

CatLog/CatTrack1 - User Manual



CatTraQ™

Revision: March 6, 2014

Check for updates on: www.mr-lee.com

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Change History

We try to keep this manual up-to-date. Therefore changes and additions are made. You may want to check from time to time for updates so that you have the most recent issue available.

Revision Date	Changes
2. April 2008	Initial revision
29. October 2008	Change to @Trip 2.0 as software interface
22. May 2009	Note about destruction by reverse connection, removal of plastic plate protection (causes unwanted malfunction if the button is pressed continuously).
4. March 2011	Information about data export
10. June 2011	Safety notes, minor redesign of layout
5. July 2011	Rework
6. March 2014	Minor changes, adding notes about additional data extraction.

1. Overview

The CatLog (former name CatTrack™) allows to automatically record your pets trips using satellite based position acquisition (GPS). Trace your pet's ways and find out how far it walked, where it got food and where it spent the night. After returning home you can play back the positions.

With a tiny size of only 1.8 x 1.2 x 0.5 inch (4.7 x 3 x 1.3cm) and a weight of only 0.75 oz (21g) it can easily be attached to a cat without creating stress.



The device is water resistant, has an internal rechargeable battery which allows extended usage of 30 hours and more. The interface for recharging and data transfer is USB. The position capture interval time can be adjusted by the user. Captured position data is displayed directly on Google Maps (Internet required).

As an alternative usage the device can be used as a GPS receiver for almost any navigation software.

Features:

- Interface for data exchange and charging: USB 1.1
- GPS chipset: Sirf 3
- Antenna: Build-in patch antenna
- Battery capacity: 380mAh (runtime approx 30 hours with a 30s interval time)
- Position acquisition: cold start <60s, warm start <38s
- Position logging interval time: 1s - 60 minutes
- Operation temperature: -10 to +50 degrees Celsius
- Export data format: GPX, CSV (Excel)
- Recorded Data: Time, Position, Speed, Height, Direction

2. Software Setup



Note: run the setup program **before** you plug in the device to your computer.

The latest version of the driver is always available from the Mr. Lee website (www.mr-lee.com → CatLog → Support → Drivers).

Setup will install the Device driver and Command center (@Trip)

Software support for Windows only.

3. Connect and Disconnect

After you installed the software, plug in the device to your computer using the USB interface.



1: Plug in the connector into the CatLog. The arrow on the connector **must point upwards**.



Important: An unwanted destruction of the device can occur when the connector is attempted to get plugged in reverse.

2: To unplug, do **not pull the connector**, just bend it.



Important: An unwanted destruction of the device can occur if the connector is pulled instead of bent over.

4. Control Elements and Status Lights

The GPS logger has basically 3 elements to interact: one button (used for on/off and manual position logging) and two lights which show the device status. All functions are set up using the control center.



Mode	LED signal
Charging	The red light stays on during charging and goes off when charging is completed.
Power on	Button is pressed for 2 seconds. The blue light blinks once.
Power off	Button is pressed for 2 seconds. The red light blinks once.
Satellite tracking mode	The blue light blinks every 8 seconds
Data logged	Both lights blink simultaneously twice
Memory low	The blue lights blinks three times every 8 seconds
Memory full	The red light blinks twice every 3 seconds
Battery low	The red light blinks once every 5 seconds.
Data Transfer	The blue light blinks randomly.
Battery damaged	Red light blinks rapidly

The table does not apply for the silent mode, no status LED is activated in that mode.

5. Device Setup using Control Center (@Trip Software)

The GPS logger is set up using the control center. There are 3 operation modes:

- Automatic logging in an adjustable interval time with manual interaction (device has to be switched ON manually); recommended for beginners.
- Automatic logging in an adjustable interval time in silent mode (no LED status, no manual on/off switching; preferred option to track pets)
- Automatic logging according to a time schedule. Enables the device for a specified time during day/week.

