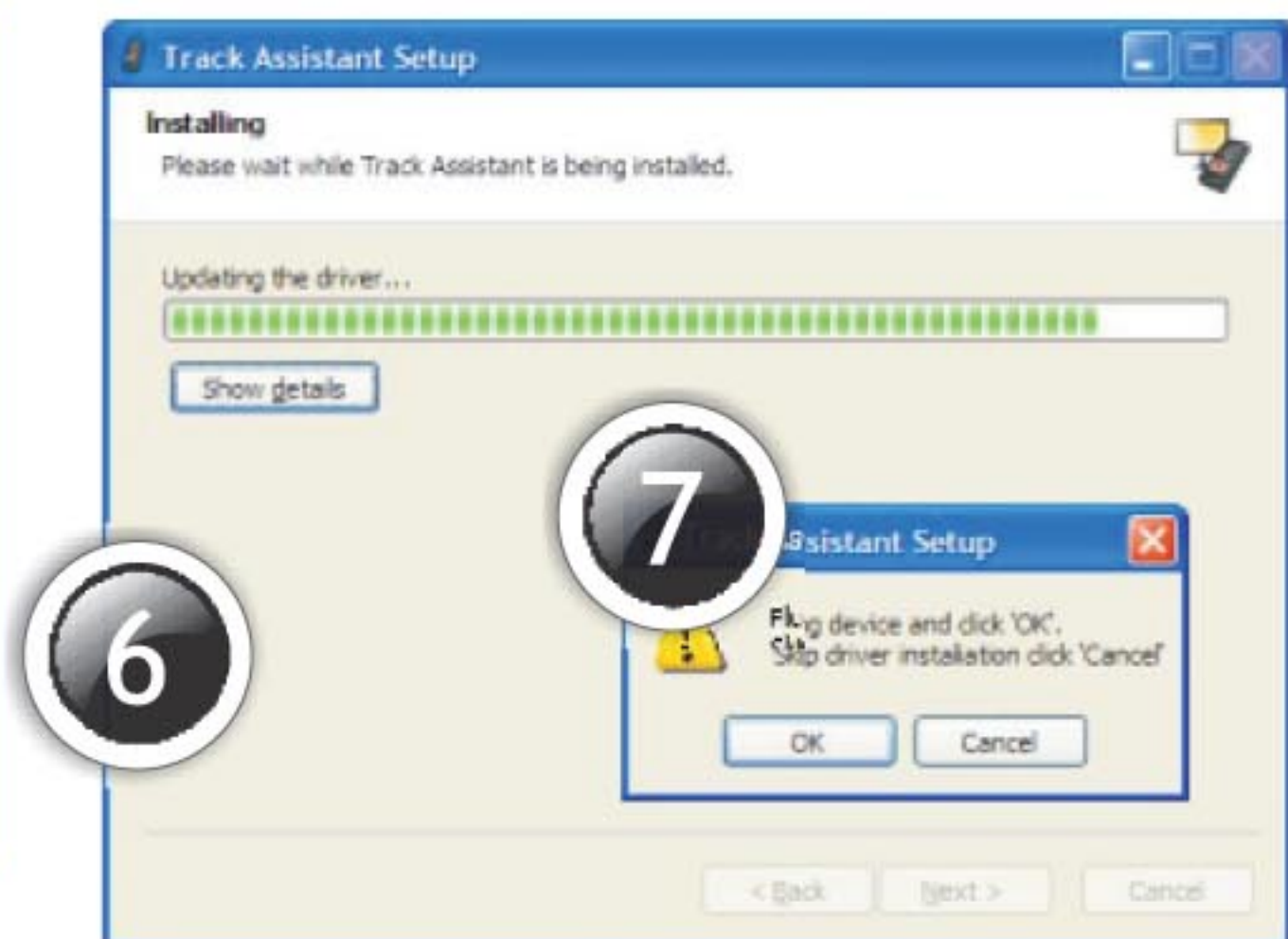
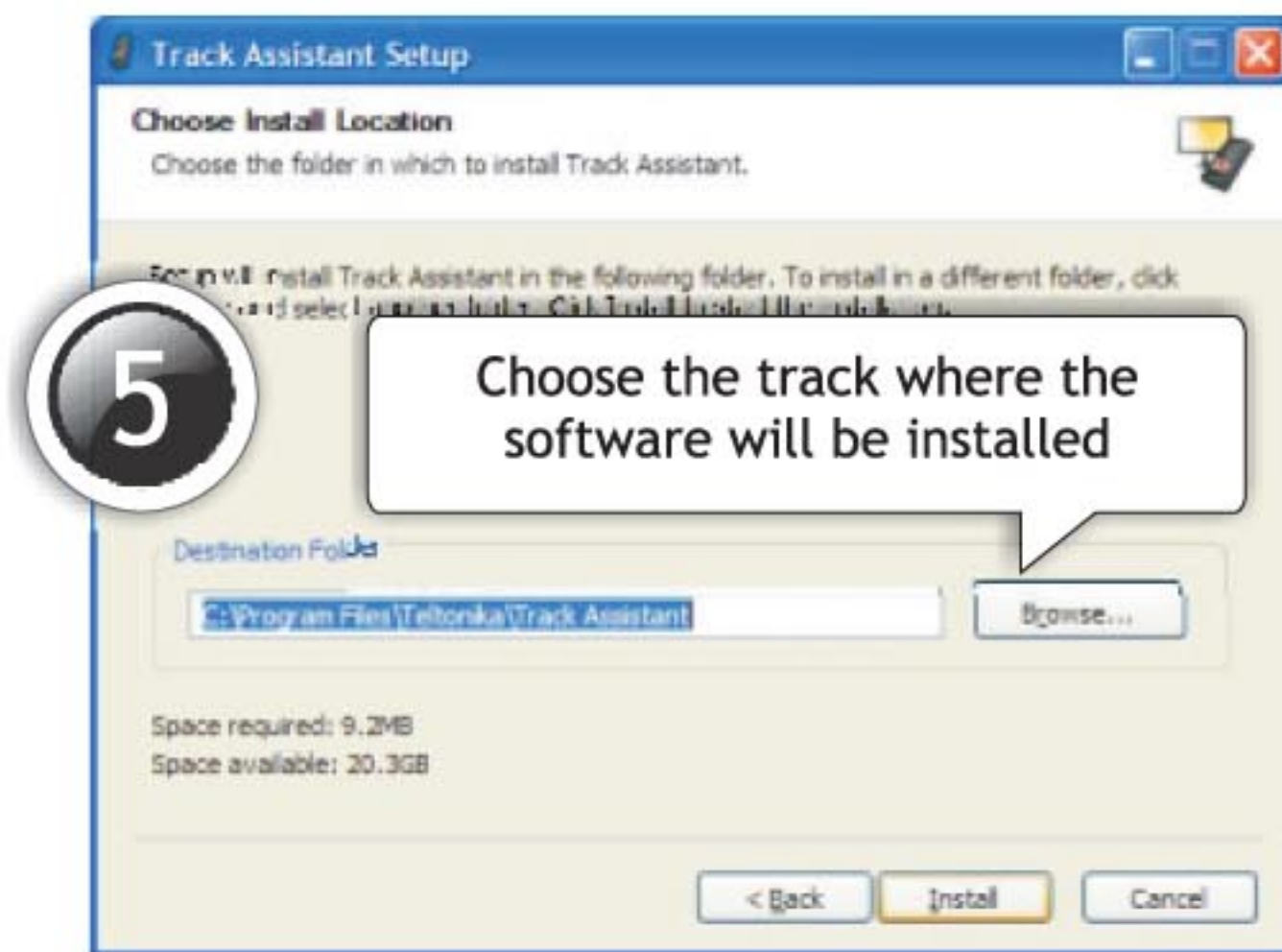
