

## Starcom GPS Global Solutions

### Watchlock User's Manual Guide



October 2015

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# 1 Introduction

WatchLock, the IFSEC Security Industry Awards 2012 winner, combines Mul-T-Lock® high security padlock and electronic alarm system from SGS. This is an intelligent integration of security with real-time alert and tracking.

WatchLock functionality covers a wide range of uses:

Guarding remote or hard-to-access infrastructures, such as mobile phone masts, electrical transmission towers, and CCTV cameras. Freight containers location tracking and alert. Protecting goods in transit and insurance purposes.

For movable assets, the device can trigger an alert when moved outside a defined perimeter, its location can be tracked in real-time via web based application.

Tracking the lock opening and closing times for management purposes.



## 2 Package Contents



1. Padlock C-10
2. Plastic connector
3. Tracking unit
4. Plastic cover
5. Bracket and 2 screws for securing the lock to the unit
6. Battery charger
7. 2 Lithium-ion batteries
8. USB cable
9. Key duplication card

10. 2 keys

11. 5 colored inserts for key identification

**WARNING:** Use only the charger provided by Starcom Systems to charge the unit battery. Using any other charger could damage your device or battery.

### 3 Product Descriptions

WatchLock is a combination of:

- ★ Padlock
- ★ GPS locating system
- ★ Cellular based communication capabilities

Together, these provide immediate time event and location information through email, text message or a Web based management application. This manual describes, how to install the setup software, configure and monitor the WatchLock device.

#### **Audible signals**

The unit uses audible signals (beeps) to announce its activity. When you insert the battery in the device, it will sound one (1) audible signal (beep), to indicate that it was activated.

After this, the device will connect to the cellular network. Once the device performs a successful connection to the cellular network, it will sound two (2) audible signals (beeps).

At the same time, the device will connect to the GPS and get the location. Once the device performs a successful connection to GPS, it will sound three (3) audible signals (beeps).



## Technical specifications

<b>GPS</b>	Protocol Type	NMEA (Binary)
	Time To First Fix (TTFF)	12 (hot start)
	Positioning Accuracy	10 m CEP (50%)
	Velocity	0.2 m/s (50%)
	Antenna Type	Built in (concealed)
<b>Environmental Specifications</b>	Operating Temperature	-40°C - +60°C
	Storage Temperature	-40°C - +85°C
	Protection Rating	IP65
<b>CPU</b>	Static RAM	128 Kb
	Nonvolatile Memory	34 Kb
	Flash Memory	2048 Kb
<b>Battery</b>	Type	Lithium-ion Polymer
	Power	3.7 V 700 mAh
<b>GSM Communication</b>	Type	Motorola G30 / u-blox LEON
	Band	Quad (800/1900, 850/1800)
	Channels	SMS, GPRS
	Emission Power (TX)	850/900 class 4 (2 Watt) 1800/1900 class 1 (1 Watt)
<b>Physical Specifications</b>	Dimensions	71 mm x 86 mm x 47 mm
	Weight	625 g
<b>Accelerometer</b>	Type	4 Axis, 0.1g resolution
	Purpose	Identify and report events of impact
<b>Access Port</b>	Type	USB
<b>Power Consumption (mA)</b>	Sleep/Idle	0.1
	GPS only	75
	GPRS only	75
	GPS and GPRS	135

## Industry approvals and certifications



For available certificates, see:

<https://trello.com/b/YrNJfXNd/certificates>

## 4 Configuration

### Downloading the Software

Download the Installer application setup file and update available at:  
<https://trello.com/c/k8Z8QHzZ/1-installer-application-download>

File:	File Size (bytes):	Date Created:
<a href="#">SETUP - Installer Application</a>	5600631	2012/12/04 6:44
<a href="#">UPDATE - Installer Application</a>	2161939	2012/12/04 6:44

## Installing the Software

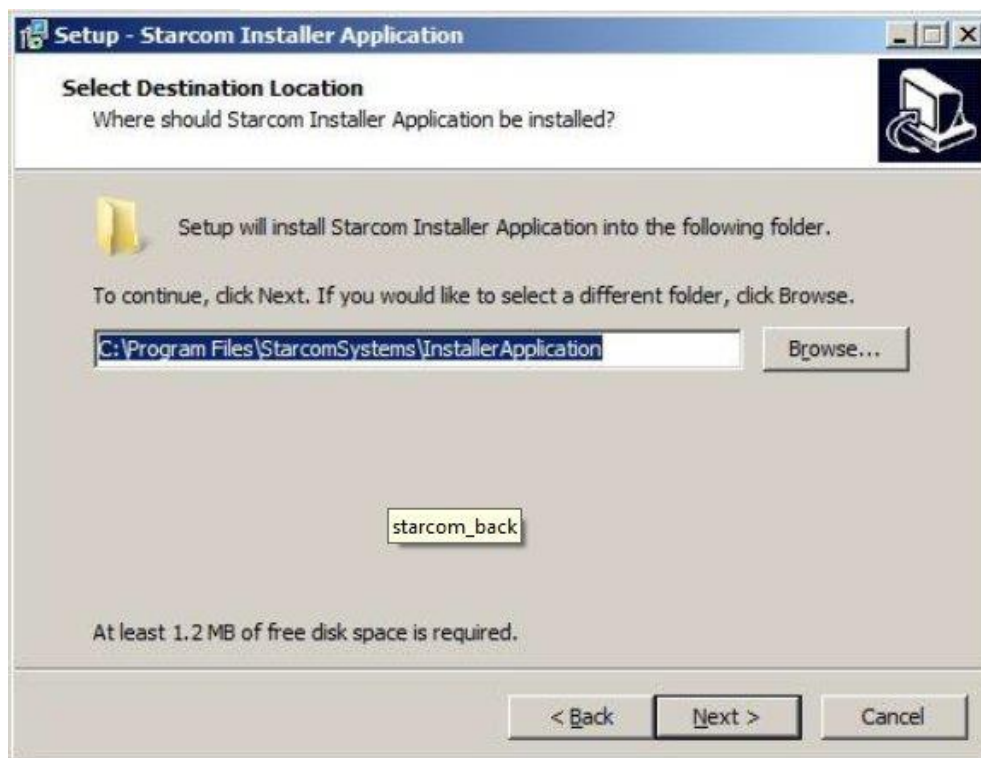
Locate the folder where you saved the installer setup file. Double-click the **InstallSetup.exe**. The Open File dialog box appears.



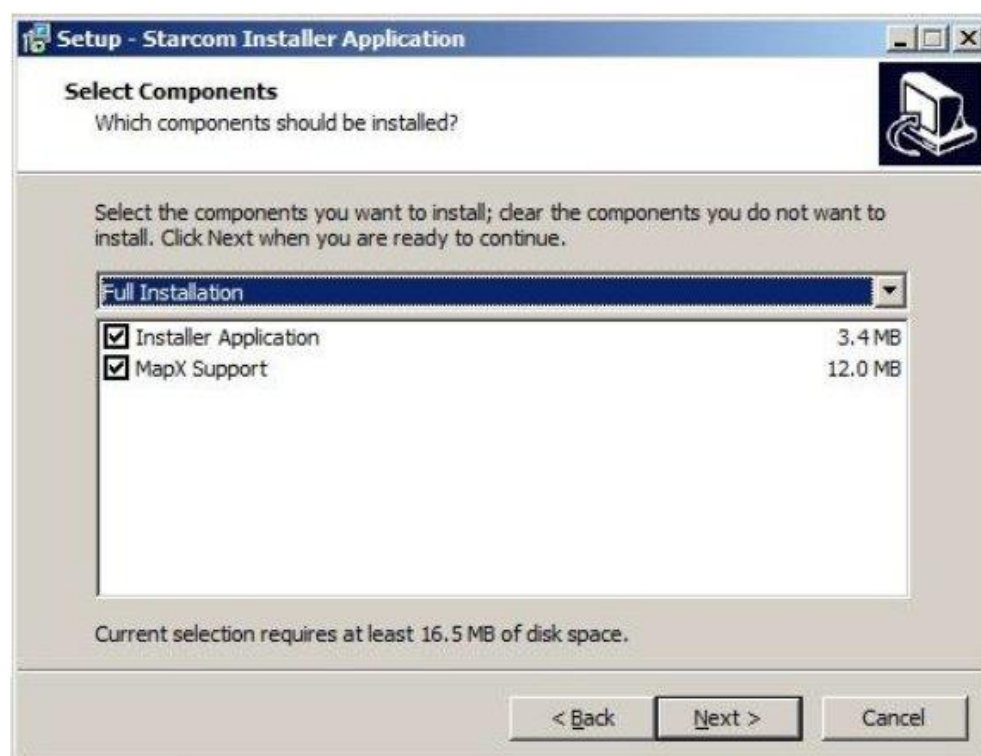
Click **Run**. A Windows Security dialog box appears. Click **Yes**. The Welcome to the Starcom Installer Application Setup Wizard window appears.



Click **Next**. The Select Destination Location window appears.



Click **Next**. The Select Components window appears.

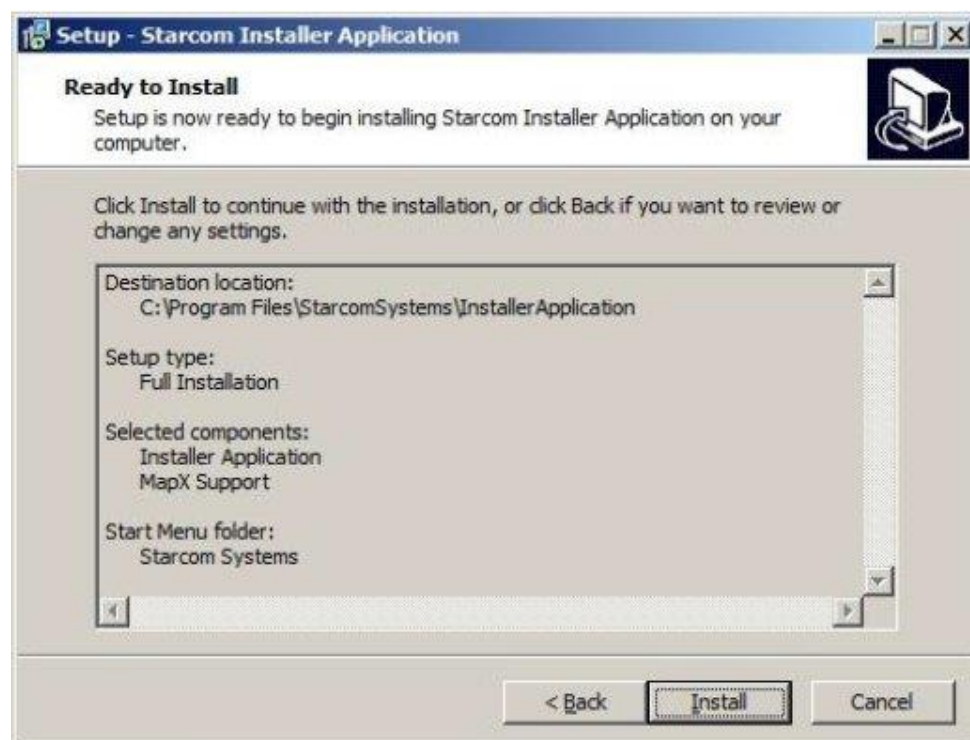


Click **Next**. The Select Start Menu Folder window appears.



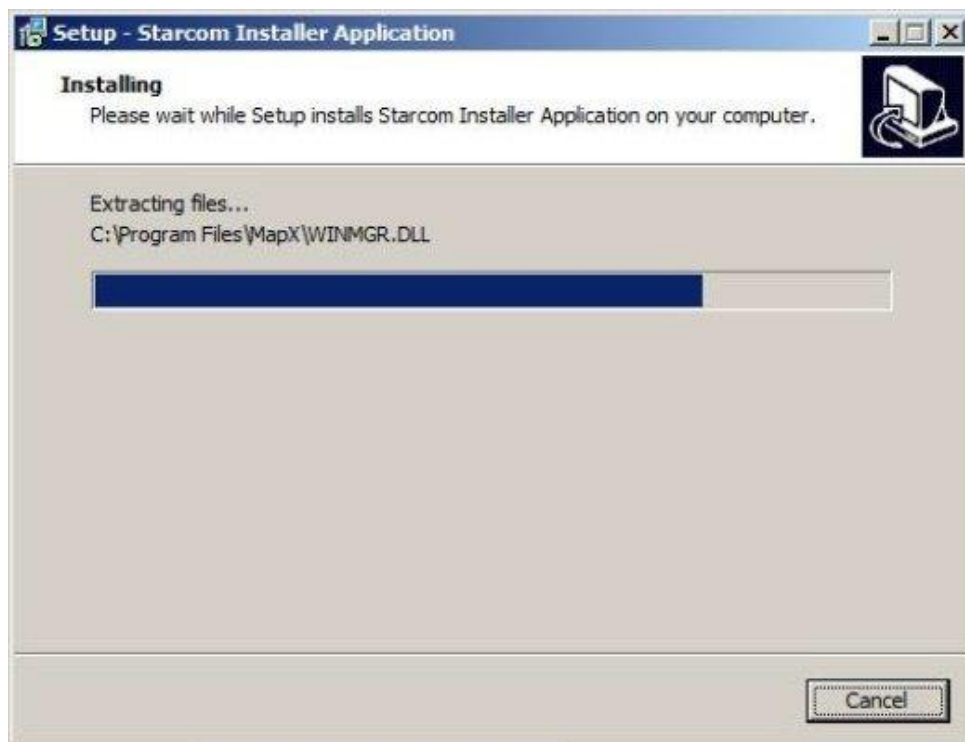
*NOTE:* Select **Don't create a Start Menu folder** checkbox, if you do not want to create a start menu folder.

Click **Next**. The Ready to install window appears.





Click **Install**. The installation starts and a progress bar appear in the window, indicating the progress of the installation.



When the installation is complete, the Completing the Starcom Installer Application Setup Wizard window appears.



Click **Finish**.

## Installing the Update

To install the Installer update software, locate the folder where you saved the update file. Double-click **IUpdate.exe**. The Open File dialog box appears.



Click **Run**. The Starcom Installer Update window appears.

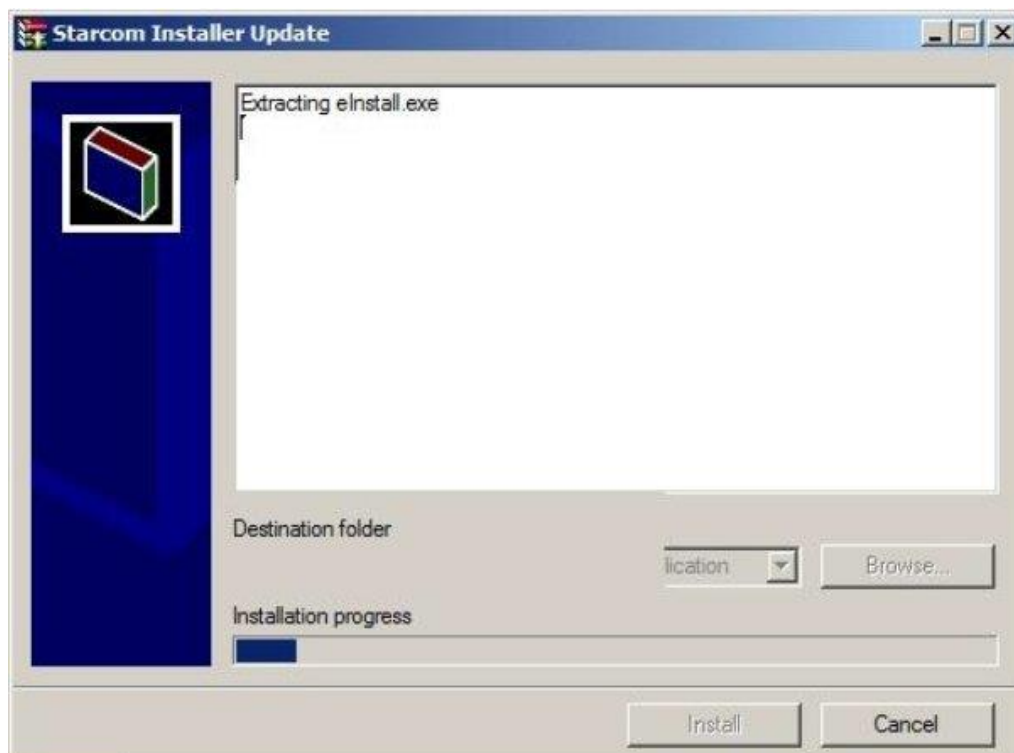




Verify that the Destination folder points to the location where the Starcom Installer software is installed and click **install**. A Windows Security dialog box appears. Click **Yes**. The Confirm file replace dialog box appears.



Click, **Yes to All**. The installation starts and a progress bar appear in the window, indicating the progress of the installation.



The Starcom Installer Update window closes, when the update is complete.

### Installing the cable driver

The WatchLock cable driver is provided by FTDI Chip company. It can be downloaded from the following location:

<http://www.ftdichip.com/Drivers/VCP.htm>

Download the driver for the proper Windows version.

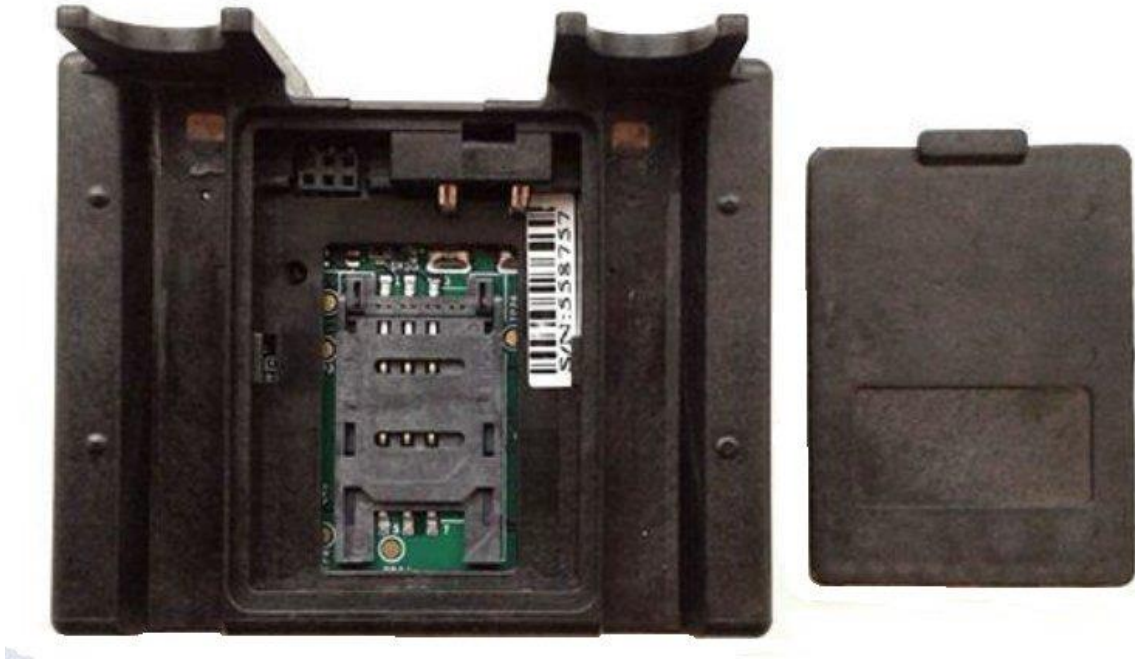
The driver Installation Guide can be found at the following location:

<http://www.ftdichip.com/Support/Documents/InstallGuides.htm>

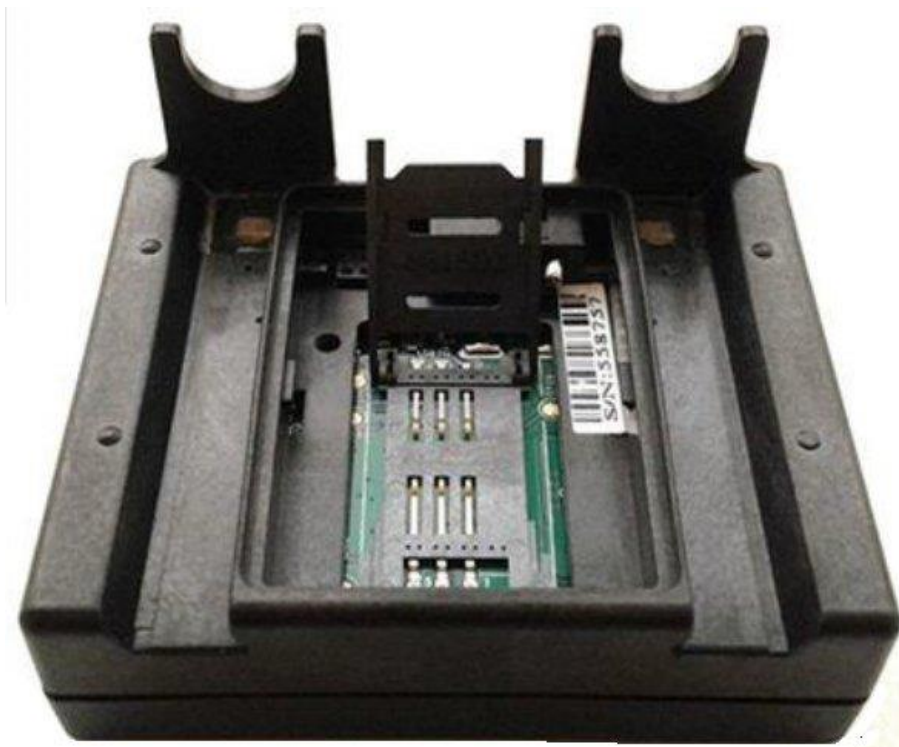
Download the Installation Guide for the proper Windows version. Follow the instructions in the Guide to install the cable driver.