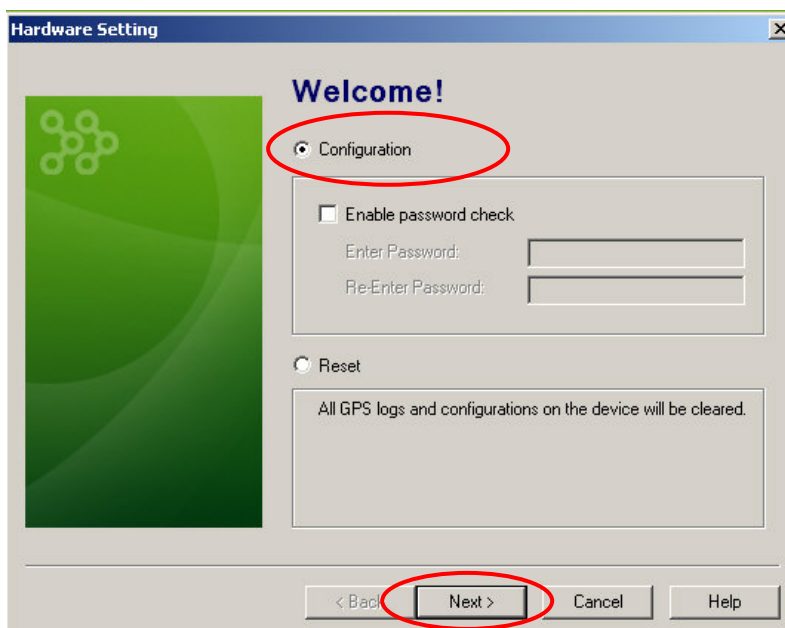
The following section will show you how to change between the modes.

To setup the device follow these steps:

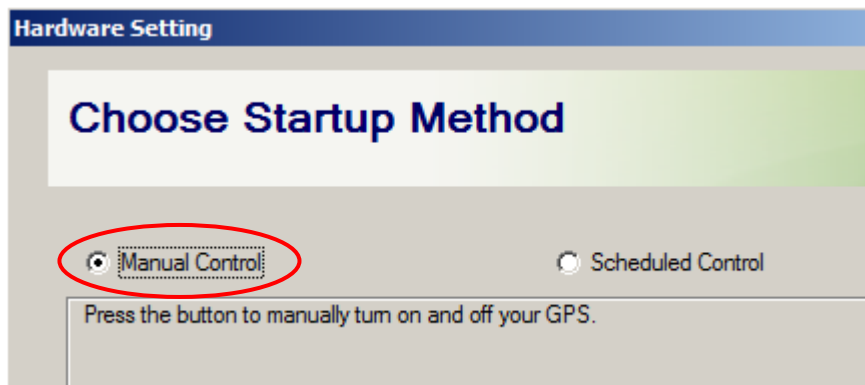
1. Select device setup:



