Implantable Physiological Signal Telemetry System DSCF-08

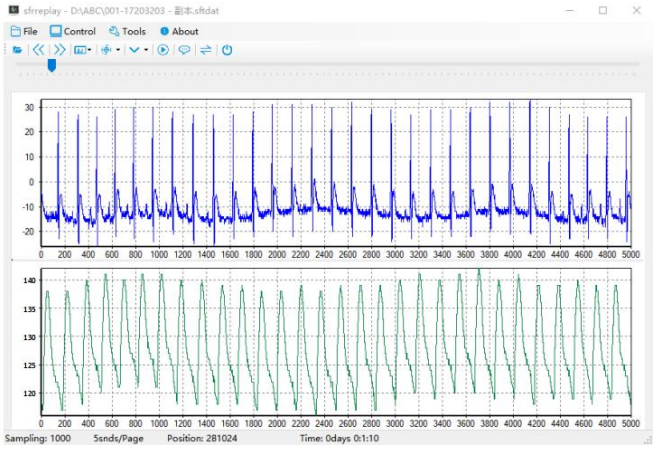
The DSCF-08 Implantable Physiological Signal Telemetry System is specifically designed to measure physiological parameters in small laboratory animals, such as rats and mice. The system involves surgically implanting a telemetry device into the animal's body, enabling real-time, continuous monitoring of physiological indicators in awake, freely moving animals. This eliminates the impact of anesthesia and confinement on physiological measurements, providing researchers in pharmacology, toxicology, physiology, and neuroscience with accurate and reliable data.

Wireless Telemetry, Free Movement

- Utilizes wireless signal transmission, allowing animals to move freely in a relaxed state. This eliminates the constraints of traditional wired equipment, ensuring the authenticity and reliability of experimental data.

Multi-Channel Data Collection, Comprehensive Monitoring of Physiological Signals

- Supports simultaneous monitoring of 1-8 animals, enhancing experimental efficiency.
- Capable of collecting multiple physiological signals, including ECG, blood pressure, body temperature, EMG, and EEG, to meet diverse research needs.



High-Precision Sensors, Reliable Data

- Equipped with various high-precision sensors and advanced filtering methods, ensuring signal stability and data accuracy, providing robust support for scientific research.

Long-Term Recording, Stable Operation

- Depending on the animal's size and experimental requirements, different battery capacities can be selected to enable continuous data collection for 1-3 months, meeting the demands of long-term experiments.
- Magnetic switch operation allows for easy power on/off based on experimental needs, ensuring ultra-low power consumption.

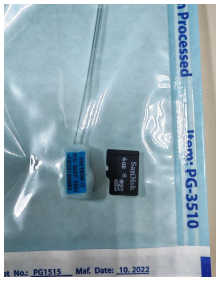
Professional Software, Accurate Analysis

- Comes with several specialized data analysis software, supporting real-time data display, storage, analysis, and export, facilitating in-depth analysis of experimental results. Data analysis is fast, with weeks of data processed in just minutes.

Applications

- **Cardiovascular Research** (hypertension, arrhythmias)
- **Neuroscience Research** (epilepsy models, stress and anxiety, sleep analysis)
- **Metabolism and Endocrine Research** (diabetes models, obesity)
- **Behavioral Research** (circadian rhythms, pain models)
- **Pharmacology and Toxicology** (drug safety evaluation, toxicological responses)
- **Immunology Research** (inflammatory responses, autoimmune diseases)

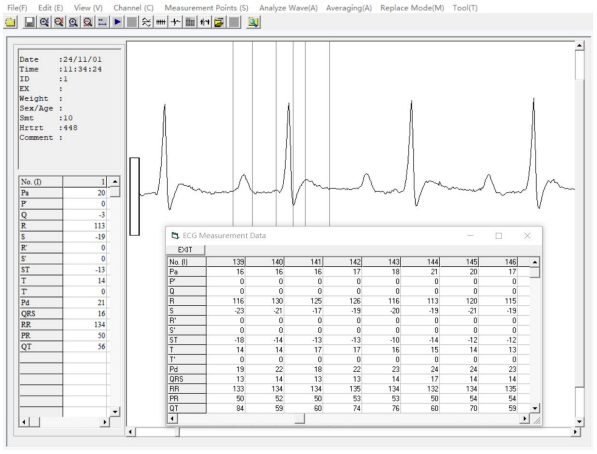
Telemetry Implant Specifications



Implant Model	Monitored Parameters	Size (mm)	Weight (g)
ECG-DSCF-FS01	ECG	16.5×9.5×7	2.3
BP-DSCF-FS02	Blood Pressure	Φ15×30	9.5
Temp-DSCF-FS03	Temperature	16.5×9.5×7	2.3
ECG&BP-DSCF-FS04	ECG + Blood Pressure	Φ15×30	9.5
EMG-DSCF-FS05	EMG	16.5×9.5×7	2.3
EEG-DSCF-FS06	EEG	16.5×9.5×7	2.3
EMG&EEG-DSCF-FS07	EMG + EEG	16.5×9.5×7	2.3

(*Implant models are subject to periodic upgrades; please refer to actual samples for parameter details.*)

