



# Unlock the Full Picture of Animal Behavior and Physiology

Break free from traditional constraints and elevate your research with revolutionary technology

## SoHo™ Telemetry



## Behavior



**DSI™**

An Affiliate of Harvard Bioscience, Inc.

**Panlab**

An Affiliate of Harvard Bioscience, Inc.

Imagine capturing the full picture—both your subjects' actions and their physiological responses—perfectly synchronized. While researchers have long pursued this ideal, technological constraints have made it difficult to achieve.

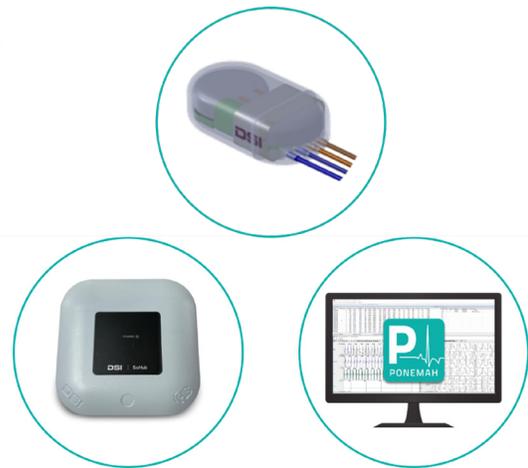
The SoHo Telemetry System breaks these barriers, seamlessly integrating into existing behavioral studies with wireless telemetry, real-time data streaming, and high-precision analytics.

By eliminating the traditional one-to-one receiver-implant pairing and extending transmission ranges, SoHo unlocks what's possible in behavioral research.

SoHo provides the flexibility researchers have been waiting for - moving your research beyond traditional boundaries into new realms of discovery.

## Performance and innovation, when it counts!

SoHo revolutionizes data collection, supporting up to 16 implants per receiver and extending transmission range to 3–5 meters, enabling simultaneous use of telemetry and behaviors systems, unlocking new possibilities for study design and experimentation.



### With SoHo you can:

- Collect physiological and behavioral data simultaneously
- Set up experiments faster with simplified equipment configurations
- Expand your research design possibilities
- Gain deeper insights, and achieve breakthroughs using a multidisciplinary approach

# Precision in Action: Applications for Telemetry and Behavior

## Neuroscience and Sleep Research

Record EEG for precise sleep staging (REM, NREM, wake cycles).

Track locomotion and body temperature to analyze circadian rhythms and sleep disorders.

Combine with Home Cage Behavior monitoring and Video Tracking or IR Actimeters for naturalistic, long-term studies for comprehensive sleep disorders, epilepsy and neurodegenerative disease models.

## Unravel the Physiological Markers of Stress

Monitor ECG and heart rate variability (HRV) for stress and anxiety biomarkers while running an emotional behavior study using Fear Conditioning, Open-Field or Elevated Plus Maze procedures.

Assess temperature shifts and activity patterns in response to acute/chronic stress. Provide new insights for PTSD, anxiety, depression and autonomic nervous system research.



## Motor Disorders, Exercise Physiology and Metabolism

Monitor seizures and neural dysfunction in epilepsy models using EEG. Assess ECG and temperature changes in Parkinson's, ALS, and MS research.

Combine with Rotarod, Gait Analysis, or Tremor Tracking systems for a concomitant assessment of the evolution of the motor disabilities. Track neurodegenerative diseases progression with unmatched precision.

Monitor ECG and heart rate in a Treadmill study, perfect for exercise physiology, cardiovascular, and metabolism studies.

## Cognition and Learning Studies

Analyze EEG during learning tasks involving associated learning in an Operant Box or special memory in a Morris Water Maze or Radial Arm Maze test.

Measure ECG and activity for arousal states linked to learning performance.

Ideal combination for Alzheimer's, cognitive decline and neuroplasticity research.

# Empowering Holistic Research

Academic and preclinical research demands precision and efficiency. By combining wireless telemetry with behavioral assays, researchers can achieve a more complete understanding of neurophysiological processes in small laboratory animals.

- **Correlate Physiology and Behavior** – Directly link neural activity, heart rate, or temperature fluctuations with real-time behavioral responses to gain deeper insights into disease models, cognition, and stress responses.
- **Enhance Data Accuracy and Reproducibility** – A fully synchronized system reduces variability, minimizes data misalignment, and improves the reliability of experimental outcomes.
- **Study Naturalistic Behavior** – Wireless telemetry eliminates physical constraints, allowing animals to move freely for more ecologically valid behavioral observations.
- **Improve Experimental Efficiency** – Streamline data collection, reduce post-processing time, and optimize workflows by integrating physiological and behavioral data in a unified, cohesive analysis process.
- **Advance Disease and Drug Research** – Detect early physiological markers of neurological conditions and better assess the effects of pharmacological interventions.

DSI and Panlab, are working together to offer comprehensive research solutions, aiming to empower researchers to conduct more holistic, precise, and reproducible studies - accelerating discoveries in fields like neurodegeneration, epilepsy, circadian rhythms, and psychopharmacology.



#### Data Sciences International

119 14th St NW, Suite 100  
St. Paul, MN 55112 U.S.A.  
Tel: 651-481-7400  
Fax: 651-481-7404

**Sales:** [sales@datasci.com](mailto:sales@datasci.com)

**Technical Support:**  
[support@datasci.com](mailto:support@datasci.com)

**Web:** [www.datasci.com](http://www.datasci.com)

#### European Sales:

[sales@datasci.com](mailto:sales@datasci.com)

#### Asia Pacific Sales:

Tel: 86-21-50793177  
[apac-sales@datasci.com](mailto:apac-sales@datasci.com)

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