SBX-3
Mini Tracker

User and Installation Manual

English

INTRODUCTION

Thank you for your purchase of redKnows SBX-3 series product. In order to take full advantage of this product, please read this manual carefully before starting to use the product.

SBX-3 can be used for guarding many types of objects such as cars, boats, excavators, containers, motorcycles, campervans and others. In this manual all objects are referred to as "vehicles" or objects.

SBX-3 is a GSM based positioning alarm. The alarm can be triggered by an alarm sensor connected to one of the inputs or if the object is moved outside a defined area, so called geofencing. When triggered the siren will sound and an SMS message will be sent to prestored telephone numbers.

In addition to the alarm function, SBX-3 can also be used for tracking the position of an object and control equipment with SMS.

The SBX-3 can only communicate with the prestored telephone numbers on the SIM card in SBX-3. They can receive alarm SMS and control the alarm.

In the package you will find:

Main unit with integrated GSM module and spare battery.
GPS receiver
GSM antenna
Siren
Remote Control
Magnet Switch
Microphone
Cable kit

The units are installed according to the instructions in this manual and a SIM card is inserted. Then the users telephone numbers has to be stored into the SIM-card in order to allow access to the system.

After this introduction the manual continues with instructions for handling the SBX-3 with the remote controller and a mobile phone, once it is installed an initialised.

The installation should be made by a person with proper knowledge of the electrical system of the object. Instructions are found in the Installation Manual.
When the system is installed a SIM card is inserted and power is applied. Then the SIM card should be prepared with the proper settings, this is described in the Setup Manual.

TABLE OF CONTENTS

USER MANUAL

The functions of SBX-3 are controlled with the wireless Remote Controller and a mobile phone trough SMS and phone calls.

With the remote controller you can:

- Arm and disarm SBX-3
- Send an S O S message to one or more mobile phones

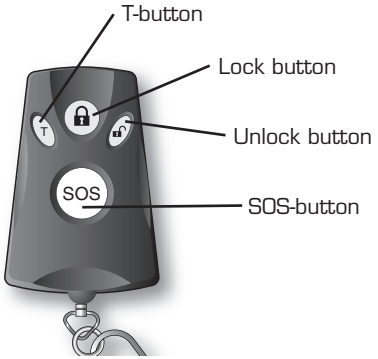
With a mobile phone you can:

- Send SMS to arm and disarm SBX-3
- Send SMS to receive status and position from SBX-3
- Send SMS to control equipment like a heater
- Send SMS to change telephone numbers in SBX-3
- Call SBX-3 to receive status and position from SBX-3
- Call SBX-3 to listen to the microphone
- Recieve alarm SMS från SBX-3

Remote Controller

The remote controller has four buttons. The T button is only used for initiating the SIM card, see the setup instructions. The functions of the other buttons are described here. A red LED is flashing under the SOS button when a button is pressed.

The remote controller is powered with a long life 12V battery measuring 10x28 mm.



Arm and disarm using the Remote Controller

The alarm is armed with the Lock button and disarmed with the Unlock button.

When the alarm is armed the high decibel siren will beep once.

If a sensor input is in activated state, the SBX-3 will not go into armed mode and the high decibel siren will beep 3 times as a warning.

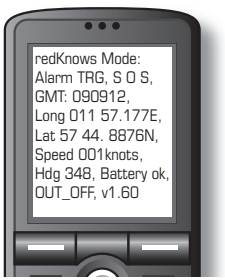
When disarming, the high decibel siren will beep twice. If the relay is on it will be switched off

SOS Trigger

When SOS button is pressed twice in less than 3 seconds the SOS alarm is triggered,

When SOS is triggered, the mobile phones in group 2 will receive **SOS** + status message.

SMS-message:



Mobile Phone

With the mobile phone you can, besides receiving alarm messages, also track the positions of an object and control equipment by sending SMS.

The SBX-3 can only communicate with the prestored telephone numbers on the SIM card in SBX-3. They can receive alarm SMS and control the alarm.

A table in section 3 Setup Manual shows the content of the SIM card, here is a short summary:

Grupp 1 receives all alarm SMS exept SOS

Grupp 2 receives SOS alarm SMS

Grupp 4 can call and listen to sounds from the microphone

Grupp 5 can call to receive status and position SMS.

Grupp 6 can send control SMS to SBX-3

The picture shows an SMS where the alarm has been triggered by a sensor, such as a magnetic door contact, connected to SENSOR2 input:

GMT shows the time for the alarm in Greenwich Mean Time.

Lat and Long shows the position from the GPS receiver.

Speed and Hdg shows the speed and heading of the object. This information is also from the GPS.

