

Системы исследования локомоторной активности

Описание

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ActiTrack Software (Panlab)

Actitrack software controls the Panlab Infrared actimeter for the evaluation of activity and rearing.

- Control up to 32 frames
- Provides integrated data (spatial position, pattern of displacement, rearings)
- User-adjustable thresholds for classifying activity into fast, slow and resting movements
- Allows track re-analysis with an unlimited number of user-defined zones
- Enables re-playing experiment using different threshold for movement speed definition
- Can be installed in as many computers as may be required for track analyses

Item No.	Description
76-0003	(ACTITRACK V2.7) Software for Global activity, Tracking and Rearing (Up to 32 Frames), includes 1 RS232/USB converter
76-0443	Software module for GLP
76-0610	Upgrade from previous version to ACTITRACK V2.7



DETAILS



The ActiTrack software is activity counting and tracking software working with Panlab IR actimeters (up to 32 IR frames). It discriminates and analyses frequency and number of IR beam breaks to convert it in a track file that can be analysed later for generating reports. Thus ActiTrack provides much more integrated and precise data in terms of animal activity, position, displacements and rearings than those provided by the SeDaCom software.

The IR actimeter enclosure can be divided into zones of interest (up to 32) using the specific tools provided by Actitrack. Animal trajectories are acquired from real time beam breaks and stored enabling the user to analyze and re-analyse experiments with different zone configurations, associations (user-defined combination of zones) and parameters. Track can be replayed in real-time or by using an "accelerated" (user-defined speed) or "instantaneous" modes. The report cover either the full track or partial sections of time.

All data obtained by Actitrack is expressed in ASCII format and can be easily exported to a wide range of spreadsheets and statistics programs for further analysis. Actitrack can be installed in as many computers as required, and the user will be able to check data, generate reports, print out results and obtain charts for visual presentation.

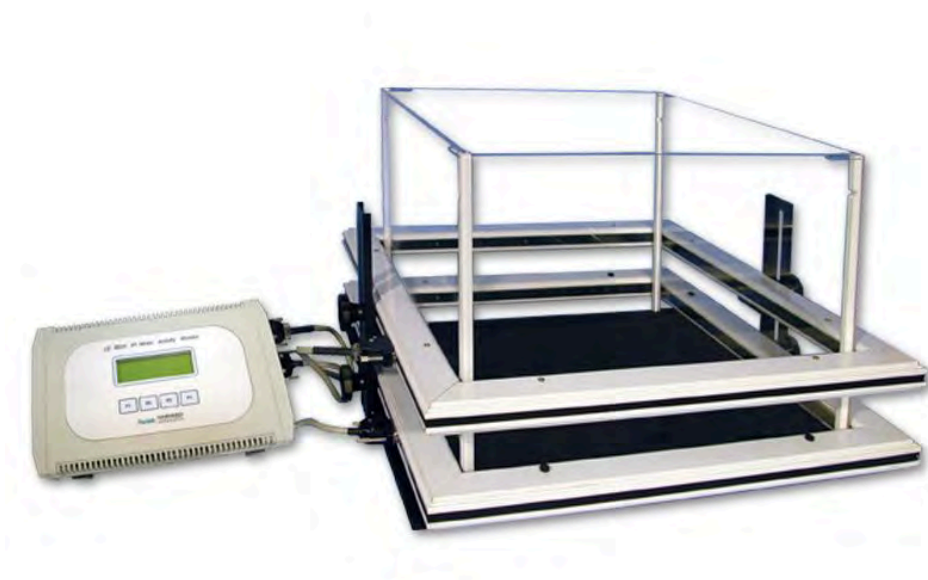
IR Actimeter (Panlab)

Compact Infrared (IR) Actimeter for the study of spontaneous locomotor activity, rearings and optionally hole-board test parameters for exploration in rodents.