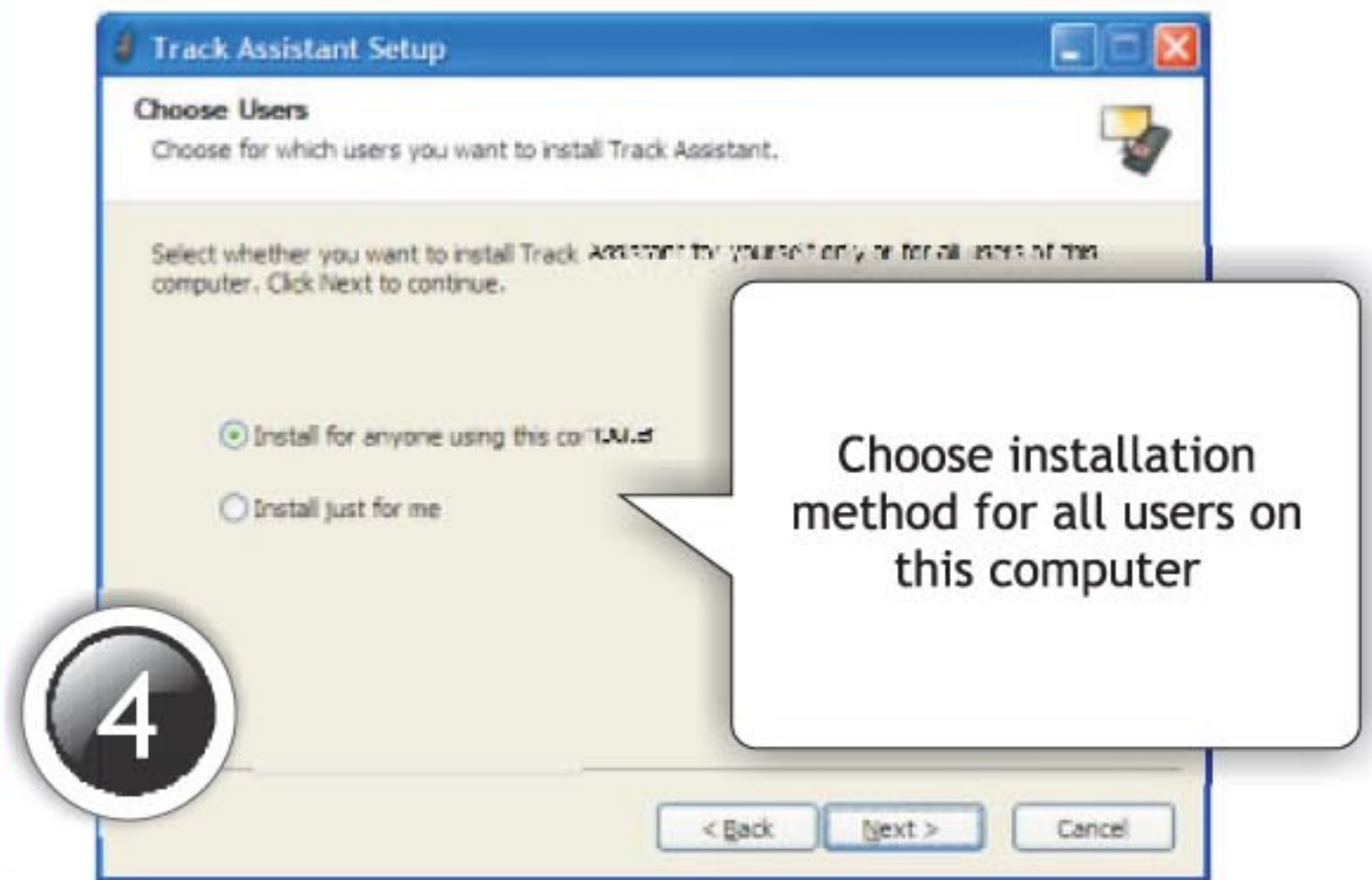
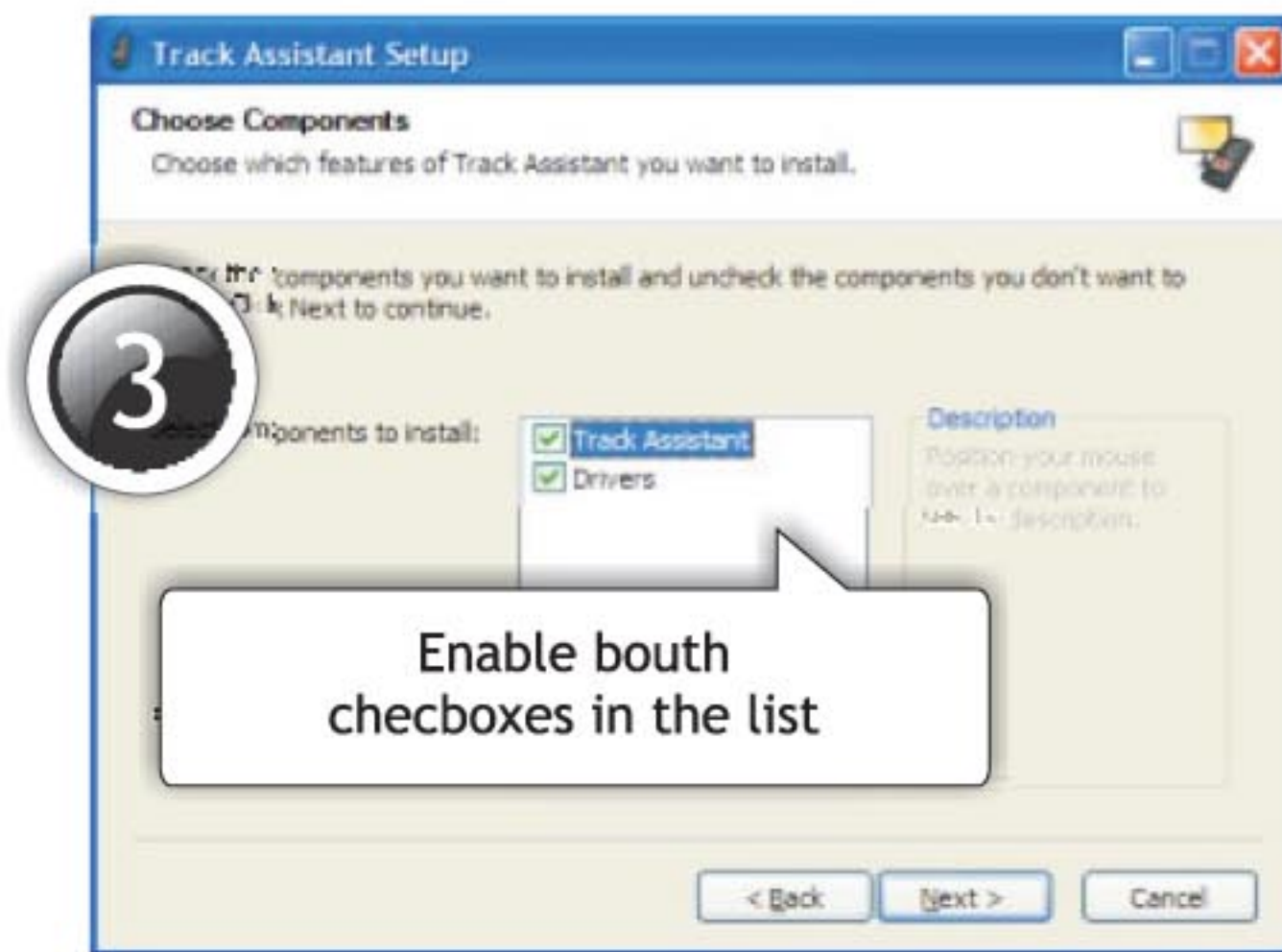
We are currently working on the support of additional OS. Please contact us or your local seller for further information.

