



ME6000

Powerful solutions for
biosignal monitoring



Precise monitoring for clinical and research use

ME6000 technology is based on 25 years experience of Mega Electronics Ltd to develop high precision signal acquisition technology to detect sensitive signals of human performance both in a noisy laboratory environment and in varying field conditions.

On-line/real time monitoring with high sampling rate up to 10,000 Hz in parallel with data download from compact flash memory can be done via wireless connection (WLAN) to PC. Each channel can be modified separately for detecting signals from multiple sensors like ECG, EEG, heart rate (HR) goniometer, accelerometer, torsionmeter, inclinometer etc. The integrated compact flash memory capacity allows performing long term measurements outside the laboratory.



View data and manage settings on field without PC

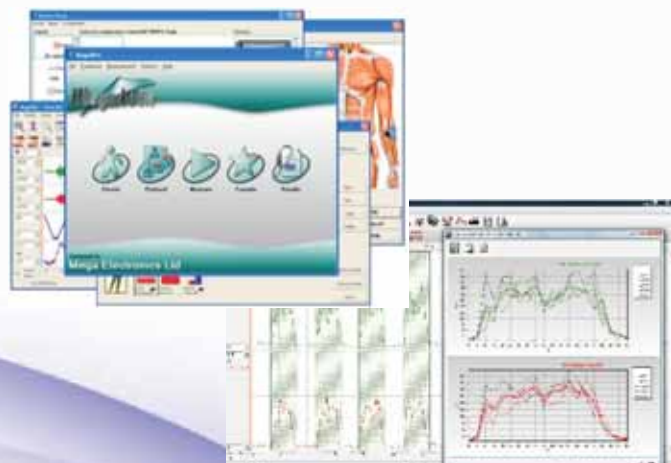
Fully programmable ME6000 is designed to meet the most demanding needs in measurements and monitoring of electromyography (EMG) and other physiological signals up to 16 channels simultaneously. This ambulatory unit includes the unique features of pocket-size data logger and wireless telemetry in a single compact unit. Due to its reliability and accuracy ME6000 technology is well accepted by top level medical professionals and scientists worldwide.

From device display is possible to view data online without PC and with 4 programmable measurement presets ME6000 system can be use on the field or in laboratory without PC if needed.

The ME6000 recording unit is equipped with triggered input/output (TTL) for synchronizing ME6000 with external devices like stimulators, motion analysis systems, etc. With stimulator and MegaWin neuro-option ME6000 is handy tool for detecting evoked potential (EMG/EP, motoric/sensory), somatosensory evoked potentials (SEP), H-reflexes/F-wave, nerve conduction velocities (NCV).

ME6000 system with MegaWin data acquisition software

The ME6000 system equipped with user friendly MegaWin PC-software allows accurate real-time monitoring. MegaWin provides tools for flexible signal processing and versatile data analysis with user defined protocols. On-line features such as raw signals in real-time with selected channels averaged curves, numeric values and real-time spectrum analysis bring the ultimate in user features for follow up.



Real-time registration with video synchronization option expands the application areas and helps with off-line analysis and data interpretation.

MegaWin software

MegaWin PC-software offers versatile, easy to use data acquisition software platform with full range of monitoring and analyzing features:

- Personal data management and data base
- Graphical easy to use configuration system set up for different signals
- Protocol wizard for multiple applications
- Data processing and analysis tool
- Multiple on-line/real-time features for raw, averaged, biofeedback, sounds, FFT-spectrums etc.
- Triggered display for neurological MEP and SEP analysis
- Complete body 3D muscle/nervemaps
- Reporting

MegaWin includes management tools for ME6000 system settings and easy to use protocol based measurement control. Protocols can be created easily and quickly by step by step progressing wizard. Software includes anatomic muscle maps with electrode placement examples from each specific muscle.

MegaWin data file can be exported as binary file, ASCII file and in Matlab-format for further analysis. C3D-format allows to input MegaWin data into well equipped motion analysis systems. Data export to EDF is also included to MegaWin.



Wide range of monitoring applications

• Neurology

EMG/EP
EEG
MEP, SEP
NCV
Neurorehab

• Work medicine

Long term recording of muscular load
Multiple sensor measurement
Work environment analysis
Ergonomy definition
Injury risk definition

• Education

Versatile monitoring modes
Biofeedback features
Anatomical maps for all muscles
Teaching muscle functions in real-time

• Sports medicine

Real field recordings on-line, off-line
Side difference analysis
Coordination training
Fatigue analysis
Multichannel EMG and variable sensors
Training follow-up
Tendon responses, H-reflex
Defining nerve damages

• Physiotherapy / rehabilitation

Defining muscle ability for activation
Coordination measurements
Side differences
Fatigue analysis
Biofeedback
Average and time normalized EMG patterns

• Research

Multiple physiological signal monitoring
Multichannel EMG

Accessories and options

There are several additional sensors available for fulfilling varying measurement needs:

- ECG, EEG
- HR sensor, goniometers, respiration volume sensor
- Inclinometers, accelerometers, rotation sensors, force sensors, etc
- Waterproof kit for underwater measurements



More information about additional sensors you can find from Additional sensor brochure.

Digital video option

Measurement signals can be synchronized with video. Mega provides video-option for MegaWin PC-software for 1, 2 or 4 cameras via Firewire connection. Video synchronization can be made with wireless triggering which allows more freedom for measurements.

Neuro-option

For compact neurological studies ME6000 and MegaWin PC-software have neuro-option. This option includes the basic neurological measurements (SEP, NCV, MEP etc). For neurological measurements Mega provides several type of stimulators. For neurological rehabilitation is possible to add rehabilitation games to rehabilitate motoric control of the patient.



More information about software options you can find from MegaWin PC-software brochure.

Technical specifications

| | |
|---------------|---|
| Display | LCD (240 x 160 dots) |
| Resolution | 14 bits |
| CMRR | Typ. 110 dB |
| Channels | 4 - 16 |
| EMG type | Raw / Averaged / True-RMS / Integrated |
| Sampling rate | 100 / 250 / 1000 / 2000 / 5000 / 10000 Hz / Channel |
| EMG freq band | 15 - 500 Hz |
| Data transfer | USB, WLAN |
| Memory | CF card 1 GB standard (optional upto 2 GB) |
| Power | 4 x 1,5 V (AA/LR6 type) batteries or rechargeable batteries |
| Size | 181 x 85 x 35 mm |
| Weight | 344 g |
| Triggers | Isolated triggers in/out |
| Electrodes | Surface, needle |

Mega Electronics Ltd is ISO 13485:2003 and ISO 9001:2000 certified.



Finland patent 80201



Finland patent 98045



Europe patent 0749340



U.S. patent 5,881,731



U.S. patent 6,289,894



U.S. patent 5,361,775



U.S. patent 6,264,582



Japan patent 3320829



Japan patent 3604391



Canada patent



**ISO
13485**

**ISO
9001**

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