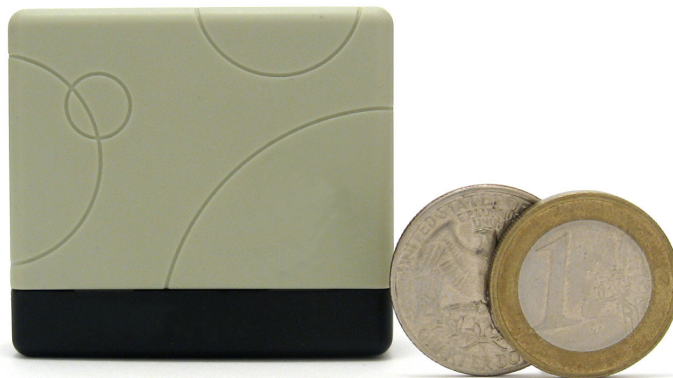# CatTraQ™ Live 2 – User Manual

CatTraQ™

CatTraQ is a trademark of Perthold Engineering

Revision History

Revision	Change
V1.0	Initial version
V1.1	Time zone adjustment
V1.2	Rain protection
V1.3	New SIM card holder, attachment to harness
V1.4	GPRS Feature, Command overview table

Index

1. Overview

The purpose of this device is to determine its position using GPS satellite signals and sending the position automatically or on call using existing GSM/cellular phone networks.
By supporting quad band frequencies the device can be used virtually around the globe.
Using the GPRS function an online tracking via the Internet is possible.

To use the system a SIM card (cellular phone service card) is required as well as a mobile phone that can receive and send SMS text messages.

The GPS tracker can find use on the following applications:
- Supervise/locate children or pets
- Security for elderly people
- Track criminals
- Protect property like vehicles, boats and machines

The tracker does not only report the position on call, it also has the following features:
- SOS Button
- Auto Tracking
- Audio Monitor
- Geo fence
- Movement Alarm
- Speed Alarm

1.1 Device Elements:
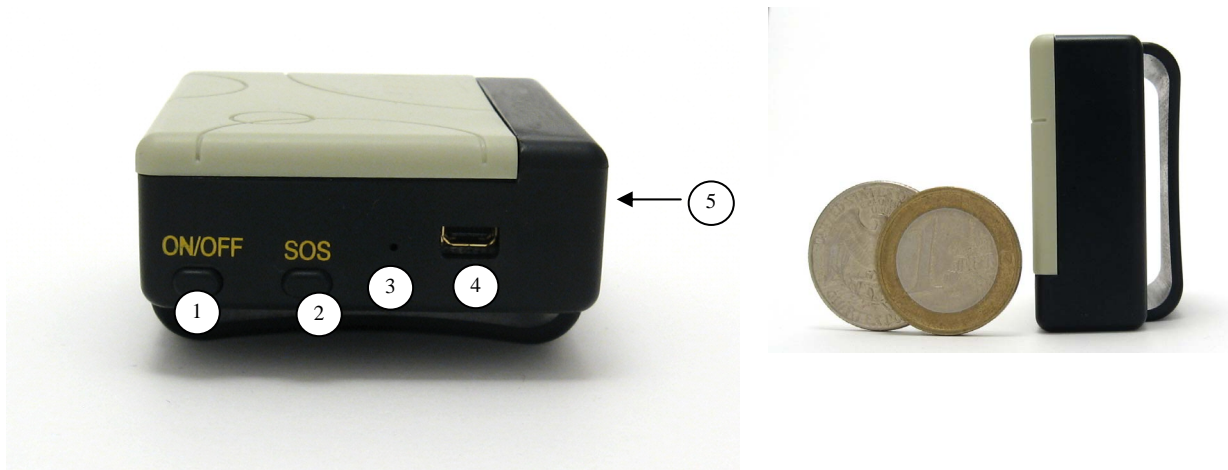
1 – On/Off Button
2 – SOS Button (Emergency Call, press 3 seconds)
3 – Status indicator light
4 – Charging Interface
5 – GPS Antenna

