elmiko

EEG DigiTrack

EEG / PSG / VEP

EEGDigiTrack

elMiko

unique features

EEGDigiTrack family
the most advanced EEG devices on the market.

This is the real breakthrough in neurophysiology!

Discover new, unique functions:

- EEG signal acquisition from 42 to 256 channels with Sp02 module and a patient's button.
- signal acquisition from many polygraphic channels as ECG, EMG, EOG, body position, limb movement, snore sensor and many more...
- completely new networked, dispersed, multi-station EEGDigiTrack Manager database automatically synchronizes examinations, descriptions and other data with any computer, eliminating the need for a data server
- individual system configurations by creating user profiles (password protected)
- new, touch screen-adapted user-friendly user interface with ability to conduct EEG analysis on mobile devices (tablets, smartphones) with Windows OS
- optional multi-camera videoEEG with nightshot, optical and digital zoom to monitor your patient on several feeds at once
- extensive, user-editable, medical events manager, with a database of over 400 pre-defined options
- ability to create interactive notes and inserting markers during EEG recording
- precise measurement tool to measure frequency and amplitude of both single waves and their groups in any selected time frame as well as displaying the waves' spectrum and marking the dominant frequency
- new 3D mapping algorithms
- advanced electrocorticographic mapping to automatically recognize and register signals from all types of cortical electrodes
- automatic artefact and spike detection, new Independent Component Analysis (ICA) function
- new, advanced CSA, DSA and FFT sinal analysis FFT analysis
- new function - back averaging
- LORETA analysis integration
- new, optional polisomnography module with automatic analyses of artefacts and sleep spindles as well as automatic hypnogram
- new module for Visual Evoked Potentials (VEP)
- optional module for CFM / aEEG analysis for long-term neurological and cardiological monitoring
- HL7 standard compatible, with ability to create own plug-ins
- variety of supported formats for data export (edf, ASCII, html, excell, pdf)
- extraordinary configuration flexibility and easy way to translate the software to any language with a specially designed application

EEG DigiTrack elMiko
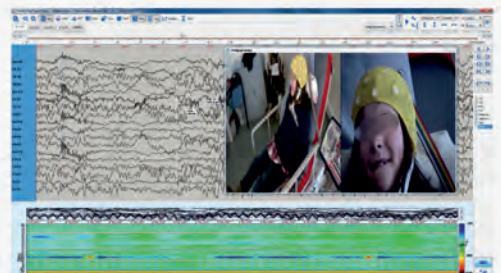## modules

Additional analysis station

- ability to work on both stationary and mobile workplace
- precise measurement tool to measure frequency and amplitude of both single waves and their groups in any selected time frame as well as displaying the waves' spectrum and marking the dominant frequency
- FFT spectral analysis and presenting its results as a graph (as histogram, envelope, average amplitudes, dominant frequencies) and a one-or multichannel
- impedance measuring map throughout the examination
- automatic analyses: artefact detection, spike detection
- independent component analysis (ICA)
- ability to mark recordings in blocks, print out fragments and export to various formats
- ability to mark and cut recording fragments (e.g.artefacts)
- QEEG quantitative analysis for presenting results in a clear table
- LORETA analysis integration
- back averaging
- CSA and DSA analyses
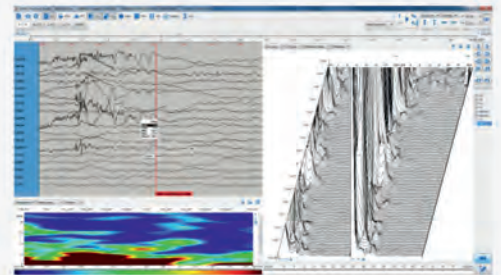
MultiCam Video-EEG module

These days a video-EEG monitoring module is a vital part of any EEG device and allows the user to monitor their patients during examinations. High quality video feed from one or many cameras is fully synchronized with EEG recording, so the doctor has the full clinical situation of his patient during examinations. The module can be equipped with a professional dome camera with a turntable, night-vision and remote control (pro) or fixed camera without remote control (basic).