Battery ok shows that the battery providing power to the alarm, usually the standard boat or car battery, has a voltage above 9V.

OUT_OFF shows that the relay control output is off.

v1.60 is a version number, it is depending of the manufacturing date.

A detailed description of the different alarm messages will follow.

Use of SMS to arm and disarm

The phone numbers in group 6 can be used for this function.

When SBX-3 receives SMS message SET, it will arm the security system and the high decibel siren will beep once. If a sensor input is in activated state, the SBX-3 will not go into armed mode and the high decibel siren will beep 3 times as a warning.

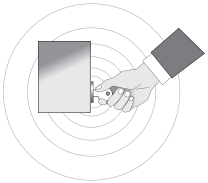
If the message is CLR, it will disarm the security system and the high decibel siren will beep twice. If the relay is on it will be switched off.

Alarms

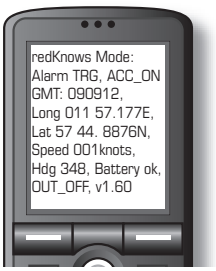
ACC Alarm

SBX-3 will immediately trigger the alarm when Ignition key, ACC, is turned on.

When the alarm is triggered, the mobile phones in group 1 will receive **ACC_ON** + status message. The siren will beep for 3 minutes.



SMS-message:

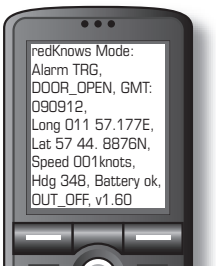


Door Alarm

Input on pin 6 gives the message DOOR_OPEN.

When the alarm is triggered, the user's mobile phones in group 1 will receive **DOOR_OPEN** + status message. The siren will beep for 3 minutes.

SMS-message:

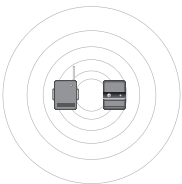


Sensor Alarm

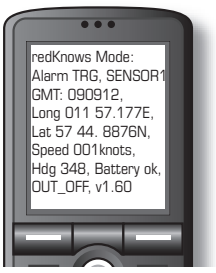
Input on pin 8 gives the message SENSOR1 and input on pin 9 gives the message SENSOR2.

When a sensor is activated, it will trigger the alarm immediately.

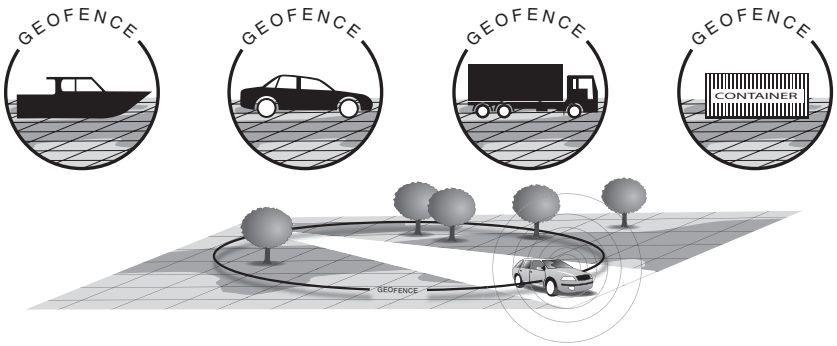
When the alarm is triggered, the user's mobile phones in group 1 will receive **SENSOR** + status message. The siren will beep for 3 minutes



SMS-message:



Geofence Alarm



If the object is moved outside an area from the position where the alarm was armed the alarm will be triggered. User can define the Geofencing region from 0.01 to 0.09 minutes.

The Geofencing region is defined on SIM Card as the names LON and LAT, the numbers 1 to 9 are used to select hundredth of a minute.

If the number is 3, then the Geofencing region is 0.03 minutes from the original arm location, etc.

0.01 minutes equals 18,5 meters in North-South direction, latitude. In East-West direction, longitude, the distance is reduced depending on the latitude, at latitude 57° it equals 10 meters.

Recommended setting is 6 due to the fact that, even if the vehicle is in a fixed position, the data from the GPS can change over time depending on reception conditions.

When armed, the SBX-3 will store the current position. Then, every ten minutes, it will exit power saving mode, read the GPS position and compare with the stored position. If either the LAT or LON difference exceeds the specified values, the Geofence alarm is triggered.

When the alarm is triggered, the user's mobile phones in group 1 will receive **LOCATE** + status message.

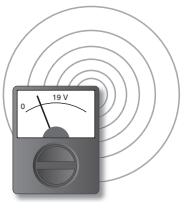
SMS-message:

Low battery Alarm

When DC power supply voltage below 9V is detected, it will trigger the alarm

If voltage remains below 9V for 40 secs, battery alarm will be triggered

When the alarm is triggered, the user's mobile phones in group 1 will receive **BATTERY_OFF** + status message.