9. Connecting to a PC

Before connecting the device to the PC it is recommended to install Track Assistant program at first.

Insert the CD into the CD drive on you PC. The installation wizard will start automatically in several seconds. You will be able to choose your local language on the first window.



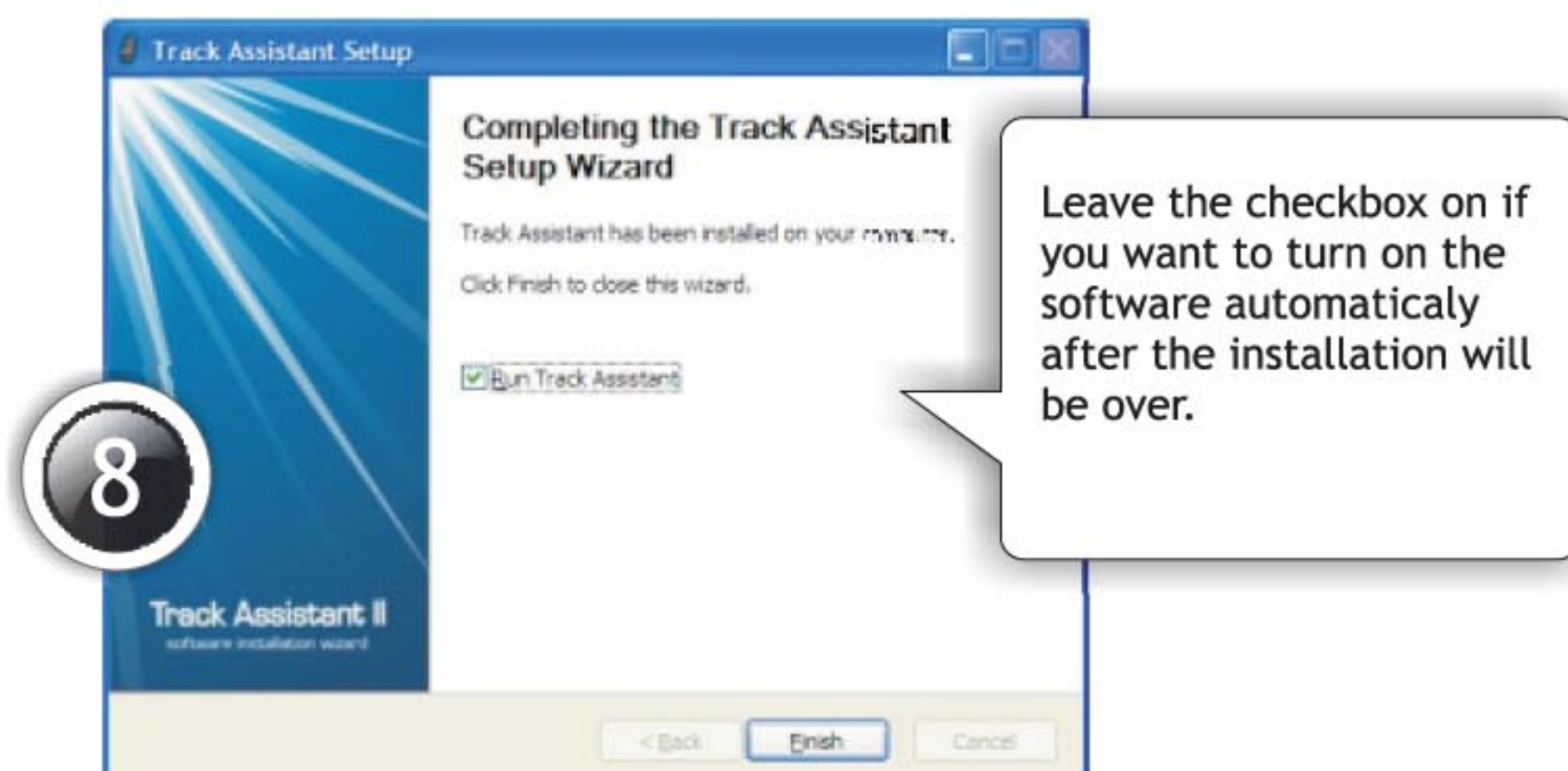


At the end of installation the wizard will ask you to connect the device to your PC.

Connect to a stationary or portable computer by using an USB data cable and press *OK*. If the installation wizard displays the Hardware Installation dialog box press the button *Continue anyway*.

If you do not have the device at the moment press *cancel* and continue installation without a device.

If the device was switched off before connection to the PC it will switch on automatically.



10. Alarm function

Alarm function - sends alarm data via GPRS, calls or sends special warning SMS messages to more than one set phone number. When the Alarm function was activated device starts searching its location all the time. Being in that mode, device is trying to get most accurate track. That is why the power consumption is the biggest.

10.1 Alarm function activation

Alarm function can be activated by pressing a button (4) (*ch. Getting know the device*) or automatically by the some events which can be generated by the moving sensor.

10.2 Alarm configuration

To configure Alarm warning you need to know three basic alarm warning methods: SMS, cycle call, GPRS or SMS. The simplest Alarm configuration can be made in two ways: using quick configuration SMS messages (*ch. Quick configuration*) and *Track assistant* software.

All the alarm methods have their own parameters, but there are a few basic parameters that are required for all methods.

Basic parameters

Alarm duration time - the device working time after activation of the alarm mode, *Alarm track logging period* - period, how often the device will write the coordinates in the memory, *Pre-alarm time* - the time until the alarm will be activated.