Using several cameras to observe a patient during examination allows the therapist to better analyse whole body's reactions and simultaneous close-ups of face or limbs for example during an epileptic seizure. The system is equipped with a networked turntable camera controlled directly from the device and with optical and digital zoom.
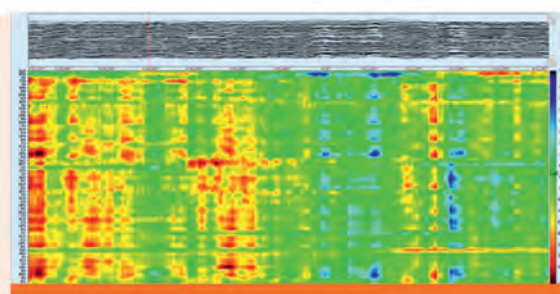
EEG DigiTrack elMiko

modules

3D mapping module - many 3D visualisation alghoritms

3D mapping module generates and presents the map's projection onto a 3D head or brain model. Advanced algorithms and numerous transformations like Surface Current Density, Coherence Mapping, Potential Change Velocity, Relative and Absolute Power Spectrum, or Potential Asymmetry Mapping, Dominant Frequency and Centre of Gravity Mapping place our mapping among the world leaders of EEG analysis software.
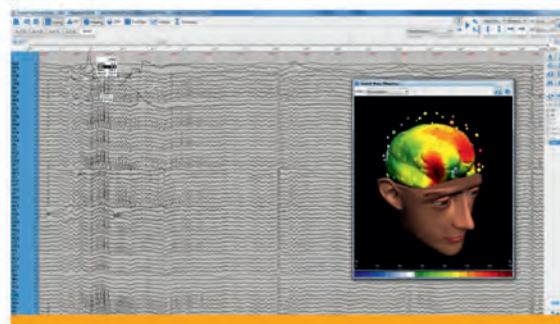
TPM - Time-Potential Mapping

TPM Mapping is a unique method of brain mapping which supports EEG analysis in everyday medical practice as well as in the scientific and research applications. Thanks to the innovative method of potential changes mapping simultaneously over time and space, synchronization of the time- potential map with EEG signal and with the momentary maps as well as surface current density mapping, it is possible to gain a full clinical picture. It is possible to define various spatial systems.

VEP - Visual Evoked Potentials

The EEG DigiTrack VEP module stands out with its user-friendly interface and innovative methods of visualization of gathered potentials. A part from the preview of averaged potentials (the mode of comparing of several tests) there is a possibility of viewing, marking and rejecting momentary potentials.There are many unique solutions such as cursor showing signal parameters (ms, uV), three display modes of averaged signal, possibility of defining own combinations of waves, the full configuration of the stimulation parameters.

EEG Biofeedback module

This module allows the users to conduct a Biofeedback therapy with an EEG device. EEG Biofeedback training improves brain's work and cognitive functions. The software offers extensive options for adjusting the training to suit the patient's individual needs, like biofeedback games, adjustment of delay and stimulation level, selecting the optimal training protocol (also creating own protocols).
Therapy's results are presented in clear tables and a new method of individual session and round comparison (learning curve) presents patient's progress and therapy's effectiveness.
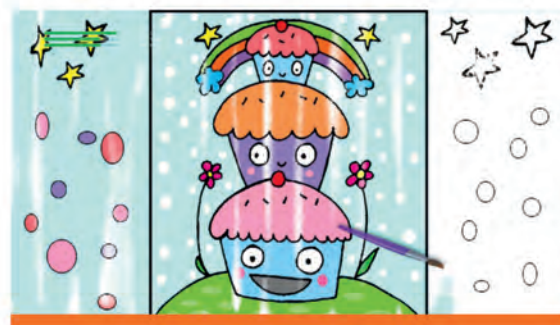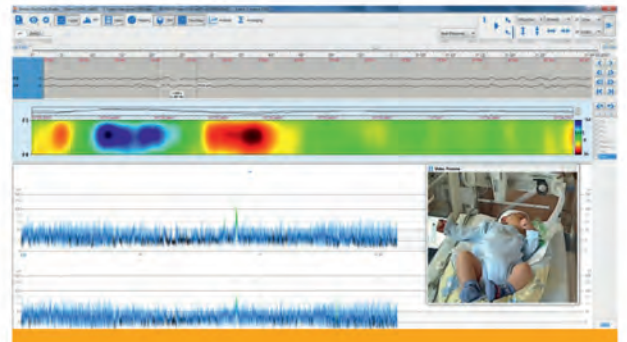
EEGDigiTrack eMiko
modules

aEEG / CFM module - innovative neuromonitoring

EEGDigiTrack CFM module (trend recording and analysis) enables hours- long neurological and cardiological monitoring as well as evaluation of condition during events like: desaturation, bradycardia, tachycardia, convulsions, sleep, arousal and other occurring in intensive therapy, for both newborn children and adult patients.