## Inserting the SIM card

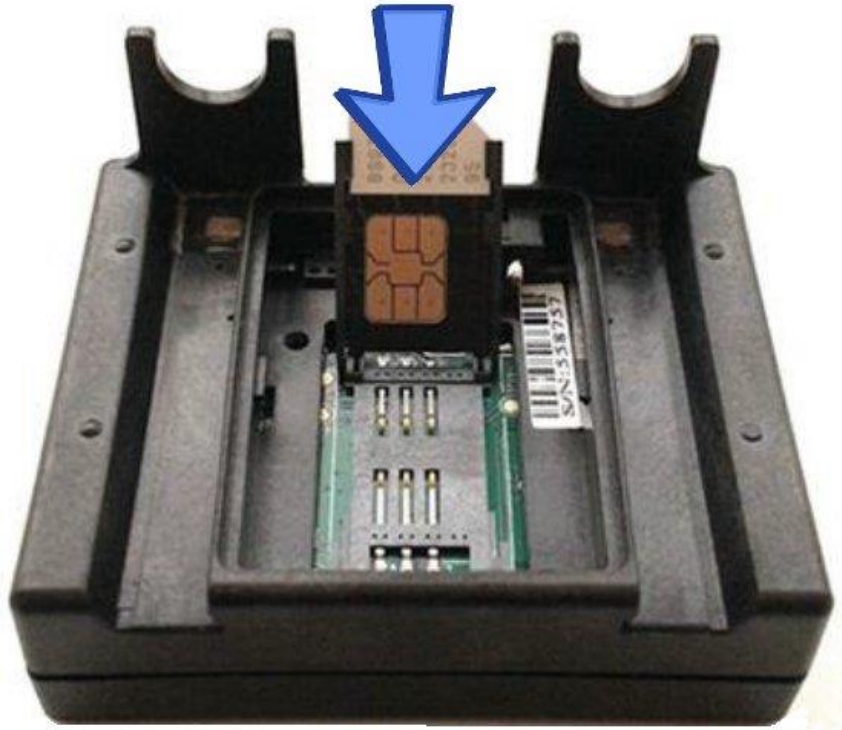
Remove the plastic cover from the unit.



Gently push and pull back the plastic SIM card holder to release and open the SIM card slot. Raise it to an upright position.



Insert the SIM card in the SIM card slot with its gold contacts facing down and its cut-off corner facing out the SIM card slot, as shown in the following image.



Lower the SIM card holder back to the horizontal position. Gently press and push the SIM card holder forward to snap it back into place.





## Attaching the battery

*NOTE:* Before installation, please verify that the battery is fully charged. Charge the battery for at least 12 hours prior to first use. After that, charge the battery for at least 6 hours before each use.

Hold the battery so that the contacts on the battery match the contacts on the unit.



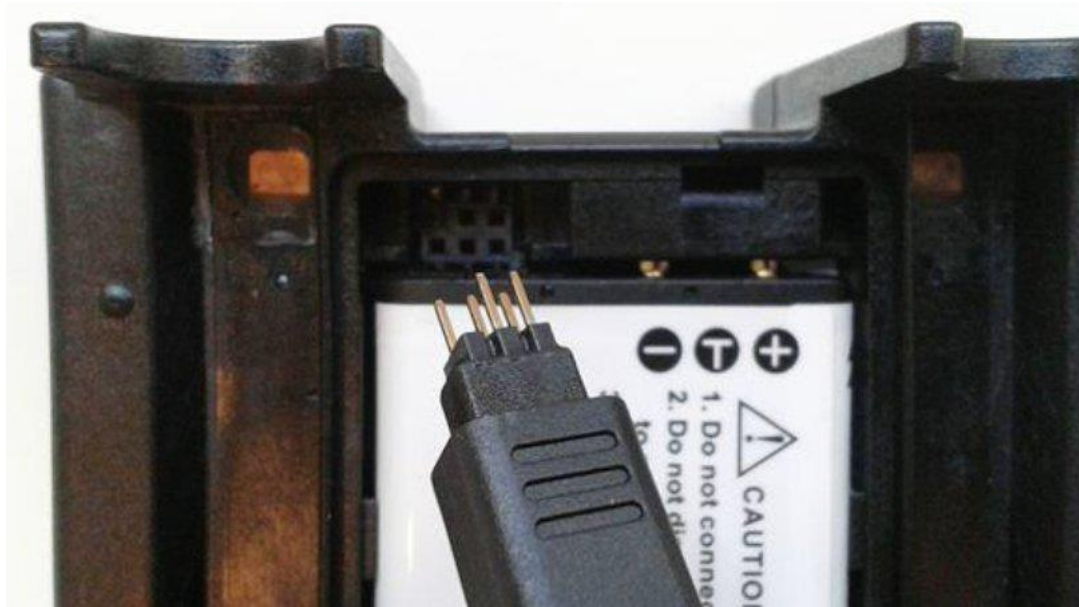
Gently push the battery into the unit.



## Connecting the unit to the computer

Connect the USB cable connector to the USB port on your computer.

Connect the 5 pin connector to the unit, so that the 2 pins on the cable are pointed towards the upper part of the unit and the 3 pins on the cable point towards the battery.



*NOTE:* The unit enters sleep mode to save the battery power whenever possible. This means that during the testing process you must keep the unit awake in order to check its functionality.

After you insert the SIM card and the battery, the unit will spend about 5 minutes to attempt connection to the cellular network and to GPS. During this time it will be awake, which will allow you to connect it to the computer and start the configuration.

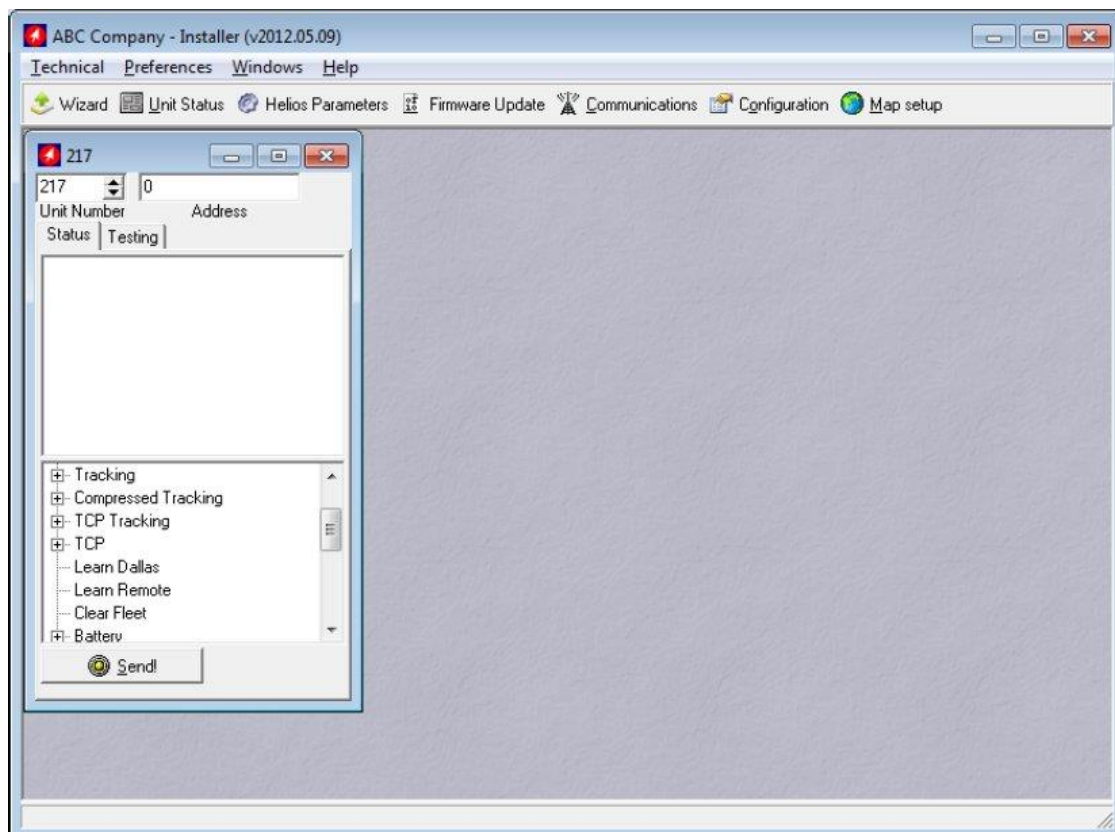
After the unit performs the connection attempt, it will enter sleep mode. You can wake the unit by removing the battery and inserting it back again.


## Configuring the unit

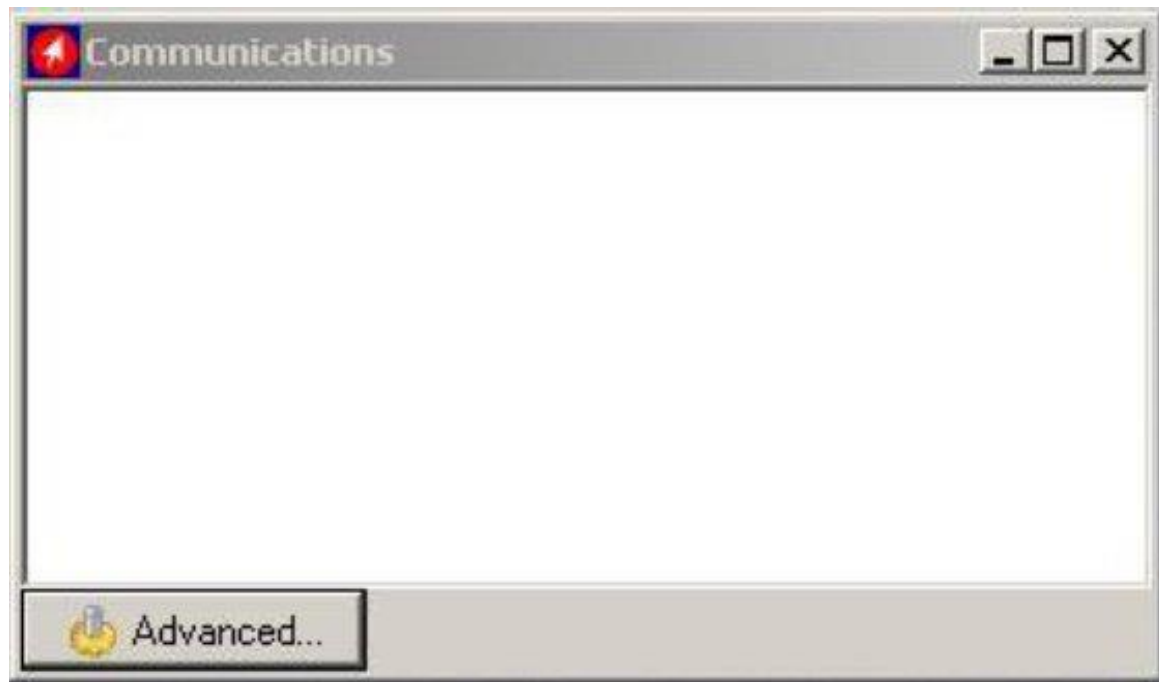
To open the Installer application, from the **Start** menu select **Starcom Systems > Installer Application**. The Installer company name window appears.




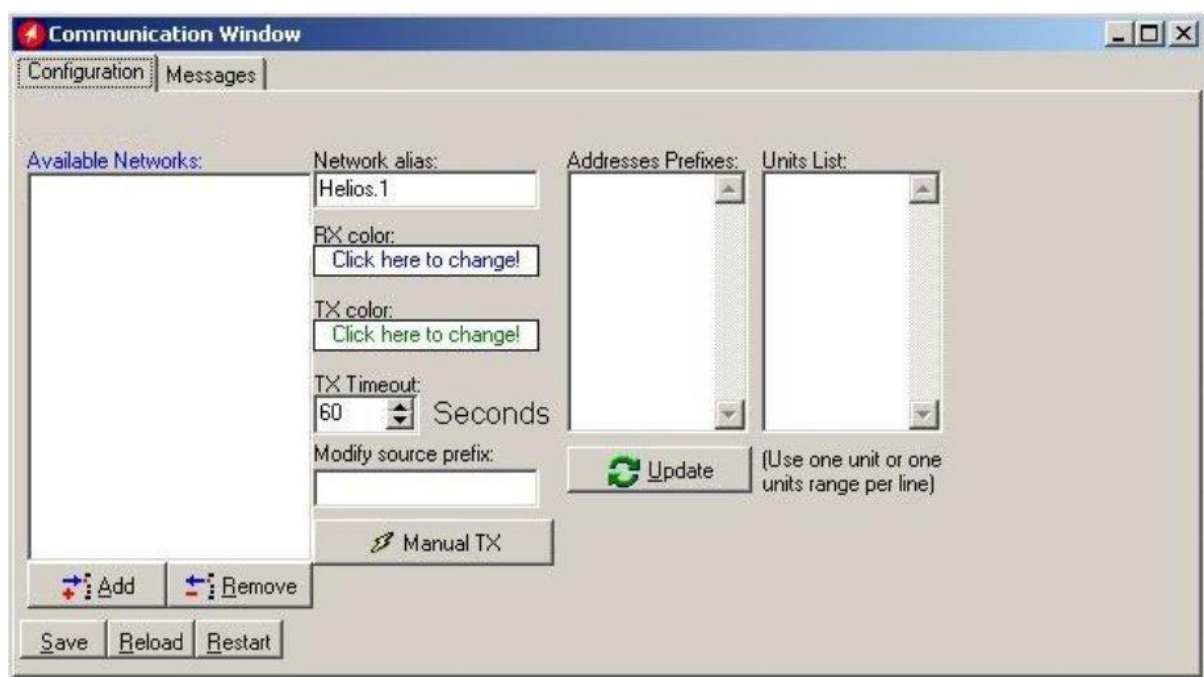
Enter your company name and click **OK**. The Installer window appears.




Click **Technical > Communications**, or press the **Communications** button  **Communications** on the taskbar at the top of the window.



Click the **Advanced** button  **Advanced...**. The Communications Window will appear.



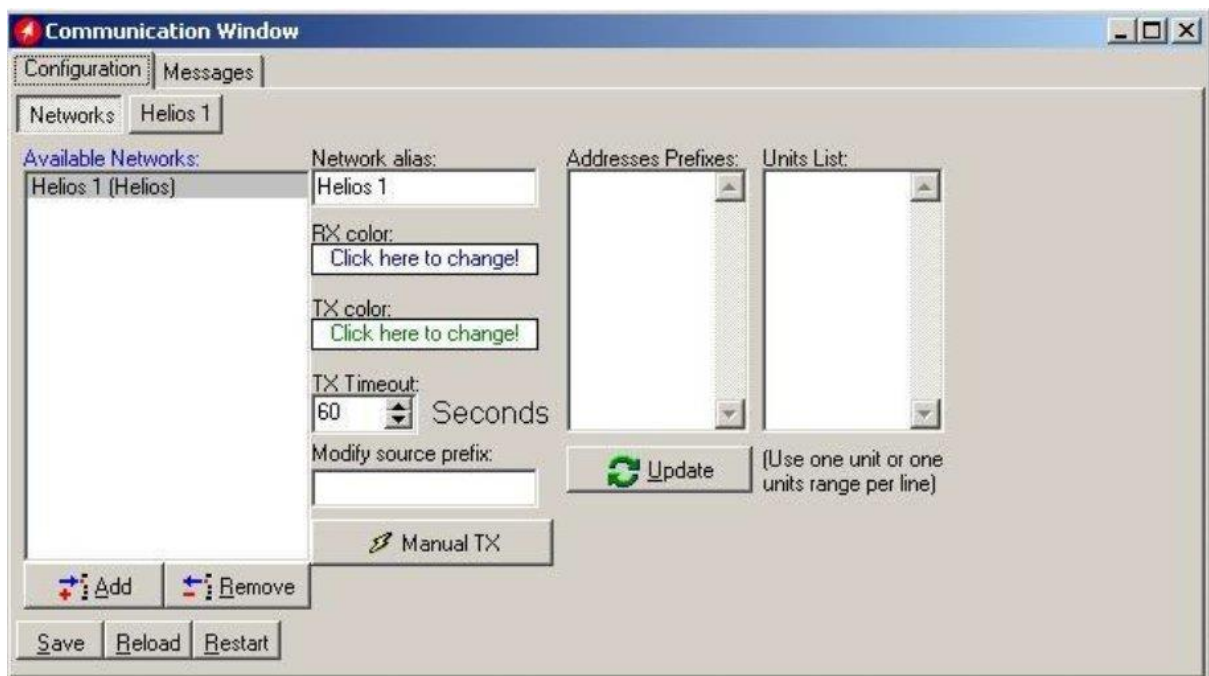
Click the **Add** button  **Add**. The Network Selection window appears.



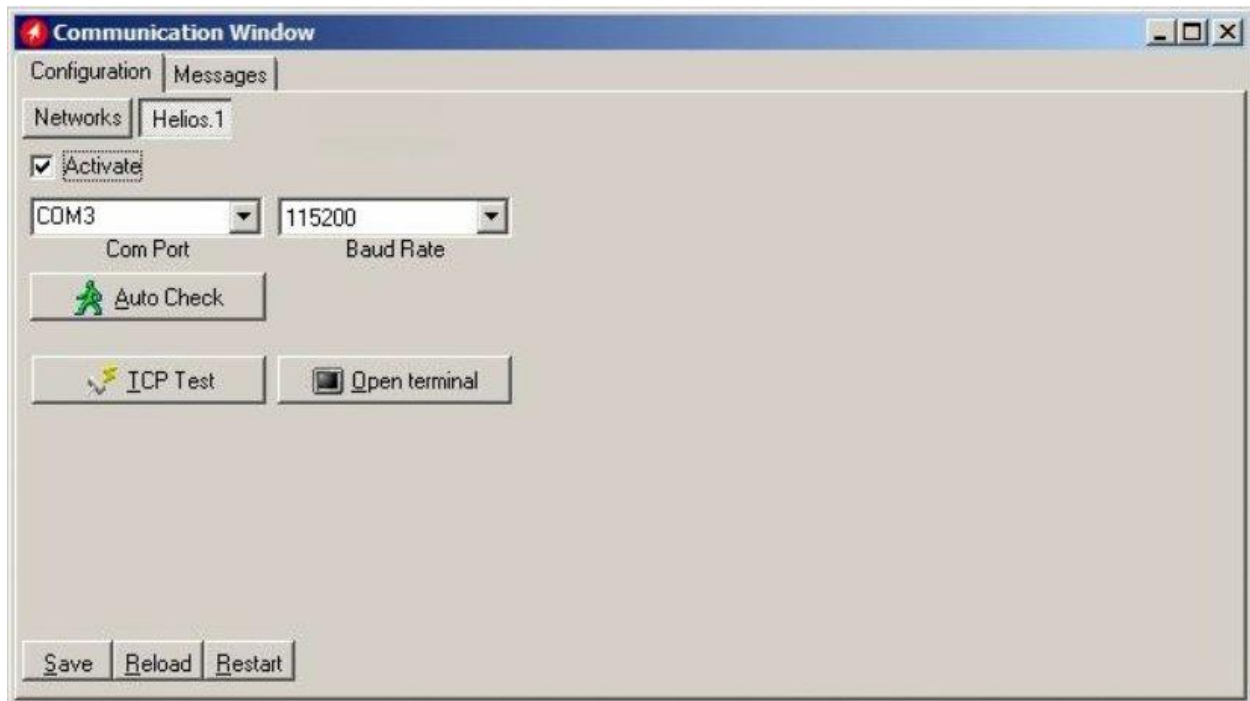


Select **Helios** from the list and press **OK** to add a Helios network.

The Communications Window will now display the new connection in the Available Networks list, which is named **Helios 1**. (The name "Helios" in this case of the unit connection to the Installer applies globally to all unit types).

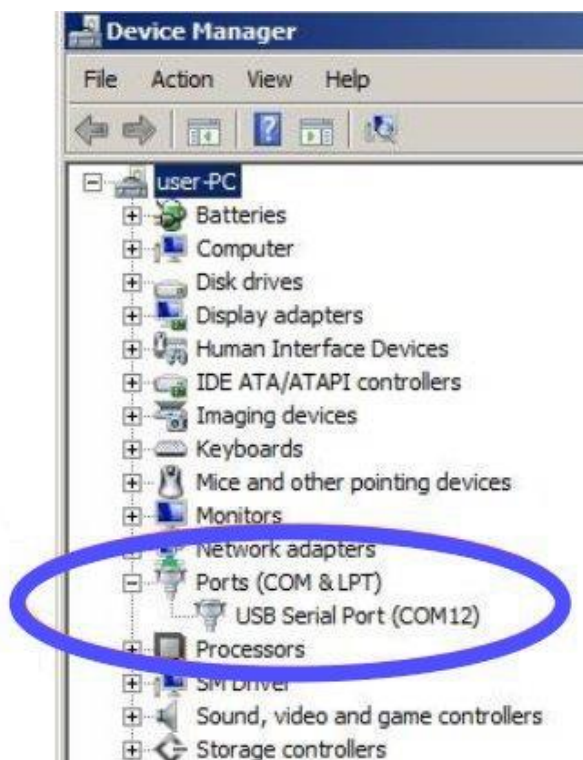


Click on **Helios.1** button to configure and activate the connection.

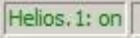


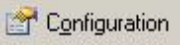
Select the COM port number of the WatchLock cable port in the **Com Port** menu.

