



HEAD MOUNTED TELEMETRY SOLUTION FOR RODENT

Wireless continuous measurement on rodents > 50g



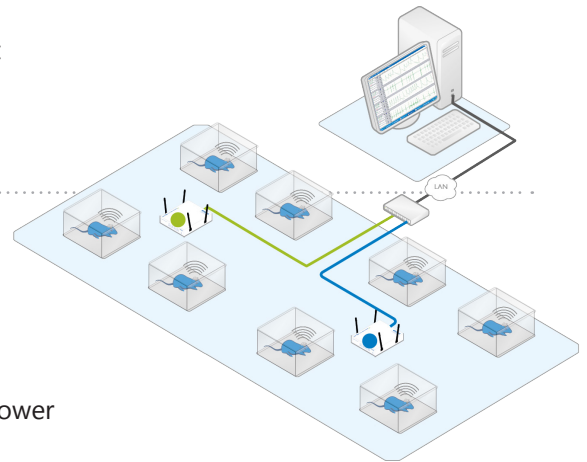
CONFIGURABLE SIGNALS

rodentPACK transmitter acquires:

- » 4 biopotentials (EEG, ECG, EMG), sampled at up to 1000Hz
- » x/y/z and global accelerations for postural & activity assessment

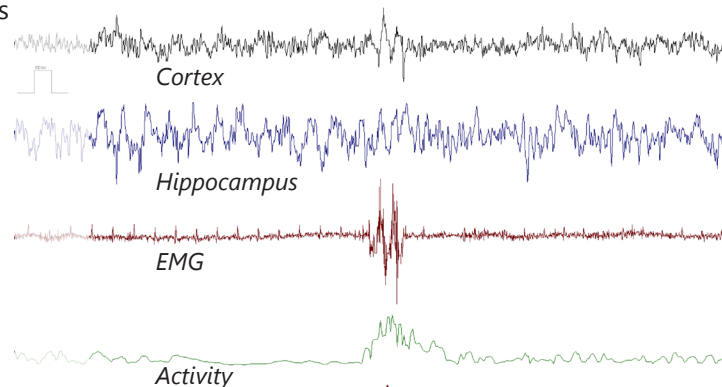
SYSTEM CONFIGURATION

- » A skull connector permanently implanted
- » A transmitter, connected to skull implant only during recordings
- » Only 1 receiver for 4 animals
- » smartTOOL for transmitter configuration
- » Fully digital: only 1 Ethernet cable per receiver handles data & power



KEY FEATURES

- » rodentPACK only weighs 5.2g with batteries
- » Transmission range up to 5 m
- » 150 hours of continuous recording with same batteries
- » Excellent noise-free EEG signal
- » No refurbishment, batteries cost less than 2\$/recording
- » Same transmitter may be used on any implanted animal
- » Rapid acclimation: rats are not restrained in their activities
- » Freely moving animal : alternative to tethered system
- » Group housing : multiple animals in same cage
- » Up to 32 animals in same room : no required shielding
- » May be fixed to the cranium or used as a transmitter alone (jacket ECG for instance)





DATA ACQUISITION & ANALYSIS

Data acquisition with iox2 software:

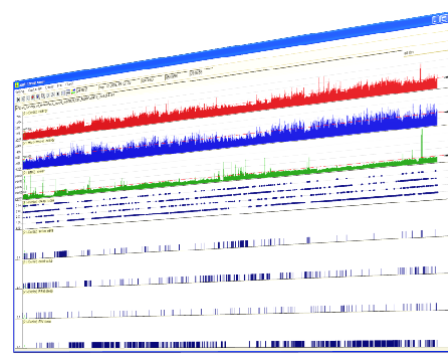
- » Long term continuous data recording
- » Real-time analysis and display
- » Synchronized video recording

Powerful EEG analysis module sleep scoring & epilepsy detection with ecgAUTO software:

- » Versatile scheduling of analysis, epoch lengths, overlap factor
- » Wide choice of filters, windowing modes, time domain & frequency domain parameters
- » FFT on original or resampled data, power from up to 6 adjustable frequency ranges
- » Export raw or computed data, FFT spectrums, scores and event details in text or Excel® format
- » Automated sleep scoring differentiates between 4 sleep stages, according to user adjustable criteria with on the fly immediate feed-back
- » Automated epileptic seizure detection combining multiple user adjusted criteria and logical modes
- » Full review and edition of computed data with optional synchronized video for better assessment

Gold standard ECG analysis with ecgAUTO software:

- » Beat-by-beat, single, inter and multi-lead analysis
- » Full range of parameters (intervals, amplitudes, areas)
- » Custom parameters (inter-beat, inter-lead, formulas)
- » Subject dependent advanced QT correction
- » Isolated P-waves, arrhythmias, abnormal events detection
- » Variability analysis on any parameter
- » Automated protocol and batch analysis of successive files
- » Extensive data review, edition, export modes



SPECIFICATIONS

Transmitter	
Dimensions (diam x height with head connector)	22x16 mm
Weight: Transmitter + batteries	5.2 g
Transmitter + batteries + connector	6.2 g
Battery life	Up to 150 h
Batteries	2 x 1.45V zinc-air
Transmission range	5 m

Signals	
Biopotential	
Input bandwidth	1 - 150 Hz
Sampling frequency	250 - 1000Hz
Input range	±2 for EEG ±4 mV for ECG/EMG
Resolution	1 µV for EEG 2 µV for ECG/EMG
Acceleration	
Sampling frequency	50 - 250Hz
Resolution	2 - 16 g