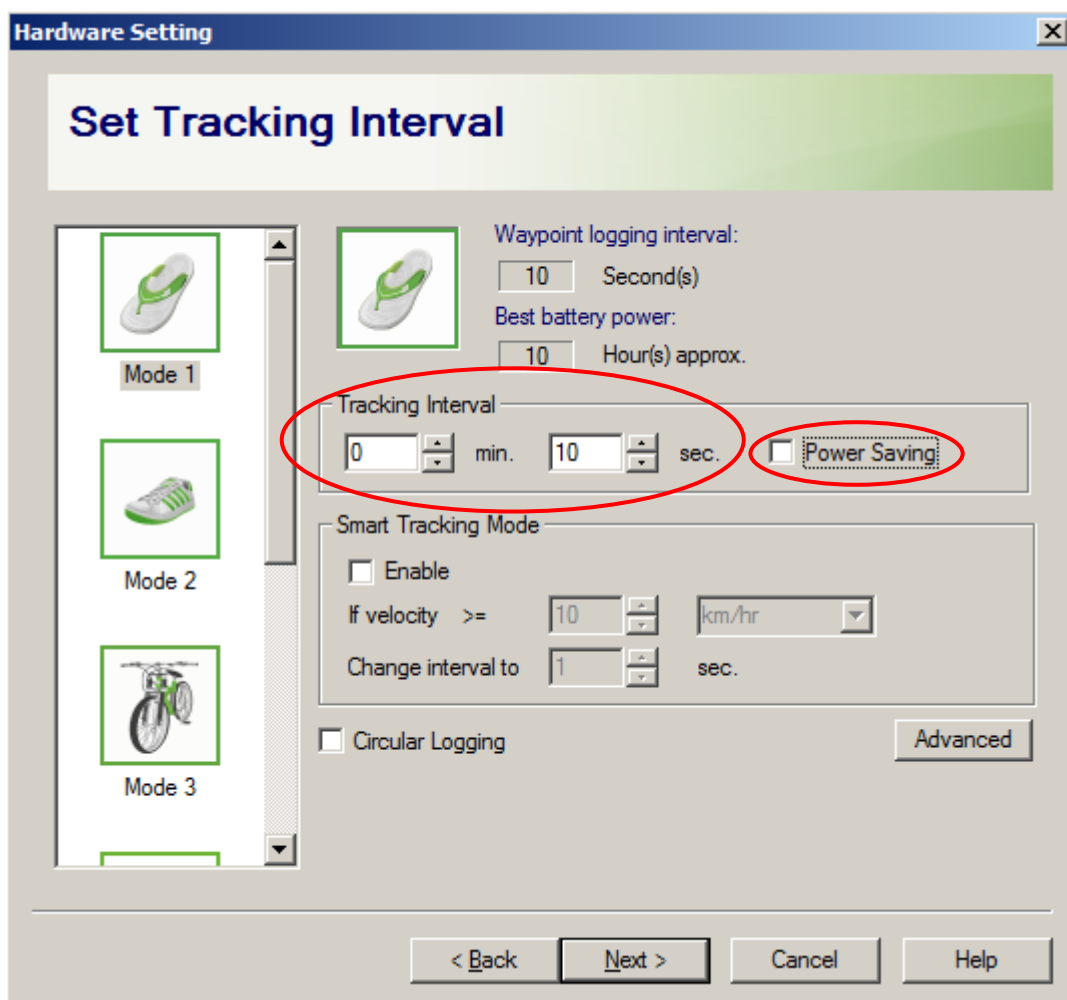
2. Select Configuration. If the device is protected by a password then enter it. Click "Next".



3. To set the continuous recording mode (device records as long as turned on) select “Manual Control” and click “Next”.



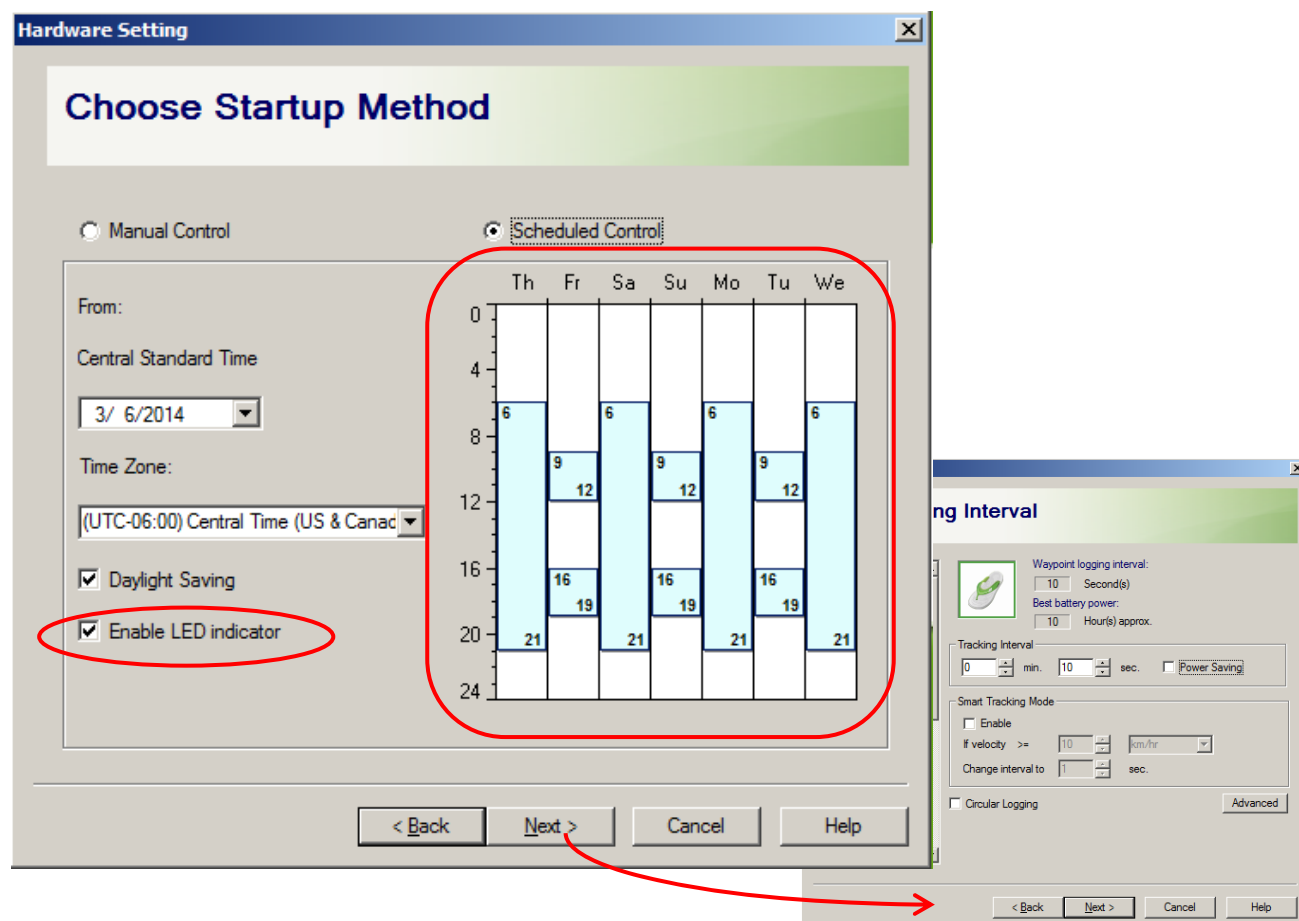
4. In the next menu select the desired recording interval time. There are predefined profiles available. As a rule of thumb the longer the interval time the longer the battery lasts. The displayed time is just a rough estimation. The operation time can be extended by enabling the power saving option. The position accuracy may decrease with that option enabled. Click on “Next” to configure the device.