Cycle call method

To configure this alarm method you need to create phone number list.

No answer time - when alarm is active, device will call to the first number in the list. If this number is busy or did not answer after time is reach, device will terminate this call and starts calling to the second number.

Conversation time and conversation overtime - if the call will be answered device starts counting conversation time. Then the conversation time will be reach device will make a warning notification and starts counting *Conversation overtime*. Then the conversation overtime will be reach device will terminate the conversation and starts call to second phone number.

Time for alarm stop - if the conversation time or overtime will be braked before the conversation time is reached device will start waiting request for call termination or completely alarm stopping. When the time for waiting request will be reached device starts call to second phone number in the list.

GPRS or SMS method

To configure this alarm method you need to set up data logging period, alarm duration time, SMS messages sending period and create phone number list.

Basically this method works only with GPRS, SMS method helps if there arise some problems with server or GPRS and transferring data to server becomes not possible. In that case device starts sending SMS to the recipients added in the list until GPRS starts working again.

SMS method

Similar as in the *GPRS or SMS method* you need to set up data logging period, alarm duration time, SMS messages sending period and create phone number list.



Notice!

Parameters conversation time, overtime and time for alarm stop are made to escape the fake situations such as unlimited time for a voice mail, or operator notification about turned off mobile phone, or out of GSM coverage.

11. Call function

11.1 Call function configuration

Before make a call from device, you need to set up the phone number on device keyboard. It can be done in two ways: send quick configuration SMS message (*ch. Quick configuration*) or use *Track assistant* software. In the possible keyboard functions list chose function *Call* and enter the phone number.

11.2 Call function activation

When the configuration is made press the button you configured and device starts calling. The call process will be indicated by LED indicators.

11.3 Answer incoming call

The incoming call is indicated by LED indicators and the ringing tone. To answer incoming call simply press button (12) and you will start conversation.

12. Modem emulation function

Device can be connected to the PC through the USB port and after activating modem emulation function, it can be used as normal GSM/GPRS USB modem. When this function is activated the device can be controlled by AT commands. Connect to the internet, transfer or receive the data.

12.1 Modem emulation function configuration



To activate modem emulation function you need to set up this function on the button. To perform this, use Track assistant software.

Note!

If the modem emulation mode is enabled the device functions that worked before does not work anymore. Turn off the modem emulation if you want to use them again.

12.2 Modem emulation function activation

When the configuration is made press the button you configured and device enters into the modem emulation mode. When the device is working in modem emulation mode process will be indicated by LED indicators. To turn off this mode press configured button.

13. Geofence function

A Geofence is an area set up with invisible boundaries to monitor movement of your assets. Device will inform you about movement into and out of an area by special SMS message. This function will be activated when the configuration will be written into device.

13.1 Geofence function configuration

To create your geofence zone you need *Track Assistant* software. A geofence zone can not be configured by SMS. Geofence zone can be circle or polygon. Maximum number of any type of zones can be created up to 50, maximum corners of polygon is 10.

The maximum number of phone numbers to which the device will send SMS messages is 2.

If the device will detect that the zone is crossed, it will send SMS message to the numbers filled in the *Notify numbers* fields. When the geofence is set up, it's possible to set its activation time on the Time scheduling table.

14. Configuration security

There is a possibility to protect the existing configuration. If the configuration password is set, the user must enter the configuration password to read or to change the current configuration.

The wrong configuration password can be entered five times after that the device will be blocked. To unblock the device you will need to enter the RPC (*Remove password code*) code. The wrong RPC code can be entered 20 times after that the device will be blocked at all.

If the configuration password is set, the requests and the configuration SMS messages is password-protected.



The format of configuration SMS messages and requests is:

Notice!

To change configuration:	PSW:<password>; CFG<Number>....
Request:	PSW:<password>; fix?
Quick configuration:	PSW<password> Park on r450

15. Man-down function

This function monitors how the device base position angle is changing. If the angle change more than 45 deg. device activate the alarm function and starts sending data using one of the established methods.

15.1 Man-down function settings

This function can enable or disable using the quick configuration SMS messages.



To change other settings for this function, such as *Base position* use Track assistant software.

Note!

If the device have changed the angle but there is not an alarm situation, in order to avoid false alarm activation it is strongly recommended to activate pre-alarm warning signal. Then the pre-alarm warning signal is enabled you will be able to hear if the alarm is preparing to start and stop it if it is not necessary.

16. Authorized incoming call

Authorized call telephone numbers list is installed on the device. The device will reject all incoming calls if the authorized call number list is enabled and there are no any numbers. If there is entered a number, only a phone number, which is listed, will be allowed to call in.

Rejected incoming calls will not be indicated by sound signals and LED indicators.

16.1 Authorized call number list configuration

The parameter *Enable authorized incoming calls* activate the authorized phone number list. The authorized phone number list can consist of up to 10 phone numbers.

17. Action on call function

This is the automatic function activation by call. When device will receive a call from the phone number which is registered in the parameters of this function, the device will hang up the call and perform the function set in the settings.

17.1. Action on call configuration

The settings of this function can be configured with Track assistant software.

There are three basic parameters: Activation number - the phone number which will activate selected function. Function - the field where you can chose which function you will activate when device will receives a call from the activation number. Phone number - redirects function to the phone number set in here.