- Minimum maintenance required
- Minimum lighting conditions required
- Interchangeable frames can be used without distinction for either REAR, ACT or POKING modes
- Works with both open-field and home cage mode
- Can be used with or without any computer (independent control units)

Item No.	Description
76-0127	(LE8815) IR Frame, 450 x 450 mm
76-0128	(LE8816) IR Frame, 250 x 250 mm
76-0131	(LE8817) Support for 45 x 45 Frame
76-0132	(LE8818) Support for 25 x 25 Frame
76-0134	(LE8825) Data Logger and PC Interface
76-0129	(LE8814) Transparent arena for 1 subject (4 walls for LE 8815), 440 x 440 mm (Open Field).
76-0130	(LE8813) Transparent arena for 1 subject (4 walls for LE 8816), 210 x 210 mm (Open Field)
76-0125	Transparent arena for 2 subjects (4 walls + divider for LE 8815), needs ActiTrack software.
76-0126	Transparent arena for 2 subjects (4 walls + divider for LE 8816), needs ActiTrack software.

Item No.	Description
76-0133	(LE8820) Hole Poke Base for 45 x 45 cm Frame
76-0406	SEDACOM Software V2.0
76-0003	(ACTITRACK V2.7) Software for Global activity, Tracking and Rearing (Up to 32 Frames), includes 1 RS232/USB converter



DETAILS



The Panlab Infrared (IR) Actimeter allows the study of spontaneous locomotor activity, rearings and optionally hole-board test parameters for exploration in rodents. A reliable system for easy and rapid drug screening and phenotype characterisation in both day and night lighting conditions.

The system is basically composed by a 2 dimensional (X and Y axes) square frame, a frame support and a control unit. Each frame counts with 16 x 16 infrared beams for optimal subject detection.

The system is completely modular: each frame may be used for evaluation of general activity (one or several animals), locomotor and stereotyped movements or rearings or exploration (nose-spoke detection in the hole-board option). The infrared photocell system can be set with up to 15 levels of sensitivity in order to adapt the frames to the typology of the animal (rats, mice). It can also be set to ignore the beams that are obstructed by objects (e.g. the walls/corners of the home cage).

The frames can be controlled by the independent control units LE8825 or directly through the optional SEDACOM computer software. The new SEDACOM 2.0 version provides an easy and convenient way to visualize and export the data on a computer for further analysis.

Optionally, the ActiTrack software option may be used to analyse animal trajectories (distance, speed, permanence time in selected zones) and then provide additional complementary data to those obtained using the control units.

Open Field Box (Panlab)

Standard boxes for the evaluation of animal’s basal activity and its evolution, in response to novelty or anxiogenic environment, and in response to pharmacological treatment, lesion or genetic modification (open-field test).

- Optimised design for video-tracking purpose
- Material non-absorbent to the odours
- Easy to clean

Item No.	Description
76-0189	Square Open Field 90 x 90 x 40 cm (grey color). Other floor color available: white, black.
76-0190	Square Open Field 45 x 45 x 40 cm (grey color). Other floor color available: white, black.
76-0439	Square Open Field 90 x 90 x 40 cm + divider for 4 animals (grey color). Other floor color available: white, black.
76-0402	Square Open Field 45 x 45 x 40 cm + divider for 4 animals (grey color). Other floor color available: white, black.



DETAILS



Open-field experiments allow the evaluation of animal’s basal activity and its evolution, in response to novelty or anxiogenic environment, and in response to pharmacological treatment, lesion or genetic modification.

Panlab proposes square open-fields available for rats and mice. The arena is made of durable material which has the advantage to be non-absorbent to the odours and easy to clean. The arena is surrounded by high walls and is available in different non reflective colours for video-tracking purposes. The system is entirely demountable for enabling storage in the minimum space. The floor can be divided into equal squares under request

for the direct counting of animal activity. Possibility of providing round open-field. Ask for more information.

The open fields exists in different models:

- 76-0189: 90 x 90 cm open field currently used for anxiety test in rats
- 76-0439: 90 x 90 cm open field with divider for creating 4 arenas of 45 x 45 cm for global activity test in rats or anxiety test in mice
- 76-0190: 45 x 45 cm open field currently used for anxiety test in rats
- 76-0402: 45 x 45 cm open field with divider for creating 4 arenas of 22 x 22 cm for global activity test in mice

The Panlab open-field can be combined with the SMART video-tracking system for the automated evaluation of a wide variety of behaviors (activity, exploration, anxiety, etc...)