1.2 Specifications

Dimensions	5.3 x 4.7 x 2.3cm (2.1 x 1.9 x 0.9 inches)
Weight	50g / 1.8oz
GSM/GPRS Network Band	850/900/1800/1900Mhz
GPS chip	SiRF3
GPS sensitivity	-159dBm
GPS accuracy	5m
Time To First Fix	Cold start: 45s, Warm start: 35s, Hot start: 1s
Charge voltage	5V (USB)
Battery	Chargeable 3.7V 800mAh Li-ion
Standby time	48 hours
Storage Temperature	-40°C to +85°C
Operation Temperature	-20°C to +55°C

2. Startup

Install the SIM card and battery.

Turn on the unit outdoors by pressing the "on/off" button until the indicator light is on.
For first use, please initialize the unit and restore it to default setting (please refer to next section for instructions).
After about 50 seconds the unit will begin to work and acquire the GSM signals as well as the GPS signals. The indicator light will keep flashing every 4 seconds when the unit has received the signals otherwise it will stay on.
When the unit receives the GPS signals normally you can use it and do all of the following settings.

2.1 SIM Card Installation

Make sure that there is no call transfer activated and call display is set ON and PIN code is OFF. If necessary adjust these setting with you cell phone.
The SMS messages must be in text format any other multimedia format is not recognized.

Steps:

1. Open the cover (slide open) and remove the battery.
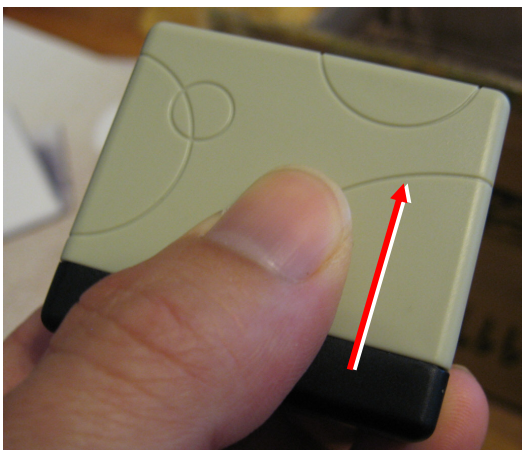
2. Move the card holder lid in opening direction (in the example below right hand side) and pull it up.

3. Put the SIM card into the holder and press down to close. Some other holders require to slide the lid in the lock position.
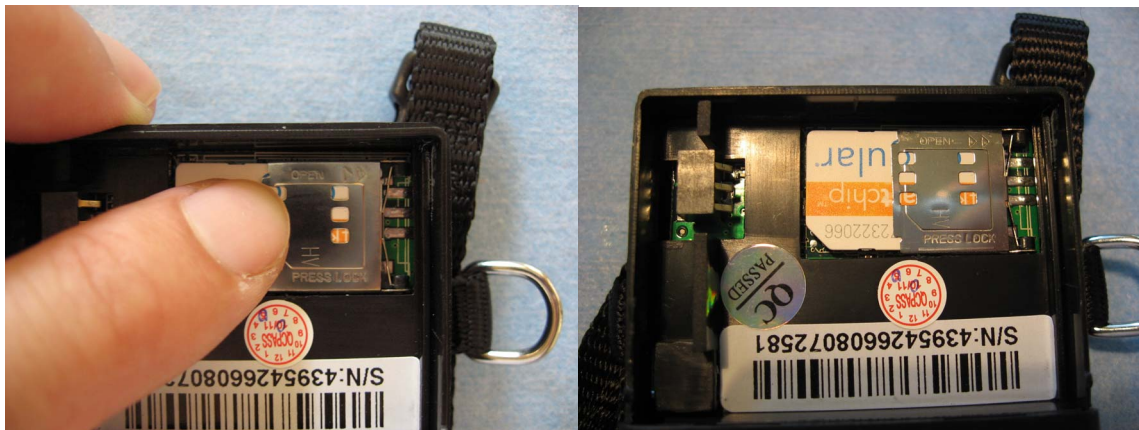
2.2 Battery and Charger

Charge the battery prior to first use for about 5 hours. Please use the battery and charger provided by the manufacturer. This unit uses a built-in Li-ion battery. A fully charged battery will work for around 48 hours.

