UnEmap: 448 Channel Mapping

UniServices is now seeking partners for licensing and development.

Research Application
With a 448 channel base unit, UnEmap delivers unique high spatial resolution electrical mapping. The system is endlessly expandable to accommodate any desired number of electrodes, and is the only technology to enable recording from, or pacing down, electrodes individually.
Specific applications include:
- Laboratory electrical mapping from small mice to large pigs
- High density mapping of atrial fibrillation
- Whole epicardial mapping
- Simultaneous epicardial and body surface potential mapping

Integrated Package
UnEmap is supported and delivered as a fully integrated package including electrode systems, data acquisition hardware and specialist software for managing signals on large data volumes. Designed for a diverse range of applications, many hardware parameters (e.g. gain, filters) are programmable.

“Unique technology – great support: UnEmap’s high channel count delivers unrivalled richness of information…”
Professor Peng-Sheng Chen, M.D. Cedars-Sinai Medical Center

Front End Electrodes
A variety of electrode systems are available with style and electrode spacing ranging from 120 (m rigid arrays suitable for the mouse, flat flexible plaques and compliant full epicardial socks for larger animals.

Specialist Software
UnEmap-Acquisition provides configuration and live preview for multiple electrodes. It also controls the pacing interface. UnEmap-Analysis performs spectral analysis, potential and activation time calculations, mapping and animation. All data can be exported for customized analysis.

Product Support
UnEmap is supported worldwide by the Bioengineering Institute of The University of Auckland, with systems currently installed in leading research institutions in the United States, Europe, Australia & New Zealand. UnEmap is available through Auckland UniServices Limited, the commercial arm of The University of Auckland.

Technical Specification

SYSTEM
- Maximum channels: unlimited
- Record from or pace down any electrode
- Isolate mode disconnects all electrodes from system
- Sampling rate 1 KHz to 5KHz
- Linux Operating System

FOR EACH CHANNEL
- Unipolar (common reference)
- Bipolar for differential signals
- Programmable – Gain 10 to 1000 – LP filter 50Hz to 5KHz – Stimulate or record – Stim. constant I or V
- High pass filter @ 0.05Hz
- Low pass filter 5th order linear phase
- Input impedance > 1TW · Input current < 5nA
- CMRR typical 90dB

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