

mega news

1/2011

Mega videos in YouTube



NeurOne reveals secrets of brain



New eMotion EMG measurements

MegaKoto - wireless home care management

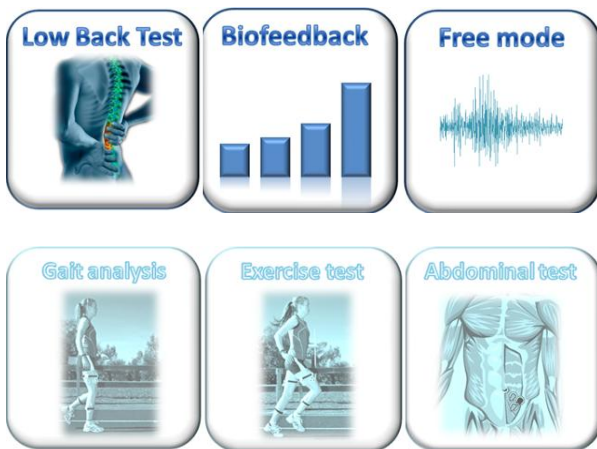
Pioneering European Research project



PRODUCT NEWS

eMotion EMG

eMotion EMG starts new era in practical EMG measurements. Every detail in the system is designed to make use fast, convenient and easy. Goal in system design has been to make system which requires no previous expertise to use. eMotion EMG system comes with 2 or 4 wireless sensors and eMotion EMG software. There are different protocols/modes to choose from:



'**Low back test**' is an automatic system for quick testing of low back muscles.

'**Biofeedback**' can be used in re-education of muscles and in relaxation training.

'**Free mode**' enables recording of muscle activation from chosen muscles.

'**Other modes**' are under development and are not available yet.


New features on WBA system

- **Foot switch sensors**
- **Integrated 3D accelerometer**
- **Several firmware updates to sensor for improved signal quality**

WBA system now also includes foot switch sensors.



EMG activities during different phases of walking can be differentiated easily. Foot switches are

connected easily directly to USB connector of WBA sensor.

Each new WBA sensor has internal 3-axis accelerometer, which can be activated for use from WBA receiver. EMG, goniometers, foot switches and accelerometers create excellent tool for gait laboratory needs.



Signal can be digitally filtered directly in WBA sensor for improved data quality in varying measurement settings. There are 30 digital filtering options available (8 high-pass, 13 low-pass and 9 band-pass).

Also gain of the WBA sensors can be changed improving signal quality when very small EMG values are monitored (e.g. low-intensity activations or monitoring of small muscles). Gain can be increased to 2, 4, 5 or 8 fold from WBA receiver.



NeurOne

-Revealing secrets of brain-

NeurOne is Mega Electronics' new and innovative neuroscience measurement solution. It is a versatile high-resolution EEG system that can be used widely in different brain research and psychological applications. NeurOne offers more accuracy, cleaner signal, faster sampling, modular solution and more flexibility and expandability. This system can be customized according to user's needs and purposes. With NeurOne it is possible to do several types of measurement, such as EEG/EP, ERP research, EEG + TMS, P300, EMG research and group studies.



An electroencephalogram (EEG) is a test to detect problems in the electrical activity of the brain. EEG is used widely: in diagnosing different diseases, such as Epilepsy or Alzheimer's disease, in evaluating problems with sleep, in psychological research, in cognitive research, in behavioral research and also in medicine research.

NeurOne systems have already been sold to Finland, China and Australia for different research purposes: work health research, psychology and robotics.

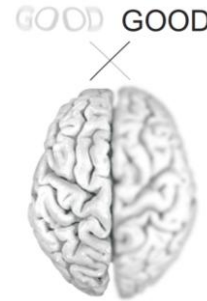
Mega has prepared new marketing material for NeurOne, such as new brochure, video and presentation. Please, contact neurofys@megaemg.com to receive this material.



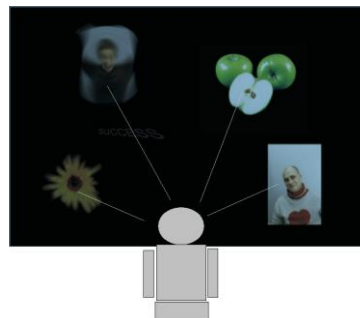
iReach



iReach is a unique software for rehabilitating visual unilateral neglect symptom¹⁾ in far space. It helps to regain awareness of the neglected side of space by using a diverse combination of visual stimuli to direct patient attention to the neglected side of space.



iReach software is easy to use. Software is run by PC, and stimuli are reflected on video screen. Patient has to recognize stimuli in certain time. For patient suffering from visual unilateral neglect symptom recognizing is difficult, so rehabilitation for longer period is needed. The software provides clear rehabilitation progress reports for monitoring patient development.



iReach contains 18 degrees of increasing difficulty and five different visual stimulus types²⁾ for comprehensive rehabilitation of different parts of

the brain. Stimuli can be displayed on one side or simultaneously on both sides, enhancing patient observation skills.