Note: A Li-ion battery has potential risk of fire and explosion if mishandled. Do not overcharge, do not deep discharge.

2.3 Rain Protection

The rain protection is a flexible rubber cab and is installed as follows:
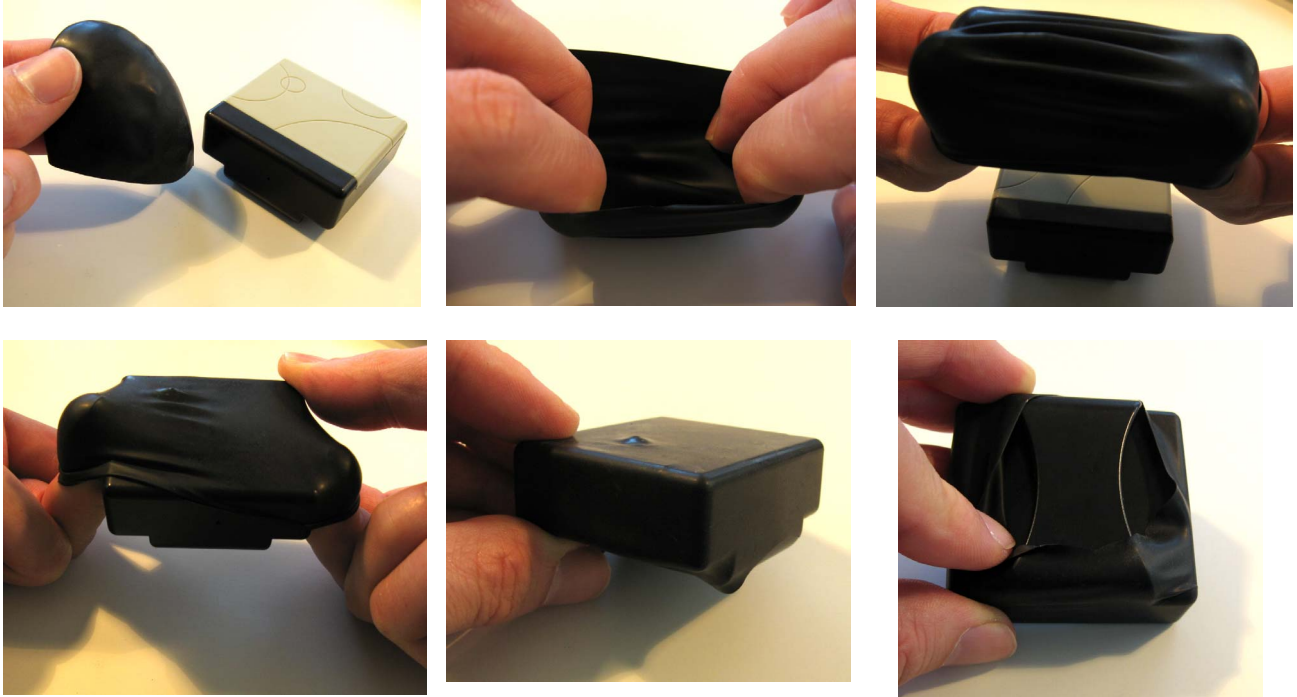
2.4 Harness

The harness is feed through the enclosures loop (may require some force to pull buckle through loop).

3. Control Commands

Control and configuration commands are sent as SMS/text message to the tracking device. A command is consisting out of a keyword, password and parameters:

Keyword	Password	Space	Parameters

Please see the Overview table for a complete list of available commands.