5. Other features of the device are silent mode (no status lights) and scheduled recording. For both features the Scheduled Control mode has to be selected (see bullet 3, select “Scheduled Control”). Make sure your GPS acquired a position and date before selecting this mode.

To disable the lights remove the checkmark at “Enable LED”. Additionally you have to select all days in the time table and set the active time on all days from 0 to 24 o'clock. It is wise to select a start date that is in the past in case the time zone is not detected correctly.

The Scheduled Control activates the device only at certain times of a day or at certain days a week. For each day 2 time windows can get set in which the device is activated. The time windows are set using the mouse pointer.



Once the active time windows are defined you will get to the settings for the position recordings as shown in paragraph 4.

Depending on the setup the device enables itself after you disconnect it from the computer. The On/Off button has no effect.

Please consider that if you put the device in the silent mode it will start recording as soon as you unplug the device from USB or power down the computer. Additionally you can not switch it on or off any more. It will acquire positions and log them in the adjusted interval as long as the device is not connected to the computer or the battery runs out of power.

6. Place Device on Pet

It is recommended to use a pet harness instead of a pet collar. This has several advantages:

- GPS device can be secured and its position is fixed
- Receiver antenna points toward the sky (where all the satellites are located)
- A harness has usually no safety release feature which on a collar prevents strangulation of the pet. This means the harness will not break loose.
- Your pet is not annoyed with something hanging on the collar.

Place the rubber frame on the harness.
This may require disassembling of the harness.



Place the GPS Logger in the frame. For additional protection against dirt the device can be wrapped into a thin plastic foil prior to the placement in the rubber frame.



An additional protection against loss of the GPS device is provided by a small chain.



One end of the chain is linked onto the GPS device.



Place the other end of the chain on the harness and close the hook.