Thanks to our unique solution - automatic trend colouring - evaluation of dozens of hours of examinations has never been so fast and easy!

Advanced CSA and DSA analyses with special map generating algorithms allow the user to precisely evaluate the work of Central Nervous System.


EEGDigiTrack PSG - new, advanced sleep lab

Records and analyses in-sleep examinations. Includes for example: automatic analysis of sleep stages, hypnograms creation and comparison, automatic detection of spindles and K-complexes, automatic artefact detection and removal, independent component and wavelet analyses, automatic report and sleep statistics generation, filtering with standard or user-configured filters.

ZOOM improves the analysis of hypnograms and unique digital ruler tool allows the user to analyse precisely each graphic element of the EEG / PSG.

It is possible to connect any type of electrophysiological sensor, e.g. Sp02, breathing, limb movement, body position, snoring, air flow, EMG, EOG and other. Moreover, it is possible to connect a multi-camera videometry subsystem and other synchronised PSG recording stations - the EEGDigiTrack system can be used to fully equip a polisomnography room.
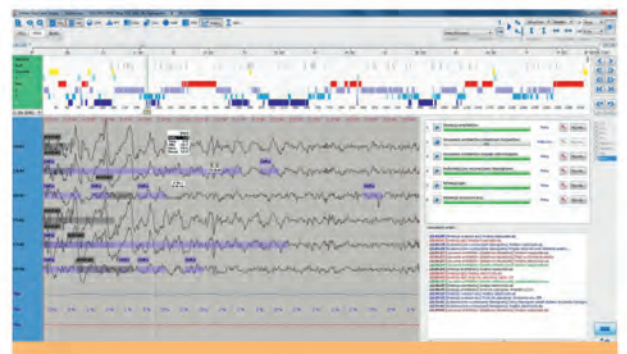

EEG HOLTER   24 h monitoring

EEG & SLEEP HOLTER - ambulatory monitoring up to 96 hours.

The module allows to record EEG and SLEEP in four configurations up to 96 hours:

- Trackit™ 24 for applications in Ambulatory EEG (24 EEG + 4 AUX DC)
- Trackit™ 32 for applications in Ambulatory EEG (32 EEG + 4 AUX DC)
- Trackit™ 24P for applications in Ambulatory EEG and sleep (20 EEG + 4 EEG/Poly + 4 AUX DC)
- Trackit™ 18/8 for applications in Ambulatory EEG and sleep (18 EEG + 8 EEG/Poly + 4 AUX DC)

Monitor and acquire EEG on the Host PC using the unique Trackit™ Blue (Bluetooth class 1) internal wireless module. Automatically switches to Ambulatory mode when out of range. Dual PC and Trackit™ recording is also allowed. Trackit™ modules are fully compatibile with ELMIKO EEGDigiTrack systems.

EEGDigiTrack elmiko
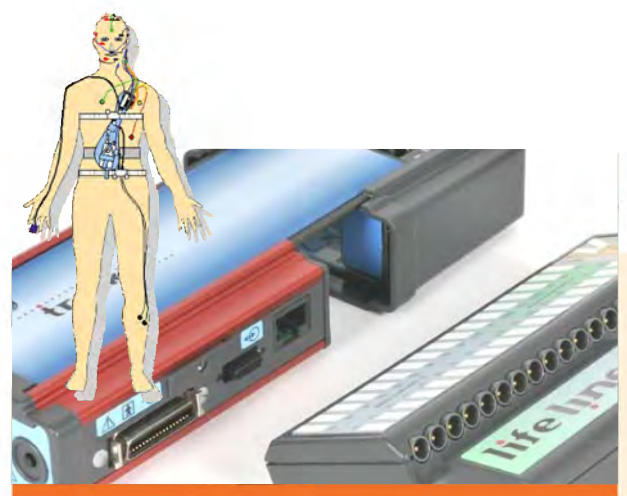
configurations

EEGDigiTrack devices adjust to suit your lab's needs.

