



Neurophysiology and psychophysiology

Cerebral function monitor "Encephalan-CFM"

Dynamics of changes in the newborn brain activity, which cannot be traced during short-term EEG study, is clearly represented during continuous EEG monitoring in the form of amplitude-integrated EEG trends (aEEG), compressed spectrum and other quantitative parameters of the central nervous system along with the native EEG signal in low number of channels (3 to 5).



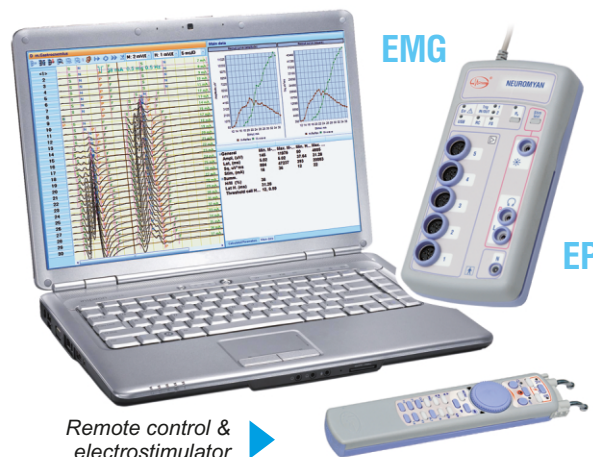
- Number of EEG channels – 5;
- Noise level – less than 1 μ V;
- ADC – 24 bit;
- Wireless data transmission – Bluetooth®;
- Memory card – microSD®;
- Power – 1 rechargeable battery AA; or mains /USB adapter;
- Weight – up to 110 g.

Optionally:

- defibrillation proof connector;
- wireless photophonostimulator;
- oxygen saturation monitoring (SpO₂);
- synchronous videomonitoring;
- simultaneous data monitoring of up to 4 patients with representation of results at a doctor's workplace.

Neuromyoanalyzer NMA-4-01 "Neuromyan"

2, 4 or 5-channel modifications and various versions of the software for quality record of myographic signals and evoked potentials provide selection of both not expensive on-budget and high class devices.



Electromyographic studies:

- F-wave and H-reflex;
- Motor unit potential;
- Blink reflex;
- Motor and sensory nerve velocity;
- Surface EMG express;
- Needle EMG;
- Surface multichannel EMG.

Evoked potentials studies:

- Brainstem auditory evoked potentials;
- Middle and long latency auditory EP;
- Flash visual and pattern reversal EP;
- Short and long latency somatosensory EP.

The original remote control is an equivalent of a functional keyboard – it simplifies the carrying out of multiple standard tests without the use of a computer keyboard and mouse.

Objective psychological analysis and testing system "Egoscop"

It uses the original, innovative technology, which includes autodocumentation of a testing process, hand motility analysis of a subject, additional synchronous recording of psychophysiological parameters (pictopolygraphy) and provides a new level of psychological and psychophysiological diagnostics.

The software builds additional profiles of psycho-emotional responses in relation to different semantic clusters of the performed scenario and evaluates individual emotional significance of various semantic categories.



Graphic touch-screen tablet

Eye-tracker TV-1

- for psychophysiology and scientific research

Eye-tracker TV-1 is designed to control visual perception process – to measure gaze with high frequency and accuracy

The control of the visual perception process (eye-tracking) is used to evaluate ergonomics of computer interface, the efficiency of advertising and for science research in neuromarketing, neuropsychology, cognitive psychology, developmental psychology, sociology, etc.