Professional ECG Signal Analysis

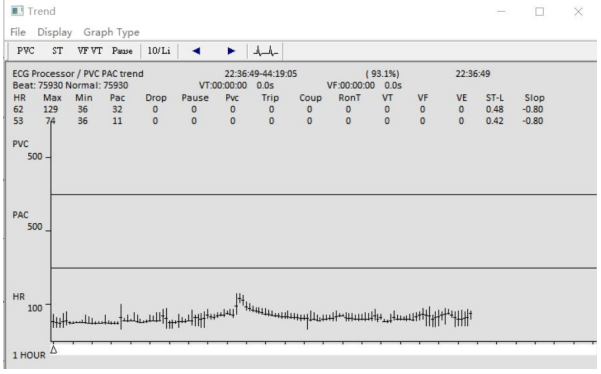


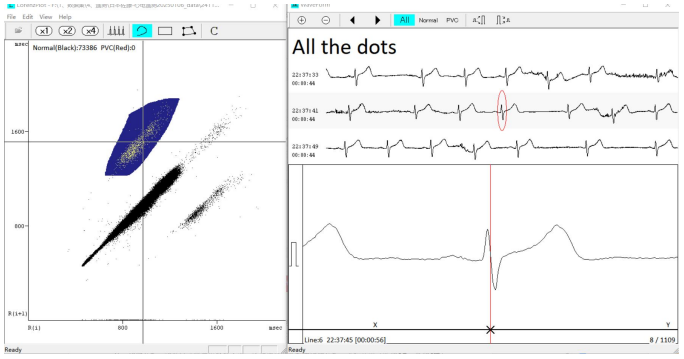
1. Complete Heartbeat Analysis

- Automatically analyzes P, Q, R, S, T waves and their parameters, including wave height, duration (P, QRS, RR, PR, QT), etc.
- Data can be exported to Excel for further processing and analysis.

2. Arrhythmia Analysis

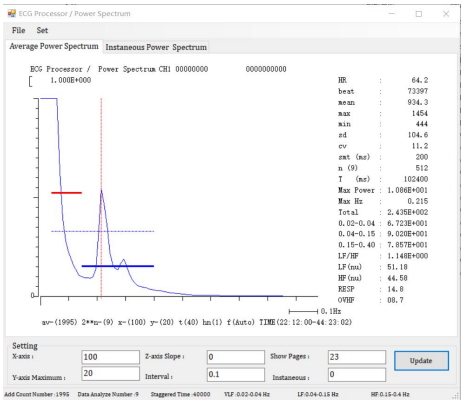
- Identifies and analyzes arrhythmias such as premature atrial contractions (PAC), premature ventricular contractions (PVC), ventricular tachycardia (VT), and ventricular fibrillation (VF).
- Tracks the frequency and duration of abnormal heartbeats and visually evaluates arrhythmia distribution using Lorenz plots.

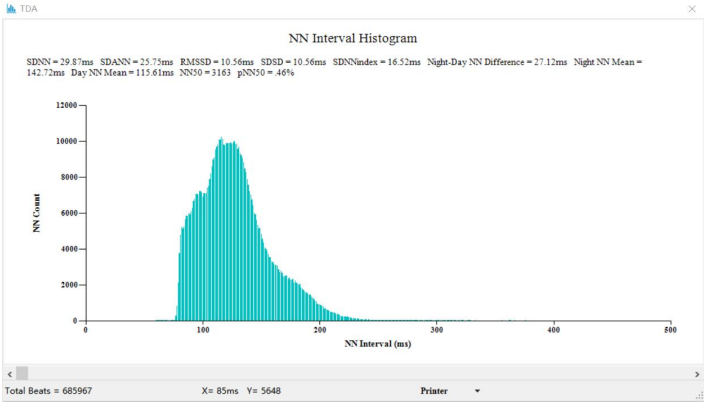




3. Heart Rate Variability (HRV) Analysis

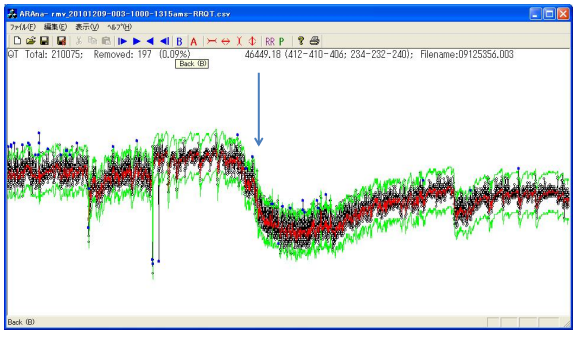
- Frequency Domain Analysis: Uses Fourier Transform to calculate low-frequency (LF) and high-frequency (HF) power, assessing the balance between sympathetic and parasympathetic nervous systems.
- Time Domain Analysis: Calculates parameters such as SDNN, SDANN, RMSSD, SDSD, pNN50, for in-depth analysis of autonomic nervous system function.

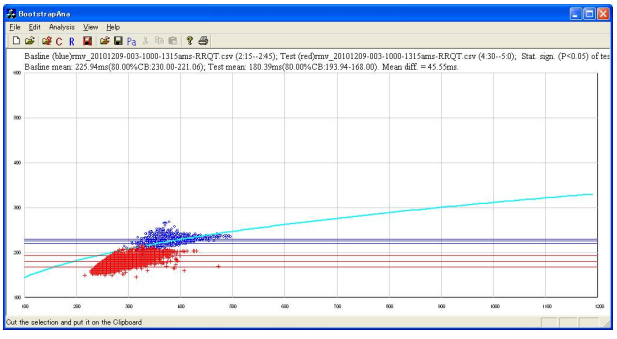




4. QT Interval Variability Analysis

- Uses Bootstrap resampling to assess the relationship between QT interval and RR interval, ensuring scientific accuracy and reliability of QT variability analysis.





5. Ventricular Late Potentials (VLP) Analysis

- Predicts the risk of arrhythmias, ventricular tachycardia, myocardial infarction, cardiomyopathy, and other cardiovascular diseases, providing valuable data for related research.