SPECIFICATIONS



Specifications	76-0189	76-0190	76-0439	76-0402
Dimensions, W x D x H in. (cm)	35.4 x 35.4 x 15.7 in. (90 x 90 x 40 cm)	17.7 x 17.7 x 15.7 in. (45 x 45 x 40 cm)	35.4 x 35.4 x 15.7 in. (90 x 90 x 40 cm)	17.7 x 17.7 x 15.7 in. (45 x 45 x 40 cm)

OxyletPro System – Treadmill (Panlab)

Complete solution for assessing respiratory metabolism in treadmill studies using the indirect calorimetry method.

- New touchscreen treadmill unit
- Rolling belts with adjustable speed and slope
- Minimum maintenance required
- Easy to clean
- High performance motor
- Silent operation, even at high regimes
- Accurate control of the intensity of the shock delivered
- Positive and negative slope (-25 to +25 degrees)
- Indirect calorimetry measurement for V_Omax determination

Item No.	Description
76-0897	Single Lane OxyletPro Touchscreen Treadmill, Rats
76-0891	Single Lane Touchscreen Treadmill, Mice
76-0678	Lid for Metabolism, Mouse (to be used in conjunction with 76-0891)
76-1386	Oximetry Interfaces Bundle (Up to 2 Chambers)
76-1387	Oximetry Interfaces Bundle (Up to 4 Chambers)
76-1403	Oximetry Filter Kit (Up to 8 Chambers)
76-1397	METABOLISM Software OXY Bundle



DETAILS



The OxyletPro system is a modular system allowing the integration of respiratory metabolism (O_2 consumption / CO_2 production). Panlab provides a complete Oxylet solution enabling forced exercise training in a treadmill combined with indirect calorimetry in rodents.

Basically, Panlab Treadmill apparatus consists of a rolling belt with adjustable speed (up to 150 cm/s) and slope (from -25 to 25 degrees) and a control Unit. The rolling belt is built with especially selected materials to guarantee the best performance under conditions of intensive use and the minimum operations of maintenance, as well as simplicity in keeping it clean. The lanes (corridors of activity for the animal) have sufficient width for the subject to correct its errors in coordination, thereby allowing an exact measurement of the fatigue without deficiencies in motor coordination.

The treadmill unit controls the speed of the belt, shows measured data in its touchscreen display and provides electrical shock to the grid. The electrical shock supplied by the grid is of constant intensity (from 0 to 2 mA), that is, the current which circulates through the animal (and therefore its effect) only depends on the value of the mA chosen and not of the subject (quantity of body mass in contact with the bars, perspiration, etc.)

For metabolism studies, the treadmill is provided with an air isolated enclosure. The air flow control unit

allows a fine regulation of the air flow inside the treadmill and sends the air to the gas analyzer for O2/CO2 gas concentrations determination. The air melange is previously stabilized through the air reservoir.

The associated METABOLISM software transfers the data from the treadmill control unit and the gas analyzer to a PC computer using RS232/USB outputs for data storage and further analysis.

NOTE: the calibration tanks are not provided with the system and should be purchased separately by the user (see Specifications).

SPECIFICATIONS

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Specifications

76-0891

Model	LE8708TS
Subjects	One (1) Mouse
Speed cm (inch)	5 to 150 (2 to 59)
Exercise Area cm (inch)	38 x 5 x 5 (15 x 2 x 2)
Control Unit Dimensions cm (inch)	23 x 29.5 x 11 (9 x 11.6 x 4.3)
Treadmill Dimensions (without lid) cm (inch)	44 x 15 x 23 (17 x 6 x 9)
Supporting Base /Foot Surface cm (inch)	22 x 13 (9 x 5)
Options	76-0554 Standard Lid, 76-0678 OxyletPro Lid, 76-0921 Air Puff

Touchscreen Treadmill (Panlab)

Treadmills are rolling belts with an adjustable speed and slope, enabling forced exercise training and accurate testing of fatigue in rodents.