18. Authorized SMS number list

Authorized SMS telephone numbers list is installed on the device. The device can respond to queries from subscribers who are listed. It will ignore received queries if the list is activated but it does not contain any entries.

If you want the device respond to queries regardless of what they received, turn off the authorized list.

All received SMS requests makes special audio signal. If it is not disabled.

18.1 Authorized SMS number list configuration

The authorized phone number list can consist of up to 10 phone numbers.

19. SMS tracking



There is a function that periodically sends an SMS message with the coordinates to the specified number.

All sent data will be also saved in the memory, then that could be reviewed.

What will be the SMS, the user can set himself.

By default device is sending: Message identification word (FIX!), device id (GH3000), IMEI number (IMEI), time (Time), device location (Fix), number of visible satellites (Sat), operator code (Op), GSM station number (Cell), GSM signal level (Sign_Lvl) and battery charge level.

19.1 Function activation

Function can be activated using a quick configuration SMS message or Track assistant software. Maximum SMS, messages with the data, transmission period can be 2 messages per minute.

20. A-GPS function

Assisted GPS, generally abbreviated as A-GPS, enhances the startup performance of a GPS satellite-based positioning system under poor GPS visibility conditions (when only 2 satellites are visible). In all other cases A-GSP may lead to the additional GPRS-traffic costs and processing time due to the A-GPS file download and handling. For more information please visit: http://en.wikipedia.org/wiki/Assisted_GPS

20.1 A-GPS function configuration

Use the *Track assistant* to configure A-GPS parameters. Using software you will be able to set up A-GPS data update timer.

21. Low battery level notification messages

The device monitoring the battery charge level all the time and when the charge level becomes less than set, you will be notified about it by SMS message. There are possibility to be informed when the battery becomes full and device is ready to be used.

21.1 Function configuration

You can chose few modes of configuration; one of them is the device will not send any notification about battery charge level at all, other the device will send notification when the battery discharging and becomes as the set value. The last one is when the device discharging and is charged fully.

To change the battery charge level when device sends the notification messages you are able using *Track assistant* software.

Next very important parameter is the phone number to which the device will send SMS messages about battery charge level. This number can be configured using quick configuration messages or *Track assistant* software.

22. SIM PIN code

If an unsuitable SIM card has been inserted or the device fails to detect it, the device will reloads automatically and tries to start the connection anew (if SIM card is not inserted the device will reloads three times).

If a SIM card with an activated PIN Code has been inserted into the device, it will not be able to connect to the GSM network and perform certain functions. Therefore, if you want the device to be fully operational, the PIN Code must be either removed by using a Mobile Phone, if available.



The PIN code can be entered using Track assistant software. The program will automatically open a window where you can enter the PIN Code. Now the PIN Code will be adopted by device and will be always used when the device will be switched on.

Note!

Please pay attention, if the GSM indicator is blinking red, the PIN code maybe enabled on your SIM card. The PIN code can be entered within window of Track assistant software.

23. Sound indication

The device has the possibilities to play a sound: for incoming and outgoing SMS, then the function enabling and disabling, the battery charge level becomes critical and rings when someone is calling.

23.1 Sound indication configuration

The all sounds such as incoming and outgoing SMS messages notification can be disabled using *Track assistant* software.

24. Vibration

Device is able to vibrate on incoming call or receiving SMS message.

24.1 Vibration configuration

The vibration can be disabled using *Track assistant* software.

25. Minute minder

The device beeps every minute, and informing you of the call duration.

26. List of supported maps

The program is designed in a way that it will detect a digital map or maps if they are installed. If the user has installed just one digital map, the map list of the *Track assistant* will show the installed map. The program is able to process these digital maps:

- Microsoft Map Point (tested with 2002, 2009);
- Akis;
- Google Earth (Automatically creating the KML file only);

27. Parking function

This function allows you know if your asset are moving out from its safety place. After the asset is moving out from the safety zone device starts working in alarm mode.

27.1 Parking configuration

Parking function can be configured by configuration SMS messages or *Track assistant* software. In configuration is important to configure the fence and alarm configuration. If you want to activate or deactivate the function by button you will need to set up the keyboard as well.

The basic configuration parameters of this function are:

- a)The dimensions of fence are around the asset.
- b)The form of fence which can be the circle only.

How the function will be activated or deactivated depends on your chose.

27.2 Parking activation/deactivation

Parking function can be activated by SMS or button.

Parking function can be enabled whatever in that mode device is working now, except when the alarm function works, there is talk with someone or the incoming call is active. Then the device receives the command to activate the function it immediately find out its location and determinate the safety zone and activate an alarm then device will leave this zone. If there no possibility to find out its position device will activate an alarm on movement detection.

28. Auto answer function

This function is counting ringing tones when you are calling. Depends on set configuration device can answer to incoming call without the device owner.

28.1 Auto answer configuration

Auto answer function can be configured only within *Track assistant* software. You are able to set up the number of rings after which device will execute this function in the field *Auto answer after*:

29. Silent call function

Silent call is an unique function which allows you to hear what is happening around the device without any indication. This is accessible with a simple request (spy) from the phone number. After receiving such the SMS, device immediately disable speaker, increase sensitivity of microphone and call back to the request sender.