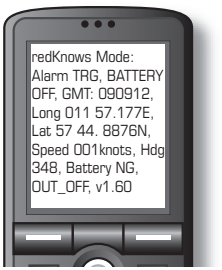


Disconnected GPS Alarm

When the GPS data is missing this alarm triggered. If the GPS cable is disconnected or cut off it will trigger the alarm.

When the alarm is triggered, the user's mobile phones in group 1 will receive **GPS NG** + status message.

SMS-message:



SOS Alarm

When SOS button is pressed twice in less than 3 seconds the SOS alarm is triggered,

When SOS is triggered, the user's mobile phones in group 2 will receive **SOS** + status message.

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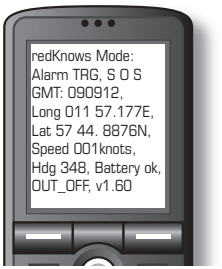
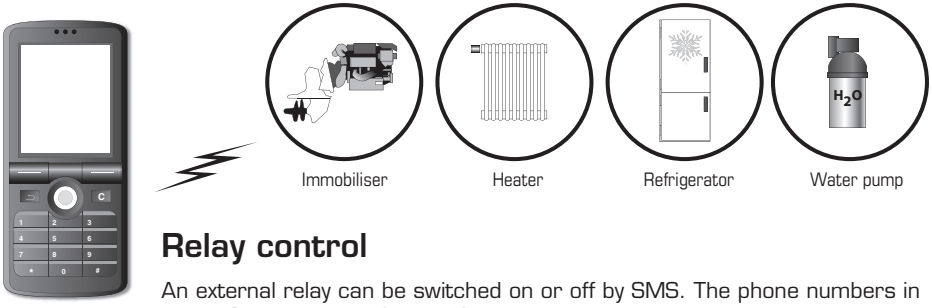
SMS-message:





Relay control

An external relay can be switched on or off by SMS. The phone numbers in group 6 can be used for this function.

When used for immobilizing the vehicle, the engine can not be started if the relay control function is on. One way to achieve this is to break up the battery cable to the ignition key and connect to the NC (Normal Closed) terminals of the relay.

WARNING! This type of installation should only be made by a person with proper knowledge of the electrical system of the vehicle. Be aware that turning off the engine kan be dangerous for a vehicle in motion or a boat at sea so use this function with care.

If immobilization function is not required this function can be used to turn on and off other devices such as a heater or water pump.

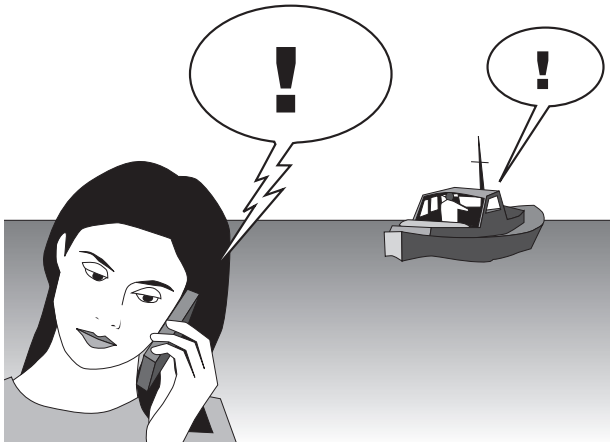
The relay is switched **on** when SBX-3 receives SMS message **OUT_ON**

The relay is switched **off** when SBX-3 receives SMS message **OUT_OFF** or when SBX-3 is disarmed.

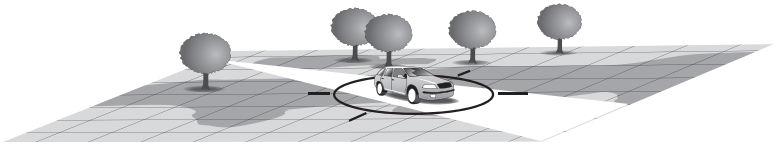
Monitoring Function

When SBX-3 receives a phone call from phone numbers in group 4, the system will automatically answer the call and the caller can hear the sounds picked up by the connected microphone.

NOTE! If the unit is roaming to an operator in another country, a pre-paid SIM card could run out off credit very fast due to the fact that the cost for the foreign part of the call is paid by the receiver. This can occur also near country borders depending on the signal strength from the different operators base stations.



Location Search by SMS



When SBX-3 receives a TRACK message the system will send back SMS with **LOCATE** + status. The phone numbers in group 6 can be used for this function.