- New! Save space and money with our new rat/mouse convertible treadmills
- Control unit with integrated touchscreen graphic user interface
- Adjustable belt speed from 0.4 to 150 cm/s (NEW low speed function!)
- Positive and negative belt slope from -25 to +25 degrees
- Models from single to five lanes for mice and rats; single lane for rabbits
- Constant electrical shock intensity (adjustable from 0 to 2 mA)
- Optional air-puff accessory (interchangeable with shock as motivating stimulus to force exercise)
- Optional SEDACOM software for communication with PC for data storage
- Models available for indirect calorimetry (respiratory metabolism studies)
- Minimal maintenance and easy cleaning

Item No.	Description
76-0891	Single Lane Touchscreen Treadmill, Mice
76-0554	Standard Lid for Mouse (to be used in conjunction with 76-0891)
76-0892	Single Lane Touchscreen Treadmill, Rabbits
76-0895	Five Lanes Touchscreen Convertible Treadmill, Rats
76-0896	Five Lanes Touchscreen Convertible Treadmill, Mice
76-0312	Rat Lid for conversion of the 76-0896 to rat treadmill.

Item No.	Description
76-0314	Rat Grid for conversion of the 76-0896 to rat treadmill.
76-0313	Mouse Lid for conversion of the 76-0895 to mice treadmill.
76-0315	Mouse Grid for conversion of the 76-0895 to mice treadmill.
76-0920	Airpuff Option for 76-1180 Rat Treadmill (air source not included)
76-0921	Airpuff Option for 76-1181 Mice Treadmill (air source not included)
76-0923	Air-puff Option for 76-0891 and 76-1182 Rat Treadmill (air source not included)
76-0924	Air-puff Option for 76-1183 Mice Treadmill (air source not included)
76-0925	Air-puff Option for 76-0895 Rat Treadmill (air source not included)
76-0926	Air-puff Option for 76-0896 Mice Treadmill (air source not included)
76-0406	SEDACOM Software V2.0



DETAILS



Panlab/Harvard Apparatus small animal treadmills are used for forced exercise training and accurate testing of fatigue in rodents. A control unit with touchscreen user interface plus the ability to perform individual lane stimulation (shock or air-puff) add convenience and experimental flexibility in setting up and managing study parameters.

Description

The treadmill includes a shock grid which delivers electrical shock of constant intensity. An air-puff accessory option is interchangeable with shock, enabling the use of one or the other depending on experimental needs. The treadmill lanes have sufficient width for the animal to correct any errors in coordination, allowing an exact measurement of fatigue. Robust design and high-quality materials guarantee high performance under conditions of intensive use.

The control unit's touchscreen allows control of the speed of the belt and the intensity of the stimulus. Parameters measured are recorded and shown on the control unit display, including belt speed and slope, distance covered, accumulated shock time, and shock intensity. The control unit provides current to the shocking grid and allows communication with the PC for data storage through the

optional SEDACOM software (USB communication). The SEDACOM software is needed for editing and executing user-defined protocols of speed (acceleration, deceleration, customized, etc.). The sessions can be manually stopped independently in each lane or automatically using specific user-defined parameters.

We also offer single lane treadmill configurations for metabolism studies (indirect calorimetry).

New! Save space and money with our new rat/mouse convertible treadmills

Panlab offers a complete line of convertible standard treadmills for rodents. Similarly to the 5-lane treadmills, the 1-lane and 2-lanes rat treadmills can now be easily converted into a mouse treadmill and vice versa. New grid, lid and air puff accessories are available for this purpose (see Item Listing).

Featuring our low speed option!

A speed range of 0.4 to 150 cm/s allows further flexibility in exercise and fatigue studies and opens its use to new fields of applications (non-rodent animal species, fine motor coordination, etc.). This speed range is available in all standard touchscreen treadmills except for the rabbit treadmill model.