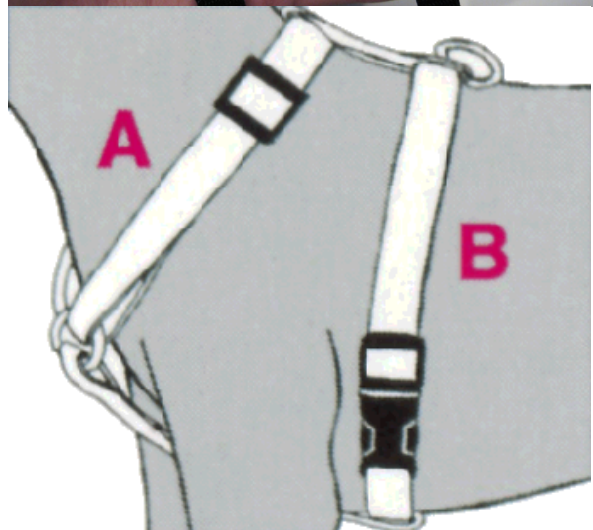


The device is now mounted properly with a good protection against damage and loss.



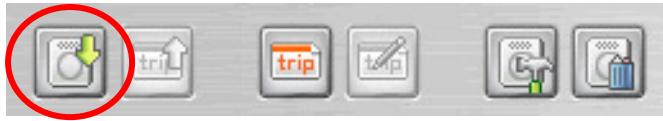
To put the equipment on your pet, follow the instructions of the harness or collar. On a harness the neck strap "A" is usually put on first, then the chest strap "B".

Make sure that the device is activated (not visible in silent mode) and that the upper side points toward the sky. Make also sure that the harness / collar is not adjusted too tight or too loose.



7. Download Positions

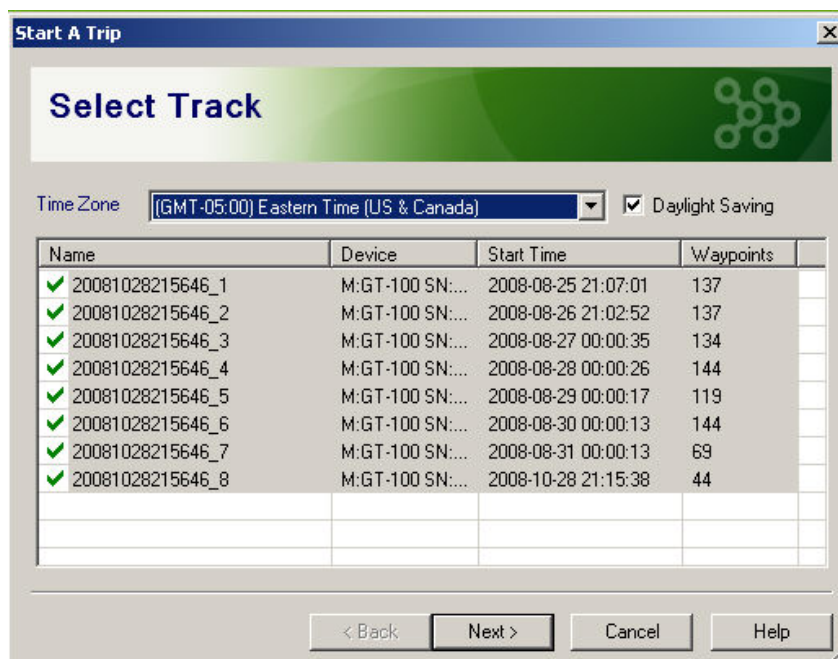
To download the recorded positions simply start the Control Center and connect the GPS logger to the USB cable. It will ask you to download the data from the GPS logger. If not, select the following button:



As a next step enter a name of the recorded trip, e.g. Cat001. Now the data is transferred from the device. Here it is possible to erase transferred data by setting the checkmark at “Clear existing track data”.



