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User Agreement

The SubCue™ Temperature Dataloggers and accompanying equipment ("Product") is provided to the Customer for laboratory research only. User agrees not to use the Product with human subjects or for clinical diagnosis.

Nothing disclosed in any product brochure or literature is to be construed as a direction or recommendation to use such product in violation of any patents or any other intellectual property rights belonging to any third party ("Third Party Rights"). There is no warranty that the Product or the use thereof does not infringe any Third Party Rights. SubCue™ is not responsible for any infringement of Third Party Rights by the User that occurs with use of the Product.

The Product descriptions are accurate to the best of the knowledge of SubCue™. Since research applications of SubCue™ products are subjected to variable influences beyond the control of SubCue™,

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About SubCue™ Dataloggers

SubCue Dataloggers are small, re-usable temperature recording devices. The temperature dataloggers are enclosed within a biocompatible surface and are suitable for abdominal implantation in small research animals.

*SubCue™ is designated for use in research with animals only *

SubCue™ products offer precise and accurate temperature measurements. For optimum performance, please review following user instructions.

SubCue Dataloggers have been developed by scientific researchers for scientific researchers.

Technical Specifications	
Software Requirements	Windows 9x or higher Operating System
Coating	Dow Corning 732 silicone (Biocompatible)
Configuration	Self contained in capsule
Measured Temperature Range Resolution	+15°C to +46°C 0.125°C
Min Size/Volume*	~2.5g / 1.5cc contoured 1.6cm diameter x 0.6cm thick
Calibration	Linear over Lifetime
Battery	Lithium
Battery Life	2 to 3 years
Interference	None
Data Viewing	On download
Infrastructure	Connector Cable and Software
Storage	Store dry at room temperature

* Datalogger should be no more than 10% of the animal's body weight.

Strategies for refinement of abdominal device implantation
http://www.ncbi.nlm.nih.gov/pubmed/17343353

J Am Assoc Lab Anim Sci. 2007 Mar;46(2):46-53

SubCue Start-up Package Contents
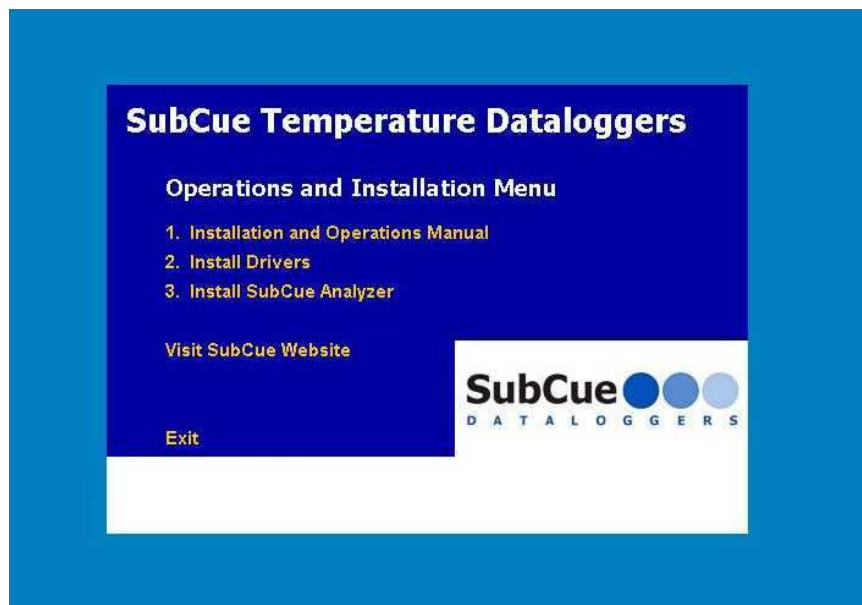

Includes:

    12 SubCue Dataloggers

    1 COM port adaptor

    1 Connector cable

    1 CD with SubCue Analyzer Software and Introduction Material

Software Installation

1. Plug in COM port adaptor into the serial port of your computer.

2. Insert the SubCue CD into your CD-ROM. CD should automatically start. If not, double click on cd drive:\autorun.exe

Please note: The Drivers shipped with the CD are for 32 Bit Windows versions. If you need drivers for 64 bit Windows (Vista, Windows 7, Windows 8) they can be selected and downloaded from:

http://www.maximintegrated.com/products/ibutton/software/tmex/download_drivers.cfm

3. Install the Drivers. You will be lead through driver installation, ignore all prompts regarding USB ports. Once the screen regarding selecting adaptors is shown, press **autodetect**.

4. Install the SubCue Analyzer program **AFTER** installing the Drivers.

    Or copy the SubCue.exe and Setprt32.exe from the Software subdirectory on the CD to the desktop. Run setprt32.exe to set the default port. The analyzer software runs in Windows 8.1 with the correct drivers.

