MINI MITTER

KNOWING THE ANIMAL LAB BUSINESS WELL IS THE KEY TO PROVIDING YOU WITH THE RIGHT SOLUTIONS.

Our associates understand your lab environment and the challenges that go with it. Many have engineering and research backgrounds and are involved in developing leading-edge solutions that affect the products and technology you use for the data you're trying to capture. We understand research principles and we're able to speak your language, regardless of whether you're a primary investigator or a lab technician.

From your product needs to support with the grant writing process, our professionals are there to help you through the process of identifying the right solutions for your research needs. So whether you want to monitor behavioral and physiological activities in animals or in humans, we provide it. It's what we understand, what we're known for and what we've provided for more than 30 years.

DESIGNING & DEVELOPING BETTER SOLUTIONS

Because we know how an animal research lab operates, and the issues and constraints surrounding it, we are constantly improving our products. We've made our running wheels and our E-Mitter devices smaller. Our E-Mitter units operate without batteries. We know that these are big differences that matter to you when working with mice or other small rodents.

PRODUCTS FOR SMALL AND LARGE ANIMALS FOR A VARIETY OF PARAMETERS.

We engineer and manufacture our own products which are intended for use on rats, mice, hamsters and other small research rodents. You also can monitor dogs or primates noninvasively for circadian rhythms, activity and sleep-related studies, with our accelerometry activity loggers.

APPLICATIONS

- CIRCADIAN RHYTHMS
- PHARMACEUTICAL DRUG DISCOVERY
- THERMOREGULATION
- SEPSIS
- SLEEP
- TOXICOLOGY
- PSYCHOLOGICAL BEHAVIORAL DISORDERS
- OBESITY

PARAMETERS

- RUNNING WHEEL TURNS

VIA TELEMETRY:

- HEART RATE
- TEMPERATURE
- GROSS MOTOR ACTIVITY

Take advantage of the VitalView data acquisition system's capabilities to simultaneously monitor multiple parameters such as wheel turns, temperature, heart rate and gross motor activity. This will simplify your data collection and help to avoid the time-consuming integration of several variables from a variety of data acquisition systems.

E-MITTER BATTERY-FREE IMPLANTABLE TRANSPONDERS

USING TELEMETRY TO PROVIDE TEMPERATURE, GROSS MOTOR ACTIVITY AND HEART RATE DATA

E-Mitters are small implantable transponders that are powered by capturing energy from electrical fields generated by the ER-4000 Energizer/Receiver. This allows them to operate without batteries and remain implanted indefinitely to monitor the subject's temperature, activity or heart rate. As a result, high costs and downtime of explantation, refurbishment and reimplantation are avoided.

G2 E-Mitter
Parameters: core body temperature and gross motor activity
A smaller version of the TA E-Mitter sized especially for mice

G2 HR E-Mitter
Parameters: heart rate, core body temperature and gross motor activity
Smallest E-Mitter available with heart rate

TA E-Mitter
Parameters: core body temperature and gross motor activity

HR E-Mitter
Parameters: heart rate, core body temperature and gross motor activity

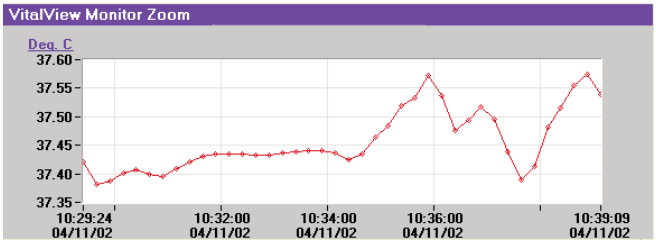
SPECIAL FEATURES:

- Telemetry – no lead artifact, tethers, exit site infections, or other hard-wired problems
- Battery-free – no downtime or recurring costs for battery refurbishment or recalibration
- Long-term monitoring – only implantable telemetry device to allow uninterrupted, lifetime studies in lab rodents
- Accurate and reliable – reports physiological and behavioral data from unrestrained animals

ER4000 Energizer/Receiver
Powers the E-Mitter and receives measurement data back; conveniently fits under most standard lab animal cages.

