NeurOne

- Revealing secrets of brain -

High-Res EEG System

- 4 x 40 channels
- Real time Analog Out
- 24 bit sampling
- Sampling up to 80 kHz / channel
- Expandability with additional modules

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About Mega Electronics Ltd

Mega Electronics Ltd is a Finnish high tech company with 27 years of experience in developing professional signal monitoring devices for neurology, rehabilitation, occupational health and sports medicine. We are an ISO 9001 and ISO 13485 certified company.

Sales, marketing and customer service has been organised through the world wide dealer network in over 20 countries. An intensive co-operation together with several universities and research laboratories in Japan, USA and Europe has made it possible to maintain continuous development.

Contact us using email (neurofys@megaemg.com) or phone +358 17 581 7700.

NeurOne - Advanced Monitoring Systems for Neurological Applications

NeurOne is the new, innovative monitoring solution developed by Mega Electronics. NeurOne is neuroscience measurement system that offers more accuracy, cleaner signal, faster sampling, modular solution and more flexibility and expandability. NeurOne is a versatile system and it can be used widely in different neuroscience and psychological applications.

NeurOne technology challenges traditional neurological laboratory systems with

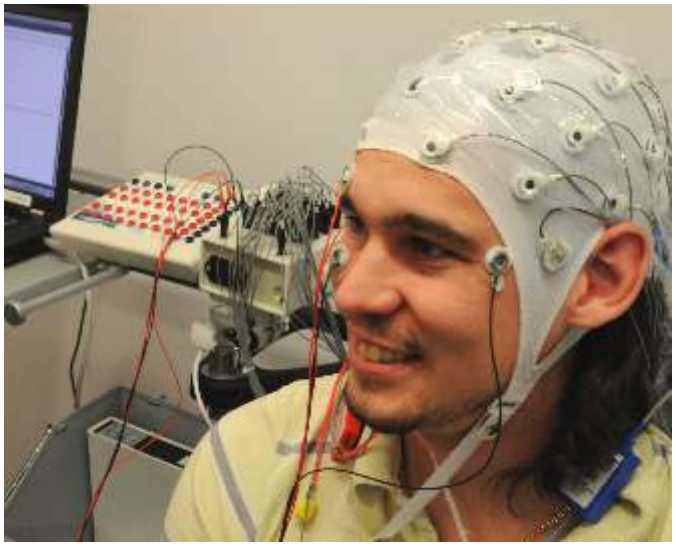
- multichannel monitoring capability
- high 24-bit resolution
- high speed sampling up to 80,000 Hz per channel
- high precision amplifier technology

utilizing the latest advances in digital signal processing. NeurOne system is especially designed for use together with transcranial magnetic stimulators having special reduction technology to remove magnetic artefacts in short latencies. Advanced headbox design enables both AC and DC signals separately or simultaneously. NeurOne is currently not available in the USA.

Applications

Applications:

- EEG/EP
- ERP research
- EEG + TMS research
- EMG research with many channels
- Group studies (up to 4 persons and 4 video cameras fully synchronised)
- Other neuroscience measurements
- Other psychological measurements



Technical details in brief

- 4 x 40 channels – fiber optical connection between the amplifiers and main unit
- 24-bit sampling
- Optional rechargeable batteries for amplifier (to reduce 50/60 Hz artefact)
- AC/DC mode individually selectable
- Windows 7 compatible software. Exports to other data formats.

Accessories

NeurOne system is multifunctional tool for both neuroscience and psychological applications. You can customize the system by combining it with other devices/modules

Here are the examples of the accessories

- Inclinometer
- Gonio- and Torsiometer
- Heart rate sensor
- Load cell, Force and Pressure sensors
- Accelerometer
- Gyro sensor
- GSR sensor
- EMG, ECG preamplifiers
- Customized modules and transducers

There are professional technical support and customization possibilities available for you. Contact us and **together we can fix suitable NeurOne system for your needs and purposes.**

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NeurOne EEG System

Specifications

Description	**Powerful and Versatile Electroencephalography Research System**		
Monopolar Ch.	32 channels per headbox (full system 128)		
Bipolar Channels	8 per headbox (full system 32)		
High Level Ch.	Max. 8 per headbox, connected through isolated analog adapter (to bipolar channels)		
Sampling method	All channels sampled simultaneously		
Max. Sampling rates	80 kHz (up to 20 channels) 40 kHz (up to 40 channels) 20 kHz (up to 80 channels) 10 kHz (up to 160 channels)		
Available sampling rates	250 Hz, 500 Hz, 1000 Hz, 2000 Hz, 5000 Hz, 10 000 Hz (160 ch), 20 000 Hz (80 ch), 40 000 Hz (40 ch), 80 000 Hz (20 ch)		
A/D Resolution	24 bit	**Input Impedance**	> 1 GΩ
CMRR	Typically 106 dB	**Bandwidth**	Max. 0 - 10 kHz
		DC Mode	**AC Mode**
Analog Filters (-3 dB point)		LP: 10 kHz	HP: 0.16 Hz, LP: 7 kHz
Full Scale Input Range		+/- 430 mV	+/- 4.3 mV
System Gain		10	1000
Sensitivity		51 nV/bit	0.51 nV/bit
Digital (TTL) Inputs	2 isolated trigger in/out lines, 8 bit unisolated trigger in		
High Level Input Range	+/- 5 V or +/- 10 V (with isolated analog adapter, settable)		
Impedance Measurement	1 kΩ to 50 kΩ		
Transient Artifact Protection	Limiter/High Speed Switch (settable)		
Mute	Mute for AC stage (settable)		
Headbox Size	20 x 7 x 16 cm (40 channels)	**Headbox Weight**	0.680 kg
Main Unit Size	33 x 12 x 27 cm	**Main Unit Weight**	3.6 kg
Connections	**Headbox** Power 12V, Fibers, Cap connection (D-Sub 37), Bipolar/Module (D-Sub 25 +/- 5 V available max. 1000 mA) **Main Unit** Power 12 V, Ethernet, SPI, Isolated Headbox Power (x4), Fibers to Headbox (4x), Serial Port (x3), Trig In/Out (x2 RJ10), 8-bit Trig In (D-Sub 15), Analog Out (Centronics 24 pin)		
Device Classification	MDD class IIa. Type BF applied part.		
Safety Specification	EN 60601-1, EN 60601-1-1, EN 60601-1-2, EN 60601-1-4, EN 60601-2-26.		
Warranty	2 years		

Designed & Manufactured in Finland

NeurOne system not yet available in the USA.

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 | CE 0537 | ISO 13485 | ISO 9001

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