

Advances in Physiologic Telemetric Monitoring Compatible with Social Housing

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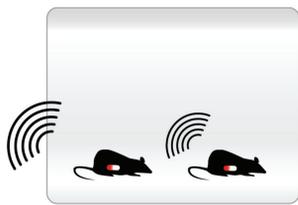
Mouse Temperature

The Anipill system offers temperature data collection, logged or in real-time, from socially housed small animal models. This portable solution collects data automatically and its simple set-up procedure helps you start your studies sooner. The Anipill system allows for temperature research applications including:

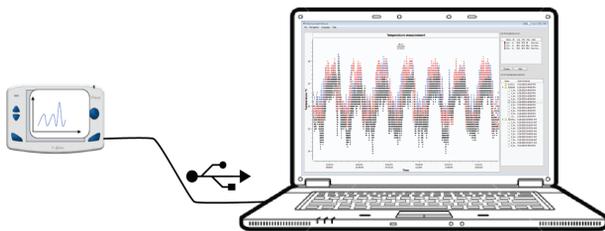
- Infectious diseases
- Vaccine research
- Circadian rhythm



Anipill temperature implant



Socially-housed rodents



The Anipill monitor receives wireless signals and transfers the data for acquisition for analysis.

Species commonly monitored with the Anipill implant include mice, rats, guinea pigs, and other small animal models. The Anipill system can accommodate up to 16 animals per monitor and each implant can last up to 12 months, depending on sampling frequency. The Anipill system is only approved for sale in the U.S. and Europe.

Sampling Frequency	Battery Life	Duration to Capsule Data Cap
30 seconds	1 month	16 hours / 0.6 days
2 minutes	3 months	66 hours / 2.7 days
5 minutes	7 months	166 hours / 6.9 days
15 minutes	12 months	500 hours / 20.8 days

Rat Cardiovascular and CNS

Rat Cardiovascular

The HD-S11 and HD-S1 support pair housing in small animal models (e.g. rats and similar sized animals) where cardiovascular endpoints are needed. Researchers can now simultaneously collect pressure, biopotential (HD-S11 only), temperature and activity data continuously and in real-time from two small animals in a single cage using PhysioTel HD-S11 or HD-S1 implants with DSI's RPC-3 receiver. HD-S11 and HD-S1 allow researchers to conduct study designs such as:

- Behavioral studies
- Chronic stress exposure
- Comparison of drug effects in single vs. pair housed animals
- Acute stress response



HD-S11 Implant monitors a pressure and biopotential endpoint, plus temperature and activity.

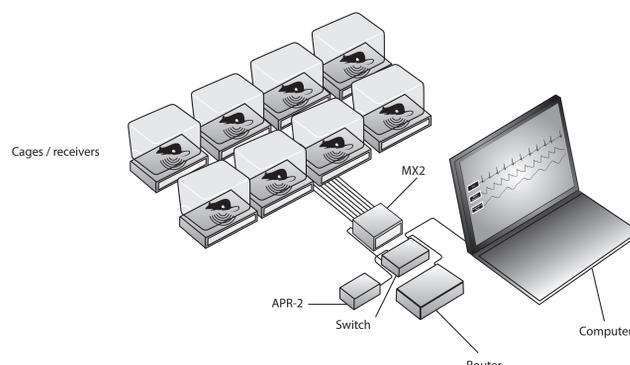
Rat CNS

With the 4ET implant, researchers can simultaneously and continuously collect four biopotential signals in numerous combinations to record EEG, EMG, EOG or ECG, in addition to temperature and activity, from two animals in a single cage. The 4ET is sized to be used in rats and similar sized animals with DSI's RPC-2 receiver. Telemetric recording of physiologic data coupled with automated sleep-wake scoring and seizure detection software facilitates the understanding of the following:

- Neurobiological regulation of sleep homeostasis
- Circadian rhythms
- Stress and arousal
- Conditioning
- Emotion and cognition



The 4ET implant monitors four biopotential endpoints simultaneously, plus temperature and activity.



Typical configuration for a PhysioTel™ small animal telemetry system from DSI.

Large Animal Cardiovascular and CNS

M Series Implants

The smaller size of M series allows PhysioTel Digital technology to be expanded into a broader range and size of species including rabbits and cats. Primary applications for M series are toxicology and biological defense studies. Single use implants are ideal for shorter duration studies.



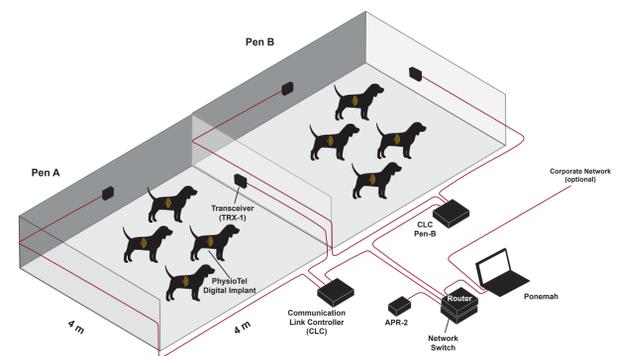
Collect one pressure and one biopotential endpoint, plus temperature and activity with the PhysioTel Digital M11.

L Series Implants

These implants are designed for chronic physiologic monitoring research in colony animals. Implants are used in safety pharmacology studies to address core battery requirements in cardiovascular (CV) and respiratory applications. Core CV measurements include systemic pressure and ECG and includes LV pressure as a secondary measurement. **Coming soon: L series implants to support neuroscience research.** L series implants are also eligible for the DSI Exchange program, reducing your ongoing study costs while ensuring implant quality, in vivo reliability, and performance.



The PhysioTel Digital L21 implant collects two pressure endpoints, one biopotential, plus temperature and activity.



Typical configuration for a PhysioTel Digital large animal telemetry system from DSI.