Currently there is a limited period evaluation version available. For more information: neurofys@megaemg.com

- 1) *Unilateral neglect symptom is a neurological condition usually caused by a stroke in the right hemisphere. It is characterized by a deficit in attention to the entire left side of space.*
- 2) *The stimulus types include figures, facial expressions, double digit numbers, simple calculations and two syllable words (english and finnish versions available currently).*




megakoto


Mega Electronics has founded MegaKoto subsidiary for development and marketing of self-care products and solutions.

MegaKoto gives health experts new solutions to monitor wirelessly every day conditions of people at home, and give them instructions how to improve their conditions without actually meeting the patient every day. Solutions are feasible, for example, for people suffering from chronic diseases such as diabetes or heart diseases. In addition to health monitoring, MegaKoto offers similar solutions for rehabilitation.

The worldwide growth estimation for this market is enormous. The demo-graphics of the western countries are developing towards the aged end. The public sector does not have enough resources to provide hospital or institutional care in the same way as today. Trend is globally towards to self-care solutions providing people possibility to live at their home as long as possible.



Target customers are rehabilitation centers, medical center and clinics providing ordinary health care solutions to people.

Mr. Marko Juntunen, Ph.D. and CEO of MegaKoto will voluntarily tell more: marko.juntunen@megaemg.com

YouTube Mega has launched YouTube channel for product related videos. You will find videos about NeurOne, WBA, ME6000 etc. from the channel. There are videos for both marketing and training purposes.

We encourage you to embed video links to your own webpage. As we are adding videos on regular basis, it is recommendable to check the channel often enough. Also, feel free to spread the link also to your customers.

Web address for Mega channel is: www.youtube.com/user/MegaElectronicsLtd

YouTube eeg neurone Haku

NeurOne - Ultra hi-res EEG/ERP system
MegaElectronicsLtd 13 videota Tilaa

Sensory evoked potentials

1:23 / 3:29 360p Tykkään + Lisää soittolistaan Jaa Upota 218 näyttökertaa

MegaElectronicsLtd 12.11.2010 ei pidä <http://www.megaemg.com> NeurOne is advanced neuroscience measurement system L...

YouTube mega emg Haku

Wireless surface EMG (WBA system; Mega Electronics Ltd)
MegaElectronicsLtd 13 videota Tilaa

0:11 / 0:58 360p Tykkään + Lisää soittolistaan Jaa Upota 337 näyttökertaa

MegaElectronicsLtd 5.10.2010 ei pidä <http://www.megaemg.com> WBA sensors are available with short lead wires with ...

PROJECT NEWS



MEGA is taking part to European Research project NEUWalk that pioneers in neuroprosthetic systems to restore motor functions after spinal cord injury and Parkinson's disease.

Leading European research laboratories combine their expertise and knowledge to design novel neuroprosthetic systems. Three European high-tech companies and several universities are participating to project.

NEUWalk was launched on June 1st 2010 as a 4-year project and is partly funded by the EU Seventh Framework Programme for Research and Technological Development with almost 9 million Euro.

Focus of NEUWalk is development and pre-clinical validation of highly innovative neuroprosthetic concepts for restoration of motor functions in individuals with severe spinal cord injury and for a more efficient, less invasive and safer strategy to alleviate the symptoms of Parkinson's disease.

Mega Electronics is developing leading-edge wireless biosignal feedback and stimulation drive technology for the project. Mega Electronics is also involved in bringing industrial quality practices to the project.

The achievements of NEUWalk are expected to open doors for future therapy of severe SCI enabling partial restoration of voluntary control of paralyzed limbs and for establishing a novel, efficient clinical strategy for symptomatic treatment of Parkinson' disease.

Further information: <http://www.neuwalk.eu>

APPROVAL NEWS

NeurOne System is now available also in Australia

Before medical device can be supplied in Australia, the device must be included in the Australian Register of Therapeutic Goods (ARTG) which is regulated by the Australian Therapeutic Goods Administration (TGA).

Before registration manufacturer must assure that the device meet Australian medical device requirements. Mega has completed this registration process during autumn 2010 for the NeurOne System. ME6000, WBA System and KOTO™ have already been registered to the ARTG.

SCIENTIFIC ARTICLES RELATED TO MEGA EMG TECHNOLOGY

There exists lots of scientific research related to Mega EMG technology. You can find studies of neuromuscular research, work medicine, oral physiology, rehabilitation, sports physiology, veterinary physiology etc.

