

## 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 in daily living
- Light-weight 3 or 5 lead ECG Holter monitoring
- Ideal for paediatric and pre-clinical use
- A range of reader/charger units is available increasing flexibility for users
- Data stored is outputted in standard EDF files for easy viewing
- A full range of EEG and EMG electrodes from Pactronic available
- 450mm EEG and 100mm EMG electrodes available from stock
- Kits include all gels, pastes and square compresses
- Custom electrode options available on request



**The Actiwave** range of biomedical waveform recorders are designed to capture EMG, EEG and ECG signals in daily living. 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 without the need for a large belt mounted recorder or lengthy wires. Each recorder can simply be taped or glued to the skin near to the position of the electrodes. The small size of the units makes them ideal for paediatric and pre-clinical use. 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: 400 $\mu$ V p-p  
Impedance: 10M $\Omega$   
Frequency: 0.3 - 50 Hz

### ECG

Range: 8mV p-p  
Impedance: 10M $\Omega$   
Frequency: 0.3 - 50 Hz

### EMG

Range (low) 800 $\mu$ V p-p  
Range (high) 8mV p-p  
Impedance: 10M $\Omega$   
Frequency: 50 - 500 Hz

## Bibliography

- Elbaz, M. (2008)** Actiwave: new technology of sleep recording. *Medecine du Sommeil*
- Evans, T. (2008)** CamNtech report on Actiwave Sleep Trial carried out by the University of Surrey.

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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## Electrodes

The Actiwave range uses 1mm custom connections.  
CamNtech stocks a range of electrodes by Pactronic:

<http://pactronic.free.fr>

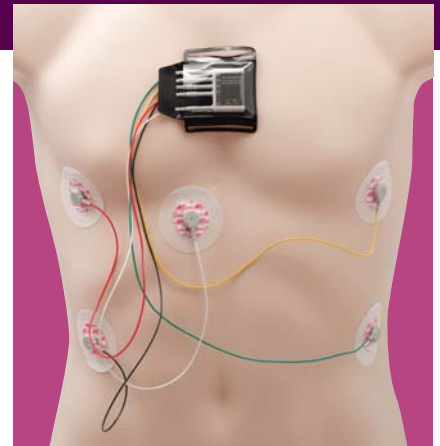
As standard, the following electrodes are stocked:

**EMG electrodes:** 100mm lead length, gold plated reusable electrodes and 1mm pins.

**EEG electrodes:** 450mm lead length, gold plated reusable electrodes and 1mm pins. Electrodes are supplied in kits of 6 which include square compresses, adhesives and gels.

**ECG electrode leads:** CamNtech can supply 1mm socket to 4mm snap clip adapters allowing the Actiwave range to be used with standard ECG electrodes. These are available in either 100mm or 450mm lengths and in a variety of colour combinations. For ordering codes please see the table below.

**Custom lengths and alternative combinations can be supplied on request.**



## Software

CamNtech is able to offer a variety of software packages for use with the Actiwave range.

For easy viewing of the EDF files outputted by the Actiwave, there are a number of free EDF viewers available to download from the internet.

One example is: <http://www.edfplus.info>

For more complex analysis requirements, CamNtech can supply the Biopac AcqKnowledge software – please contact us for full details or alternatively please see the following website: <http://www.biopac.com>

For pricing details, please contact **CamNtech**.

Actiwave Hardware	code
EEG/ECG 1 channel	08-514
EEG/ECG 2 channel	08-521
EMG 2 channel	08-536
EEG/ECG 4 channel	08-557
MultiDock: 6 channel reader/charger with software and cable	08-715
CombiDock: 4 channel plus 1 channel Cardio reader/charger with software and cable	08-727
Actiwave Analysis Software	code
Biopac Acqknowledge software	08-661
Actiwave Spares/Accessories	code
Pack of 6 EEG/EMG electrodes with gels/pastes. Gold plated, 450mm	08-450
Pack of 6 EEG/EMG electrodes with gels/pastes. Gold plated, 100mm	08-100
Pack of 10 x 1mm sockets + 5 metres 1.6 flexible cable	08-791
1mm socket to ECG/EMG electrode 4mm stud. Cable length 50-600mm	08-788
1mm socket to 4mm snap clip for use with ECG electrode, 450mm (3 leads, red/black/white)	08-590
1mm socket to 4mm snap clip for use with ECG electrode, 150mm (3 leads, red/black/white)	08-690
1mm socket to 4mm snap clip for use with ECG electrode, 450mm (2 leads, green, yellow)	08-790
ECG/EEG 4mm clip to bare cable length 50-600mm	08-789
Pack of 10 x 1mm cable sockets	08-792
Adapter leads for impedance testing or other equipment	08-692
Pack of 5 Actiwave 1 channel holders	08-301
Pack of 5 Actiwave 2 channel holders	08-302
Pack of 5 Actiwave 4 channel holders	08-304