The format of the message is TRACKssnn:

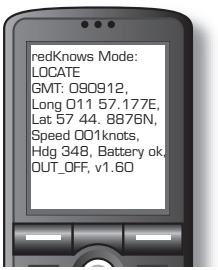
ss is the numbers of 10 second interval between LOCATE SMS. The interval can be set between 10 to 990 seconds, ss=01 is 10 seconds and ss=99 is 990 seconds.

nn is the number of LOCATE SMS to be sent from SBX-3. The number can be set between 01 to 99. The default is 5 SMS: message TRACK60 is the same as TRACK6005, it will send back 5 SMS with **LOCATE** + status to the user with 600 seconds interval

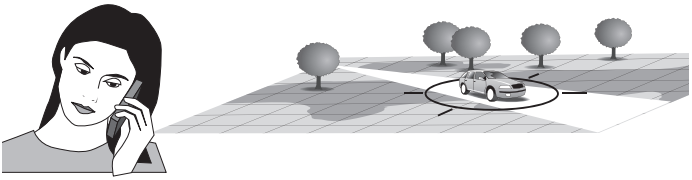
The SMS message TRACK0001 will send back one SMS with LOCATE + status.

The SMS message TRACK0000 will cancel the location search function, the remaining SMS will not be sent.

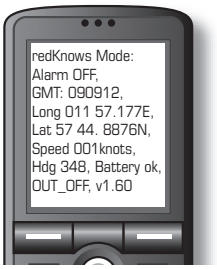
SMS-message:



Location Search by phone call



SMS-meddelande:

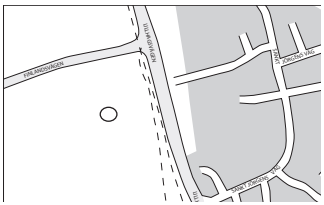


When users in group 5 call to SBX-3, the system will send back one SMS with Alarm status and position.

Example:

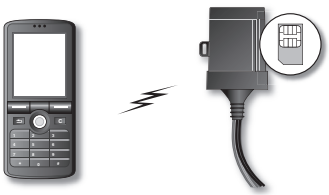
When users in group 5 calls SBX-3 the unit will not answer the call wich results in a busy tone or an error message from the operator. SBX-3 register the caller ID and then deny the call in order to avoid unnecessary cost for the caller. SBX-3 then sends an SMS to the user.

On **www.rednows.com** under Locate there is a function for entering the coordinates and get a map with the the position indicated.



Changing telephone numbers using SMS

User can change the setting in the phone book by sending SMS to the SBX-3. The phone numbers in group 6 can be used for this function.



Any number or setting in the phonebook can be changed or added by an SMS in this format:

TSST$aa:bb& aa=phonebook name, bb=phone number. Several numbers can be sent in one SMS, separated by &. Remember to finish the message by &.

Example 1

Message TSST$USER_A:0706123456&SEARCH_A:06123456&

it will set USER_A to 0706123456 and SEARCH _A to 0706123456.

Example 2

Message TSST$LAT:8&LON:8&

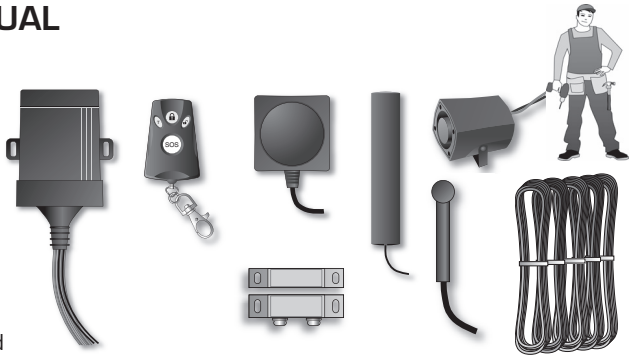
will change the Geofence region to LAT 8 och LON 8

Power saving mode

SBX-3 has an automatic power saving function. When it enters the power saving mode, all LEDs are off and GPS is powered down. To exit the power saving mode, press the unlock key on the remote control.