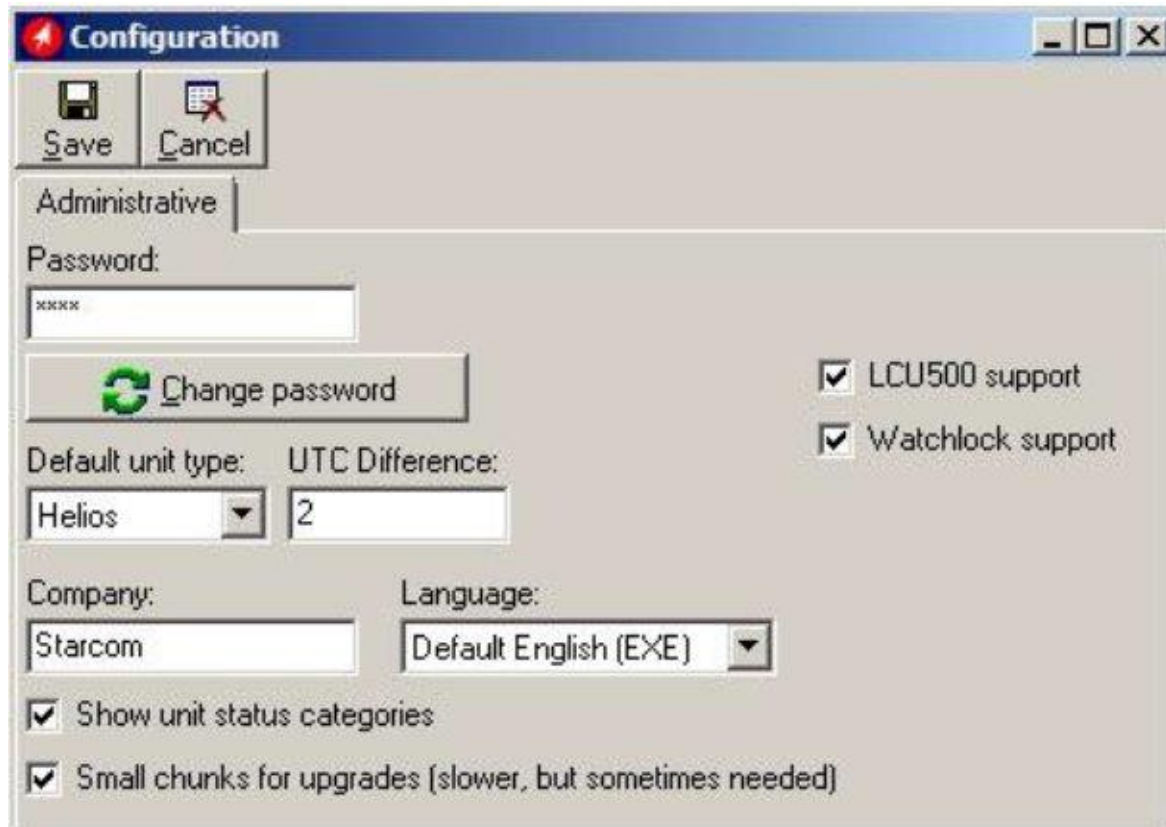
In order to verify the COM port being used by the unit in your computer, go to **My Computer > Manage > Device Manager > Ports**.



Set the **Baud Rate** to 115200. Check the **Activate** checkbox and click **Save**.

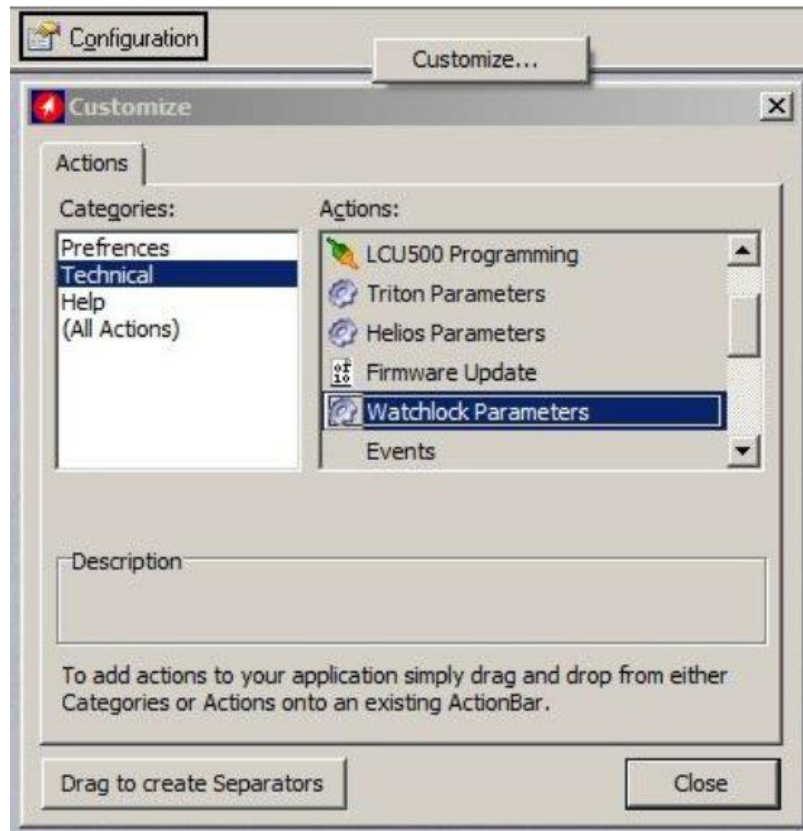
If Watchlock has connected successfully, a "Helios.1: on" notification will appear in green color at the bottom left corner of the Installer application main screen  .

To activate WatchLock support in Installer, click on **Configuration** button  and type 1111 in the Password field.

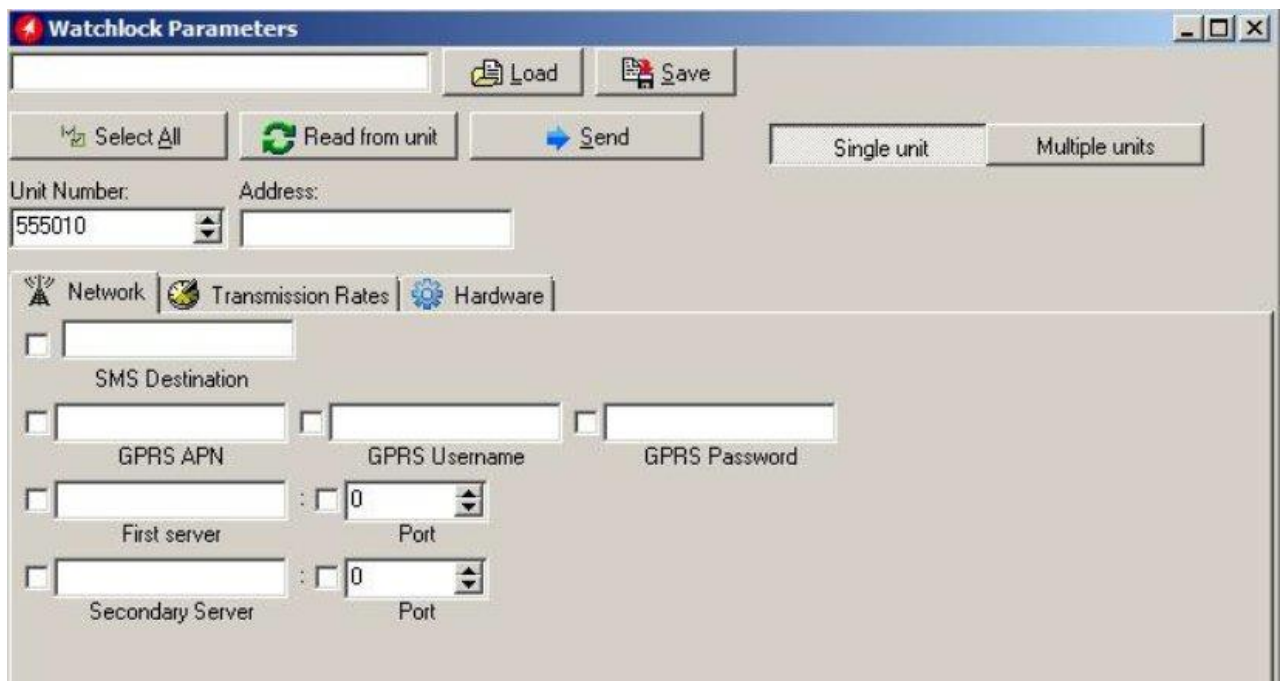


Select the **Watchlock support** option, press **Save** and restart the Installer program.

To access the unit parameters, press **Technical > Watchlock Parameters**, or right click on the taskbar at the top of the Installer application window and press **Customize**. Select **Watchlock Parameters** and drag/drop it into the taskbar.



Press on **Watchlock Parameters** and use the settings to configure the unit.

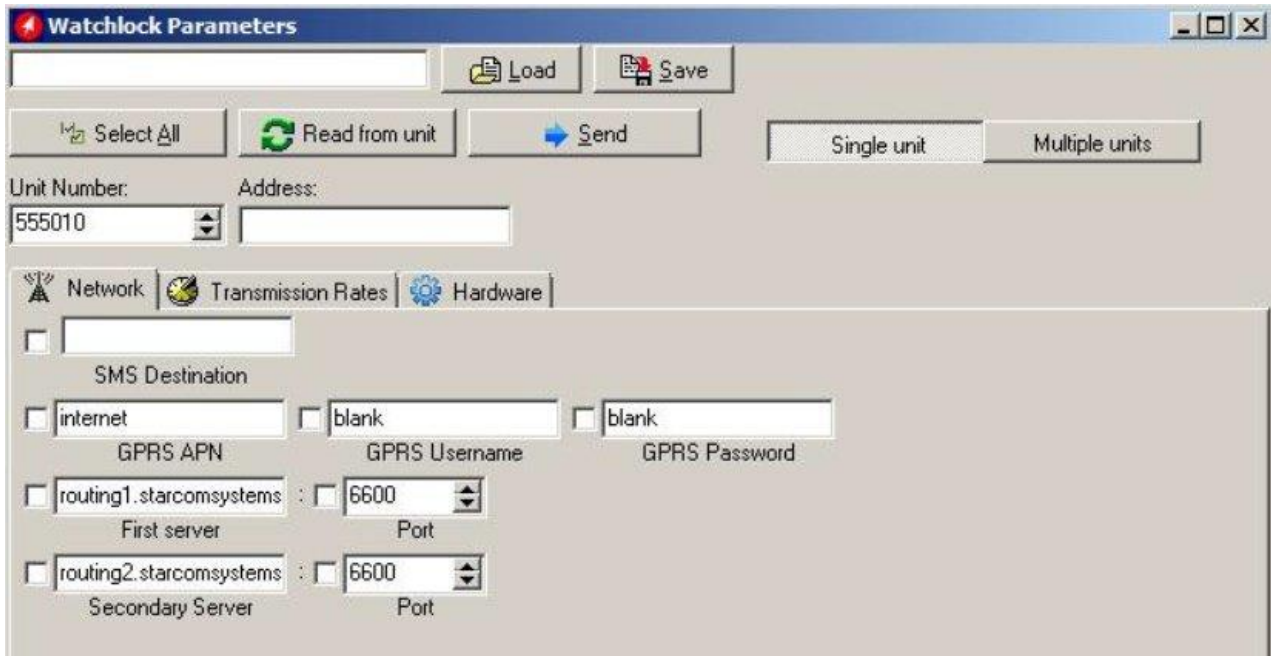


Press the **Read from unit** button  to read the parameters already configured in the unit.



## Network settings

This tab allows you to enter all the parameters necessary for the unit to connect to the network.



The screenshot shows the 'Watchlock Parameters' dialog box with the 'Network' tab selected. The 'Unit Number' is set to 555010. The 'Address' field is empty. The 'SMS Destination' field is empty. The 'GPRS APN' is set to 'internet'. The 'GPRS Username' is set to 'blank'. The 'GPRS Password' is set to 'blank'. The 'First server' is set to 'routing1.starcomsystems' and the 'Port' is set to 6600. The 'Secondary Server' is set to 'routing2.starcomsystems' and the 'Port' is set to 6600. The 'Single unit' and 'Multiple units' buttons are visible.

### SMS Destination

The unit transmits via GPRS by default and via SMS as a backup, when GPRS connection is not available. The number to be entered in the **SMS Destination** field is the SIM card number used in the SMS Terminal unit connected to the routing server, or the SMPP target number. For more information, see *SMS Notifications guide*.

### APN settings

The APN settings are essential in order for the unit to transmit messages and alerts. The APN settings are provided by your cellular operator with the SIM card you are using in the unit.

**GPRS APN** (Access Point Name) – the name of the gateway provided by your cellular operator (e.g. internet).

**GPRS Username** – username provided by your cellular operator (e.g. blank).

**GPRS Password** – password provided by your cellular operator (e.g. blank).

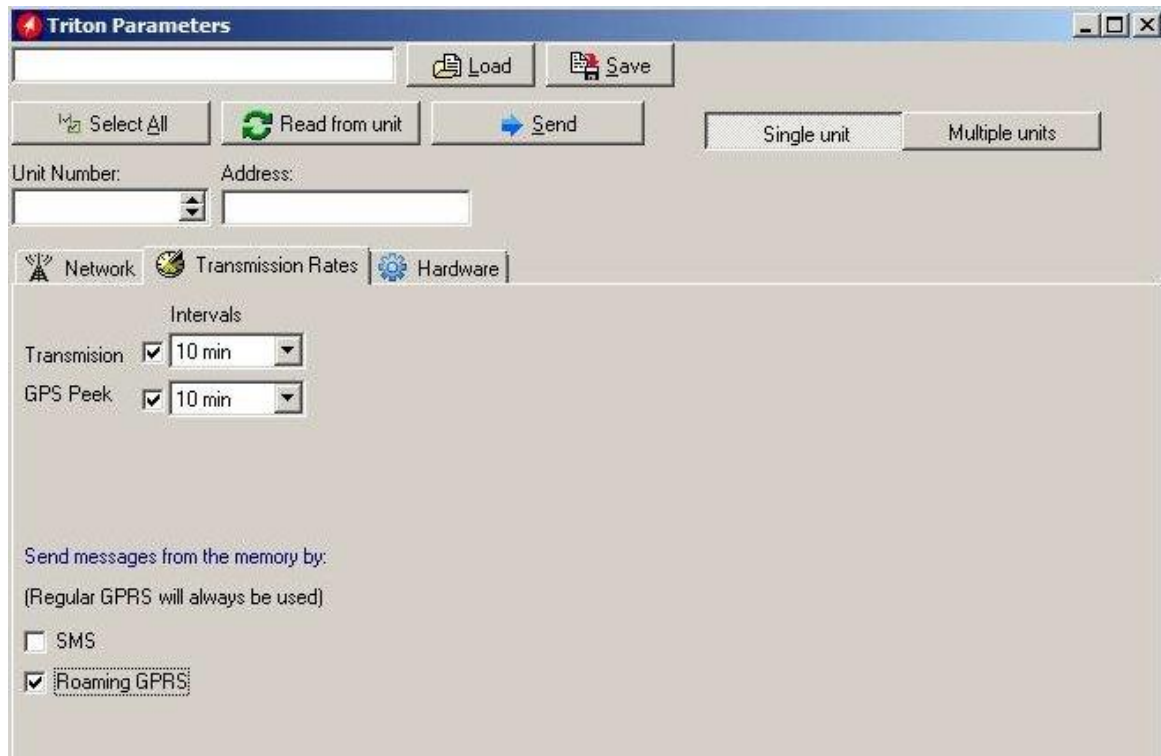
**First server** – main routing server, which the units transmit to (by default, it is Starcom Systems server 1).

**Secondary server** – auxiliary routing server, which the units transmit to (by default, it is Starcom Systems server 2).

**Port** – port open for communication on the routing server (default port is 6600).

## Transmission Rates settings

This tab allows you to configure the intervals of regular tracking transmissions, which define how often the unit will transmit its status.



The screenshot shows the 'Triton Parameters' window with the 'Transmission Rates' tab selected. The window has a title bar with a red star icon and the text 'Triton Parameters'. Below the title bar are buttons for 'Load' and 'Save'. Below these are buttons for 'Select All', 'Read from unit', and 'Send'. There are also buttons for 'Single unit' and 'Multiple units'. Below these are input fields for 'Unit Number' and 'Address'. Below these are tabs for 'Network', 'Transmission Rates', and 'Hardware'. The 'Transmission Rates' tab is active, showing 'Intervals' for 'Transmission' and 'GPS Peek', both set to '10 min'. Below this is a section for 'Send messages from the memory by:' with a note '(Regular GPRS will always be used)'. There are checkboxes for 'SMS' (unchecked) and 'Roaming GPRS' (checked).

**Transmission** – interval of regular tracking transmissions, which defines how often the unit will transmit its status.

**GPS Peek** – interval of the GPS update, which defines how often the unit's GPS module will update its location.

Transmission and GPS Peek values are usually left the same. In some instances, these parameters can be configured with different values. For example:

GPS Peek can be *faster* than Transmission when between the regular transmissions the unit can enter or exit a specified perimeter. In such case, a Perimeter event created on Starcom Online will be triggered by the change in the unit location. For more information, see *Chapter 7 – Monitoring*. 32

GPS Peek can be *slower* than Transmission when the unit is installed in a remote location for long periods of time, when the GPS update is not really required. In such case, Transmission can be set for 1 day, for example, and GPS Peek can be set for 5 days (highest value) to save battery power.

For the testing period, you can set the transmission rates at a higher interval (e.g. 10 minutes). Once the unit is tested, you can set the transmission rate at a proper working interval (e.g. 5 hours).

Transmission rates also determine how long the battery will stay charged. Every transmission uses the battery. The faster the transmission rate, the faster the battery will end. To calculate the battery life based on transmission rates, please use the following file:

<https://trello.com/c/3Dp1lZeQ/3-watchlock-battery-life-time>

Please note that these are the regular scheduled Tracking transmissions and they do not include the additional random transmissions and alerts, like Light On/Off, Location Update, etc., which also use the battery.

When the device is out of GPRS coverage, the messages will be saved to the unit memory. Messages saved in the memory can be sent when the unit resumes the connection to home cellular network, or to the roaming network, if the SIM card used in the unit has a roaming service enabled by your cellular provider.

**SMS** – select this option if you want the unit to transmit messages saved in the memory via SMS. The unit transmits by GPRS by default and by SMS as a backup when GPRS connection is not available. For more information, see *Appendix A – Unit Communication in Starcom Systems*.

**Roaming GPRS** – select this option if you want the unit to transmit messages saved in the memory via roaming GPRS. In order for this to work, the SIM card used in the unit must have a roaming service enabled by your cellular provider.



## Hardware settings

This tab allows you to configure various hardware settings.



The screenshot shows the 'Watchlock Parameters' dialog box with the 'Hardware' tab selected. The 'Unit Number' is set to 557448. The 'Address' field is empty. The 'Single unit' button is selected. The 'Hardware' tab contains the following settings:

- ☐ Use 57600 baud rate\*
- ☒ Monitor "Break-in" events
- ☒ Use location updates
- ☐ Invert switches
- ☒ Filter inputs
- ☐ Use debugging beeps
- ☒ Transmit after first start-up or restart
- ☒ Use A-GPS
- ☐ Weak Impact
- ☐ Strong Impact

At the bottom, there are four dropdown menus for Force (g) and Duration (mSec):

Force (g)	Duration (mSec)	Force (g)	Duration (mSec)
4.6	25	6.9	30

**Use 57600 baud rate** – if this option is activated, the device will use 57,600 bps to communicate.

**Monitor "Break-in" events** – if activated, each time the lock's shackle is cut or twisted an alert will be sent. Break-in is a notification, which is sent in case the lock is being broken-in, detached from the unit. It is triggered when both pins (static pin and mobile pin) are in the same position (IN/IN or OUT/OUT), which never happens in normal operation when the lock is connected to the unit and secured with screws.

**Use location updates** – GPS enabling option. Once activated, the unit's GPS module will be turned on upon every transmission, and location update transmissions will be sent.

**Invert switches** – when enabled, the switches definition will be inverted. Use only when asked by manufacturer.

**Filter inputs** – when enabled, the switches status will be changed only after 2 seconds of continuous state.

**Use debugging beeps** – factory testing setting. Do not use.

**Transmit after first start-up or restart** – if this option is activated, a "Power On" message will be transmitted whenever the unit is powered on for the first time, or gets restarted.

**Use A-GPS** – when enabled on supported devices, Assisted GPS data will be downloaded from the GPRS to get better and faster GPS fix.

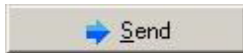
**Weak Impact / Strong Impact** –accelerometer parameters used to define two types of impact (hit, push, drop. etc.) on the device.

**Force (g)** – determines the threshold of the force needed to be measured in order to send an alert. Select "Disabled", if you don't wish to use the alert.

**Duration (msec)** – determines the duration of the force needed to be measured in order to send an alert.


The default values configured in the unit are based on the laboratory testing results, they were found to be acceptable in most cases. These values can be tested and changed according to the specifics of your work. To change these values according to specific conditions, you need to test the unit with different values and choose the best option. The lower the setting, the more often the unit will respond to a weaker impact.

Once all the necessary parameters are set, press the **Send** button

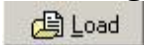




to send the changes you made to the unit.

## Saving the configuration

If you are planning to configure other units with the same parameters, you can save these settings as a \*.mem file. Click the **Save** button  in the WatchLock Parameters window, select the location where you want the configuration file to be saved on your computer, name the file and press **Save**.

## Configuring a new unit with the saved configuration

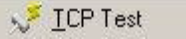
To configure a new unit with the saved parameters, click the **Load** button  in the WatchLock Parameters window, browse to the location where you saved the configuration file, select the file and press **Open**. Click the **Select All** button  to select all the parameters and press the **Send** button  to send the changes to the unit.

## 5 Testing

It is important to test the unit connection to the network, the correct GPS location, the unit status and inputs response before installing the unit in the vehicle. In order to do this, you need to perform the following steps.

### TCP test

This test verifies that the SIM card is open to the GPRS network, the unit can connect to the network and make successful TCP/IP transmissions.

Press the **TCP Test** button  (**Communications > Advanced > Communication Window > Configuration > Helios.1**). Wait a few minutes until you receive a pop-up window with a successful connection message.

