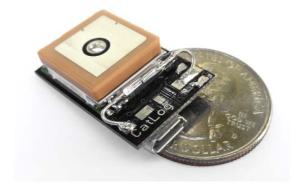
Overview



Used in thousands of GPS tags around the world CatLog-S became the standard GPS data recorder for wildlife bio-tagging.

Generation 2 of the CatLog-S has been specifically developed for scientific use while still maintaining an excellent performance to cost balance.

Its low power consumption combined with small dimensions, low weight and high accuracy makes it an ideal device for domestic and wildlife animal observation.

The device will record the position in an adjustable time interval. The movement profile can later be displayed on a map or exported to use with other software.

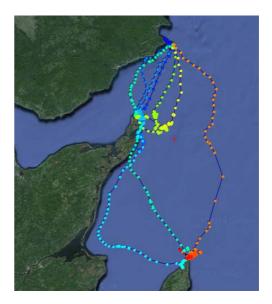
Optimized for scientific use, CatLog-S offers the following features:

- · Magnetic switch to activate and deactivate it
- ThermoSeal[™] protection withstands seawater and tough conditions
- Optimized weight and operation time by scalable battery size
- Lots of configuration options to get the best results for your project needs.
- Retrieval option
- Advanced scheduler (dual time table)
- Ready for alternative energy supply (self containing system)



The recorded data is stored in an open text format that can be used by most 3rd party programs.

However, CatLog has also it's own visualization software. This allows the user to analyze the recorded data as well as to apply multi-level filters or export only certain portions of the whole data set. It also allows visualizing position accuracy estimates which is one specific feature of the Gen2 CatLog.



Functional Features

The CatLog GPS logger offers a large number of features to get a maximum of field operation time and handling convenience:

Logistics	Each device can be named by the user – no more confusion with lost markings
	Simplified setup - copy one configuration to all your devices.
Handling	Option to prevent device from getting manually turned off improves reliability in the field.
	Automatic start at defined date – the device will be in energy conserving deep sleep mode until a certain date.
Energy supply	Works with different battery chemistries with adjustable shutdown thresholds.
	Advanced power management allows to operate from renewable energy sources. The device will automatically resume operation once batteries are recharged.
Logging	Asynchronous (standard) or synchronous logging mode. Synchronous logging is required if position of multiple devices need to be considered at one point in time. (*)
	Logging of additional data (temperature, time to position fix [TTF])
Operation	Advanced scheduler function that defines operation in hourly or daily patterns. It also enables the use of different recording intervals, e.g. have an energy conserving recording during the night and a higher recording interval during daytime.
	Adjustable timeout in case of unfavorable reception conditions will help preserve energy. Handy for animals that are under water or underground for certain times. Backup logging event is possible in such cases to not miss a position. Or the device can be turned off for a certain period after detecting problematic reception conditions.
	Options to balance accuracy versus energy consumption.
Recovery	Recovery feature after defined date – allows easy retrieval in a colony or in a known migration area. This function can also trigger a separation unit.

Firmware Version and Supported Features

	Firmware version					
Feature	< 1.2	< 2.3	2.3	2.4	2.5	Tbd
Scheduler with 2 different interval settings	-	Yes	Yes	Yes	Yes	
Adjustable battery thresholds (shutdown, restart)	-	-	Yes	Yes	Yes	
Blackout option if no position could be acquired		-	-	Yes	Yes	
Logging of additional data (temperature, time to position fix [TTF])	-	-	-	Yes	Yes	
Data logging enabled even if no position available	-	-	-	Yes	Yes	
Charge while in operation, supporting renewable energy sources	-	-	-	-	Yes	