INSTALLATION MANUAL

System parts, included



- Main unit with integrated GSM module and spare battery.
- GPS receiver
- GSM antenna
- Siren
- Remote Control
- Magnet Switch, Normal Closed
- Microphone
- Cable kit

Not included: SIM card for SBX-3, more information in the Setup Manual section

Connections

Input and output wires

Colour **Cable**
Function

White 1
RF antenna, remote key

Orange..... 2
External Spare battery +

Yellow 3
Relay control

Green 4
High decibel siren

Brown/White 5
Not activated

Blue..... 6
Door trigger. Positive triggering

Black 7
External main battery Gnd

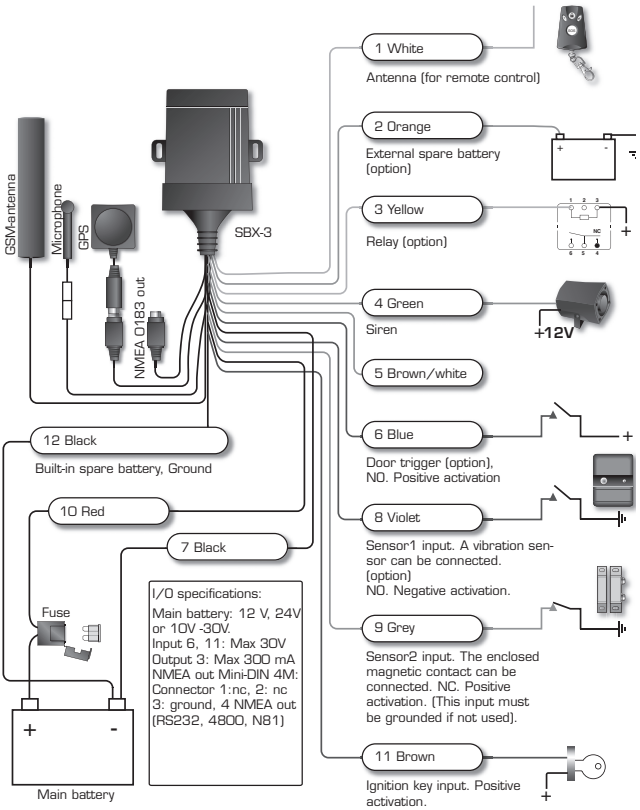
Purple..... 8
Sensor1 trigger. Negative triggering

Gray 9
Sensor2 trigger. Positive triggering

Red 10
External main battery +

Brown..... 11
ACC trigger. Positive triggering

Black 12
Internal Spare battery Gnd, connect to 7



Cable Installation instructions

1 RF antenna for receiving signal from remote key. Install as vertical as possible in order to achieve maximum range.

2 External Spare battery +. Read special instructions regarding type of battery before connecting. If an external backup battery is used, connect this to the positive terminal and pin 7 to the negative terminal.

3 Relay control. This output can be used to control a relay for immobilizer or other equipment by sending SMS. The relay is connected between battery + and cable 3. Max current 300 mA.

4 High decibel siren included with SBX-3 is connected with red cable to battery +12V and black cable to cable 4.

5 Not active.

6 Door trigger input, Positive triggering. >1.5V is positive, < 1.5V or no connection is negative. An alarm sensor with Normal Open, NO, contact can be connected to cable 6 and battery +.
Several sensors can be connected in parallell, when one of them is activated the input is positive and the alarm is triggered.

7 External main battery Gnd. Connect as close to battery negative terminal as possible.

NOTE! Do not connect cable 7 until the SIM card has been inserted into the SBX-3

8 Sensor1 trigger, Negative triggering. >1.5V or no connection is positive, < 1.5V is negative. An alarm sensor with Normal Open, NO, contact can be connected to cable 8 and ground.
Several sensors can be connected in parallell, when one of them is activated the input is grounded and the alarm is triggered.

9 Sensor2 trigger, Positive triggering. >1.5V or no connection is pos.; < 1.5V is neg. To this input, sensors with Normal Closed contact, such as the enclosed Magnet Switch, should be connected. The sensors should be connected between pin 9 and ground. Several sensors can be connected in series, if any one of them is activated the alarm will be triggered.

NOTE! Connect to ground if not used, otherwise the alarm can not be armed..

10 External main battery +. Connect and fuse as close to battery positive terminal as possible. Be sure to connect between the battery and the main switch in order to provide power to SBX-3 when the main switch is off.

11 ACC trigger. Positive triggering. Connect to ignition key output or a fuse terminal with battery voltage when ignition key is turned on.

12 Internal Spare battery Gnd, connect to External main battery Gnd, cable 7. Disconnect only for resetting unit after SIM has been inserted.

NOTE! Do not connect cable 12 until the SIM card has been inserted into the SBX-3

GPS Connector: Mini-DIN 6F (PS/2). 1: Gnd, 2: +5V, 6: NMEA

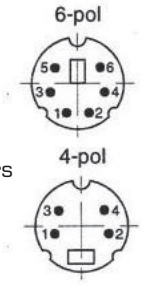
NMEA 0183 out: Mini-DIN 4M (S-VHS)

3: Gnd, 4: NMEA out (4800 , N81 , RS232)

The other pins are not connected.