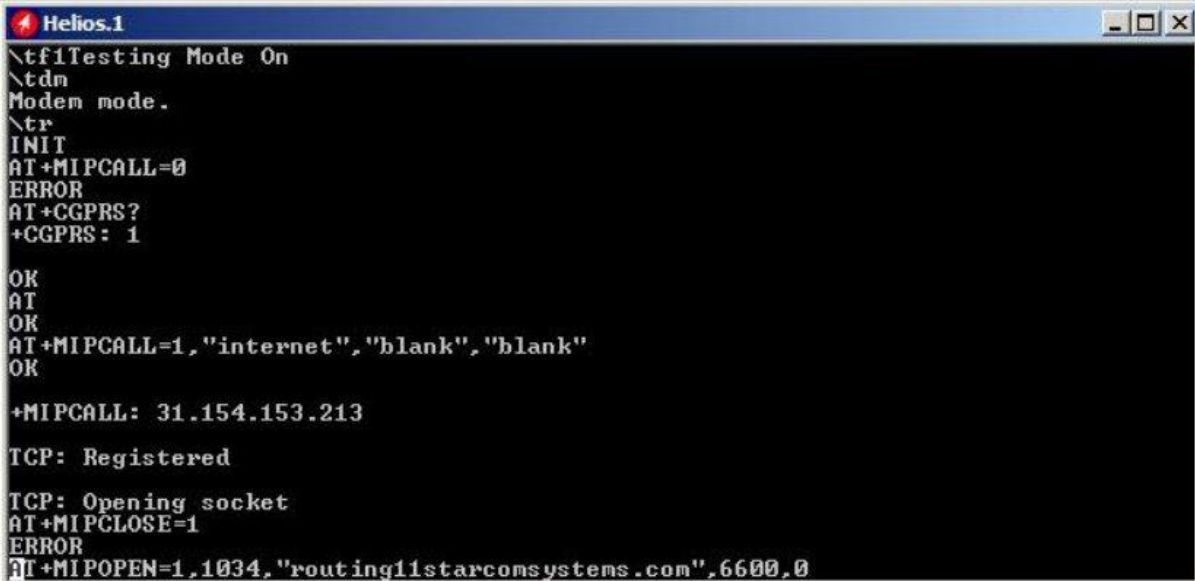


If at the end of the TCP Test you do not receive a successful message, check your APN settings (Helios Parameters > Network). Contact your cellular provider and make sure the SIM card is open for GPRS. Verify that your SIM card is not protected by a PIN code. If necessary, use a mobile phone to cancel the PIN code.

You can also perform the test manually using the **Terminal** window. Open the Terminal window (**Communications > Advanced > Communication Window > Configuration > Helios.1 > Open Terminal**) and type the following commands:

**\tdm** and press **Enter** (Modem mode). The modem will be turned on.

**\tr** and press **Enter**. This command runs a series of actions to check the parameters such as reception level, visible networks and registered network, SIM card state and information. It also attempts to connect to the routing server. If successful, a "TCP: Send+" message will appear in the Terminal window.



```
Helios.1
\rfiTesting Mode On
\tdn
Modem mode.
\tr
INIT
AT+MIPCALL=0
ERROR
AT+CGPRS?
+CGPRS: 1

OK
AT
OK
AT+MIPCALL=1,"internet","blank","blank"
OK

+MIPCALL: 31.154.153.213

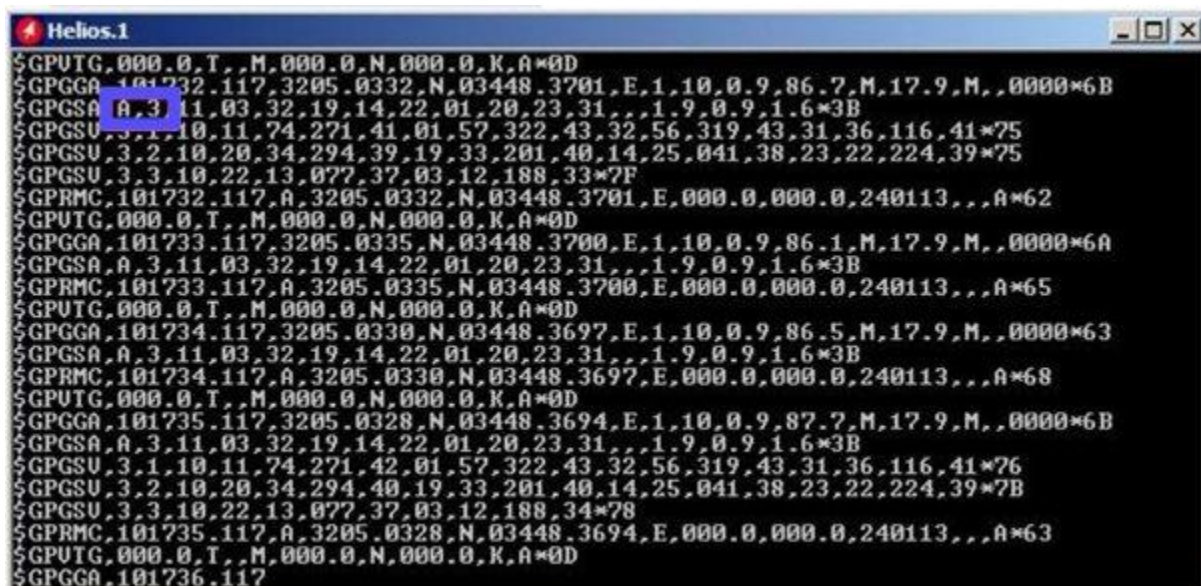
TCP: Registered

TCP: Opening socket
AT+MIPCLOSE=1
ERROR
AT+MIPOPEN=1,1034,"routing1starcomsystems.com",6600,0
```

## GPS test

**NOTE:** If you're testing the unit inside the building, it will not be able to get a GPS signal in most cases. In order to get a proper GPS location, the unit has to be placed outside the building, or outside the window, where it can access the satellites.

Open the Terminal window (**Communications > Advanced > Communication Window > Configuration > Helios.1 > Open Terminal**) and type **\tdg** (GPS mode). GPS readings will be displayed. When you see "A,3"... reading, it will indicate a GPS fix signal.



```

$GPRMC,000.0,T,M,000.0,N,000.0,E,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,A*00
$GPGGA,101732.117,3205.0332,N,03448.3701,E,1,10,0.9,86.7,M,17.9,M,0.0,0000*6B
$GPGSA,A,3,11,03,32,19,14,22,01,20,23,31,,1.9,0.9,1.6*3B
$GPGSU,3,1,10,11,74,271,41,01,57,322,43,32,56,319,43,31,36,116,41*75
$GPGSU,3,2,10,20,34,294,39,19,33,201,40,14,25,041,38,23,22,224,39*75
$GPGSU,3,3,10,22,13,077,37,03,12,188,33*7F
$GPRMC,101732.117,A,3205.0332,N,03448.3701,E,0.0,0.0,0.0,240113,,,A*62
$GPRMC,000.0,T,M,000.0,N,000.0,E,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,A*00
$GPGGA,101733.117,3205.0335,N,03448.3700,E,1,10,0.9,86.1,M,17.9,M,0.0,0000*6A
$GPGSA,A,3,11,03,32,19,14,22,01,20,23,31,,1.9,0.9,1.6*3B
$GPRMC,101733.117,A,3205.0335,N,03448.3700,E,0.0,0.0,0.0,240113,,,A*65
$GPRMC,000.0,T,M,000.0,N,000.0,E,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,A*00
$GPGGA,101734.117,3205.0330,N,03448.3697,E,1,10,0.9,86.5,M,17.9,M,0.0,0000*63
$GPGSA,A,3,11,03,32,19,14,22,01,20,23,31,,1.9,0.9,1.6*3B
$GPRMC,101734.117,A,3205.0330,N,03448.3697,E,0.0,0.0,0.0,240113,,,A*68
$GPRMC,000.0,T,M,000.0,N,000.0,E,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,A*00
$GPGGA,101735.117,3205.0328,N,03448.3694,E,1,10,0.9,87.7,M,17.9,M,0.0,0000*6B
$GPGSA,A,3,11,03,32,19,14,22,01,20,23,31,,1.9,0.9,1.6*3B
$GPGSU,3,1,10,11,74,271,42,01,57,322,43,32,56,319,43,31,36,116,41*76
$GPGSU,3,2,10,20,34,294,40,19,33,201,40,14,25,041,38,23,22,224,39*7B
$GPGSU,3,3,10,22,13,077,37,03,12,188,34*78
$GPRMC,101735.117,A,3205.0328,N,03448.3694,E,0.0,0.0,0.0,240113,,,A*63
$GPRMC,000.0,T,M,000.0,N,000.0,E,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,A*00
$GPGGA,101736.117

```

If you do not see any response, type **\tg1** to turn the GPS on and repeat the test.

## Unit Status

Open the **Unit Status** window. Enter the unit number in the **Unit Number** field, select **Request status** and press **Send**. The unit information will appear.



The screenshot shows a software window titled "Unit Status" for unit number 310825. At the top, there is a red star icon and the unit number "310825". Below this, there are two input fields: "Unit Number" (containing "310825") and "Address" (containing "0"). There are three tabs: "Status", "Testing", and "Comment". The "Status" tab is selected, displaying the following information:

- Mileage: 0
- Real time: 27-Jan-13 3:33:13 PM
- Modem Signal: 31
- Battery: 4.08v
- Software: 2012.05.24
- Hardware: Triton uBx
- Time: 27-Jan-13 5:33:12 PM
- Reason: Response

Below the status information, there are four tabs: "Inputs", "Outputs", "Location", and "Various". The "Inputs" tab is selected, showing a list of actions: "Request status", "Tracking", "Mileage", "Send Text", "MDT", "Voice Call", "Clear Events", and "Restart". The "Request status" action is highlighted. At the bottom of the window, there is a "Send" button with a green circular indicator next to it.

Click on the **Inputs** tab, press on the Key, Arm, Doors, etc. buttons on the Simulator, press Request status and check the response in the Unit Status window. Use the **Outputs** tab to test the unit's outputs response. Use the **Location** tab to check the unit's GPS data. Use the **Various** tab to see the unit information.

After all the tests have been performed successfully, the unit is ready to be installed in the vehicle.



## 6 Installations

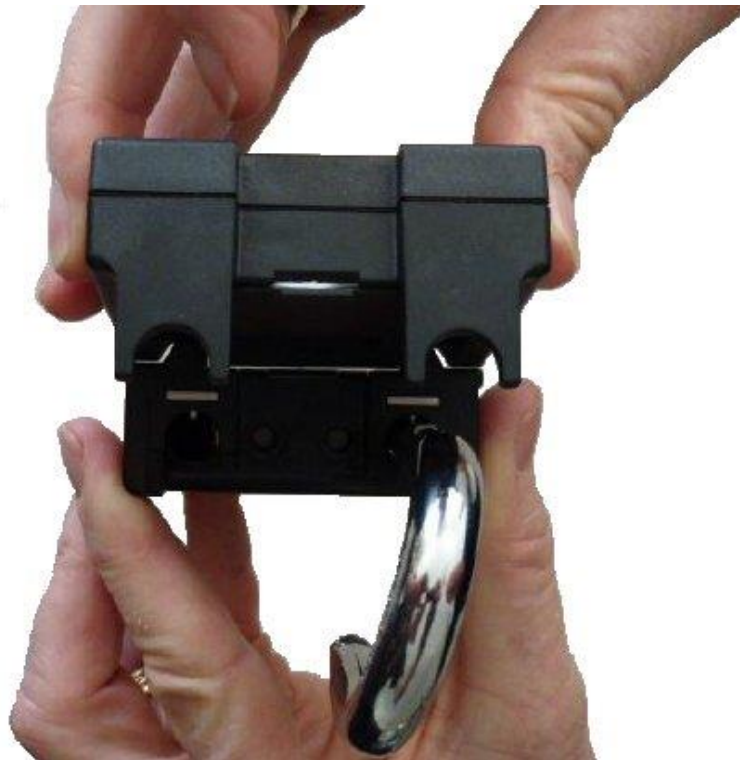
### Assembling the device

If the plastic connector is not connected to the padlock, connect it making sure that the brackets on the sides of the plastic connector fit into the grooves on the padlock, as shown in the following image.

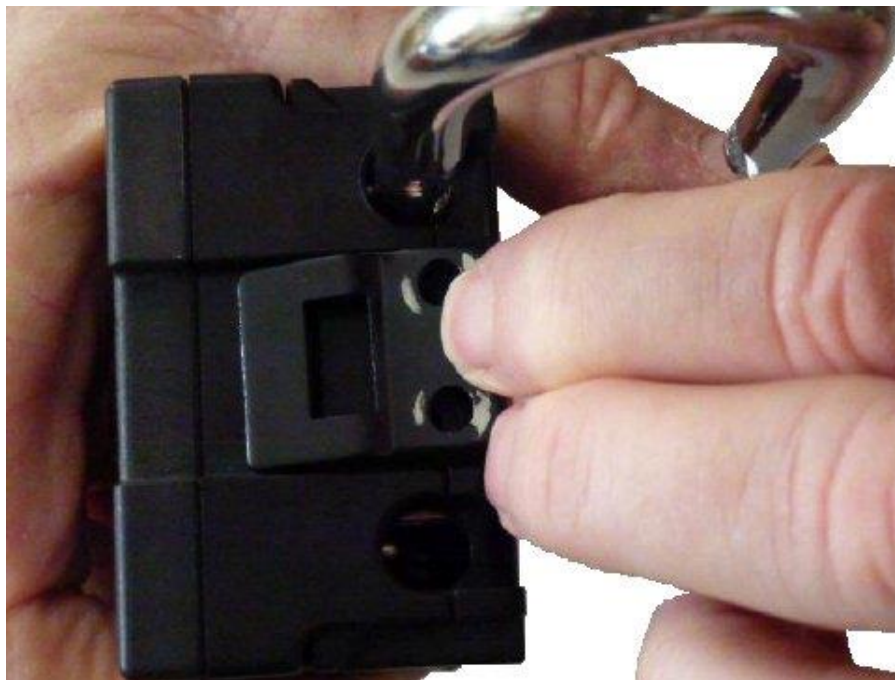


Disconnect the USB cable from the unit. Place the plastic cover back in the unit. Slide the electronic unit downwards into the grooves on the back of the plastic connector attached to the padlock, as shown in the following image.





*NOTE:* The shackle must be positioned 90° to the body of the padlock, in order to be able to attach the electronic unit to the padlock. If the shackle is not correctly positioned, the internal pins will not allow you to slide the electronic unit onto the padlock.



Fit the bracket that secures the electronic unit to the top of the padlock, as shown in the following image.

Use a Phillips screwdriver to secure the electronic unit to the padlock with two screws as shown in the following image.



Once the device is assembled, you can install it in various ways. The following images show a few examples of the device installation.





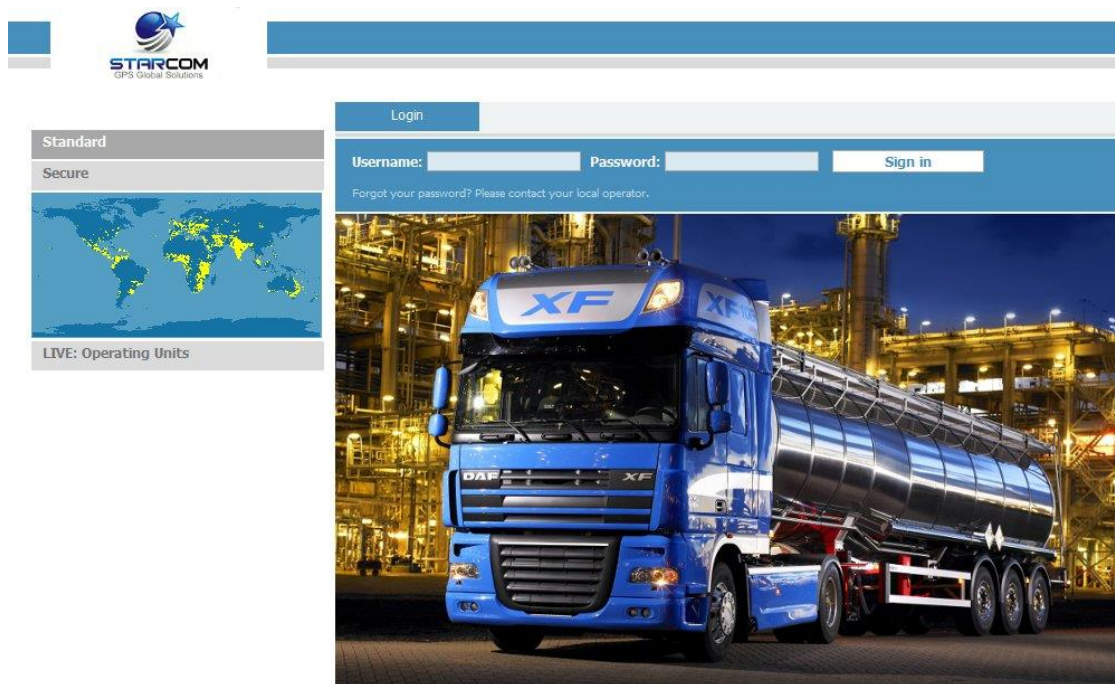




## 7 Monitoring

After the unit is installed in the vehicle, you can monitor its status on **SGS Online**. SGS Online is a web based fleet management application with a flexible event generator which allows to set customizable notifications and alerts.

In your browser, go to [http://starcomsystems.com/online/de\\_st.htm](http://starcomsystems.com/online/de_st.htm) Enter your username and password in the **Username** and **Password** fields, and click **Sign in**.



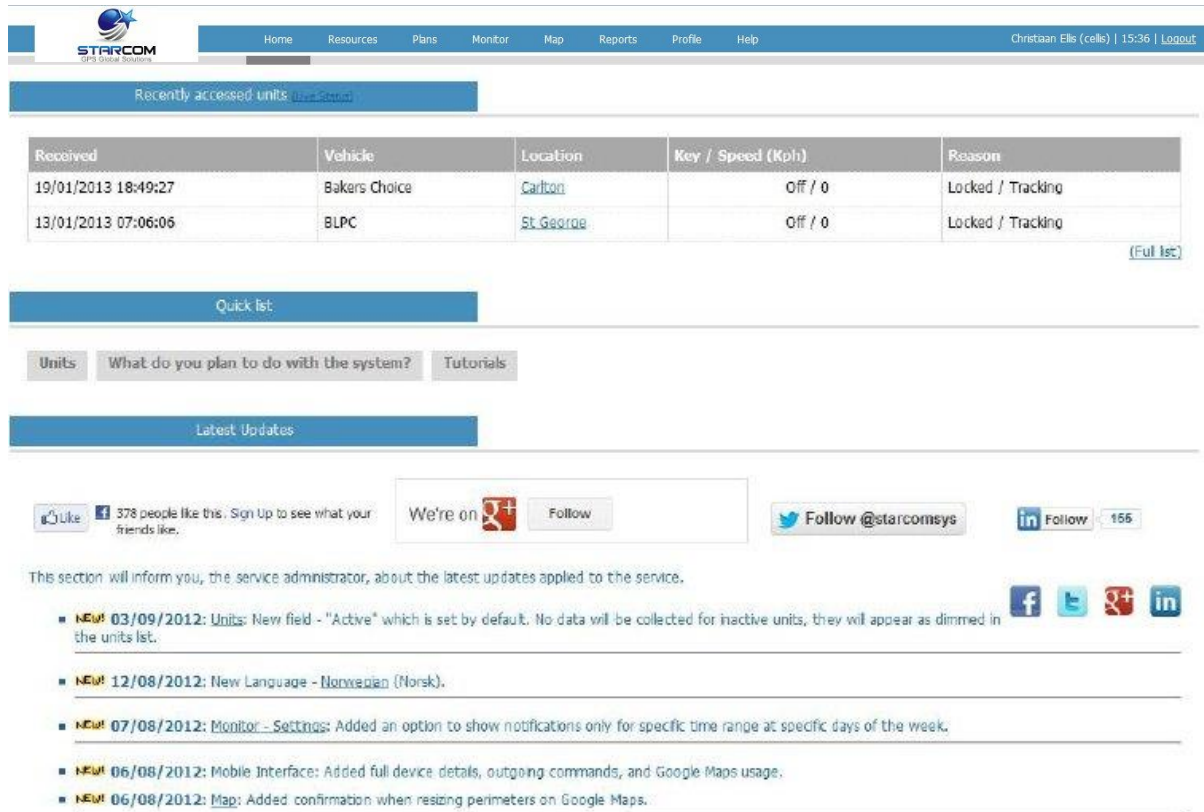
Starcom Online horizontal menu bar features the following categories:

- ★ **Home** – lists the most recently accessed units, including their location.
- ★ **Resources** – allows managing the unit and customer information.
- ★ **Plans** – allows creating and managing events and alerts.
- ★ **Monitor** – monitors the events and alerts from the unit.
- ★ **Map** – displays the actual location of the unit on the map.
- ★ **Reports** – generates reports of the unit activity.
- ★ **Profile** – allows configuring your user properties.
- ★ **Help** – contains tutorials and knowledge base.



## Home

The Home section shows recently accessed units and latest site updates.



The screenshot shows the Watchlock Home page. At the top is a navigation bar with links: Home, Resources, Plans, Monitor, Map, Reports, Profile, and Help. The user is logged in as Christian Elle (cells) at 15:36. Below the navigation bar is a section titled "Recently accessed units" with a link to "Live Status". It contains a table with the following data:

Received	Vehicle	Location	Key / Speed (Kph)	Reason
19/01/2013 18:49:27	Bakers Choice	<a href="#">Carlton</a>	Off / 0	Locked / Tracking
13/01/2013 07:06:06	BLPC	<a href="#">St George</a>	Off / 0	Locked / Tracking

Below the table is a link to "(Full list)". Underneath is a "Quick list" section with buttons for "Units", "What do you plan to do with the system?", and "Tutorials". Below that is a "Latest Updates" section. It includes social media links for Facebook (378 likes), Google+ (Follow), Twitter (@starcomsys), and LinkedIn (155 followers). It also contains a list of updates:

- NEW 03/09/2012:** Units: New field - "Active" which is set by default. No data will be collected for inactive units, they will appear as dimmed in the units list.
- NEW 12/08/2012:** New Language - Norwegian (Norsk).
- NEW 07/08/2012:** Monitor - Settings: Added an option to show notifications only for specific time range at specific days of the week.
- NEW 06/08/2012:** Mobile Interface: Added full device details, outgoing commands, and Google Maps usage.
- NEW 06/08/2012:** Map: Added confirmation when resizing perimeters on Google Maps.