Specification

Supply voltage

Max. current draw
Charge current

Shutdown voltage

6 grams Rechargeable Capacity 160mAh 380mAh 450mAh 750mAh	e Lithiur Opera 30h 84h		Dimension	Weight		
Capacity 160mAh 380mAh 450mAh	Opera 30h		Dimension	Weight		
160mAh 380mAh 450mAh	30h	ition**		Weight		
160mAh 380mAh 450mAh	30h					
380mAh 450mAh			30 x 20 x 4mm	+4g		
		35 x 25 x 5mm		+7g		
750mAh	100h	50 x 25 x 5mm 40 x 30 x 7mm		+9g		
	160h			+16g		
** based on 30s capture interval, 3D lock, LED on						
Type		Protect	tion	Weight***		
				+2 g		
				+ 2 9		
<u> </u>		Sorator	ricolotarit			
		Water corrosion		+11g (380mAh)		
_poxy		1		+14g (750mAh)		
				,		
water pressure			ressure			
*** will vary with	n battery s	size				
-10 to +60 de	grees C	Celsius (b	pased on Lithium P	olymer chemistry		
100m using ThermoSeal						
5000m using Epoxy potting						
Magnetic switch, automatic start timer, mechanical switch						
2 LED lights (can be turned off for concealed operation)						
	0.41	10/				
			D DDOD townsers	tura TTCC		
			r, roor, tempera	luie, IIFF		
		115				
	JOD					
CSV (EXCEI)						
	tubing (ThermoSea Epoxy resin *** will vary with -10 to +60 de 100m using 5000m using Note: no GPS Magnetic swi (optional) 2 LED lights MediaTek 33 Ceramic pato 5-10m Adjustable 5s different logg Time, position Up to 110000	Sealed shrink tubing (ThermoSeal) Epoxy resin *** will vary with battery seal to the seal of the seal	Sealed shrink tubing scratch (ThermoSeal) Epoxy resin Water, piercing extend water piercing street water piercing extend piercing street water piercing water piercing no GPS position under Magnetic switch, automatic structured of MediaTek 33 (66 Channel, -1 Ceramic patch 15x15x2mm 5-10m Adjustable 5s – 24h. Weekly different logging intervals Time, position, altitude, HDO Up to 110000 positions Serial Micro USB Windows	Sealed shrink tubing (ThermoSeal) Epoxy resin Water, corrosion, piercing resistant, extended resistance to water pressure *** will vary with battery size -10 to +60 degrees Celsius (based on Lithium P 100m using ThermoSeal 5000m using Epoxy potting Note: no GPS position under water Magnetic switch, automatic start timer, mechani (optional) 2 LED lights (can be turned off for concealed op MediaTek 33 (66 Channel, -165dbm) Ceramic patch 15x15x2mm 5-10m Adjustable 5s – 24h. Weekly scheduling mode a different logging intervals Time, position, altitude, HDOP, PDOP, tempera Up to 110000 positions Serial Micro USB Windows		

3.0 – 4.1V

Adjustable by hardware

Adjustable by software

40mA

Recorded Positions vs. Battery Capacity

tbd.

Recorded Positions vs. Interval Rate

tbd.

ThermoSeal Enclosure

One key feature of the CatLog-S is the ThermoSeal enclosure that offers the best environmental protection for the least weight. It is a special heat shrink tubing with outstanding characteristics.



ThermoSeal™ Features:

- Provides reliable water tightness and is absolutely corrosion and pressure resistant.
- Reusable seal, just heat it up to open it and seal it again with heat!
- Sufficient wall thickness to mechanically protect the device
- Sticks to tape for universal deployment
- Allows to create special attachment fixtures
- Cheap, clean, economic, simple!

Seal temperature range: 160-200 degrees Celsius (320 – 390 Fahrenheit)









Process description is part of the CatLog-S User Manual.

© 2011-2015 Catnip Technologies, Ltd.

Email: <u>info@mr-lee.com</u> Web: www.mr-lee-.com

Not to be reproduced in whole or part for any purpose without written permission of Catnip Technologies, Ltd.

Information provided is believed to be accurate and reliable. These materials are provided by Catnip Technologies as a service to its customers and may be used for informational purposes only. Catnip Technologies assumes no responsibility for errors or omissions in these materials, nor for its use. Catnip Technologies reserves the right to change specification at any time without notice.

These materials are provides "as is" without warranty of any kind, either expressed or implied, relating to sale and/or use Catnip Technologies products including liability or warranties relating to fitness for a particular purpose, consequential or incidental damages, merchantability, or infringement of any patent, copyright or other intellectual property right.

Catnip Technologies further does not warrant the accuracy or completeness of the information, text, graphics or other items contained within these materials. Catnip Technologies shall not be liable for any special, indirect, incidental, or consequential damages, including without limitation, lost revenues or lost profits, which may result from the use of these materials.

Catnip Technologies products are not intended for use in medical, life-support devices, or applications involving potential risk of death, personal injury, or severe property damage in case of failure of the product.