29.1 Silent call configuration

Silent call function can be configured within *Track assistant* software and via SMS. You are able to enable or disable this function.

30. Special SMS requests

Special requests - these are special text messages which are checking the GH3000 device status and provide response via SMS to the requesting person. Example: The requesting person sends a SMS with the content FIX? The GH3000 received such SMS message will send back a status SMS.



FIX? - GH3000 starts the GPS receiver (if satellites are available), gets location and sends it (in case of reception) to the requesting person. If no current coordinates will be detected device will send the latest coordinates (date/time) from its internal memory.



MN? - NAVIGON Mobile Navigator 6® (Version 6.3 or higher). After receiving such a SMS GH3000 will send back a SMS to the Mobile Phone and you will be able to see the GH3000 position within the NAVIGON software (on the NAVIGON Map).

Restricted to Mobile Phones operating on Symbian Series 60 basis. You need to have the licensed NAVIGON Mobile Navigator 6 Software, Version 6.3 or higher, for this service. Please contact NAVIGON or APEXS for further information. Please refer on the official Navigon website map coverage of your country.



Smstrack on is a special request message (F) will activate SMS tracking function.

To stop this function use SMS message within text Smstrack off. (E)

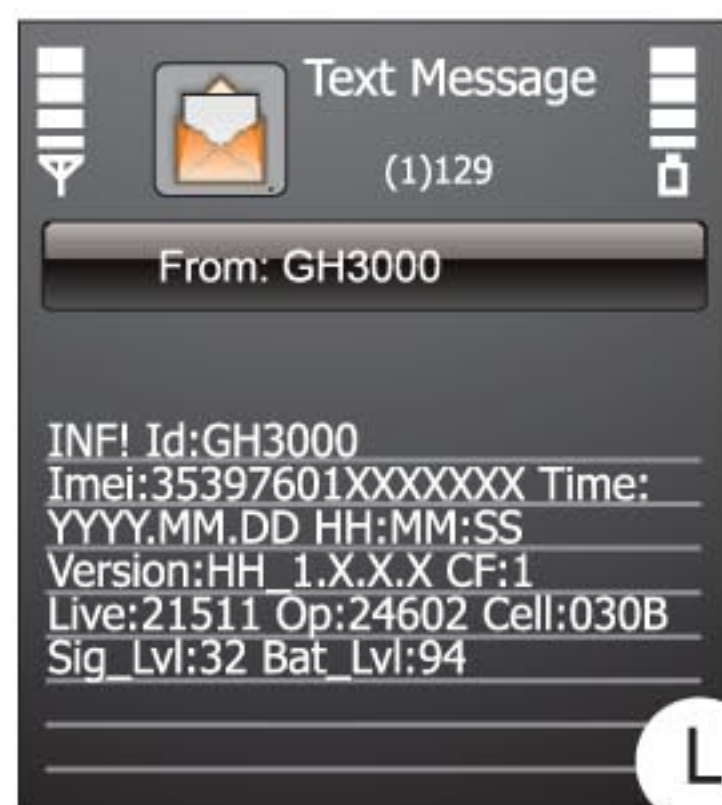


if the device receives request within text Geo? (G) it will find out its location and check if it is in the set zone and send SMS message with the information about them. (H)

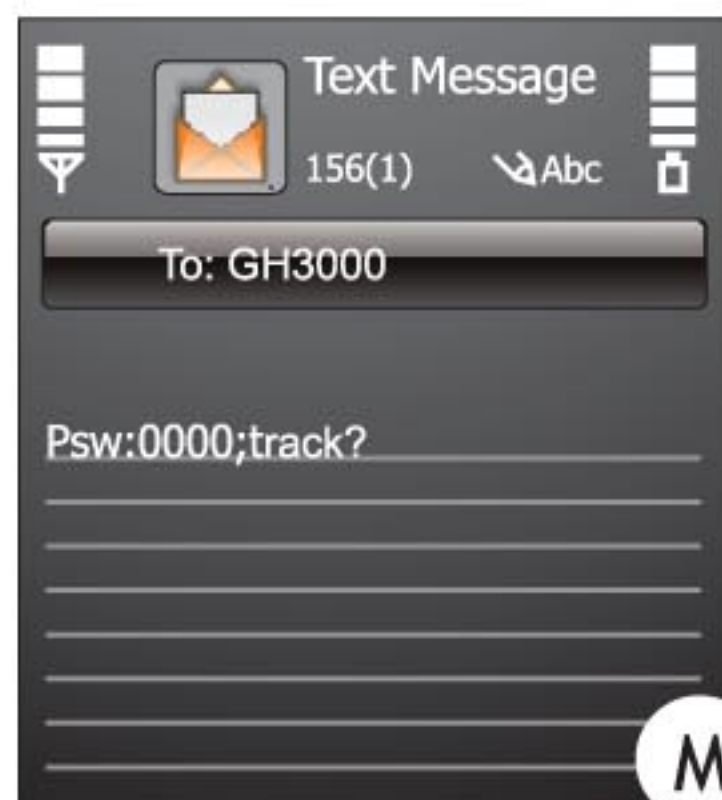


ALARM:OFF - GH3000 will disable the ALARM. (I)

Then the alarm method is set Cycle Call the device will call to the all phone numbers in the list and save its location until the Alarm duration time will be reached. The message Terminate (J) will stop calling process, but will not stop an alarm.