In the Home section, you can find the following additional links:

**Live status** – displays the current status of all live units, as shown in the following image.



The screenshot shows the "Live Status" page. It contains a table with the following data:

Received	Vehicle	Location	Key / Speed (Kph)	Reason
19/01/2013 18:49:27	Bakers Choice	<a href="#">Carlton</a>	Off / 0	Locked / Tracking
13/01/2013 07:06:06	BLPC	<a href="#">St George</a>	Off / 0	Locked / Tracking

**Full list** – opens the Resources section that displays a full list of all your units.

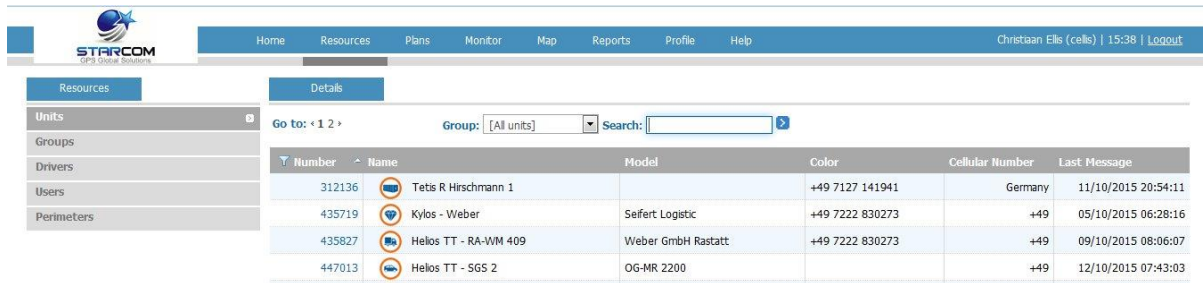
**Location** – opens the Map section that displays a map showing the current location of the unit.

**Quick List** – links that enable you to access the Resources and Plans sections.



## Resources

The Resources section shows all your units.



Number	Name	Model	Color	Cellular Number	Last Message
312136	Tets R Hirschmann 1		+49 7127 141941	Germany	11/10/2015 20:54:11
435719	Kylos - Weber	Seifert Logistic	+49 7222 830273	+49	05/10/2015 06:28:16
435827	Helos TT - RA-WM 409	Weber GmbH Rastatt	+49 7222 830273	+49	09/10/2015 08:06:07
447013	Helos TT - SGS 2	OG-MR 2200		+49	12/10/2015 07:43:03

On the left side, the Resources section features the following tabs:

**Units** – lists the units.

**Groups** – lists the groups of units and helps you create new and modify the existing groups.

**Users** – lists the users and helps you create new and modify the existing users.

**Perimeters** – lists perimeters and helps you define new and modify the existing perimeters.

## Units

The **Units** page features the **Details** area, which arranges the unit information in the following columns:

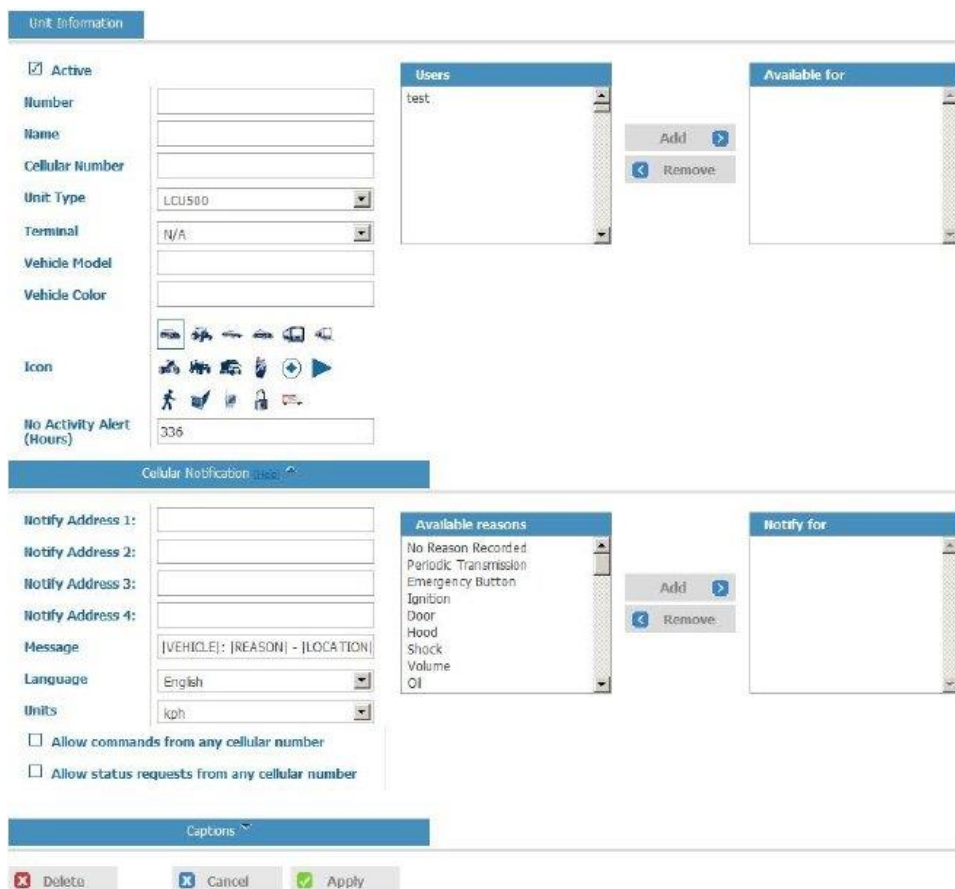
**Number** – the unit serial number. Clicking on the unit number link will display the **Unit Information** page, where you can modify the unit information.

**Name** – displays the icon and the name of the unit. Clicking on it will reveal a pop-up menu with the quick access links to the Map and the Reports sections.

**Cellular Number** – displays the phone number of the SIM card installed in the unit.

**Last Message** – displays the time and date of the last message transmitted by the unit.

To create a new unit, click **New** (not available for evaluation kit users). The Unit Information page opens.



**Unit Information**

☒ Active

Number:

Name:


Cellular Number:

Unit Type:

Terminal:

Vehicle Model:

Vehicle Color:

Icon: 

No Activity Alert (Hours):

**Cellular Notification**

Notify Address 1:

Notify Address 2:

Notify Address 3:

Notify Address 4:

Message:

Language:

Units:

☐ Allow commands from any cellular number

☐ Allow status requests from any cellular number

**Available reasons**

- No Reason Recorded
- Periodic Transmission
- Emergency Button
- Ignition
- Door
- Hood
- Shock
- Volume
- Oil

**Notify for**

**Captions**

**Active** – when selected (set by default), makes the unit active on Starcom Online. To make the unit inactive, deselect this checkbox. No data will be collected for inactive units; they will appear as dimmed in the units list.

Use this section to enter the unit **Number** and **Name**. In the **Cellular Number** field, enter the number of the SIM card installed in the unit. In the **Unit Type** list, select Helios. Use the **Terminal** list to select the type of terminal connected to the unit.

**No Activity Alert (Hours)** – used to receive an alert when the unit has stopped transmitting. The default value is 336 hours (2 weeks).

In the **Users** list, select the users you want to make the unit available for and click **Add**. The users will be moved to the **Available for** list.

Use the **Cellular Notification** section to configure the cellular notifications for different events.

**Notify Address 1-4** – enter the cellular numbers you want to use to send commands to the unit, or to receive notifications on when the events occur.

**Message** – modify the notification message format.

**Language** – select the language in which you want to receive the message.

**Units (kph/mph)** – select the measurement you want to receive the speed data in.

In the **Available reasons** list, select the reasons you want to receive an alert for and click **Add**. The reasons will be moved to the **Notify for** list.

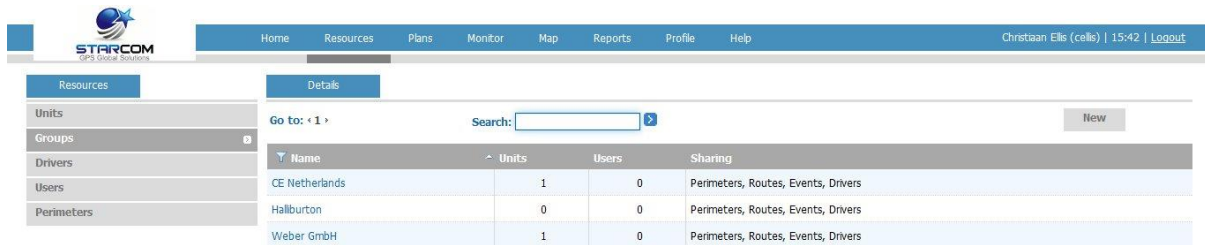
When finished, click **Apply**. The new unit is saved.

To modify a unit, in the **Units** page, click on the unit name link of the unit you want to modify. The Unit Information page appears. Modify the unit details as required. Click **Apply**. The modified unit details are saved.

To delete a unit, in the **Units** page, click on the unit name link of the unit you want to delete. The Unit Information page appears. Click **Delete**. The unit is deleted.

## Groups

You can create new and modify the existing groups of units.



Name	Units	Users	Sharing
CE Netherlands	1	0	Perimeters, Routes, Events, Drivers
Halburton	0	0	Perimeters, Routes, Events, Drivers
Weber GmbH	1	0	Perimeters, Routes, Events, Drivers

To create a new group, click **New**. The Group page opens.



In the **Name** field enter the name of the new group.

In the **Units** list, select the units you want to include in the group and click **Add**. The units will be moved to the **In Group** list.

In the **Users** list, select the users you want to include in the group and click **Add**. The users will be moved to the **Available for** list.

In the **Sharing** section, click the respective checkbox, if you want the group to **Share Perimeters**, **Share Events**, or **Share Drivers**.

Click **Apply**. The new group is saved.

To modify a group, in the **Groups** page, click on the group name link of the group you want to modify. The Group page appears. Modify the group details as required. Click **Apply**. The modified group details are saved.

To delete a group, in the **Groups** page, click on the group name link of the group you want to delete. The Group page appears. Click **Delete**. The group is deleted.

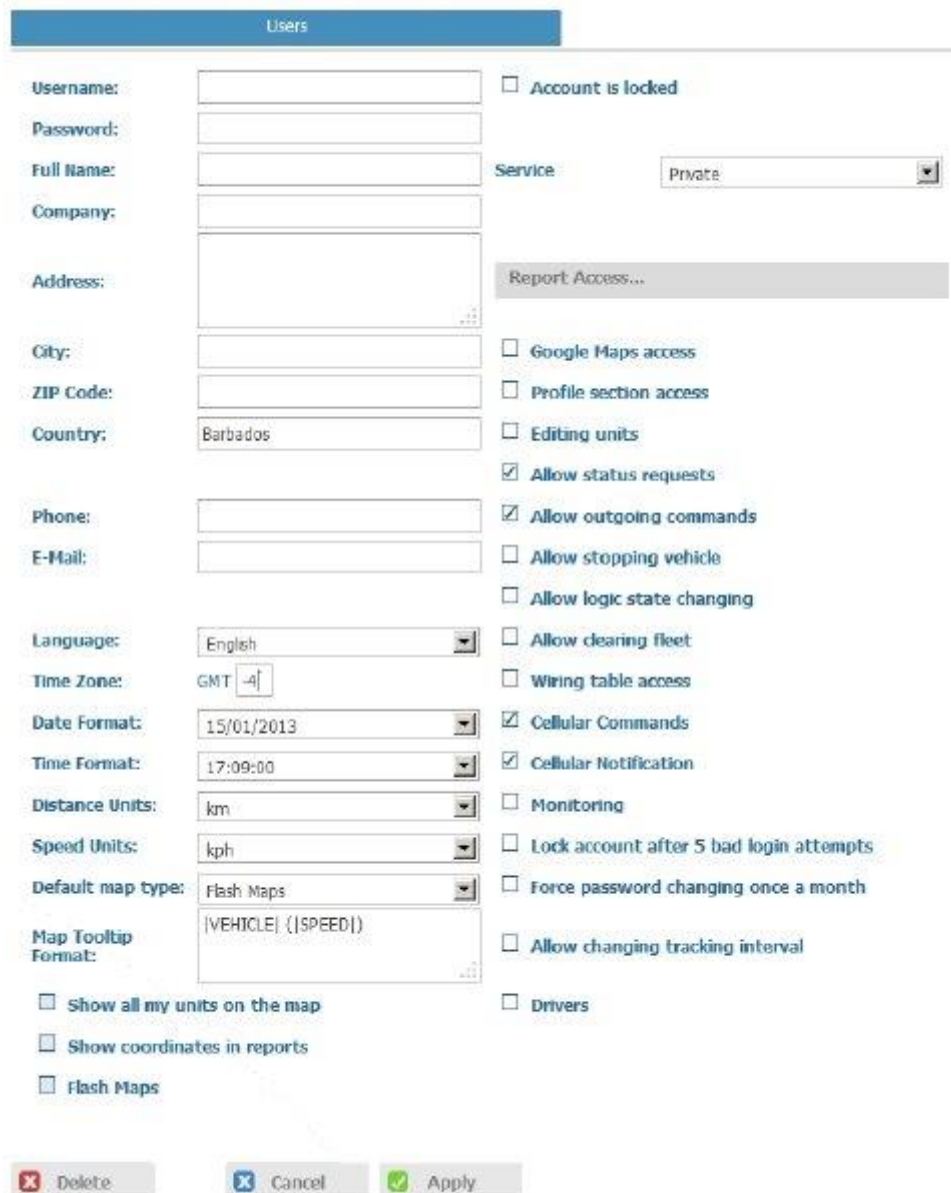
## Users

You can create new and modify the existing users.



The screenshot shows the 'Users' page in the Watchlock interface. On the left is a sidebar with a 'Resources' menu containing 'Units', 'Groups', 'Drivers', 'Users' (selected), and 'Perimeters'. The main area has a 'Details' tab and a table of users. The table has columns: Username, Full Name, Company, Phone, E-Mail, Last Login, and Created By. One user is listed: 'testuser', 'Test', 'Test', empty, 'test@test.com', 'N/A', and empty. Above the table is a search bar and a 'New' button. Below the table is an 'Export' button. The top navigation bar includes 'Home', 'Resources', 'Plans', 'Monitor', 'Map', 'Reports', 'Profile', 'Help', and a user profile 'Christian Ellis (cells) | 15:42 | Logout'.

To create a new user, click **New**. The Users page opens. Here you can enter the new user information and define their access permissions.



The screenshot shows the 'New User' form. It has two main sections: user information and permissions. The user information section includes fields for Username, Password, Full Name, Company, Address, City, ZIP Code, Country (set to Barbados), Phone, E-Mail, Language (set to English), Time Zone (set to GMT -4), Date Format (set to 15/01/2013), Time Format (set to 17:09:00), Distance Units (set to km), Speed Units (set to kph), Default map type (set to Flash Maps), and Map Tooltip Format (set to {VEHICLE} {SPEED}). The permissions section includes checkboxes for 'Account is locked', 'Google Maps access', 'Profile section access', 'Editing units', 'Allow status requests', 'Allow outgoing commands', 'Allow stopping vehicle', 'Allow logic state changing', 'Allow clearing fleet', 'Wiring table access', 'Cellular Commands', 'Cellular Notification', 'Monitoring', 'Lock account after 5 bad login attempts', 'Force password changing once a month', 'Allow changing tracking interval', and 'Drivers'. There are also checkboxes for 'Show all my units on the map', 'Show coordinates in reports', and 'Flash Maps'. At the bottom are buttons for 'Delete', 'Cancel', and 'Apply'.



Besides entering the user information, you can select the following options:

**Show all my units on the map** –all the user's units will be displayed on the Map page. If this option is disabled, only the selected unit will be displayed.

**Show coordinates in reports** – the user's reports will include the GPS coordinates.

**Service: Private / Commercial / Advanced** – defines the level of user access for the Plans and the Reports sections.

**Report Access** – allows to select which reports will be accessible for the user.

**Google Maps access** – enables Google Maps access on the Maps page.

**Profile section access** – enables the user to view his Profile section.

**Editing units** – enables the user to edit the unit details.

**Allow status requests** – enables the user to make unit status requests.

**Cellular Commands** – enables the user to send commands to the unit from a cellular phone.

**Cellular Notification** – enables the user to receive cellular notifications.

**Monitoring** – enables the user to view the Monitoring page.

**Lock account after 5 bad login attempts** – locks access to Starcom Online account after the user has made 5 bad login attempts.

**Force password changing once a month** – requires the user to change the password once a month.

**Allow editing cellular number** – enables the user to edit the phone number of the SIM card installed in the unit.

**Allow changing tracking interval** – enables the user to change the time of the unit tracking interval.

After you configured all the parameters, click **Apply**. The new user is saved.

To modify a user, in the **Users** page click on the user name link of the user you want to modify. The Users page appears. Modify the user details as required. Click **Apply**. The modified user details are saved.

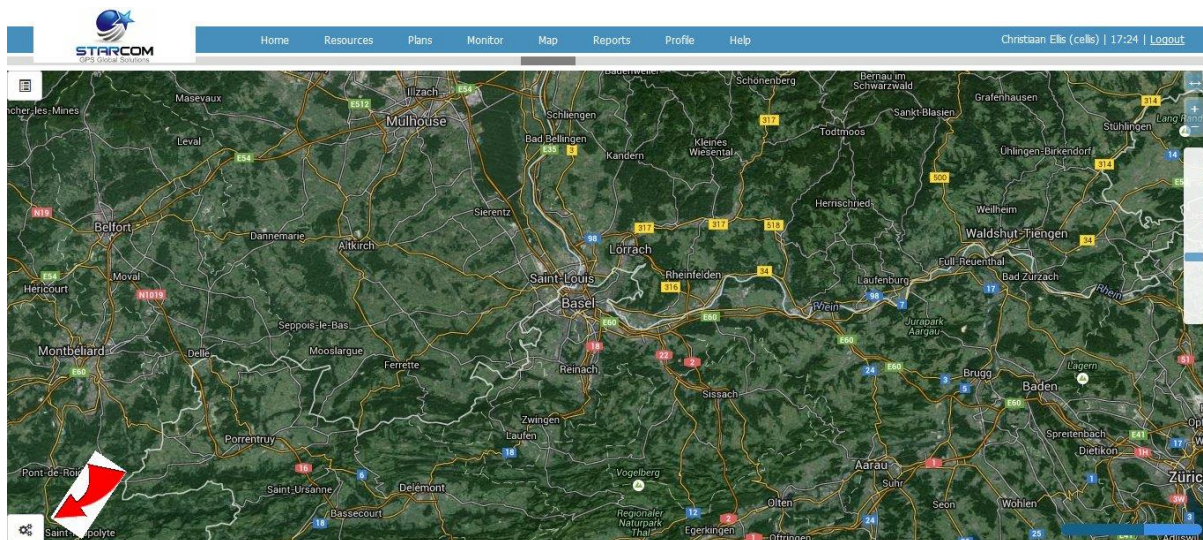
To delete a user, in the **Users** page click on the user name link of the user you want to delete. The Users page appears. Click **Delete**. The user is deleted.

## Perimeters

You can create new and modify the existing perimeters.

