

Main Features

- Collar-worn ultra light-weight activity monitor for ambulatory monitoring of activity and circadian rhythms in pre-clinical and veterinary applications
- Recording of physical activity by means of an accelerometer
- Can be used with the ActiLight light intensity monitor to assess the effects of light intensity on activity and sleep
- Designed for use with custom sleep and activity analysis software with a reader for data transfer to a PC
- Records for up to 90 days with a 1 minute epoch
- Suitable for use with most animals including small primates such as marmosets
- Supplied with a loop for easy mounting either on a collar or a neck chain
- All data stored in the software is fully exportable for analysis in a third party program



Animal Use

The Actiwatch Mini is an ultra light-weight version of the Actiwatch designed especially for use with animals. It is a collar-mounted device which detects and logs movement intensity and duration. The data is stored in the watch and can be downloaded to a PC for analysis. As such, it is a convenient tool for the ambulatory recording of general physical activity and circadian rhythms.

Physical Activity

The activity plots coupled with specialised software serve to quantify the intensity and duration of daily physical activity.

Circadian Rhythm

The Actiwatch Mini is an ideal tool for monitoring circadian rhythm in laboratory animals.

Fields of Application

The Actiwatch Mini is ideal for unobtrusively and easily monitoring activity in a wide range of animals. In pre-clinical studies it is being extensively used in primates from marmosets to olive baboons. In veterinary applications the Actiwatch Mini is being used on a wide range of animals for a variety of applications. These range from physical activity monitoring in sheep and horses to aiding weight loss in dogs.

Validation

The Actiwatch has been validated against polysomnography the 'gold standard' for use in sleep studies, and it has been used extensively for other applications.

Technical Specification

Weight:	7.5 grams
Battery life:	500 days
Battery type:	CR 1220
Memory:	128 KB
Waterproof:	Yes
Warranty:	2 years
Diameter:	24 mm
Depth:	7 mm
Epoch Range:	2s-15min
PC Analysis:	Windows [®] XP/Vista Windows [®] 7

Epoch length	2 sec	5 sec	10 sec
Recording time	72 hours	180 hours	15 days
Epoch length	15 sec	30 sec	1 min
Recording time	22.5 days	45 days	90 days

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Main Features

- A choice of either EMG or ECG EEG waveform recorders
- 1, 2 and 4 channel units available with user selectable sampling and bit rates
- Ultra miniature, light-weight design for unobtrusive monitoring
- Ideal for pre-clinical and veterinary use
- A range of reader/charger units is available increasing flexibility for users
- Data stored is outputted in standard EDF files for easy viewing
- Kits include all gels, pastes and square compresses
- Custom electrode options available on request

Animal Use

The Actiwave range of biomedical waveform recorders are designed to capture EMG, EEG and ECG signals. Using ultra miniature recorders which are available with either 1, 2 or 4 channels of recording capability, EMG, EEG and ECG waveforms can be recorded discreetly on even small laboratory animals. One channel units can be secured on a rodent jacket allowing easy measurement of a single channel of EEG or ECG. Two and four channel units can be used to record EEG, ECG and EMG on larger animals such as rabbits, cats, dogs and primates. For veterinary applications all units can be used on a wide range of animals.

A range of reader/charger units are available allowing easy setup, download and charging of whatever range of Actiwave products is selected. The Actiwave product range is supplied with simple PC setup software and the data recorded is outputted as standard EDF files for easy viewing.

Technical Specification

EEG

Range: 400uV p-p
Impedance: 10MΩ
Frequency: 0.3 - 50 Hz

ECG

Range: 8mV p-p
Impedance: 10MΩ
Frequency: 0.3 - 50 Hz

EMG

Range (low) 800uV p-p
Range (high) 8mV p-p
Impedance: 10MΩ
Frequency: 50 - 500 Hz



Unit type	Order Code	Memory	Recording time*	Weight	Size (mm)
EEG/ECG 1	08-514	16 Mbytes	36 hours	4.8g	18.5x27x8.5
EEG/ECG 2	08-521	24 Mbytes	27 hours	5.6g	25x27x8.5
EMG 2	08-536	24 Mbytes	27 hours	5.6g	25x27x8.5
EEG/ECG 4	08-557	24 Mbytes	13 hours	8.5g	37x27x8.5

*Example recording times are based on 128 Hz 8 bit recording.

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