3.1 Initialization

To initialize the device (set to default) send the following command in a SMS text message to the device. It will reply with "begin ok" and initialize all the settings. Default password: 123456.

begin	Password

Example: begin123456

3.2 Change the Password

To change the password use the following command. Make sure the new password is 6 digits long otherwise the tracker can not recognize the password

password	Old password	Space	New password

Example: password123456 000000

> **!** **Note:** Be sure keep the new password in mind. The device needs to get reprogrammed in case of losing the password.

3.3 Authorization

Up to 5 different phone numbers can get authorized to request the position information. To do this there are several ways.

One is to call the tracker for 10 times, it will make the cell phone number as the authorized number automatically.
You can also send a SMS with the following command to set up an authorized number. Additional authorized numbers should be set by the first authorized number. If the number is successfully authorized the unit will reply "admin ok!" in a SMS. For roaming purpose you have to add your country code ahead of the cell phone number.

| admin	Password	Space	Cell phone number

Example: admin123456 0049178110110

To delete an authorized number use the following command:

noadmin	Password	Space	Authorized number

3.4 Real-time Position Request

If there is no authorized number set then any number that calls the tracker will receive a position info. If there is already an authorized number set then it will not respond to a call of an unauthorized number.

When an authorized number calls the tracker it will hang up and send a SMS containing real-time position info as below:
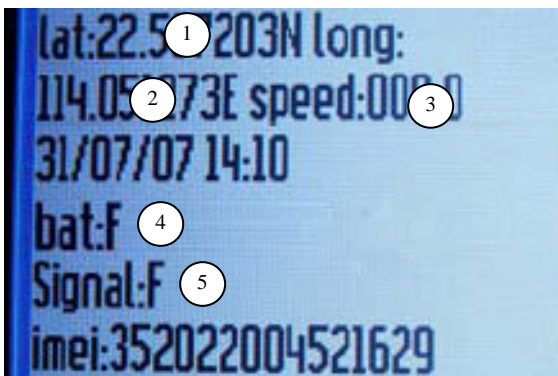
1: latitude position
2: longitude position
3: speed
4: battery status
5: reception signal status

To see the position on a map go for example to the Google Maps webpage:
http://maps.google.com and enter in the search field the coordinates like:
N 22.517526 E 114.051273

3.5 Google Map Links instead of Coordinates

If you have a cell phone with internet connection you may want to get text messages containing an internet link to simply display the device position on a map.

To switch to the link mode send a SMS command:

smslink	Password

To switch back to coordinates:

smstext	Password

3.6 Auto Tracking

Auto Tracking reports position information in a defined interval for a defined number of times.

To set up Auto Tracking send the following:

t**AAAUBBB**n	Password

AAA: interval time must be 3 digits with maximum 255
U: time unit = s: seconds, m: minutes, h: hours
BBB: number of reports, must be 3 digits with maximum 255

Examples:

t030s005n123456 = Every 30 seconds a position for 5 times.
t005m026n123456 = 26 positions, 5 minutes interval
t001h010n123456 = 10 positions, 1 hour interval

Note: the minimum interval time is 20 seconds.

For continuous tracking use the following command:

t**AAAU*****n	Password

AAA: interval time must be 3 digits with maximum 255
U: time unit = s: seconds, m: minutes, h: hours

Example: t030s***n123456 = Every 30 seconds a position until stopped.

Note: this could cause high costs if you have to pay for each SMS because the tracker will send out positions information until the device or function is switched off.

To switch off Auto Tracking send:

notn	Password

Example: notn123456

3.7 Audio Surveillance

This allows listening to the trackers microphone:

monitor	Password

Tracker will reply "monitor ok!" and switch to monitoring mode (the tracker has to be called again to listen to the microphone).

To switch back to the tracking mode send the following command. Reply should be "tracker ok!".

tracker	Password

3.8 Geo-Fence

This restricts the movement to a defined area. If the unit is moved out of the area it will send a message to the authorized numbers.
To set up a geo fence the tracker has to stay 10 minutes in one place. After sending the command to the tracker the fence is activated.