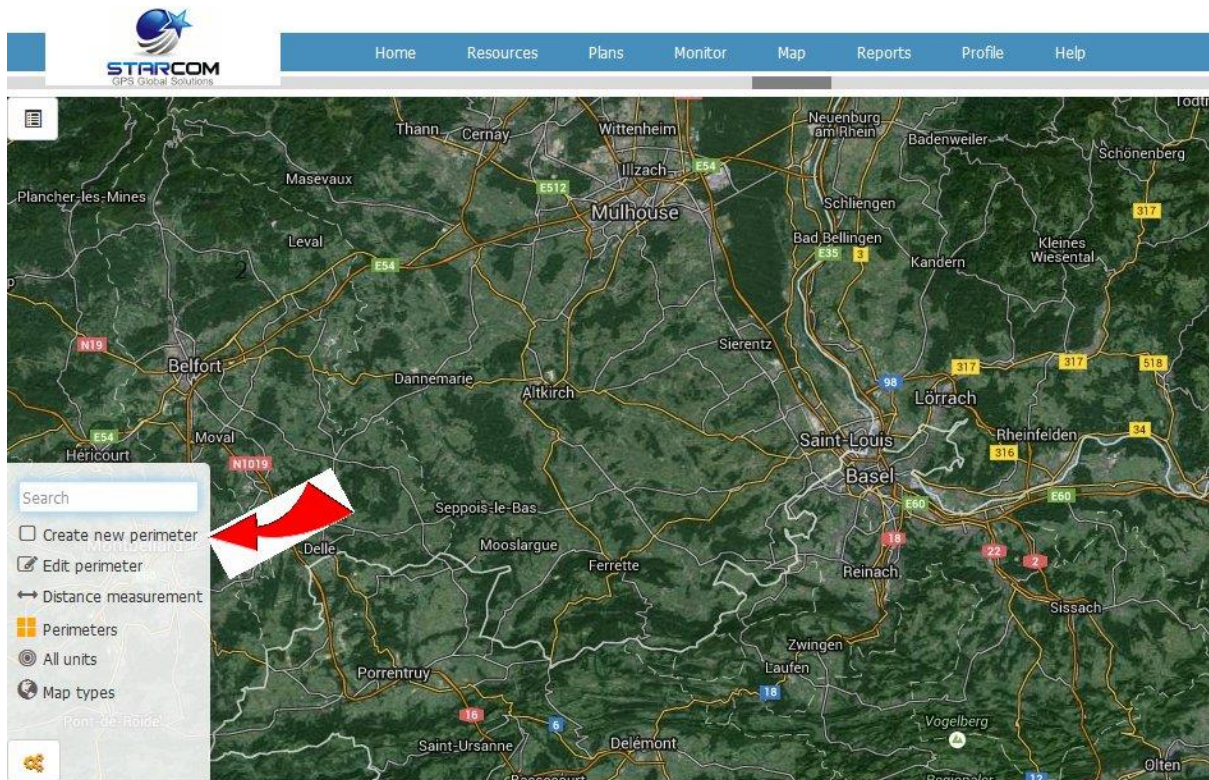


To create a new perimeter, click the **Button** at the bottom left corner of the map to open the Perimeter function

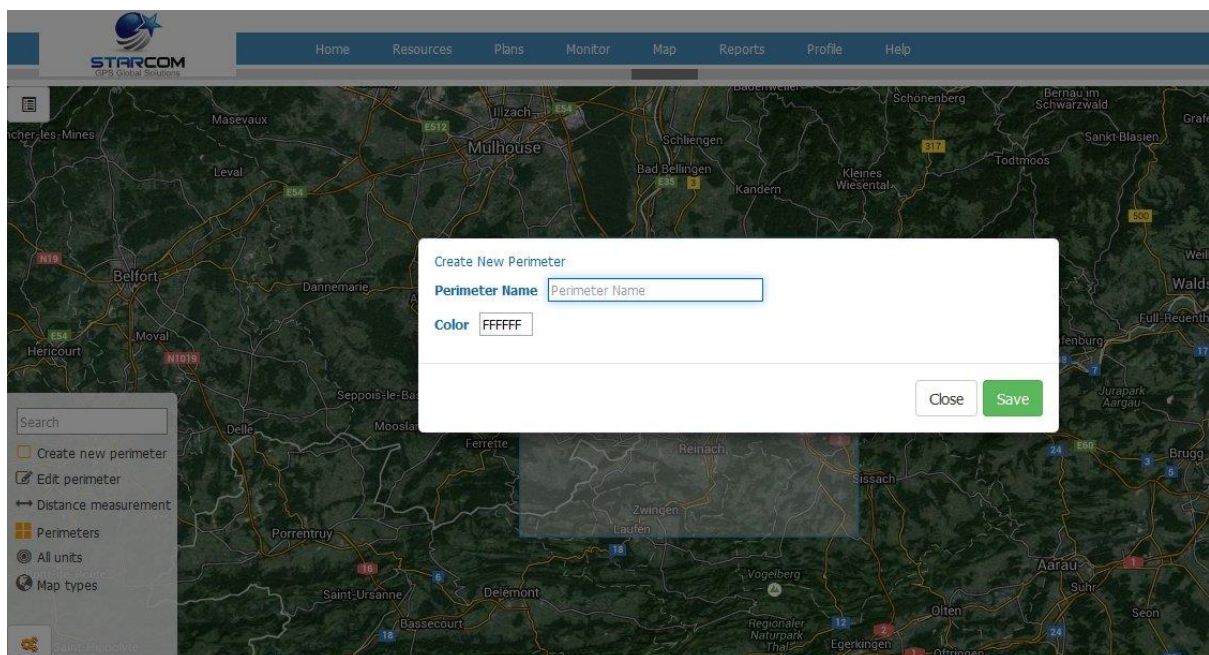




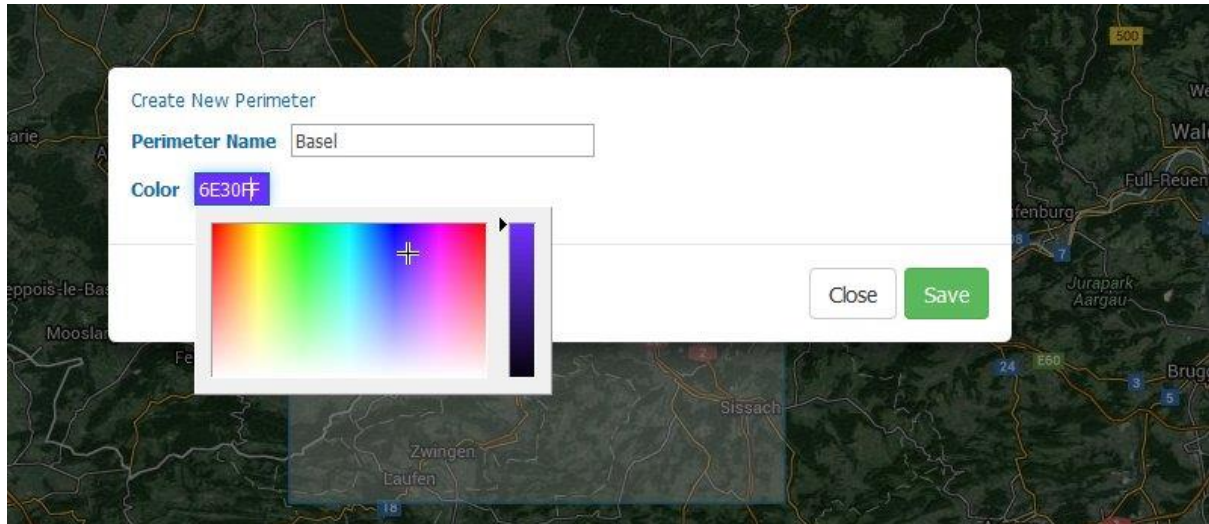
To create a new perimeter, click **Create New Perimeter**. The **Create New Perimeter** box will change color to **Orange**.



The cursor changes to a + and allows you to drag a rectangle over the area you want to demarcate as a perimeter. Once the area is selected, a text box appears.



In the **Text** field, enter the name of the perimeter. From the **Color** palette, choose a color for the perimeter. Click **Save**. The new perimeter is saved and appears on the map.



## Plans

The Plans section enables you to create usage plans and to view plans that already exist.



The screenshot shows the 'Plans' section with the 'Basic' tab selected. The left sidebar contains 'Basic', 'Advanced', and 'Events' tabs. The main content area for the 'Basic' tab contains the following text and options:

This screen will assist you to set up your system usage plan.

What do you plan to do with the system?

- ☐ Generate reports about ignition working hours and mileage
- ☐ Receive alarms about speed violations
- ☐ Receive alarms when entering/leaving a designated area
- ☐ Receive alarms if the engine is on and the vehicle isn't moving
- ☐ Receive alarms about high speed in a specific location
- ☐ Receive alarms when a vehicle's door opens in a specific location
- ☐ Generate reports about back doors opening (where installed)

At the bottom of the main content area is a 'Next' button.

On the left side, the Plans section features the following tabs:

**Basic** – allows to set up basic plans for LCU500 units. Do not use.

**Advanced** – allows to set up advanced plans for LCU500 units. Do not use.

**Events** – allows to create events for your units.

To create a new event, you need to create an event Type first. Click **Types**. The Types page opens.



The screenshot shows the 'Plans' section with the 'Types' tab selected. The left sidebar contains 'Basic', 'Advanced (LCU500)', and 'Events' tabs. The main content area for the 'Types' tab contains a search bar and a table of event types.

Name	Created by	Events
Accident	cells	Transmit Reason, Set Output
Analog Inputs	System	Analog
Dangerous curves-Moto	cells	Transmit Reason, Speed
Door opening in a specific location	System	Input, Perimeter

In this section, you can see the types of events already created in the system. You can use one of them, or create a new type.



To create a new event type, click **New**. Enter the name of the event type in the **Name** field. Leave **Day of the week** and **Time Range** as "Changeable", later you will be able to change these settings in the event itself.

Event Type

Name:

New Event Type

Day of the week:

☐ Changeable  
☒ Monday  
☒ Tuesday  
☒ Wednesday  
☒ Thursday  
☒ Friday  
☒ Saturday  
☒ Sunday

Time Range:

☐ Changeable  

00 : 00 to 23 : 59 (h:m)

Events

Click the **Add Event** button and select the event type you want to create from the dropdown list.

Events

Add Event

Remove Event

Type:

Value:

Operand:

Add Event

Delete

Wait

Wait

Set Output

Input

Speed

Perimeter

Roaming

GPRS

Tracking

Mileage

Analog

Logic State

RPM

Transmit Reason

Modem

Most of the types listed here relate to the Helios units. The event types that can be used for WatchLock are: **Perimeter**, **Roaming** and **GPRS**.

Set the necessary **Value**. You can leave the **Condition** as "Changeable", later you will be able to change it in the event itself. Select the necessary operand in the **Operand** list, as follows:

**And** – when you create several events, this event and the following one will be performed simultaneously.

**And then** – when you create several events, the following event will start only after the first one is performed.

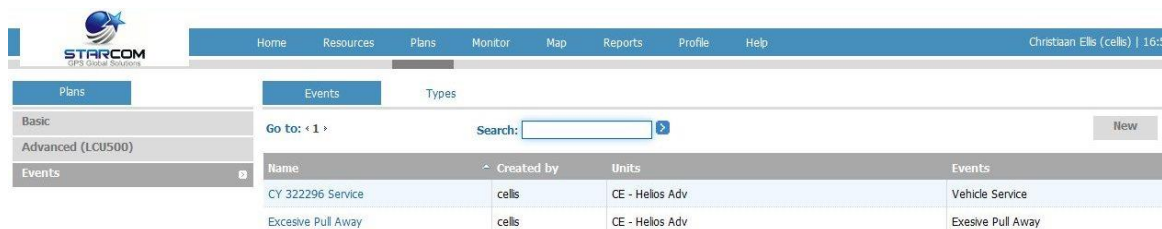
**Transmit** – the event will be transmitted.

**End** – ends an event. For example, you can create an output event, which after it performs the necessary actions will simply end.

You can create a complex event type, which consists of several events.

When finished, click **Apply**. The new event type is saved.

To create a new event, click **New** in the Events section.



Enter the name of the event in the **Name** field. In the **Units** list, select the units you want to include in the event and click **Add**. The units will be moved to the **Available for** list.



Enter the cellular number and email address to receive the event notification. If you select the Monitor checkbox, the event will be displayed on the Monitor page (see below) in real time.

Click the **Add Event** button and select the type of the event you want to create from the dropdown list.

The screenshot shows a web-based form for adding a new event. At the top, there are two blue buttons: 'Add Event' and 'Remove Event'. Below these, the form fields are as follows:

- Type:** A dropdown menu with 'Mileage' selected.
- Name:** An empty text input field.
- Time Range:** Two time selection boxes. The first is '00 : 00' and the second is '23 : 59', followed by '(h:m)'.
- Days of the Week:** A list of days from Monday to Sunday, each with a checked checkbox.
- Condition:** A dropdown menu with 'Exact value' selected.
- Mileage:** A text input field containing the number '1000'.

At the bottom of the form is another blue 'Add Event' button. Below the form, there are three buttons: 'Delete' (with a red X icon), 'Cancel' (with a blue X icon), and 'Apply' (with a green checkmark icon). A dashed arrow points from the 'Delete' button towards the 'Apply' button.

Specify the time and date range and the event condition.

When finished, click **Apply**. The new event is saved.

For example, let's create an event, which will send an alert when the vehicle goes over a certain speed in a specific location.

For this, we will use a Location event type already created in the system and create a new event based on this type.

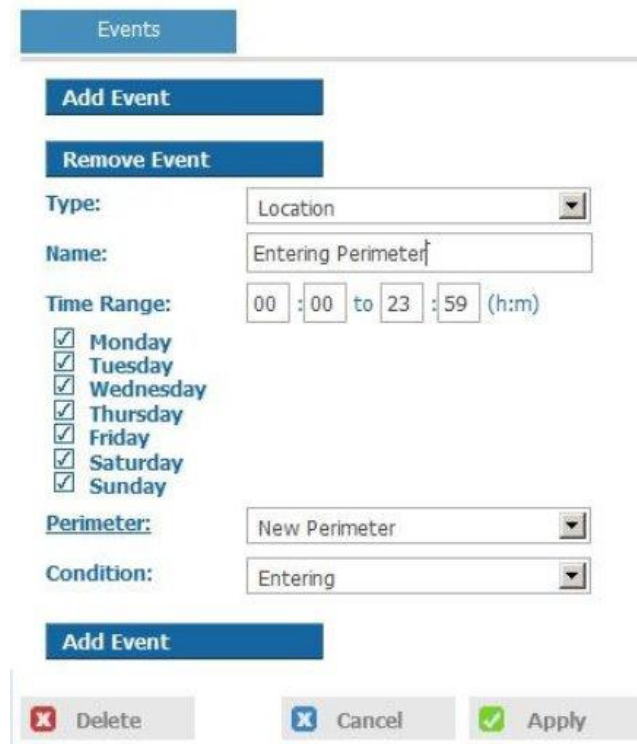
Go to **Events** and click **New**.



Enter the name of the event in the **Name** field. In the **Units** list, select the units you want to include in the event and click **Add**. The units will be moved to the **Available for** list.

Enter the cellular number and email address to receive the event notification. Select the Monitor checkbox, if you want the event will to be displayed on the Monitor page in real time.

Click the **Add Event** button and select the **Location** type in the **Type** list.



Enter the name of the event in the **Name** field. Select the necessary time and date range.

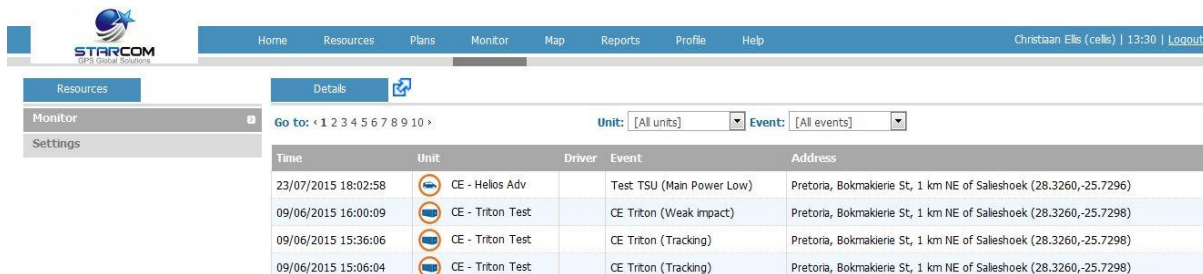
Select the necessary perimeter in the **Perimeter** list.

Select **Entering** in the **Condition** list.

Click **Apply**. The new event, which will send an alert when the unit enters a specific location, is created.

## Monitor

The Monitor section allows you to select a set of events for a specific unit type and to see them displayed in real time.



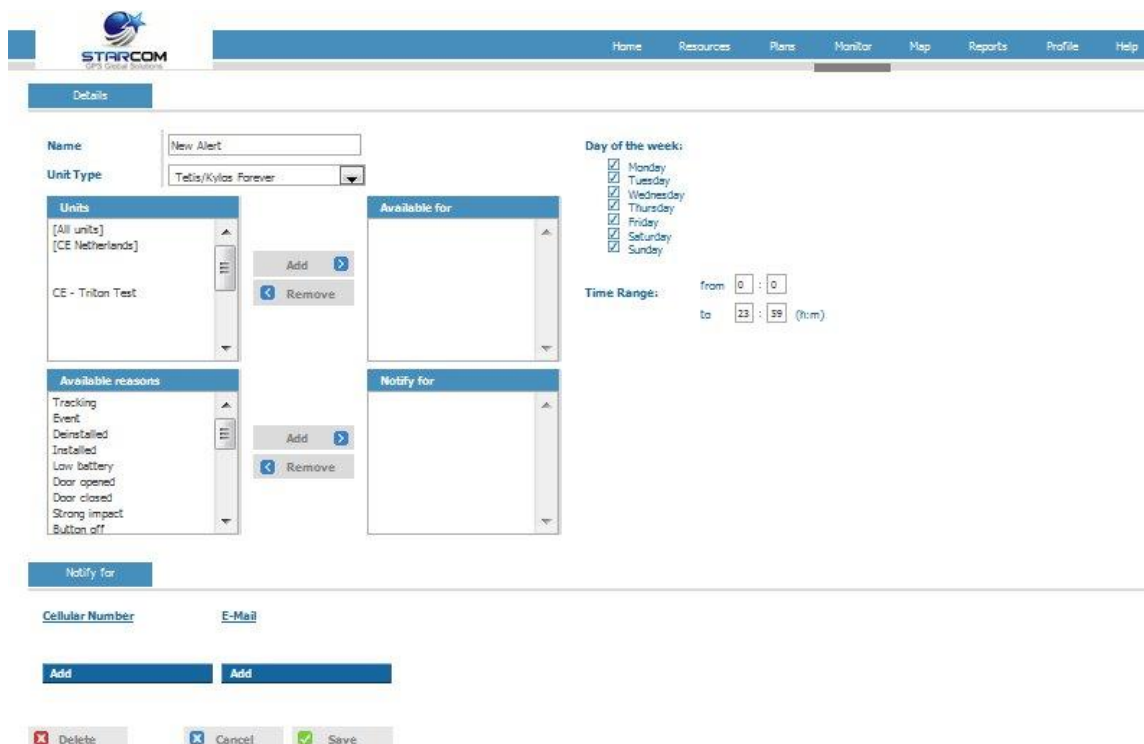
Time	Unit	Driver	Event	Address
23/07/2015 18:02:58	CE - Helios Adv		Test TSU (Main Power Low)	Pretoria, Bokmakierie St, 1 km NE of Saleshoek (28.3260,-25.7296)
09/06/2015 16:00:09	CE - Triton Test		CE Triton (Weak impact)	Pretoria, Bokmakierie St, 1 km NE of Saleshoek (28.3260,-25.7298)
09/06/2015 15:36:06	CE - Triton Test		CE Triton (Tracking)	Pretoria, Bokmakierie St, 1 km NE of Saleshoek (28.3260,-25.7298)
09/06/2015 15:06:04	CE - Triton Test		CE Triton (Tracking)	Pretoria, Bokmakierie St, 1 km NE of Saleshoek (28.3260,-25.7298)

On the left side, the Monitor section features the following tabs:

**Monitor** – displays the events in real time.

**Settings** – allows creating new and modifying existing monitoring events.

To create a new event, go to the **Settings** tab and click **New**. The Details page opens. In the **Name** field, enter a name for the new event.



**Name:** New Alert

**Unit Type:** Tetis/Kylas Forever

**Units:** [All units], [CE Netherlands], CE - Triton Test

**Available reasons:** Tracking, Event, Deinstalled, Installed, Low battery, Door opened, Door closed, Strong impact, Button off

**Available for:**

**Day of the week:** ☒ Monday, ☒ Tuesday, ☒ Wednesday, ☒ Thursday, ☒ Friday, ☒ Saturday, ☒ Sunday

**Time Range:** from 0 : 0 to 23 : 59 (h:m)

**Notify for:**

**Cellular Number:**  **E-Mail:**

**Add:**

Select **Watchlock** in the **Unit Type** list.

In the **Units** list, select the units you want to include in the event and click **Add**. The units will be moved to the **Available for** list.



In the **Available reasons** list, select the reasons you wish to receive an alert for and click **Add**. The reasons will be moved to the **Notify for** list.

- ★ Main Power Low – alerts you of the battery getting low.
- ★ Static / Mobile Pin IN/OUT, Closed / Opened – alerts triggered upon opening and closing of the lock. If you look at a disassembled unit from the inside, you will notice 2 buttons located in the upper part of the unit.



These buttons come in contact with the lock shackle and respond when the lock is opened / closed.

Static pin - a button located on the right side, which comes in contact with the static, inseparable side of the shackle. Mobile pin - a button located on the left side, which comes in contact with the mobile, opening side of the shackle. Pin IN - button is pressed. Pin OUT - button is unpressed.

- ★ Weak Impact/Strong Impact – events which show two types of impact on a container.
- ★ Location Update – event which will update you on the unit location status.
- ★ Power On – alert that is sent when the unit turns on.

- ★ Light On/Light Off – event which alerts upon a change of light inside the container. The WatchLock light sensor readings are indicated by numerical values (when the unit is located in a well-lighted place the light sensor value will be higher than in a dark place). Those values appear on the Map page and in the reports.
- ★ Temperature High/Temperature Low – alert sent when the unit's temperature sensor detects when the temperature gets lower or higher than the defined low and high temperature values.
- ★ No Activity – this event can be used to receive alerts when devices have stopped transmitting. The default value is 336 hours (2 weeks).

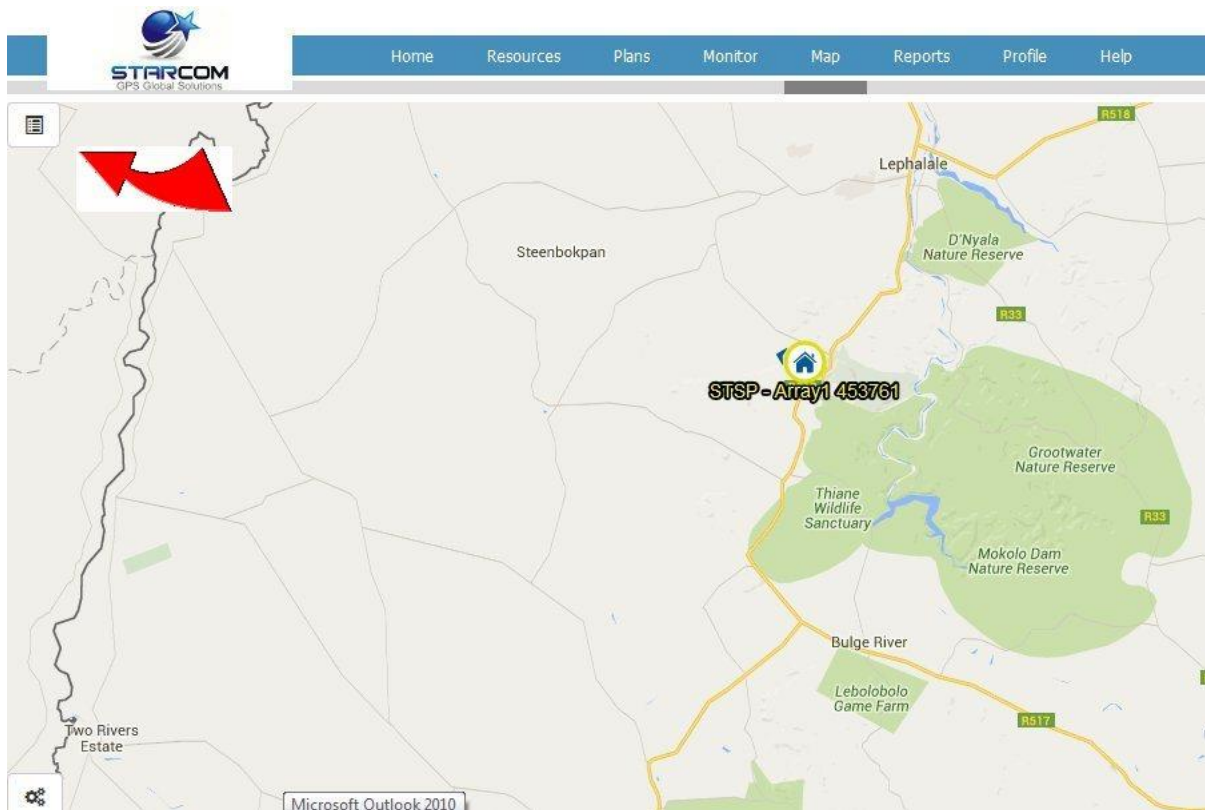
Enter the cellular number and email for the notification to be sent to in the **Notify for** section.