For the OxyletPro airtight treadmill (Metabolism studies), the low speed range is not available through the METABOLISM software (5 to 150 cm/s)

Please contact us for information about how to upgrade the firmware of your touchscreen treadmill to get the low speed options as well as some minor improvements/bug corrections.

Firmware Change Reports

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SPECIFICATIONS					
Model	Subjects	Speed cm/s (in/s)	Exercise Area cm (in)	Control Unit Dimensions, cm (in)	Options
76-1180 LE8700RTS	One (1) Rat (convertible to mouse)	0.4 to 150 (0.16 to 59)	53 x 10 x 15 (21 x 4 x 6)	23 x 29.5 x 11 (9 x 11.6 x 4.3)	76-1187 Mouse Lid 76-1185 Mouse Grid 76-0920 Air Puff
76-1181 LE8700MTS	One (1) Mouse (convertible to rat)	0.4 to 150 (0.16 to 59)	38 x 5 x 5 (15 x 2 x 2)	23 x 29.5 x 11 (9 x 11.6 x 4.3)	76-1186 Rat Lid 76-1184 Rat Grid 76-0921 Air Puff

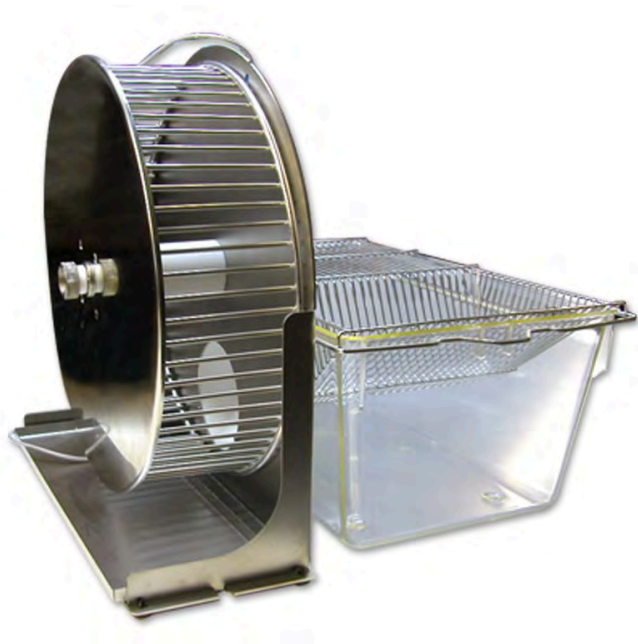
76-0891 LE8708TS	One (1) Mouse	0.4 to 150 (0.16 to 59)	38 x 5 x 5 (15 x 2 x 2)	23 x 29.5 x 11 (9 x 11.6 x 4.3)	76-0554 Standard Lid 76-0678 OxyletPro Lid 76-0921 Air Puff
76-0892 LE8715TS	One (1) Rabbit	10 to 80 (4 to 31.5)	73 x 30 x 31 (29 x 11.8 x 12)	23 x 29.5 x 11 (9 x 11.6 x 4.3)	N/A
76-1182 LE8706RTS	Two (2) Rats (convertible to mice)	0.4 to 150 (0.16 to 59)	2 x (53 x 10 x 15) 2 x (21 x 4 x 6)	23 x 29.5 x 11 (9 x 11.6 x 4.3)	76-1191 Mouse Lids 76-1189 Mouse Grids 76-0923 Air Puff
76-1183 LE8706MTS	Two (2) Mice (convertible to rat)	0.4 to 150 (0.16 to 59)	2 x (38 x 5 x 5) 2 x (15 x 2 x 2)	23 x 29.5 x 11 (9 x 11.6 x 4.3)	76-1190 Rat Lids 76-1188 Rat Grids 76-0924 Air Puff
76-0895 LE8710RTS	Five (5) Rats (convertible to mice)	0.4 to 150 (0.16 to 59)	5 x (53 x 10 x 15) 5 x (21 x 4 x 6)	23 x 29.5 x 11 (9 x 11.6 x 4.3)	76-0313 Mouse Lids 76-0315 Mouse Grids 76-0925 Air Puff
76-0896 LE8710MTS	Five (5) Mice (convertible to rats)	0.4 to 150 (0.16 to 59)	5 x (38 x 5 x 5) 5 x (15 x 2 x 2)	23 x 29.5 x 11 (9 x 11.6 x 4.3)	76-0312 Rat Lids 76-0314 Rat Grids 76-0926 Air Puff

Rodent Activity Wheel (external) and cage (Panlab)

External activity wheel for the evaluation of animal physical activity and voluntary exercise in rodents.