5. Start the SubCue Analyzer from your Start button or your desktop icon to program the datalogger.
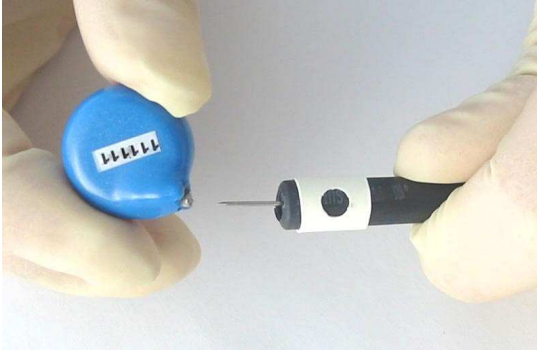
This screen will appear after opening the SubCue Analyzer program:
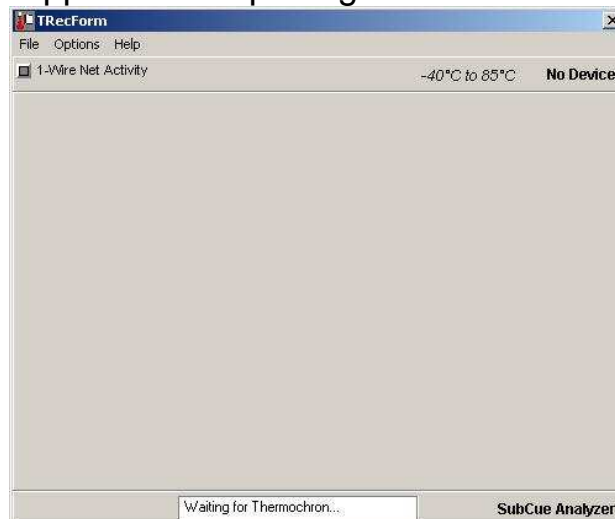
SubCue Programming

6. After software installation is complete, connect the SubCue to be programmed as shown below.

NOTE (o**)** must be aligned with the serial number found on the SubCue.

NOTE SubCue is fragile! Ensure pins do not puncture biocompatible coating

7. Follow the instructions provided by the SubCue Analyzer programming Wizard.
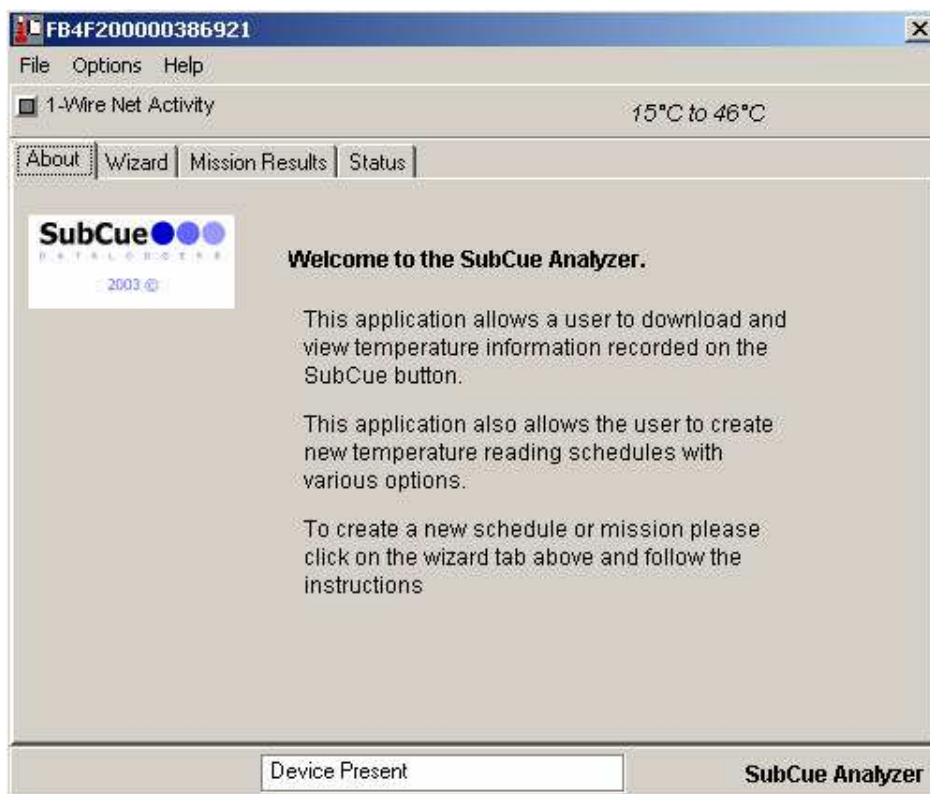
Implantation: Preparation

1. After programming the SubCue, it is recommended that ports located on the SubCue datalogger are sealed with silicone (bio- compatible grade).

2. Silicone should be allowed to **dry overnight at room temperature** OR **for 2 hours at 40°C**

Implantation: Sterilization

3. It is recommended that you sterilize the SubCue prior to implanting into the animal. The recommended method of sterilization is submersing the SubCue in 70% ethanol or 70% isopropyl alcohol for 30 minutes. Do not use denatured alcohol as some of the denaturants swell and soften the silicone. Another method is to use a 1:10 dilution of household bleach (ie.Chlorox) in water for 5 minutes then rinse and keep in sterile saline during the surgery.