Articles can be found in Mega's webpage www.megaemg.com in section "references" and there link "scientific studies"

Author	Title	Journal, Conference or Publisher
Teitti S et al.	Non-primary motor areas in the human frontal lobe are connected directly to hand muscles	<i>NeuroImage</i>
Henriksen M et al.	Influence of pain and gender on impact loading during walking: A randomised trial	<i>Clinical Biomechanics</i>
Julkunen P et al.	Navigated TMS combined with EEG in mild cognitive impairment and Alzheimer's disease: A pilot study	<i>Journal of Neuroscience Methods</i>
Säisänen L et al.	Factors influencing cortical silent period: Optimized stimulus location, intensity and muscle contraction	<i>Journal of Neuroscience Methods</i>
Julkunen P et al.	Efficient reduction of stimulus artefact in TMS-EEG by epithelial short-circuiting by mini-punctures	<i>Clinical Neurophysiology</i>



EVENTS AND EXHIBITIONS

Mega participated again this year to Medica fair in Düsseldorf. At Medica there were 137.200 visitors from 100 countries. Record amount of exhibitors participated to fair, over 4.400 from 64 countries.

Mega booth got crowded by both existing partners and new potential customers. As a conclusion, we had very successful fair.

As a feedback from visitors, our products and services meet better and better customer needs and demand.

Year 2010 Mega proudly launched many new product versions and completed solutions.

We warmly thank all our partners and other visitors for meeting us at Medica!

Here are few moments from Medica:



Future events 2011

- **Arab Health**, Dubai 24.-27.1.2011
<http://www.arabhealthonline.com/>
- **Vitalis**, Göteborg, Sweden, 5.-7.4.2011 <http://www.vitalis.nu/>
- **CMEF- China International Medical Equipment**, Shenzhen, China, 16–19.4.2011
<http://www.mdna.com/shows/chiname.d.html#page=page-1>
- **2nd international congress on soldiers' physical performance**, Jyväskylä, Finland, 4-7.5.2011
<https://www.jyu.fi/sport/laitokset/liikuntabiologia/en/congresses/icspp2011>
- **Hospitalar 2011**, Sao Paulo, Brazil, 24-27.5.2011
<http://www.hospitalar.com.br/ingles/index.html>
- **World Physical Therapy**, Amsterdam, The Netherlands, 20-23.6.2011 (participation is not closed yet) <http://www.wcpt.org/congress>
- **ECCN**, European Congress on Clinical Neurophysiology, Rome, Italy, 21.-25.6.2011 (participation is not closed yet) <http://www.oic.it/eccn2011/>
- **HBM- Human Brain Mapping 2011**, Québec, Canada, 26.-30.6.2011
<http://www.humanbrainmapping.org/i4a/pages/index.cfm?pageID=3419>
- **ECSS**, Liverpool, UK 6-9.7.2011
<http://www.ecss-congress.eu/2011/>

DEALER INTRODUCTION

Mega has new dealer in Turkey: Advanced Diagnostic Solutions – ADS.

Advanced Diagnostic Solutions - ADS has been found in the year of 1999 and basically focuses on Urology, Gastroenterology and Surgery fields.

The main office is in the capital city of Turkey, Ankara and branch offices at Izmir and Istanbul.



In Urology, ADS offers Bluetooth technology with integrated wireless uroflowmeters and wireless urodynamic systems. On the hand, the other solutions are for fecal incontinence, BPH, Over Active Bladder and Vesico urethral reflux treatments.

In Gastroenterology, ADS provides solutions for pH & impedance diagnoses, High Resolution Anorectal and Esophageal Motility, Stents for bleeding esophageal varices and biodegradable stents, Anal incontinence and chronic constipation treatments.

ADS provides modular and easy of use systems to all hospitals, private clinics and university hospitals in Turkey and Northern part of Cyprus.

MEGA STAFF NEWS



Mr. Marko Juntunen, Ph.D., started as CEO of MegaKoto in October 2010. Juntunen has a strong back-ground in software business. He has previously worked 10 years period in Procomp Solutions as a business director. Juntunen also has Ph.D. degree in Medical Physics, thus he has know-how to the basis of MegaKoto's and also to Mega Electronic's solutions. In his current position he is responsible for operating business, customer care, marketing and sales of MegaKoto Solutions.



Ms. Satu Raatikainen (M.Sc. Econ. & Bus. Adm.) started as marketing and sales assistant in September 2010. Raatikainen is responsible for both marketing and sales of neuro products, and organizing exhibitions and congresses. She also edits Mega's Newsletter. Previously Raatikainen was doing marketing and sales of wheelchairs.



Product Manager of Mega, Mr. Olli Tikkanen (M.Sc. Exercise Phys.) will move to Beijing for couple of months in spring 2011 to help marketing and sales in China and neighboring areas. Tikkanen has a research background from exercise physiology and biomechanics, and has solid knowledge of heart rate variability and EMG applications.



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