INF? - GH3000 will send all information about it's status (L).



TRACK? - GH3000 will send all collected positions from internal memory to the Server (via GPRS, Server Solution needed).

31. NMEA function

NMEA (National Marine Electronics Association) this is a standard adapted for use in a variety of third-party mapping software programs.

Using this function you are able to connect device to the PC where is installed mapping software program and use the device as simple GPS signal receiver for a real time tracking.

31.1 NMEA function configuration

This function can be configured using *Track assistant* software only. To use this function set up NMEA on - to turn function on, NMEA off - to turn function off, on the device keyboard separate buttons. Or set up NMEA switch - to turn function on/off using the same button on the keyboard.

31.2 NMEA function activation/deactivation



This function can be enabled using the button on the keyboard only.

Notice!

If the NMEA function is enabled the device functions that worked before does not work anymore. Turn off the NMEA if you want to use them again.

32. Indicating the status

If you wish to correctly find out the parameters under which the device operates, observe as carefully as possible the status of the three indicators.

Each status indicator consists of 2-colored lamps - one of which is indicating a failure (red) and the other one is indicating a process in progress (green). The red GPS/ALARM indicator, which signals at the time of Alarm (warning signal), is an exception.












Battery	GSM	GPS/Alarm	
			Device is in the NMEA mode
			Device is turned off/in sleep mode
			Device is in the modem emulation mode
	NM	NM	Charging the battery
	NM	NM	Battery is charged fully
NM		NM	Device is opened GPRS session/ active incoming call/active outgoing call
NM	NM		Device found its location
NM		NM	GSM Error (PIN enabled/no operator)
	NM	NM	Reached the critical battery charge level
NM	NM		Alarm enabled
NM	NM		Device searching its location
NM		NM	Device registering to GSM network

NM - means that it is no matter what LED indicator blinking at the current moment.

33. Device characteristics

33.1 Specifications of the device

Specification	GH3000
GPS Receiver	uBlox 50-channels
Sensitivity	Indoor GPS: -160 dBm
Internal Antenna	Patch
GSM frequencies	Dual-Band 900/1800 or 850/1900MHz
Vibro	Vibro
Keyboard	5keys
Keyboard lock	Keyboard lock
Battery	1050mAh (Li-ion)
LED indicators	3
Weight	80g
Dimensions	92x44x18
Internal memory	1MB
Rec. operating temperature	0 up to 50C
General operating temperature	-20 up to 60C
Data transferring	
Supporting GPRS protocol	TCP/IP or UDP
Real time NMEA (0183) via USB	✓
USB connector type	Micro
Configuration	
USB	✓
SMS	✓
Functions	
SPY call	✓
Action On Call	✓
Low battery level alarm messages	✓
Voice call	✓
GSM modem emulation mode	✓
Man down	✓
Geofence zones	total 50
circles	50 or
polygons	50
Support AGPS	✓
Alarm notification methods	Voice call, SMS, GPRS, GPRS or SMS

Roaming detection	 (Optional)
Incoming SMS notification	
Outgoing SMS notification	
SMS templates	
Configuration protection	
Authorized SMS p.n. list	
Incoming Call authorization p.n. list	
Device status identification via GPRS	
Data transferring by request	
Tracking by SMS	
Parking	

33.2. Battery life time

Transmissions per 24 hr	1440	24	1	1440
Fixes per 24h	86400	480	24	1440
Duty cycle	100%	27%		
Life Time (hr)	4	96		

33.3. Electronic specification

Parameter	Min.(aver.)	Norm. (aver.)	Max. (aver.)
Supply voltage	4.5V DC	5V DC	5.5V DC
Current	~1mA	~60mA	~100mA

34. Maintenance and repair

This device is a high-quality design product; therefore, it should be handled carefully.

The following advice will assist you in meeting the guarantee requirements.

Do not let the device get wet. In the precipitation, humidity and all sorts of liquids there

may be minerals which may be a cause of corrosion of the electricity chains. If your

device got wet, take out the battery and let the device get fully dry; afterwards, insert the battery again.

Do not use or keep the device in dusty and dirty places. Its moving and electronic parts may be damaged.

Do not keep the device in high temperatures. High temperature may reduce the life time of the electronic parts or damage the batteries and deform or melt some plastic parts.

Do not keep the device in cold environment. If the device warms up to the room temperature, humidity may start condensing which may cause the failure of electricity circuit boards.

Do not try opening the device except as specified in this User Manual.

Do not throw, knock or shake the device. By handling it in this way you can break internal circuit boards and small moving parts.

Do not clean the device with strong chemicals, solutions or cleansing agents.

Do not paint the device. The paint may block the moving parts and prevent them from operating well.

Use the supplied or approved antenna only when it needs to be changed. Antennas which are not approved, their improvements or supplements may damage the device. By using supplements which are not approved you may also infringe the legislation in the field of the use of radio equipment.

The chargers must be used indoors only.

Before handing your device to the repair center, make sure that its settings are stored within the Track Assistant Configuration Tool.

All these recommendations are equally important for your device, battery, charger and any other supplement. If any of the devices is not functioning properly, bring it for examination to the nearest authorized repair center.



The sign on the packaging means that the electric and electronic equipment to be utilized must be stored separately.



The sign on the packaging means that the User Manual must be read before making use of this product.