Stockade	Password	Space	longitudeE/W,latitudeN/S; longitudeE/W,latitudeN/S

The first latitude&longitude is the coordinate of the top left corner of the Geo-fence. The second latitude&longitude is the coordinate of the bottom right corner.

To turn off the geo fence function send the following command. This is not required if the tracker was moved out of the defined area.

nostockade	Password

3.9 Movement Alert

Then a movement is detected a message is send out. Note: changes in the GPS signal reception may trigger a movement alert without a real move of the tracker.

To switch it on do not move the tracker for 3-10 minutes then send the following command. The unit will reply with "move ok!". In case of a movement it will send a SMS "Move" along with position information to the authorized numbers.

move	Password

To turn the function off send:

nomove	Password

3.10 Speed Alert

The tracker can also monitor the speed and trigger an alarm if the speed exceeds a defined limit. Note: changes in the GPS signal reception may trigger speed alert without a real move of the tracker. Therefore it is recommended not to set the speed limit below 50km/h.

To switch on speed alert send the following command and the tracker will reply with "speed ok!".

speed	Password	Space	SSS

SSS: 3 digit speed in km/h

Example: speed123456 080

When the tracker moves with a speed exceeding 80 km/h, the unit will send a SMS "speed+080!+position info" to the authorized numbers.

To deactivate send:

nospeed	Password

3.11 SMS Center

To define the SMS service center send command:

adminsms	Password	Space	Phone number

If the SMS center is set up and an authorized number sends a SMS to the tracker, the tracker will reply a SMS with position info & authorized number to the SMS center.
Sending a SMS "noadminsms+password" to cancel the SMS center. Response SMS format: authorized number+position info

3.12 SOS Button

If the SOS button is pressed for 3 seconds the tracker will send a message "help me !+ position" to all the authorized numbers every 3 minutes. It will stop sending such a SMS when any authorized number replies a SMS "help me!" to the tracker.

3.13 Low Battery Alert

If the battery voltage drops below 3.7V the unit sends out a SMS "low battery+position" every 30 minutes.

4. GPRS Tracking

GPRS allows an online tracking of the device over the Internet.
You can log in to the web server and see the position of the device on a map. It is also possible to see positions from the past.

Please note that the service fees for GPRS may be higher than regular SMS charges. Get in contact with your communication network provider to find out the costs before you enable GPRS and running in excessive costs.

4.1 GPRS Setup

GPRS is sending data to an IP address unlike text message/SMS which do sent to a mobile phone. For using this feature you need to configure the device accordingly.

First of all, you need the so called Access Point Name (APN) from the provider of the communication network. In most networks it is simply "internet" but your provider may have an other name. Set APN command:

apn	Password	Space	name

Example: `apn123456 internet`

In some cases the provider requires an APN username and password. To set APN Username and password:

apnuser	Password	Space	username

apnpasswd	Password	Space	Apn password

Example: `apnuser123456 internet`
Example: `apnpasswd123456 internet`

In GPRS mode all tracker data is sent to an IP address or web server. In order to ensure that the correct receiver gets the data you need to set the IP address and port number. The tracking server is currently located at IP address **202.103.191.83 Port 9005.** Set IP and Port:

adminip	Password	Space	IP address	Space	Port

Example: `adminip123456 202.103.191.83 9005`

All GPRS settings are stored in the device until you trigger a reset to set the default settings (see initialization).

GPRS mode is turned off with command:
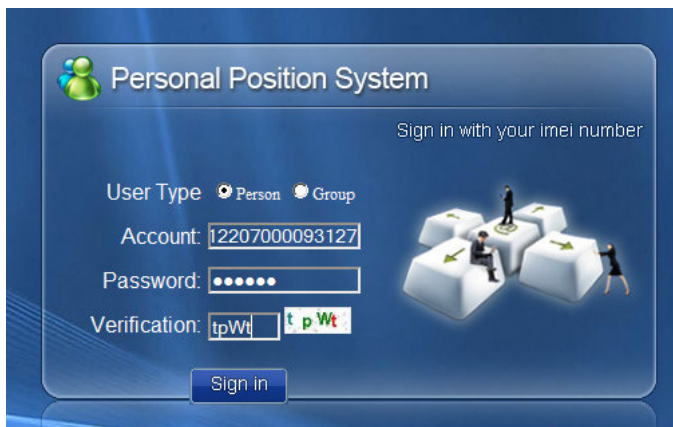
noadminip	Password

4.2 Login for GPRS Tracking

Before you can track your device via internet we need to create an account for you. Please get in contact with our support team (see email in Support&Help section) and have the IMEI number available.