- Home cage voluntary exercise registering
- Preserve animal life space
- Stainless steel wheel construction
- For rat, mice and hamsters
- Ideal for high throughput experiments

Item No.	Description
76-0412	(LE904) Activity Wheel and Cage, Rat
76-0413	(LE905) Activity Wheel and Cage, Mouse
76-0414	(LE907) Single Wheel Counter (1 by Wheel)
76-0243	(LE3806) Programmable MultiCounter with 30 Inputs (up to 30 wheels and 15 Rotameters)
76-0406	SEDACOM Software V2.0



DETAILS



The rodent Activity Wheel represents a very simple and clever way to register animal physical activity in its home cage environment.

The use of this high throughput tool is particularly relevant for research involving circadian rhythms, phenotyping and drug testing.

Basically the animals are housed individually in the home cages equipped with the running wheel. The total number of wheel rotation made by the animal is displayed on the external LE907 individual counter or LE3806 multicounter devices.

LE3806 multicounter allows storing the data in userdefined time intervals. The data can be visualized directly from the multicounter display and/or exported to the SeDaCom PC interface (through RS 232 serial port) in a format compatible with Excel. The new SEDACOM 2.0 version (not included with the LE3806 multicounter) provides an easy and convenient way to visualize and export the data (R.P.M., Speed and Distance covered, etc.) on a computer for further analysis.

All the components of the wheel assembly (wheel, wheel hub and support) are made of stainless steel and are used with standard ACE (Allentown Caging Equipment) polycarbonate rodent cages provided with its wire lid. The wheel is built outside the home cage to preserve animal life space.

All non-electrical cage components are autoclavable.

SEDACOM Software (Panlab)

SEDACOM is a polyvalent and straightforward communication software for stand-alone equipment.

- Polyvalent data transfer software
- RS232/USB communication
- Informative Experiment Header exportable in the data reports
- Runtime panels using tabular structure for saving time in the data post-analysis process
- Editable fields for Subjects and Groups information
- The data can be saved in a new experimental file (SED) and opened later for adding a new set of data
- Direct exportation to Excel, txt and htm formats for further data processing, statistics and presentation
- Configure & control your device (IR actimeter, Treadmill, etc.) directly from SEDACOM
- USB Installation and License key (everything included in 1 USB key)

Item No.

Description

76-0406

SEDACOM Software V2.0



DETAILS



The SEDACOM 2.0 is a very easy, convenient and cost-saving data transfer software providing an ideal environment for visualizing the registered data on a computer and exporting them in a format that simplifies any further post-analysis processes. SEDACOM increases the functionalities of the devices, saving and listing automatically all the data of the current or stored sessions.

SEDACOM can be used with a wide range of Panlab products for measuring physiology and behaviour in small laboratory animals (motor activity, pain sensitivity, body temperature, memory etc.)

The name of SEDACOM comes from SERIAL DATA COMMunication, due to the direct communication via an RS232 serial port connection between Panlab devices and computers. Optional accessories allow use of an USB stick to conduct experiments with a laptop.

SEDACOM can acquire data simultaneously from up to 9 devices, limited only by the number of series ports available on the computer. An additional hub or board with serial ports (not included) can be installed to expand the number of connections. SEDACOM will automatically recognize the number of systems connected.

Configure & control your device (IR actimeter, Treadmill, etc.) directly from SEDACOM

SMART Video Tracking System (Panlab)

SMART is a complete and user-friendly video tracking system for evaluating behavior in experimental animals.