************* **WARNING** *************

DO NOT AUTOCLAVE OR HEAT DATALOGGERS. The batteries will fail!!

**DO NOT PUNCTURE THE SILICONE SEAL.
PUNCTURING OF THE SILICONE SEAL WILL CAUSE FAILURE OF THE DATALOGGER.**

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Implantation: Surgery

1. SubCue Datalogger weighs ~2.5 grams with a volume of 1.5cc.
   * SubCue should not be more than 10% of animal body volume*
   http://www.ncbi.nlm.nih.gov/pubmed/17343353

2. Surgery must be performed according to established institutional guidelines.

   Utilizing a ventral midline incision to permit implantation into the intra-peritoneal cavity is recommended.

   Experimental protocols can proceed following an animal's recovery from surgery.

   CARE MUST BE TAKEN FOR INTRAPERITONEAL (IP) INJECTIONS

   Puncturing the SubCue coating will result in failure of the device.

Data Retrieval

1. The SubCue datalogger must be removed from the animal in order to retrieve data (exception: tether customized model).

2. After removal from the animal, connect the datalogger to the connector cable using the two pin connector, line-up serial number and cable as illustrated.
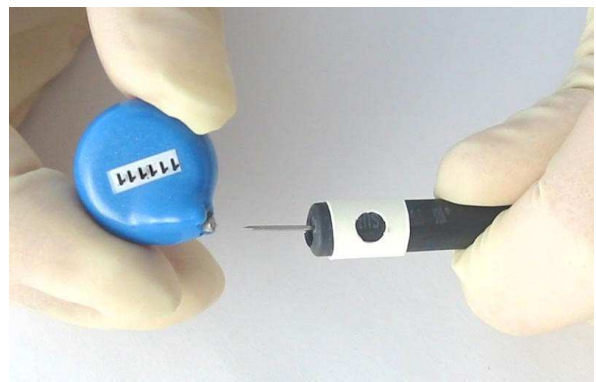
3. Data can be viewed/exported using the SubCue Analyzer program
   – click on the 'Mission Results' tab to retrieve the data.
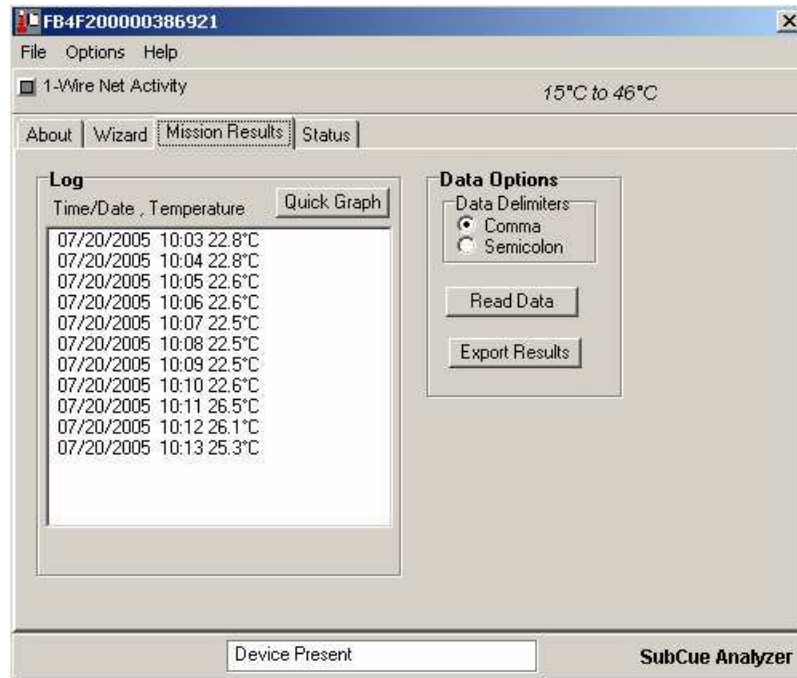
4. To re-use the SubCue, trim the silicone found around the ports (if
   ports were sealed), and repeat programming and implantation
   steps.

Recommended: Calibration

SubCue temperature dataloggers:

Individual dataloggers will be within +/- 1°C of the absolute
temperature without calibrations

It is recommended the dataloggers be calibrated to achieve best
performance

Calibration instructions can be found on the CD – 'Calibration
Instructions.txt'

User Cautions

SubCue Dataloggers are fragile.

Do not apply strong pressure to the dataloggers when handling.

Do not expose the datalogger to temperatures exceeding 46°C.

Do not puncture silicone surface at any time, especially when doing intraperitoneal (IP) injections.

When connecting datalogger for download, ensure pins are correctly align with the data port before inserting to prevent puncturing of silicone surface.

Damaged dataloggers due to puncturing of silicone will not be replaced.

Product Feedback

SubCue is always interested in feedback on its products.

SubCue is also interested in scientific publications utilizing its SubCue Dataloggers.

Please email feedback or publication citations to info@subcue.com

Additional Information

Support, FAQs and Re-ordering Online: www.SubCue.com