You will need the IMEI number of your device. You can request it using command:

imei	Password

The web server is located at **http://202.103.191.83/engps/simlogin.aspx**

Once you are logged in, you can see your device on the map:

5. Command Overview

Function	Command Format	Response
Initialization	begin+password	begin ok
Change password	password+OldPassword+space+NewPassword	password ok
Setup authorized phone number	admin+password+space+PhoneNumber	admin ok
Delete authorized phone number	noadmin+password+space+PhoneNumber to be deleted	noadmin ok
Get the GPS location (Real-time polling)	Dial up the Tracker one time	GPS coordinate and info
Auto track - 5 times with 30 seconds interval	t030s005n+password	
Auto track - 26 times with 5 minutes interval	t005m026n+password	
Auto track - 10 times with 1 hours interval	t001h010n+password	
Cancel Auto Track	notn+password	notn ok
Switch to Voice Monitor mode	monitor+password	monitor ok
Switch to Tracker mode	tracker+password	tracker ok
Geo Fencing	stockade+password+space+longitudeE/W,latitudeN/S; longitudeE/W,latitudeN/S	stockade ok
Cancel Geo Fencing	nostockade+password	nostockage ok
Movement alert	move+password	move ok
Cancel Movement alert	nomove+password	nomove ok
Overspeed alert	speed+password+space+080	speed ok
Cancel Overspeed alert	nospeed+password	nospeed ok
IMEI checking	imei+password	IMEI number
SMS Center	adminsms+password+space+cell phone number	
Cancel SMS Center	noadminsms+password	
Low battery alert		low battery + Geo-info
SOS button	Press the SOS for 3 seconds	help me !+ Geo-info
Changes local timezone relative to GMT	time+space+zone+password+space+adj adj=+hours or –hours	
Switch to the link format	smslink+password	
switch back to the text format	smstext+password	

GPRS

Setup APN	apn+password+space+the customer's APN CONTENT
Setup APN username	apnuser+123456+space+The APN'S USER NAME
Setup APN password	apnpasswd+123456 +space+THE APN'S PASSWORD
Setup IP address & Port	adminip+password+space+ip address+space+port
Cancel IP address & Port	noadminip+password

6. Troubleshooting

Commands not recognized:
Check if the "+" character is used. This should not be the case.

Startup fails:
Check the battery and see if it is fully charged and correctly installed. Check if the SIM card is inserted the right way.

Hangup fails:
In existence of an authorized number, an unauthorized number dials up the unit. Please initialize the unit and re-set up the authorized numbers.

Monitor fails:
Check if the authorized number is setup or in the coverage of signals.

Location reports zeros:
GPS signal reception is too weak, no position determined. This happens sometimes if the unit is indoors.

Can not turn OFF device:
Check if SIM card is inserted correctly, check if device could acquire GSM network.

7. Support and Help

You can get in contact with the technical support by sending a mail to support@mr-lee-catcam.de

Perthold Engineering LLC
P.O. Box 383
Anderson, SC 29622
USA

8. Important Safety Notes

> **!** **Warning:** This device is not suitable for children. It is not a toy. Small parts may break loose and get swallowed. Danger of suffocation !

> **!** **Warning:** This device is not suitable for larger animals like dogs which tend to chew and swallow non-food things. The animal may get hurt.

> **!** **Warning:** Do not expose device to temperatures above 50°C / 125°F. The rechargeable battery may explode and catch fire.