- Standard solutions in Neuroscience
- Tracking, Activity & integrated behavior
- The most user-friendly in the market!
- Flexibility, Productivity, Traceability
- Customized solutions for any application and budget
- Optimal cost/performance ratio!
- Built-in Digital Video Recorder
- Remote START/STOP control included

Item No.	Description
76-0696	Smart V3.0 Super Pack
76-0697	Smart V3.0 Premium Pack
76-0681	SMART platform (needs experimental module)
76-0682	Customizable Experimental Module
76-0688	Open Field Preconfigured Module
76-0690	Water Maze Preconfigured Module
76-0689	Plus Maze Preconfigured Module

Item No.	Description
76-0691	T/Y Maze Preconfigured Module
76-0692	Place Preference Preconfigured Module
76-0693	FST And TST Preconfigured Module
76-0687	Social Interaction Preconfigured Module
76-0695	Smart V3.0 Basic Pack



DETAILS



Smart 3.0, the latest release of Panlab SMART video tracking system features the most flexible and easy-to-learn software for the automated evaluation of behavior in the widest range of pre-clinical and neuroscience applications.

SMART provides data relevant to problems in basic and clinical psychopharmacology. Applications include phenotype characterization (differences between strains, effect of a genetic modification, etc.) and studying the behavioral effects of pharmacologic substances.

Utilizing our advanced image analysis, SMART 3.0 allows the recording of activity, trajectories, events, social interactions, and global activity. SMART 3.0 provides users the versatility of a modular system with the capabilities of a broadband package.

SMART 3.0 was developed with the daily experimental process in mind with an easy-to-use interface and an highly flexible structure to fit well with most applications and budgets. Advanced features ensure reliable data and increased productivity, saving valuable time and resources.

SMART 3.0 emphasizes flexibility, productivity and simplicity – just add your desired settings, SMART 3.0 will do the rest. Simply SMART, simply powerful.

Provided data

- Summary tables directly exportable to Excel and providing calculation for each user-defined zones and/or time intervals
- Wide variety of standard calculations related to tracking: time/distance/entries in zones, average speed, etc. Advanced calculations also available: alternation triplet, Whishaw's error, mean directionality, parallel index, turning tendency, rotations, rearings, etc.
- Zone transition, global activity and events list reporting the time evolution of specific calculations and distribution of their occurrence
- Track coordinates reports (X,Y,Z)
- Group evolution graphs and Track image exportation

VivaMARS Mobile Activity Rack System

VivaMARS is a new activity solution specially designed to address all the needs of high efficiency in CROs for neurotoxicology and neuropharmacology studies.

- **HIGH THROUGHPUT**—Increase your experimental capacity.
- **TIME-SAVING**—No extra cleaning time between sessions, simplified set-up operations.
- **FLEXIBLE**— A modular, portable system design for both mice and rats.
- **ACCURATE**—2-dimensional activity measurement and precise IR sensor spacing for optimal resolution and reliability.
- **GLP COMPLIANCE** – Unmatched data traceability and quality.
- **SERVICES** – At your disposal the whole suite of DSI service offerings to ensure the success of your studies.



VivaMARS is a new activity solution specially designed to address all the needs of high efficiency in CROs for neurotoxicology and neuropharmacology studies.

Partnership with Data Science International (DSI)

DSI and Panlab brands, divisions of Harvard Bioscience Inc., are leading manufacturer of quality instrumentation for animal behavioral and physiology research. Representing over 50 years of experience and referenced in more than 7,000 peer-reviewed publications, our solutions are proven choices for a wide range of in vivo applications spanning neuroscience, toxicology, pharmacology and more. Our collective team is eager to share our expertise and support your research as we have with many of the world's scientists for decades.

In the context of this partnership, DSI and Panlab features the new VivaMARS solution, a high-capacity behavioral monitoring system for pre-clinical applications.

The new system combines the Company's high precision Panlab activity monitoring technology with its industry leading Ponemah™ pre-clinical data management software to create an integrated good laboratory practice (GLP) compliant solution. The system is ideally suited to meet the high throughput, automated pre-clinical safety and pharmacology testing needs of CROs and pharma, in addition to acute activity studies carried out by leading research and academic institutes.

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