Microphone connector: 2-pin

Pinout as seen from the female connectors solder side:



Installation

For best protection the system should be installed in a way that makes it very difficult for an intruder to discover and manipulate it. Hide the components and cabling as much as possible. Since SBX-3 is operated only with the wireless Remote Controller and mobile phone there is no need to have easy access to the units.

Main unit: Install with cabling down for splash proof protection.

GPS receiver: Must be installed horizontally in a place where the GPS signals from several satellites can be received. That means that the GPS antenna should be able to "see" most of the sky. However, the signals can travel trough glass, plastics and other soft materials if not too thick. Metal roof and even glass with an invisible metal coating will screen out the signal. The red GPS LED on the unit will blink when a position is found, this can take up to one hour the first time the GPS is used.

GSM antenna: Install vertically and at least 50 cm from the main unit and GPS to avoid possible interference. In metal surroundings, such as a steel boat, check the signal strength with a mobile phone.

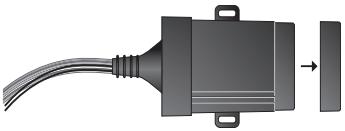
Siren: Install indoors but if possible near a ventilation so that the sound can be well heard from outside.

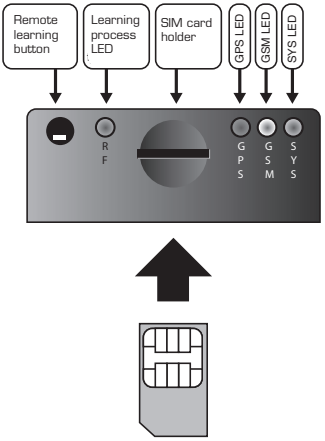
Microphone: Install in any place where possible intruders could be monitored.

Magnet Switch: Should be installed on the inside of a door that the intruder has to pass. When the door is closed, the distance between the magnet and the switch must not exceed 10 mm. The enclosed Magnet Switch is Normal Closed and should be connected to pin 9, grey cable.

Other sensors: Depending on type of object and desired protection a number of different sensors can be applied. There are several types and models of motion sensors on the market, as well as water level sensors, mats, smoke alarms, gas sensors etc. that can be connected to the SBX-3 inputs.

SETUP MANUAL





Under the top lid of the main unit there are four LEDs, a slot for the SIM card and a button for pairing a new remote controller to the main unit.

SBX-3 has an automatic power saving function. When it enters the power saving mode, all LEDs are off and GPS is powered down. To exit the power saving mode, press the unlock key on the remote control.

The red GPS LED is on when the GPS is connected to the unit but no position can be found.

The red GPS LED is blinking when position is found. It normally takes a minute or so after power on until position is found but the first time the GPS is used it can take up to one hour. In power save mode the GPS is inactive so, in order to find position faster the first time, the brown cable 11 should be connected to +, witch will prevent the power save mode, until position is found and the red GPS LED starts blinking.

Yellow GSM LED blinks when the SBX-3 is in contact with the GSM-net.

Green SYS LED blinks when the SBX-3 is in operation.

During power up the LEDs indicate one or both of the following functions:

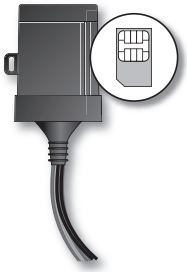
GPS LED	**GSM LED**	**SYS LED**	**Function**
On	Off	Blinking	SIM card is read
Blinking	Off	On	SIM card is initialized with basic settings

More information under Programming the SIM card.

SIM card in users mobile phone

The SBX-3 must identify incoming calls and SMS in order to authorise an action or response. To do that, it use the Caller ID function. Some types of SIM cards, such as an extra card to a subscription (Telia Duo), does not provide the Caller ID function and can not be used to call the SBX-3, it can only send SMS.

SIM card in SBX-3



When selecting operator and type of SIM card, carefully consider the following factors:

Use a SIM card from the same country as the users SIM cards even if the object is in another country.

Pre-paid or subscription. Pre-paid cards normally must be filled with credit once a year or they will expire. They should have the possibility to check the remaining credit on the operators website and to fill with new credit on Internet sites. If a prepaid SIM card has been inactive, no calls or SMS, for 6 month an operator (i.e. Vodafone) can choose to deactivate the SIM card. With that type of card, be sure to us it at least once every 6 month.

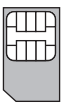
Caller ID function. Verify that the number of incoming calls are displayed when the SIM card is used in a mobile phone. Some operators require that prepaid SIM cards are registered in order to activate the Caller ID function.

Coverage. Important, can vary between operators. Check for coverage in the area where your SBX-3 normally will be located.