Suggested configurations:

- **BasicEEG_42** - basic EEG device for private clinics. Available in stationary or mobile version
- **SimplEEG_42** – fixed, single-station EEG device, perfect for outpatient laboratory tests and small hospitals
- **movEEG_42** – mobile EEG device - perfect for hospitals, where a patient cannot be transported to the EEG room (intensive treatment rooms, post-surgery etc.)
- **MultiEEG_42** – multi station EEG device, used in medical facilities where a lot of EEG examinations is done. Two work stations allow for independent work of the users conducting and describing examinations
- **MultisystemEEG_42** – configured for individual orders. Multistation devices with several workstations for recording and interpreting EEG recordings, for large medical institutions
- **proEEG_64, proEEG_128, proEEG_256** - for the most demanding clients conducting examinations with 64, 128 or 256 channels

Optional modules:

- additional EEG analysis station.
- additional EEG analysis software.
- polisomnography module - advanced sleep analysis.
- Video-EEG module.
- Visual Evoked Potential (VEP) module.
- 3D mapping module - numerous 3D visualisation algorithms.
- Time-Potential Mapping (TPM) module.
- CSA /DSA analysis module.
- EEG Biofeedback (neurofeedback) module.
- aEEG/CFM module - EEG trend analysis.
- holter EEG - 24-hour examinations.

simplEEG_42 unit with
two monitors mounted
on medical cart

simplEEG_42 -
standard configuration

Learn about the EEGDigiTrack amplifier family

42-channel EEG amplifier   64-channel EEG amplifier   128-channel EEG amplifier   256-channel EEG amplifier

about elmiko...

ELMIKO company was created in 1978. For over 35 years we have specialized in designing and developing medical electronics and IT solutions. Regular cooperation with important academic centres resulted in creation of a high-end medical device named EEGDigiTrack. Our highly qualified team of engineers and IT specialists constantly works to develop new solutions and improve the quality and functionality of our devices.Thanks to theireffort every few months new versions of devices and software are introduced and the name ELMIKO connotates with the most advanced solutions for medicine.

Our equipment is used by scientific institutes, medical universities, hospitals and private clinics across the world. Moreover, ELMIKO also carries out innovative scientific projects involving biomedical engineering and biological signals digital processing.

ELMIKO also supports education and publishing, popularizing psychiatric and neurological knowledge. and we are proud to have published numerous works of famous scientists. Our most recent publication is the first in Poland official manual for licence trainings for EEG Biofeedback specialists and therapists, published in co-operation with Polish Society of Clinical Neurophysiology.

ELMIKO is the only company in Poland with an accreditation of the Polish Society of Clinical Neurophysiology to conduct trainings for licences for adult and children EEG, EEG for technicians, EMG and EEG BIOFEEDBACK. Moreover, participating in our workshops awards education points and is approved by Supreme Medical Chamber. Our instructors are renowned neurologists and neurophysiologists.

ELMIKO exports its products to many countries across the globe. In addition to producing our own equipment we are also the sole Polish distributor of many world-clas medical equipment manufacturers. In order to ensure the highest standard of services, we have implemented ISO 13485:2003 Quality Management System, and successfully passed CE certification for our products.

In recent years ELMIKO has been dynamically developing, today we are a company with a clear vision and a leader on the Polish market for EEG devices. Our experience and highly qualified and professional team guarantee the highest quality of our products. Today, ELMIKO is synonymous with modern technological solutions. We guarantee the highest standards of remote technical support and on-line trainings for our clients working in places across the globe.

Today ELMIKO focuses only on production and research and development. To continuously improve the quality of our services and further widen the range of countries and sectors of activity in 2010 we created the ELMIKO MEDICAL, the sole distributor of all ELMIKO products, which distributes EEGDigiTrack devices across the world.
ELMIKO, ELMIKO MEDICAL and Medical Studies Centre AKSON form the complementary structure of ELMIKO MEDICAL GROUP.

elmiko group

ul. Poleczki 29
02-822 Warsaw
Poland

T: +48 22 855 30 79
F: +48 22 855 34 97
M: +48 606 44 08 08

E: export@elmiko.pl
W: www.elmiko.pl