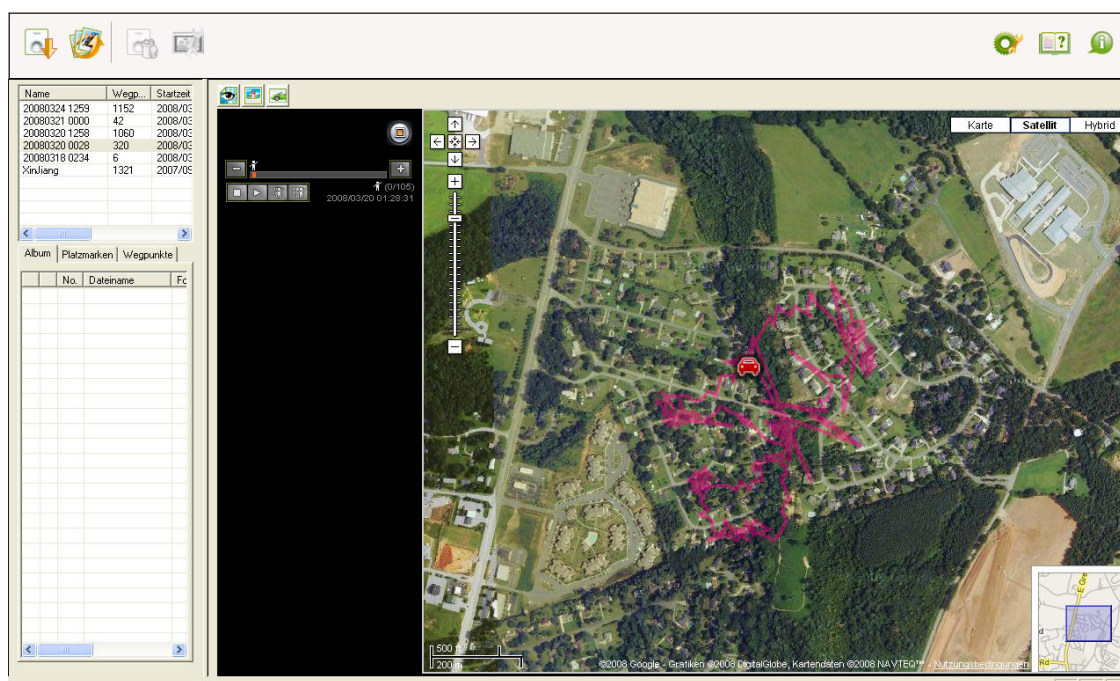
In the following dialog all trips are displayed for selection. Select the trips you are interested in:



It will also ask you for a photo folder. You can ignore this if you don't use the device as a Photo Blog tool. Otherwise the function is simple: each recorded position has a time stamp. Photos can be correlated to a position using the time the photo was taken.

The next dialog gives you several options for different views of the recorded trips.

New and previous recorded trips are shown in a list on the left hand side of the control center. If you select one, the software will connect to Google Maps and show the trip on the map. This requires an active internet connection.



The position accuracy depends from the signal strength at the receiver antenna. This means the weaker the signal gets the more inaccurate the position is. You may notice sometimes large position jitters in a short time period. This is caused by weak satellite signal reception, e.g. if the

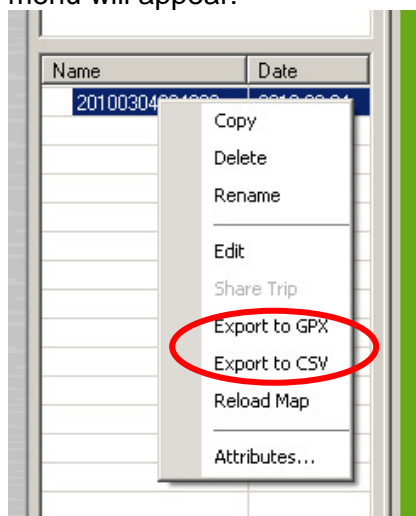
pet is sitting under a car or is in a building. Trees and leaves can also weaken the satellite signal.

For optimum performance make sure that the device points with its upper surface (surface with the button) to the sky since it has to receive signals from more than two satellites simultaneously.

8. Export Position Data

It is possible to export the recorded positions for data analysis or data processing. The export format is GPX and CSV. The later one is a text based table format which can be loaded for example in Microsoft Excel.