Call and SMS charges. Not important since it normally is very little SMS sent from SBX-3 and no calls.

Call and SMS from abroad. Important if there is a possibility that the object will be taken to another country. Check with operators that SMS can be sent from another country in the same way as within the own country. Verify that number presentation will work to and from another country if you want to contact SBS-3 when you are in another country.

Programming the SIM-card in SBX-3



The PIN code lock must be inactive, use a mobile phone to verify. Automatic answering function should also be inactive.

Insert the SIM card into the SIM card holder observing the correct position indicated by the figure close to the card slot.

Apply power to the SBX-3: Connect the black cables 7 and 12 to ground and red cable 10 to battery +.

Wait 2-5 minutes until both the yellow GSM and green SYS light is blinking. Then the unit may enter the power saving mode, all LEDs are off, in that case, press the unlock key on the remote controller to exit the power saving mode.

On the remote controller press the T button four times and then the SOS button, the yellow LED will go off while the other LEDs will be on or blinking for a couple of minutes. When both the yellow GSM and green SYS light is blinking the SIM-card is initialized with a SETUP code and phone book entries, see the example on the next page.

The users thelephone numbers must now be stored on the SIM card. This can be done in different ways:

- On the redknows.com Internet site
- By sending SMS to the SBX-3
- By removing the SIM card from SBX-3 and entering the numbers with a mobile phone or SIM card reader connected to a computer.

If you have access to Internet go to www.redknows.com and select SBX-3 EZ-Start. The website is used to easily enter the phone numbers to be used with SBX-3 and select different options. Then an SMS is created by the redKnows.com server and sent to SBX-3, making it ready to use.

If you do not use the website, fill in the desired telephone numbers in the table on page 17. Do not use country code in the beginning of phone numbers.

In MAIN_A the telephone number of the SIM card should be stored

Group 1 numbers receive all SMS alarms except SOS

Group 2 numbers receive SOS SMS alarms

Group 3 numbers are not used in this version

Group 4 numbers can call in for monitoring. Important!: Enter only the first six of the last eight digits of the phone number, the unshaded positions in the chart above.

Group 5 numbers can call in for status SMS. Important!: Enter only the last 8 digits of the phone number, the unshaded positions in the chart above.

A number can not be used in both group 4 and group 5

Group 6 numbers can send SMS to control SBX-3

Shaded positions should not be changed or used.

As a basic setting we suggest the following: In MAIN_A the telephone number of the SIM card, The primary users phone number in USER_A and the last 8 digits of the primary users phone number in SEARCH_A. The primary user then can receive alarms, call in for status SMS and send SMS to controll the SBX-3.

	Preinstalled numbers	Group					
SETUP	0112204305550451240						
CYCLE	0000						
MAIN_A	9999						
CALL_A	9999						6
CALL_B	9999						6
CALL_C	9999						6
CALL_D	9999						6
CALL_E	9999						6
USER_O	9999	1					6
USER_A	9999	1					6
USER_B	9999	1					6
USER_C	9999		2				6
USER_D	9999		2				6
USER_E	9999		2				6
CSC_A	9999			3			
CSC_B	9999			3			
STEL_A	9999			3			
STEL_B	9999			3			
IN_A	9999				4		
IN_B	9999				4		
LON	6						
LAT	6						
SEARCH_A	9999					5	
SEARCH_B	9999					5	
SEARCH_C	9999					5	
redKnows	1234567890						

Sending SMS to enter the numbers:

In order to store numbers and settings in the SBX-3 SIM card, send an SMS in this format:
TSST$MAIN_A:0733123456&USER_A:0706123456&SEARCH_A:06123456&

Where 0733123456 should be changed to the telephone number of the SIM card 0706123456 should be changed to the primary users phone number 06123456 should be changed to the last 8 digits of the primary users phone number

When the SBX-3 has received the SMS the numbers are entered into the SIM card, the yellow LED will go off while the other LEDs will be on or blinking for a couple of minutes. When both the yellow GSM and green SYS light is blinking the SBX-3 is ready for use.

Using a mobile phone or SIM card reader to enter the numbers:

See the description for the mobile phone or SIM card reader.

We recommend the use of Internet or SMS to enter the numbers for the following reasons: Some mobile phones can not enter numbers directly on the SIM card and may add a character to the name for indicating the type of number. Some SIM card readers has problem reading certain types of SIM cards.

When reentering the SIM card into the main unit, the unit has to perform a system reset in order to read the SIM card. To do this, disconnect the wires 7 (black), 10 (red) and 12 (black). Wait at least 10 seconds and then connect 7, 10 and 12 in that order. It will take one minute, then the LEDs will start to blink indicating that the SBX-3 is ready for use.