VITALVIEW SOFTWARE

PC-BASED DATA ACQUISITION AND ANALYSIS



All receivers and sensors connect to a computer with the VitalView software. VitalView can record up to 240 data channels in a given experiment, up to 120 subjects in a typical application and up to 32 subjects for an E-Mitter system.

VitalView software allows you to configure the experiment and data collection parameters. The software manages communications with the hardware and stores and displays basic graphical data analysis. It also provides descriptive statistics and prepares the data for export.

VitalView is a convenient PC/Windows®-based platform designed to monitor an entire suite of parameters. Built-in flexibility permits user-defined sampling size, data filtering and epoch lengths.

VITALVIEW SOFTWARE PROVIDES:

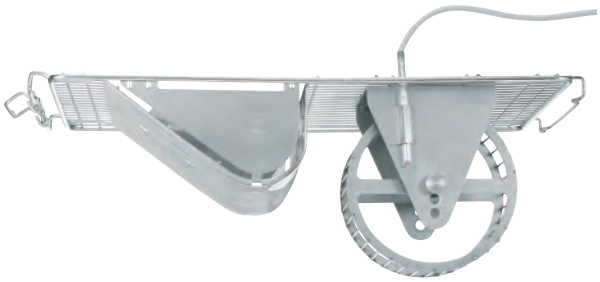
- System setup
- Animal and group setup
- Data collection monitor
- Data load and analysis
- Data export
- Recording of up to 240 data channels of wheel turns or other switch closure inputs – magnetic, mechanical or optical switch compatible
- Individually configurable channels – by group, animal and parameter
- Easy ASCII data file conversion

MONITOR AN ENTIRE SUITE OF PARAMETERS ALL AT ONCE

RUNNING WHEELS

Monitor animal behavior and activity 24-hours-a-day while obtaining information on circadian rhythms and activity. For a complete physiological and behavioral picture, incorporate heart rate, core body temperature, or gross motor activity monitoring with our E-Mitters.

Our new running wheels are designed specifically to meet your need to use standard cages and racks and collect wheel turn data 24/7. The wheels are available in 11.5 cm and 16.5 cm diameters. Wheel turns are readily monitored using the magnetic reed switch.



STAINLESS STEEL RUNNING WHEELS

- Stainless steel to eliminate rusting
- Bronze bushing for durability and elimination of squeaking
- No tools required for assembly or disassembly
- Entire assembly suitable for commercial cage washing
- Cost-effective, high-quality commercial grade wheel

OUR RUNNING WHEELS:

- are completely contained within the cage
- can be filter-top compatible
- take up less real estate
- offer a lower cost wheel solution
- provide enrichment

We also offer a full line of Tecniplast® running wheels in 23 cm and 34 cm diameters.

RELATED PRODUCTS AND ACCESSORIES

Infrared Cage Top Motion Sensor for Activity Monitoring

Our infrared cage top motion sensor records movements detected in a given epoch and is a very low cost activity monitoring solution. When the subject moves while in view of the motion sensor, activity is recorded. The number of closures per sampling interval is accumulated by the DP-24 Data Port and communicated to the PC when the sample epoch is completed.

ALSO AVAILABLE:

DataPort (DP24)

Provides 24 channels of input to VitalView data acquisition system.

QA4

Provides four channels of switch closure input to a DP24.

ActiView Software

Enables VitalView data plotting in an actigram format; provides single- or double-plotted actigrams with a TAU cursor.

ACTICAL NONINVASIVE BEHAVIORAL ACTIVITY MONITOR FOR USE WITH PRIMATES & DOGS

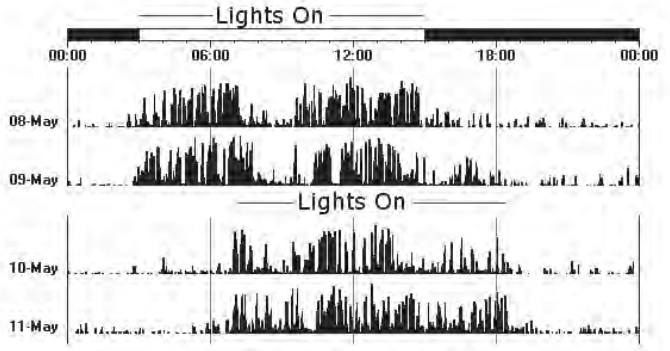
While it is used primarily with nonhuman primates and dogs, Actical has been used successfully on a wide variety of other animals, both domestic and wild.