Press **Apply**. The new monitoring event is saved.

Once the events are generated by the units, they will appear on the Monitor page. You will also receive a notification by SMS. The email notifications are accumulated and sent once every half an hour to avoid spamming.

## Map

The Map page displays the location of a single unit, or a group of units. It also shows the unit information and commands.



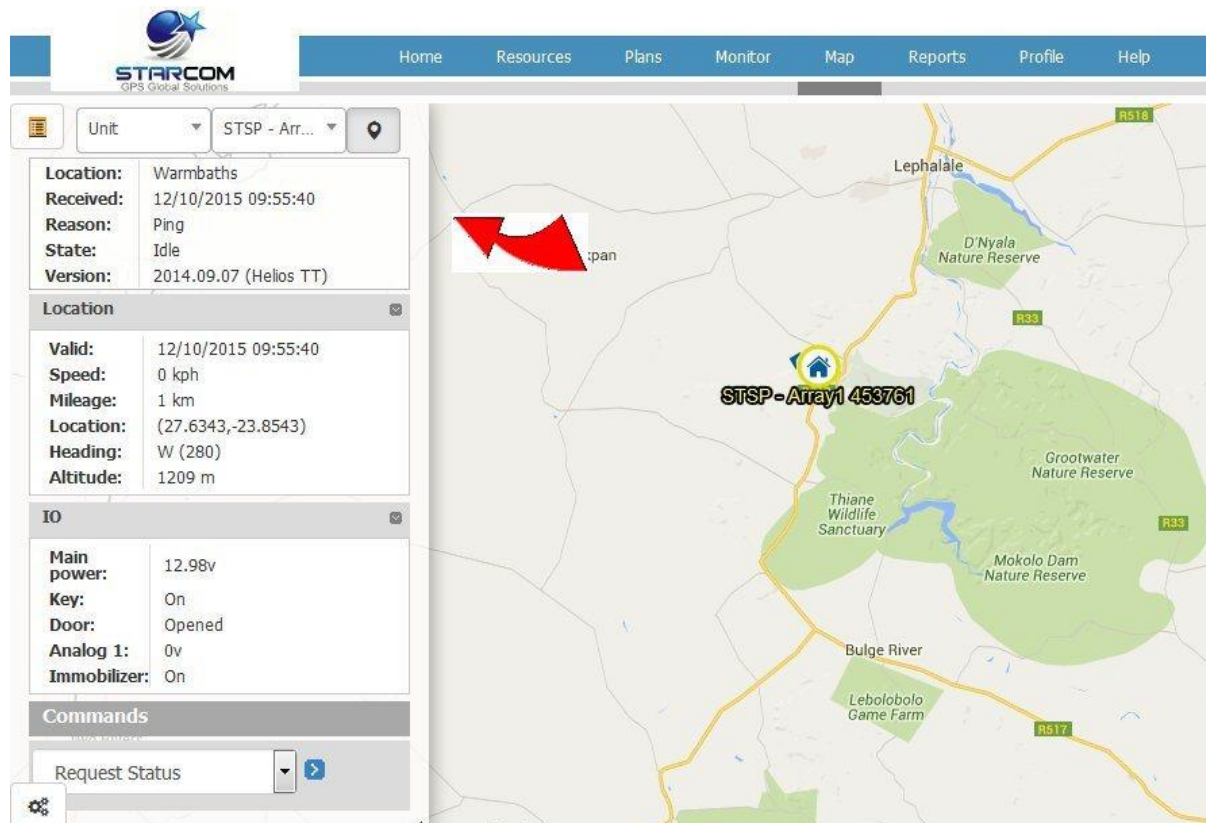
You can select unit, or a group of units in the dropdown list on the left.

In the Search field, you can enter the unit number to be displayed.

You can switch the map view between Flash Maps (regular map) and Google Maps by clicking the link at the bottom right corner of the page.

The **Red Arrow** shows the new hide / un-hide system for Unit information on page 61 and 62.

Once you select the unit, its location will be displayed on the map and its information will appear on the left.

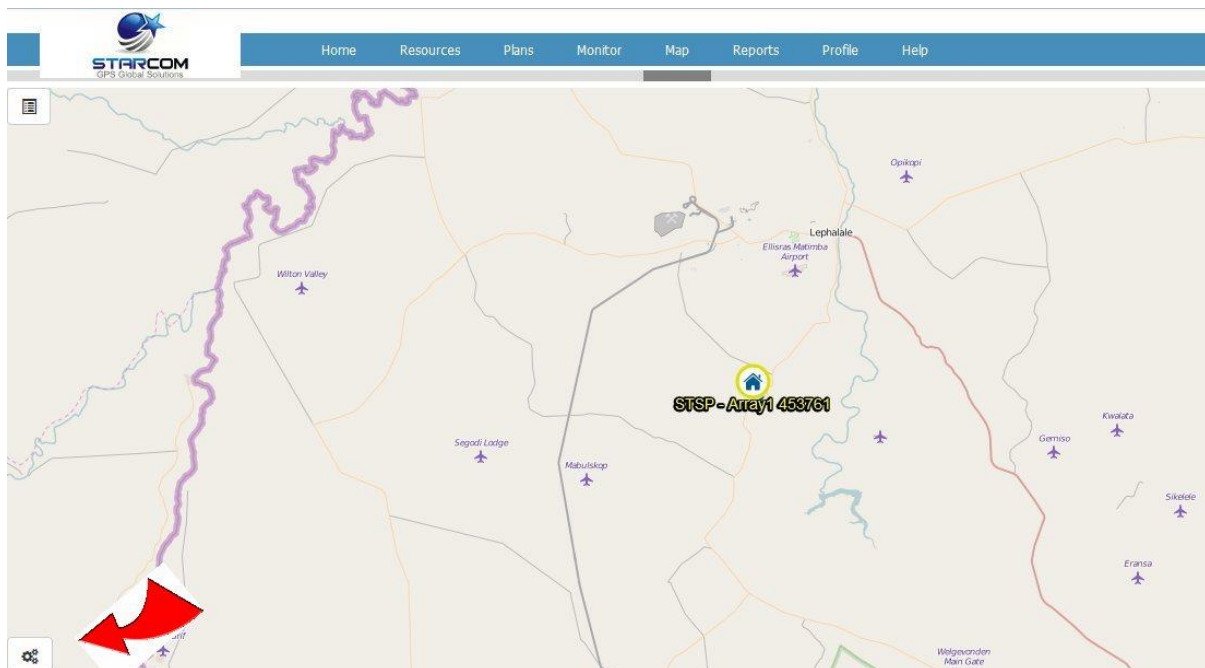


The following unit information is displayed:

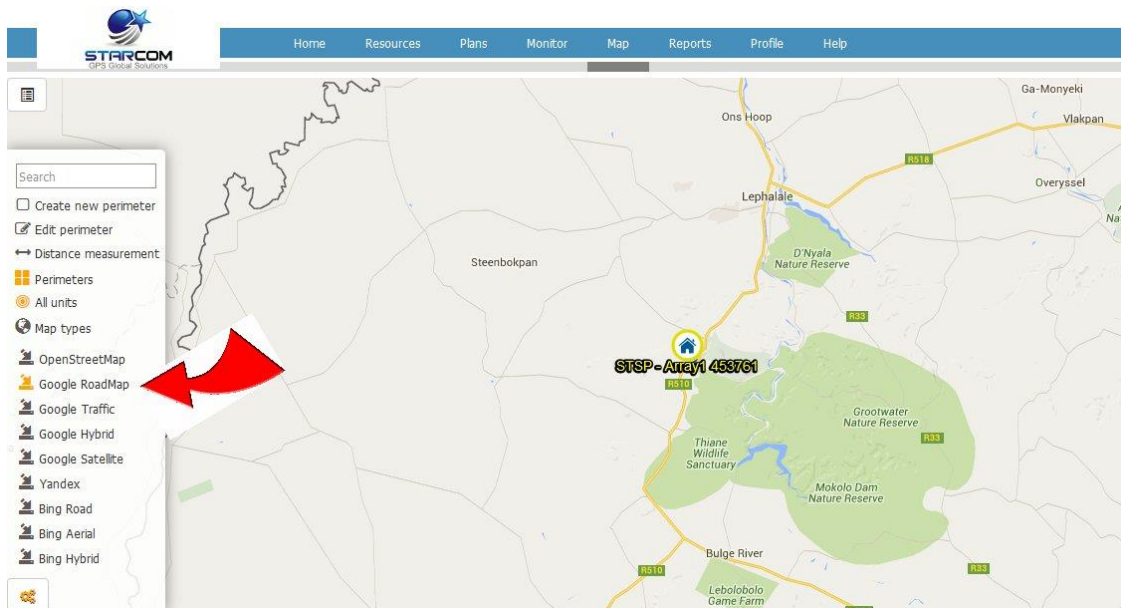
- ★ **Code** – the unit name
- ★ **Location** – the address of the last GPS position of the unit
- ★ **Received** – the date and time of last transmission from the unit
- ★ **Reason** – the reason for the transmission
- ★ **State** – the unit logic state
- ★ **Version** – the unit firmware version
- ★ **Location** – the GPS location of the unit, including:
  - **Valid** – the date and time of the last location transmission from the unit
  - **Speed** – the last recorded speed of the unit
  - **Location** – the GPS coordinates of the last position of the unit

- **Heading** – the vehicle moving direction
- **Altitude** – the last altitude of the unit
- ★ **IO** – unit input and output information
- ★ **Commands**
  - **Request Status** – requests the current status of the unit
  - **Tracking** – overrides the unit transmission rate settings and forces the unit to transmit according to the specified interval.
  - **Stop Tracking** – stops the tracking command and returns the unit to its regular transmission rate

The following map shows where to open > **Create new perimeter, Edit perimeter, Distance measurement, Perimeters, All Units, Map types, OpenStreetMap, Google RoadMap, Google Traffic, Google Hybrid, Google Satellite, Yandex, Bing Road, Bing Aerial, Bing Hybrid**<



The following is an example of the map page showing Google Roadmaps.



On the left bottom there are Map Options. Clicking on the Options menu will reveal the following options.

## ★ Search

As you type the name of a search criterion in the search field, a list of matching names, from which you can select the required name, appears.

## ★ Tools

- **Edit perimeter** – allows you to edit an existing perimeter.
- **Create new perimeter** – allows to create a new perimeter.
- **Distance measurement** – allows to measure the distance between two points on the map.

## ★ Map types

You can select the following map types: OpenStreetMap, Google RoadMap, Google Satellite, Google Hybrid, Bing Road, Bing Aerial, Bing Hybrid, Yandex, Native.

## ★ Show

- **Traffic** – shows the current traffic conditions (where applicable).
- **Perimeters** – displays your perimeters on the map.
- **Labels** – displays the unit name next to the unit icon on the map.
- **All units** – displays all your units on the map at once.

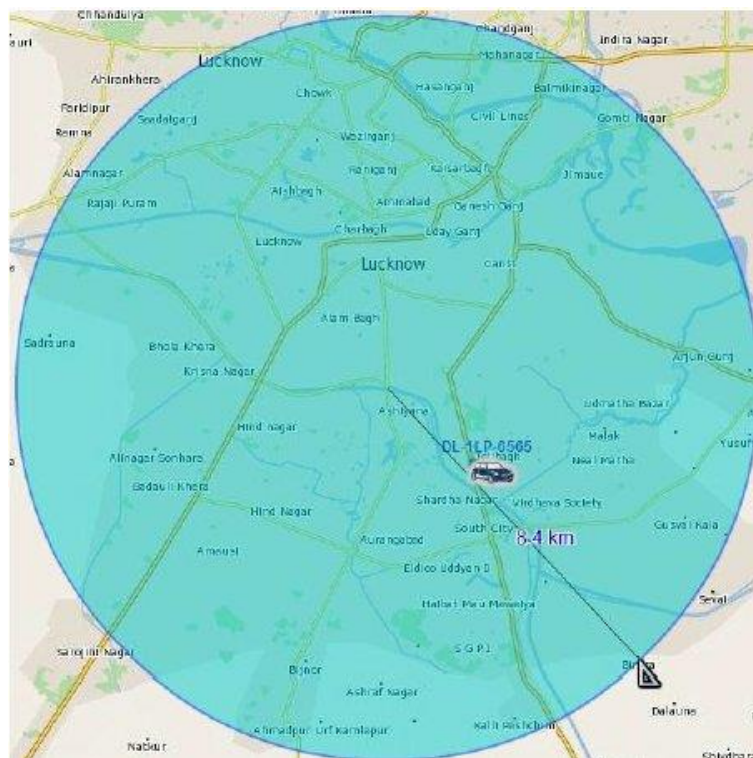


## Measuring the Distance between Two Points

Using the Distance Measurement tool, you can measure the distance between two points on the map.

To measure the distance between two points on the map:

1. On the map select the Distance Measurement tool, and move the mouse to the position on the map from which you want to measure the distance to another point.
2. From that point drag the mouse to the required position. While you are dragging the mouse the distance from the original point is indicated on the map, as shown in the following image.

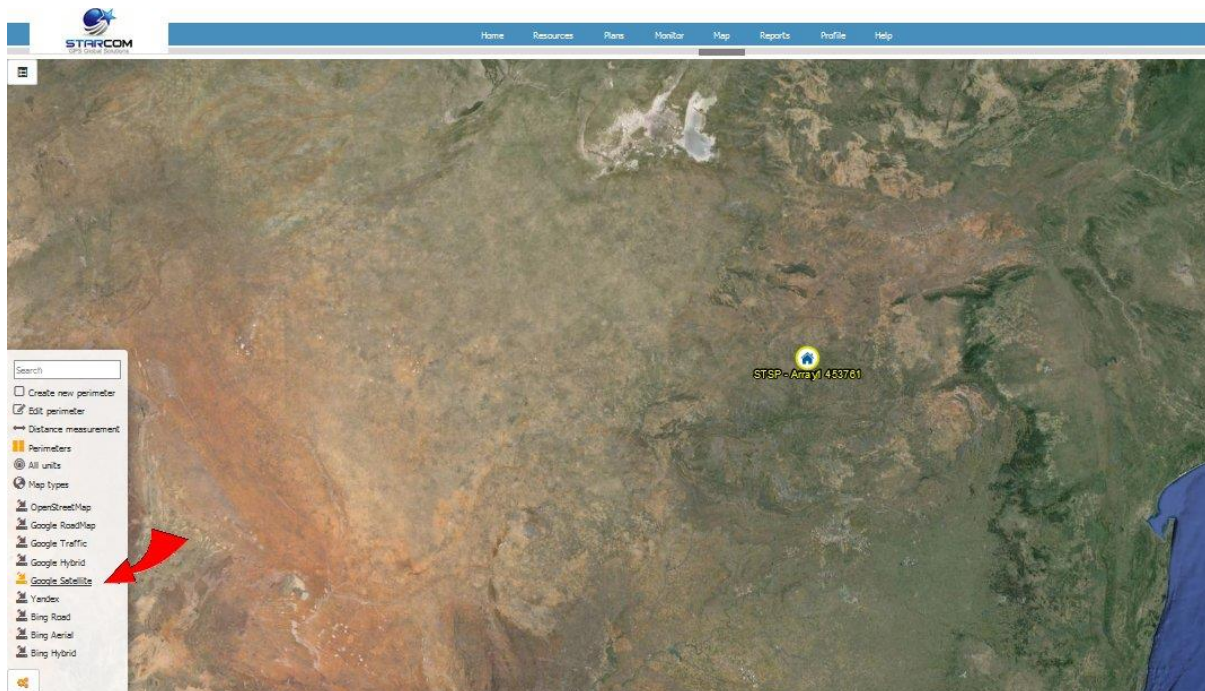


In the image above you can see that the measured distance is 8.4 km.

## Viewing a Satellite Image

You can view a satellite image instead of the map view.

To view a satellite image, click on the Satellite button. The Map now shows a satellite image of the area in view.



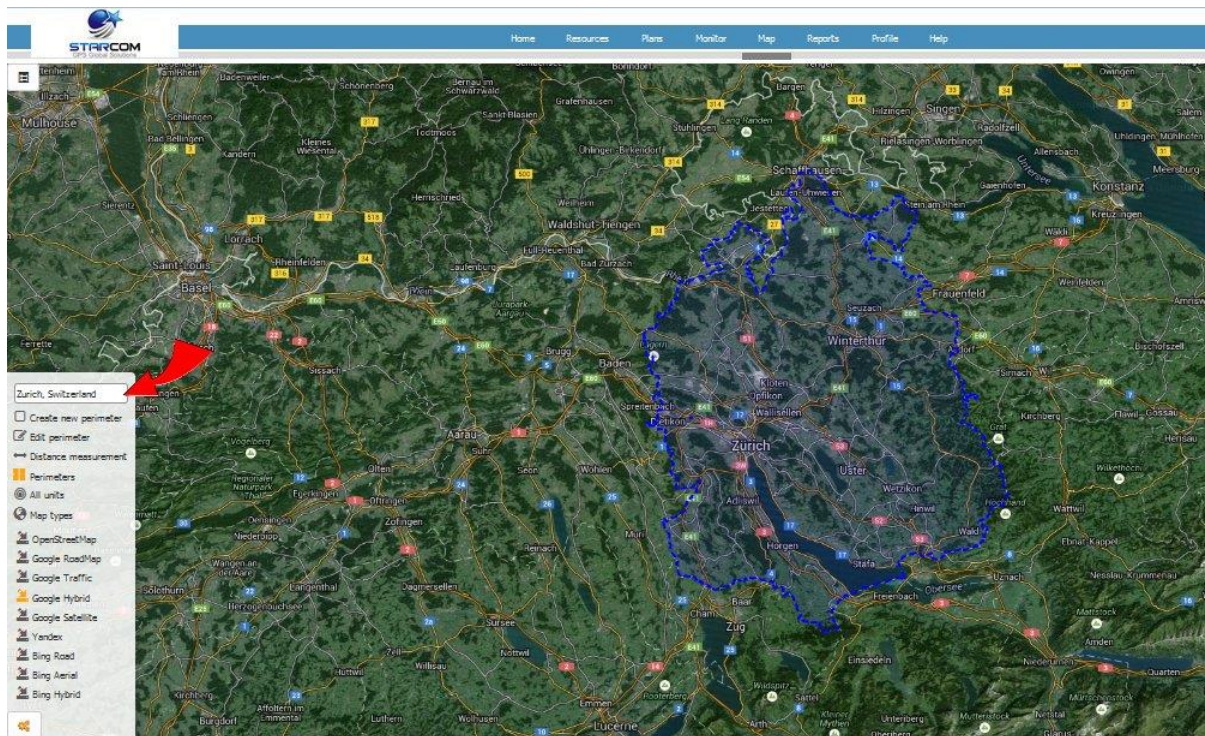
You can use any of the map tools on a satellite image.

## Searching the Map

You can search a map using the Search tool.

To search a map:

1. Go to the Search map tool.



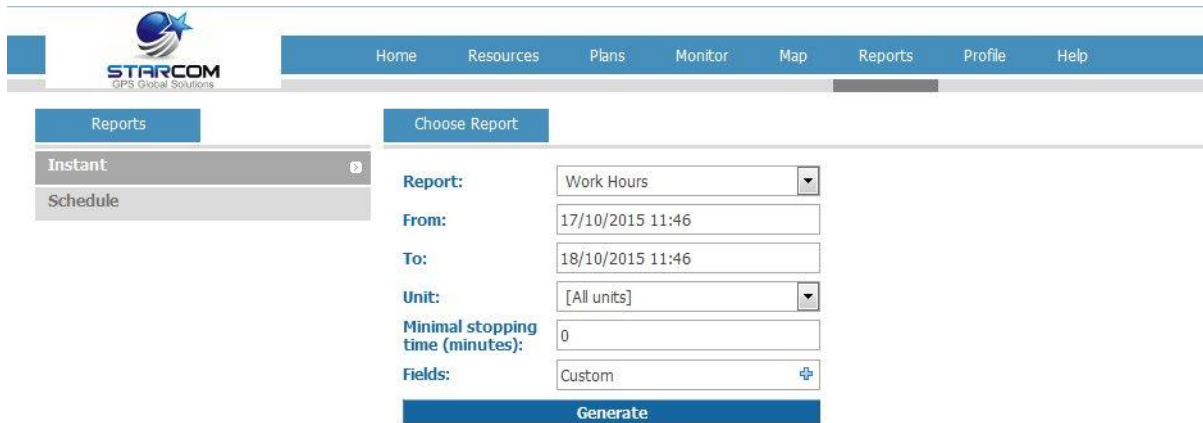
2. Enter the City and Street in the respective fields, and click the Search arrow. The map updates and shows the selected location.