Function test

Call the SBX-3 using the primary users mobile phone. The SBX-3 will deny the call resulting in a busy tone or an error message from the operator.

An SMS with position and status information will arrive to the primary users mobile phone, usually within a minute.

SETUP	Grp											
CYCLE												
MAIN_A												
CALL_A		6										
CALL_B		6										
CALL_C		6										
CALL_D		6										
CALL_E		6										
USER_O	1	6										
USER_A	1	6										
USER_B	1	6										
USER_C	2	6										
USER_D	2	6										
USER_E	2	6										
CSC_A	3											
CSC_B	3											
STEL_A	3											
STEL_B	3											
IN_A	4											
IN_B	4											
SEARCH_A	5											
SEARCH_B	5											
SEARCH_C	5											
LON												
LAT												
redKnows												
Example			0	7	9	8	7	6	5	4	3	2

Learn Remote Controller

The remote controller supplied with the unit is learned to the main unit in factory. The following procedure is only necessary if a new remote controller should be used with the system.

In order for SBX-3 to recognize the commands from a remote controller it has to be learned. The procedure for learning the remote is:

1. Press the learning button (on the left-hand side of SIM card holder) for 2 sec.
2. The Learning LED will be on for 7 seconds. During these 7 seconds, press any key on remote. To learn another remote, press any key on that remote also within the 7 seconds or repeat the learning procedure later.
3. If you want to clear all learning on the SBX-3, simply press the learning button for 7 seconds. It will clear all learning.

TECHNICAL SPECIFICATION

System description

redKnows SBX-3 is a very compact security and tracking system. Using highly sensitive GPS module and tri-band GSM module, the mini security tracker can perform security and tracking for all over the world. The water resistant design allows the SBX-3 to be applied to any mobile vehicles, boats, houses, cargo containers, and any objects for complete safety.

Functions

* GPS positioning and GSM communication.
* Continuous reporting with selectable reporting time internal.
* SOS Emergency button on the remote for help
* Anti-theft reporting
* Remote audio monitoring of object with included microphone
* Water resistant and robust enclosure
* Automatic power saving mode
* Wide input power range (DC 10V~30V)
* Easy installation and hiding.
* Tri-band GSM module for worldwide tracking and monitoring
* Sensitive GPS module
* GPS, GSM and system operation status signal LED display
* Using SIM Card phone book to set reporting numbers and parameters to make the interface easy
* Immobilization function possible
* Embedded 750 mAh rechargeable battery
* Can connect to PC or PDA for navigation
* Can connect to traditional car/motorcycle alarm system to add GSM reporting function
* Can connect to traditional home alarm system to add GSM reporting function

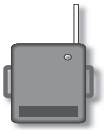
Specifications

* Dimension 98mm x 72mm x32mm.
* Weight 300g
* Power DC 10V - 30V
* Power consumption Energy save mode 20 - 80mA, max. 600mA
* GSM frequencies Tri-band 900/1800/1900MHz
* Battery 750mAh rechargeable Li-Ion
* Temperature Operating -20°C - +55°C, storage -30°C - +70°C

Accessories, optional

Motion sensor, Infrared

Motion sensor, Microwave



Vibration sensor

Glossary

Explanations for some technical expressions appearing in the manual

GPS - Global Positioning System - A global sattelite system for positioning and navigation

GSM - Global System for Mobile communication - Telephon system for mobile phones

LED - Light emitting diode - A small, low-current lamp

LAT/LONG - Latitude and Longitude - A coordinate system of degrees, minutes and seconds covering the entire world. Latidude 0° is the equator, 90°N is the North Pole and 90°S is the South Pole. Longitude 0° is the Greenwich Meridian or Prime Meridian.

GMT - Greenwich Mean Time - GMT is sometimes called Greenwich Meridian Time because it is measured from the Greenwich Meridian Line at the Royal Observatory in Greenwich, London, England. It is the place from where all time zones are measured.

SMS - Short Message Service - A text messaging service in the mobile telephone system

Relay - An electrically controlled circuit breaker

SIM card - A small plastic card with a computer chip used by mobile phones and SBX-3. The card contains information such as telehone number and mobile phone operator.

FCC ID : USW-SBX-3

FCC INFORMATION

The Federal Communication Commission Radio Frequency Interference Statement includes the following paragraph:

The equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to part 24 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communication. However, there is no grantee that interference will not occur in a particular installation. If this equipment dose cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

--Reorient or relocate the receiving antenna.
--Increase the separation between the equipment and receiver.
--Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
--Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, (example – use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.