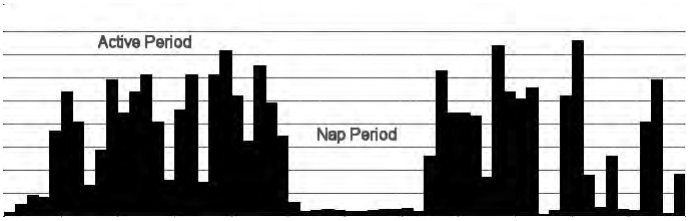
SPECIAL FEATURES:

- Moisture protection (up to 1 meter for 30 minutes)
- Incorporates 64k non-volatile memory
- Six-month battery life
- User-replaceable protective cases with soft collars or adapters for "Primate Products" collars

ACTICAL SOFTWARE FEATURES:

- ASCII text file data format for direct compatibility with databases and analysis programs
- Plotting and analysis of minute-by-minute to multi-day activity levels
- Compatibility with Windows® 98, Millennium, NT 4.0, 2000 and XP
- User-defined epoch length (for 15, 30 or 60 seconds)
- Recording daily distribution of activity in user defined epochs
- Documenting changes in activity patterns
- Automated analysis on a daily or hourly basis for the entire data set
- User-defined threshold analysis (for calculation of time spent at various activity levels)





Data for graphs courtesy of Dr. Henryk Urbanski of the OHSU Primate Center.

QUANTIFY PHYSICAL ACTIVITY

VitalView	Specifications
Operating system	Windows ME, 98, 2000 or XP
Interface type	PCI only
Hard disk space	200 MB free space required
System RAM	64 K required

Series 3000 Components	Specifications
DP-24 dimensions	30.5 cm x 25 cm x 6.5 cm
DP-24 communication type	50 pin parallel
Number of input sockets on DP-24	6 (4 channels each – RJ45)
QA-4 dimensions	16 cm x 9.5 cm x 3.5 cm
QA-4 input jacks	4 (3.5 mm phone plug)

E-Mitters	Specifications
E-Mitter temperature range	33° C – 41° C
E-Mitter accuracy	± 0.1° C
G2 E-Mitter size / weight	15.5 mm x 6.5 mm / 1.1 gm
G2 HR E-mitter size / weight	19.5 mm x 3.5mm / 1.5 gm
TA E-Mitter size / weight	23 mm x 8 mm / 1.6 gm
HR E-Mitter size / weight	26 mm x 8 mm / 2.2 gm
HR measuring range	120 – 780 BPM
Activity	Gross motor activity only

Series 4000 Components	Specifications
ER-4000 Energizer/Receiver size	56 cm x 29 cm x 7 cm
Communication type	RS 232 serial
Number of receivers possible	32
Number of receivers per power supply	4
Receiver spacing required	30 cm (horizontal); 20 cm (vertical)
E-Mitter transmission range	12 cm above ER-4000

Actical Specifications	Without protective housing	With protective housing
Size	29 mm x 37 mm x 11 mm	Approx. 20 mm x 38 mm x 56 mm*
Weight	16 gm	64 gm
Case material	Polyurethane/Polyester alloy	Anodized aluminum
Collar included	No	Primates – No; Dog style – Yes
Battery type	CR2025 lithium coin cell	CR2025 lithium coin cell
Logging time	44 days @ 1 minute epochs	44 days @ 1 minute epochs
Battery life	180 days	180 days
Sampling rate	32 Hz	32 Hz
Moisture protection	1 meter for 30 minutes	1 meter for 30 minutes
Epoch settings	15, 30 or 60 seconds	15, 30 or 60 seconds

**Housing thickness varies slightly depending on the collar adapter you use.*

MINI MITTER

Customer Service: 800-685-2999 or 541-598-3800
www.minimitter.com
email: respironics.minimitter@philips.com

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