**NOTE:** As you type the name of a search criterion, a list of matching names, from which you can select the required name, appears.



## Reports

The Reports section allows you to generate different unit reports and to schedule automatically generated reports.



On the left side, the Reports section features the following tabs:

**Instant** – allows to generate reports on demand for a single unit or a group of units for a specific time period (date and time range).

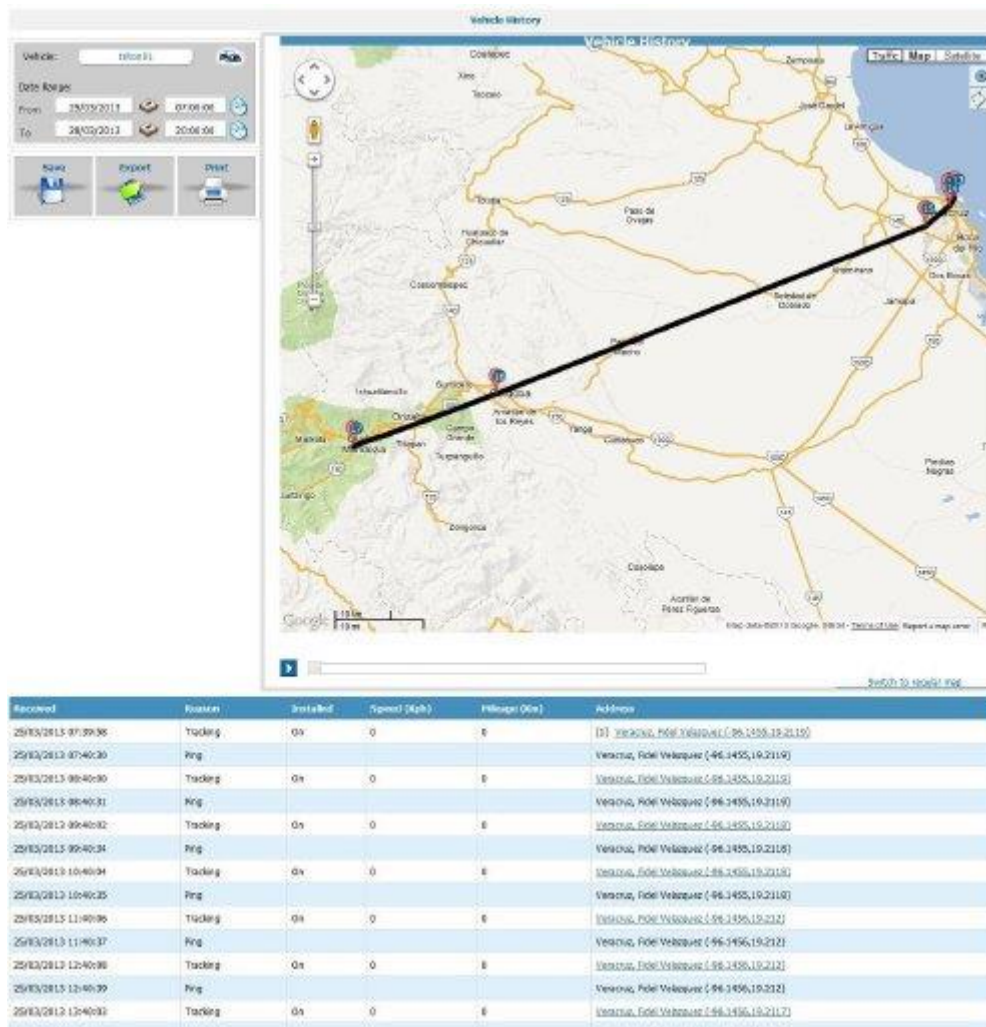
**Schedule** – allows to define scheduled reports that generate automatically on a daily, monthly or weekly basis.

*NOTE:* The reports can be generated for the last 30 days only.

You can generate the following types of reports: **Work Hours, Work Hours Summary, Work Hours Group Summary, History, History – Technical, Violations, Live Status, Events, Perimeter Entry, Transmit Reasons, Monitored events, Stop Hours.**

To generate a report, select the report type in the **Report** dropdown list. Select the unit or group of units in the **Unit** dropdown list. Specify the dates and times in the **Date Range**. Click **Generate**.

The following is an example of a report generated for one unit on one day and for a specific time period.



The report includes a map area and tracking details area. The map area shows a map of the area in which the unit is located showing points of movement of the unit. The tracking details area lists the tracking data of the unit.

The pointers on the map correspond with the numbers in the address column of the detailed list of transmissions received from the unit. These numbers indicate the points of movement of the unit. The total number of map pointers available per report is 50.

On the bottom of the Map section there is a Play button that enables you to play back the movement of the unit on the map.





To save the report, click **Save**. The report is saved as an \*.htm file in a zip file in your default downloads folder.



To export a report, click **Export**. The report is exported as a \*.csv file, which can be viewed in Excel, to your default downloads folder.



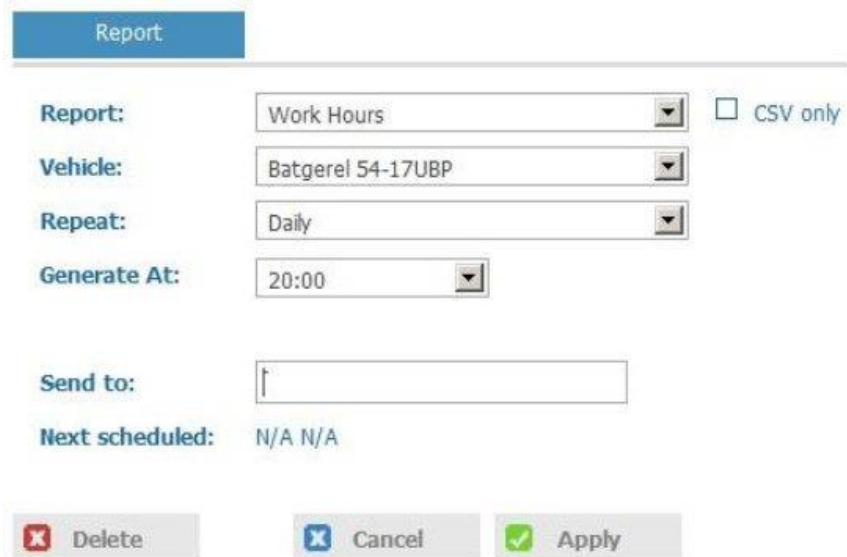
To print a report, click **Print**. The report appears in your default browser window where you can select the printer to print out the report.

## Scheduled reports

To create a scheduled report, in the **Reports** section, click **Schedule**. The Schedule page appears



Click **New**. The Report Scheduling page opens.



From the **Report** dropdown list, select the type of report you want to create.

Tick the **CSV only** checkbox, if you do not want a map provided with the report.

From the **Unit** dropdown list, select the unit or group of units for the report.

From the **Repeat** dropdown list, select if you want the report repeated **Daily**, **Weekly** or **Monthly**.

From the **Generate At** dropdown list, select the time at which you want to generate the report.

The **Send to** field is populated with the default email address for the unit. You can change this address or add additional email addresses, separated by a semicolon.

Click **Apply**. The report schedule is saved and added to the list of scheduled reports.

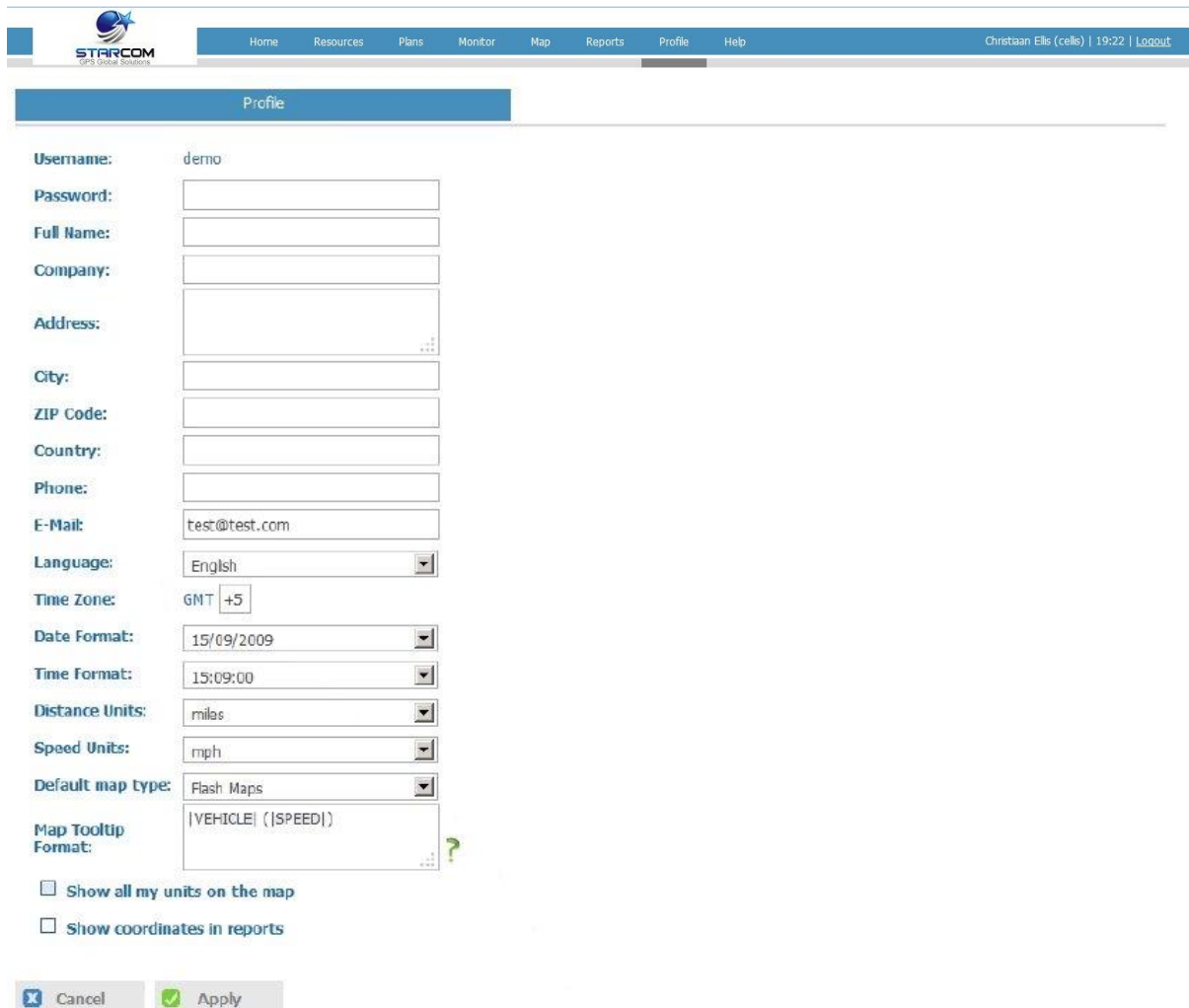
Reports	Details			
Instant	Go to: 1		Search: <input type="text"/>	New
Schedule				
Generate ^	Report	E-Mail	Last Issued	
Daily at 20:00	Work Hours: 827905 Helos Ubx	test@test.com; test2@test.com	N/A N/A	

To modify a scheduled report, in **Reports**, click **Schedule**. In the **Details** section, under the Generate column, click the link of the report schedule you want to modify. The Report Scheduling page appears. Modify the report schedule as required. Click **Apply**. The modified schedule details are saved.

To delete a scheduled report, in **Reports**, click **Schedule**. In the **Details** section, under the Generate column, click the link of the report schedule you want to delete. The Report Scheduling page appears. Click **Delete**. The scheduled report is deleted.

## Profile

The Profile section shows your profile details that were created when you purchased your units. You can view and modify these details as required.



The screenshot shows the STARCOM web application interface. At the top, there is a navigation bar with the STARCOM logo and a menu with links: Home, Resources, Plans, Monitor, Map, Reports, Profile, and Help. The user's name 'Christiaan Ellis (cells)' and the time '19:22' are displayed on the right. Below the navigation bar, the 'Profile' tab is selected. The profile form contains the following fields and options:

- Username:** demo
- Password:** [text input]
- Full Name:** [text input]
- Company:** [text input]
- Address:** [text input]
- City:** [text input]
- ZIP Code:** [text input]
- Country:** [text input]
- Phone:** [text input]
- E-Mail:** test@test.com
- Language:** English (dropdown menu)
- Time Zone:** GMT +5
- Date Format:** 15/09/2009 (dropdown menu)
- Time Format:** 15:09:00 (dropdown menu)
- Distance Units:** miles (dropdown menu)
- Speed Units:** mph (dropdown menu)
- Default map type:** Flash Maps (dropdown menu)
- Map Tooltip Format:** |VEHICLE| (|SPEED|) [text input]
- ☐ Show all my units on the map
- ☐ Show coordinates in reports

At the bottom of the form, there are two buttons: 'Cancel' and 'Apply'.

To view or modify your profile, click the **Profile** tab, and modify the information as required.

Click **Apply**. The changes are saved.

## Using Map Tooltip Format

The Map Tooltip Format field lets you configure the information that will appear in the info window on the Map page when you select a unit.

To see all the parameters that can be configured in the Map Tooltip Format field, click on the green question mark located to the right of the field. The Map Tooltip Format legend window will appear.

Phone:	<input type="text"/>	<div> <b>Map Tooltip Format</b> <span>✕</span> </div> <div>           VEHICLE  Vehicle            REASON  Reason            LOCATION  Location            SPEED  Speed            STATE  Idle            TIME_RECEIVED  Time Received            TIME_VALID  Time Valid            ALTITUDE  Altitude            MILEAGE  Current mileage            HEADING  Heading            DOOR  Door Closed/Opened            KEY  Key Off/On            EMERGENCY  Emergency Off/On            HOOD  Hood Closed/Opened            MOTION  Motion Off/On            SIREN  Siren Off/On            OIL  Oil Pressure Off/On            WATER  Water Temp Off/On            SHOCK  Shock Off/On            ANALOG1  Analog 1            ANALOG2  Analog 2            VOLTAGE  Main power         </div>
E-Mail:	<input type="text"/>	
Language:	English ▾	
Time Zone:	GMT +2	
Date Format:	15/09/2009 ▾	
Time Format:	15:09:00 ▾	
Distance Units:	km ▾	
Speed Units:	kph ▾	
Default map type:	Google Maps ▾	
Map Tooltip Format:	[VEHICLE] ([SPEED]) [LOCATION] [STATE]	

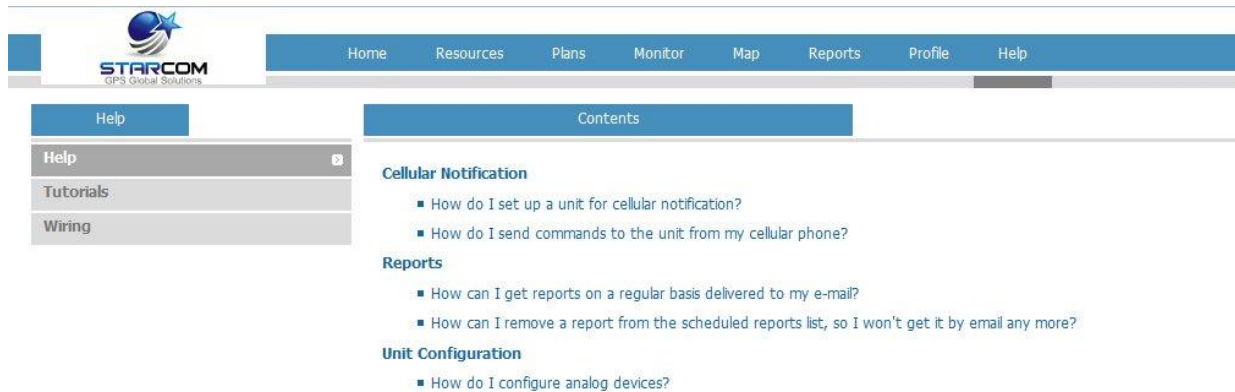
Once you made all the necessary changes, click **Apply**. Then go to the Map page and check the unit info window.





## Help

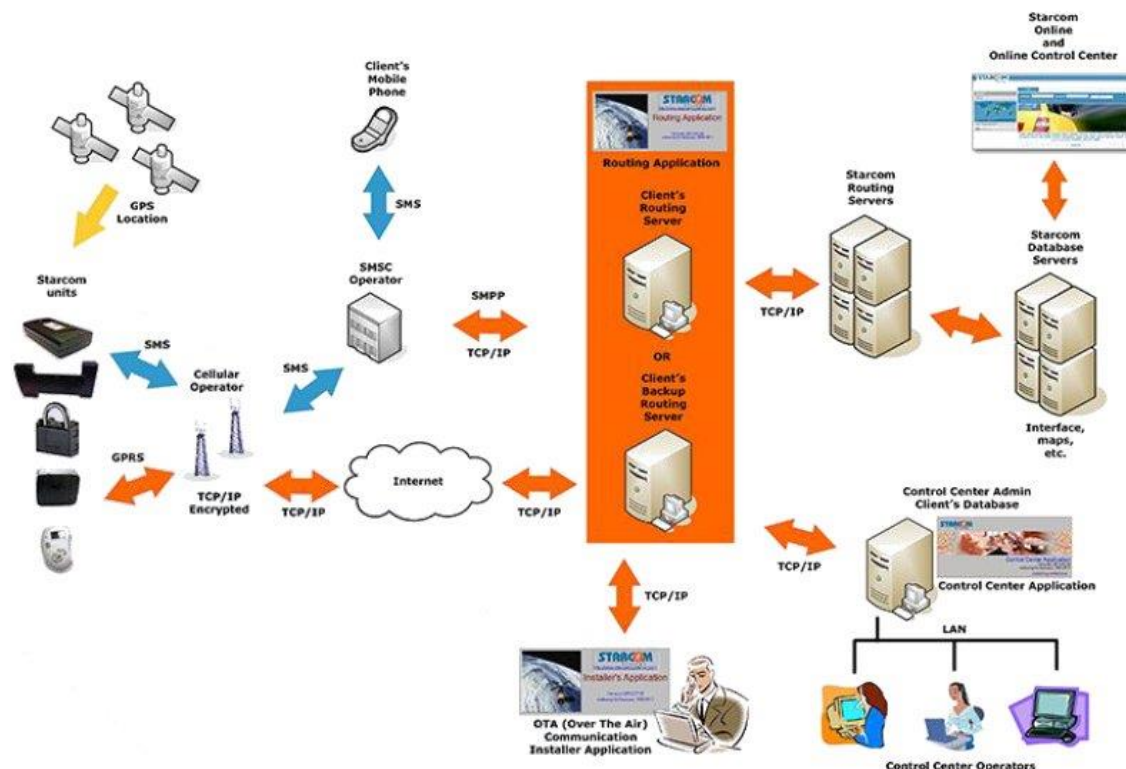
The Help section contains answers to some frequently asked questions, Starcom Online tutorials, and vehicle wiring database.



Click on the appropriate tab to access the necessary information.

## Appendix A – Unit Communication in Starcom Systems

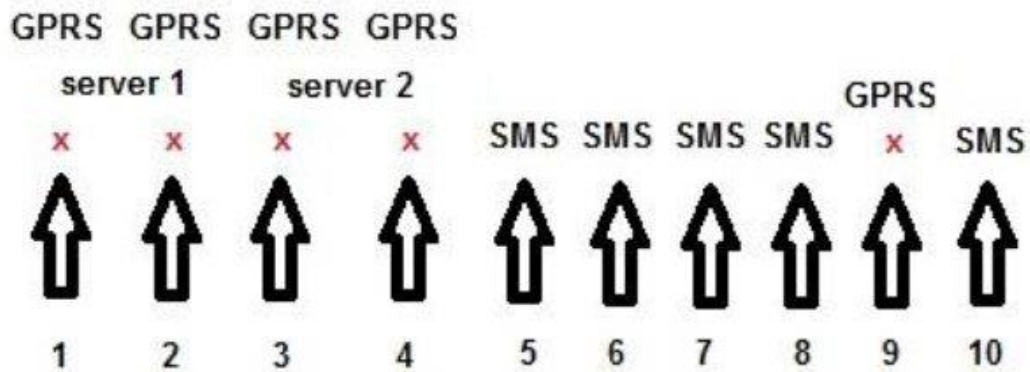
Helios is the mobile component of Starcom's advanced vehicle tracking and fleet management system. The system uses advanced software algorithms for field tracking of vehicles and provides customers with a selection of real-time information about the tracked vehicle. The following image illustrates the Starcom Systems communication channels.



The unit transmits messages according to the values specified in Helios Parameters > Transmission Rates settings (GPRS, SMS).

When the unit's modem is turned on, it tries to connect to the network and transmit via GPRS (4 attempts: 2 on the first server and 2 on the second server). If it fails to connect to the network, it will switch to the SMS channel (if it is configured to transmit via SMS) after about 4 minutes, because it makes four attempts to connect via GPRS. It will constantly try to transmit via SMS.

The next attempt to transmit via GPRS will be repeated in 5 minutes. Every 5 minutes, the unit will attempt to connect to the network and transmit via GPRS. This process is illustrated in the following figure.



The unit saves all the information that could not be sent in its memory. Once it is able to connect to the network again, it will transmit all the stored data.

The device sends encrypted data to the routing server. When the routing receives it, it is decoded and encoded at the same time and sent to all the recipients configured in the system.

The message size is 140 bytes (70 bytes data and 70 bytes header).

For more information, see *Routing*, *Control Center* and *SMS Notifications* guides.

## Appendix B – Contacts

For more information about Starcom GPS Global Solutions Company, please visit: <http://www.starcomgpsglobal.com>

For more information about Starcom GPS Global Solutions products, please visit: <https://trello.com/b/NjmQefGw/product-info-clients>

## Support

Should you have any questions regarding our system, please contact SGS technical support. For personalized support, use **Email:** [info@starcomgpsglobal.com](mailto:info@starcomgpsglobal.com) or **Skype:** **judson012** or **christiaanids**