To export select a trip in the saved trip list and press the right mouse button. The following menu will appear:



Imported into Excel the recorded data will look like this:

	A	B	C	D	E	F	G	H	I	J
						Speed			Distance	Essential
1	Date	Time	Latitude	Longitude	Altitude (m)	(m/h)	Course	Type	from last position (m)	(removed to optimize)
2	3/4/2010	21:11:06	34.622597	-82.607597	322.429993	144	114	-2	0	1
3	3/4/2010	21:11:11	34.622612	-82.60759	319.130005	0	164	0	1.79	1
4	3/4/2010	21:11:17	34.622612	-82.60759	319.130005	0	45	0	0	
5	3/4/2010	21:11:23	34.622612	-82.60759	319.130005	0	74	0	0	
6	3/4/2010	21:11:29	34.622612	-82.60759	319.130005	0	89	0	0	
7	3/4/2010	21:11:35	34.622612	-82.60759	319.130005	0	66	0	0	
8	3/4/2010	21:11:41	34.622612	-82.60759	319.130005	0	94	0	0	
9	3/4/2010	21:11:47	34.622612	-82.60759	319.130005	0	82	0	0	
10	3/4/2010	21:11:53	34.622871	-82.607445	252.659988	108	92	0	31.71	
11	3/4/2010	21:11:59	34.622871	-82.607445	252.029999	180	80	0	0	
12	3/4/2010	21:12:05	34.622875	-82.607452	250.909988	72	103	0	0.78	
13	3/4/2010	21:12:11	34.622875	-82.607452	249.689987	36	70	0	0	
14	3/4/2010	21:12:17	34.622883	-82.607513	248.62999	6732	264	0	5.65	
15	3/4/2010	21:12:23	34.622913	-82.607506	248.87999	10296	6	0	3.4	
16	3/4/2010	21:12:29	34.623192	-82.607513	247.830002	26496	0	0	31.03	1

Among date, time and position the additional information height, speed and course will be listed. Please consider that the speed is stated in meter per hour, to convert into km/h the value must be divided by 1000.

The column "Type" will provide information about the device state, e.g. if the button was pressed while the device was active to mark a certain waypoint.

Column "Essential" shows which positions are considered as useful and which are filtered out by the control center @Trip for optimization. These are usually positions what do not change.

For additional analysis purposes more data can get extracted from a device. This is only possible at the time you have the device connected to your computer.

First, create a folder named GT_DATA_LOG on your C: drive.

Next, open @Trip control center and connect your device. Select to download the recorded GPS data. In parallel a CSV file will be generated in the GT_DATA_LOG folder containing raw data from the device. Please understand that not all information for the raw data is disclosed. The most interesting part might be the number of satellites present for a certain position to estimate the accuracy of the position.

Index	Date	Time	Latitude	Longitude	Altitude	Speed	Course	Distance	Type	Timeout	MSVs_QCN	Weight Criteria	SleepTime	EHPE	Satellite ID	Satellite
94	2013/10/08	07:59:00	-36.202503	175.043976	11.2	24912	15	2546.9	00(000	10	AA	32	0	544	327937	-----X-X-----X-----X
95	2013/10/08	08:08:53	-36.170872	175.064545	11.9	53712	30	3972.2	00(000	9	AA	33	0	768	327937	-----X-X-----X-----X
96	2013/10/08	08:18:49	-36.141331	175.121826	11.1	33840	48	6102.3	00(000	10	AA	40	0	1152	327937	-----X-X-----X-----X
98	2013/10/08	08:38:56	-36.089764	175.257568	28.1	47988	49	7015.7	00(000	29	BA	32	0	16560	65793	-----X-----X-----X
99	2013/10/08	08:49:14	-36.062088	175.323944	27.4	35856	32	6712.3	00(000	34	BB	32	0	7872	65793	-----X-----X-----X
100	2013/10/08	09:01:57	-36.016865	175.400024	27.4	34488	11	8490.1	00(000	32	BB	32	0	6416	65793	-----X-----X-----X
101	2013/10/08	09:16:26	-35.963879	175.504486	26.4	35064	12	11092.5	00(000	29	BA	32	0	10224	65793	-----X-----X-----X
102	2013/10/08	09:32:08	-35.906857	175.631958	25.9	33408	44	13111.6	00(000	29	BB	32	0	15728	65793	-----X-----X-----X
103	2013/10/08	09:48:57	-35.852562	175.764145	10.9	74952	77	13352.3	00(000	58	BA	45	0	2880	65921	-----X-----X X-----X
104	2013/10/08	10:10:35	-35.778145	175.939392	36.8	78408	57	17837.3	00(000	54	BA	42	0	3856	65673	-----X-----X---X-X

9. 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

10. 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 60°C / 140°F. The rechargeable battery may explode and catch fire.