Desktop application with individual monitor



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Electroencephalographs

Transformable multifunctional electroencephalographs "Encephalan-EEGR-19/26"

Mobile application

modification "Mini"



main modification



Stationary application

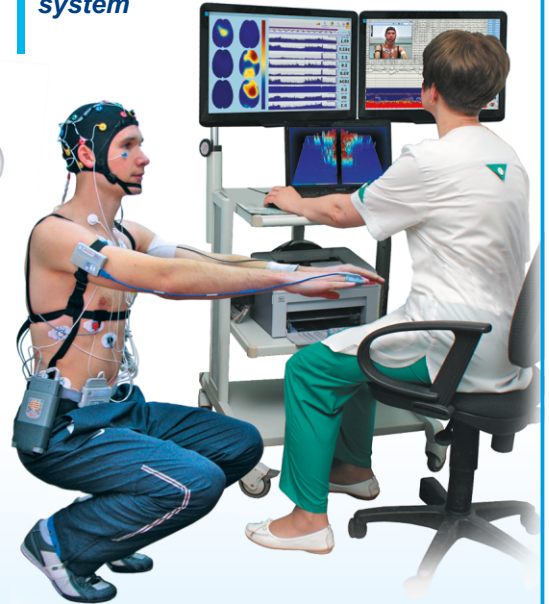
20 channels



32 channels



Multifunctional diagnostic system



Electroencephalograph-recorder "Encephalan-EEGR-19/26" for short-term and continuous EEG studies in a doctor's room, in a hospital room or at the patient's home.

Modification "Mini" – basic patient transceiver-recorder ABP-10:

- 9 channels for EEG/EP record (including A1-A2) and slow cortical potential;
- 1 polygraphic channel (ECG, EMG, respiratory effort, etc.);
- 1 body position channel.

Main modification – basic patient transceiver-recorder ABP-26:

- 20 (32) channels for EEG and slow cortical potential;
- 1 respiratory effort channel;
- 2 EOG;
- 1 ECG;
- 2 EMG.

With Bluetooth® wireless technology, patient transceivers-recorders can be supplemented with modules for recording various signals

- EEG (up to 32 derivations);
- Slow cortical potential in EEG derivations (20 derivations);
- EOG (up to 3 derivations);
- EMG and Envelope EMG;
- Respiratory effort (abdominal and thoracic);
- Photoplethysmogram;
- Breathing airflow;
- Oxygen saturation (SpO₂);
- Snore;
- Temperature;
- Patient body position;
- Skin potential (electrodermal activity);
- Galvanic skin response;
- Movement activity;
- Tremor.

Autonomous EEG-recorder (Holter EEG)

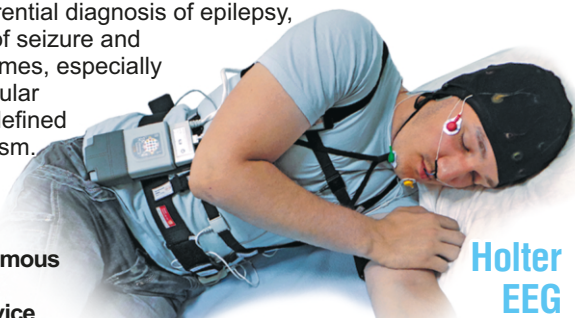
Electroencephalograph-recorder "Encephalan-EEGR-19/26", main modification

Continuous record of electroencephalogram (over 48 hours) onto the memory card integrated into the patient transceivers-recorders ABP-26 or ABP-10 and a special set of electrodes "Encephalan-ES" provide comfortable carrying out of autonomous EEG studies (Holter EEG) in natural patient environment, both in a hospital ward or at home, during active wakefulness and sleep.

Continuous autonomic EEG-study is effective for:

- evaluation of undefined genesis disorders of not defined genesis, which are manifested under conditions of natural environment and behaviour;
- detection of pathological manifestations, such as paroxysmal epileptic states, transient ischemic attacks and others;
- differential diagnosis of epilepsy, types of seizure and syndromes, especially in irregular and illdefined paroxysm.

During autonomous study the device provides a unique opportunity for periodic functional tests in the telemetric mode required to induce controlled pathological manifestations.



Holter EEG

Ultra-small wireless EEG registration modules, EEG-headsets and Bio-wristband for psychophysiology and scientific research

Digital technologies of processing and wireless data transmission Bluetooth Low Energy (BLE) open new prospects for the wide application of tiny devices of distributed network registration of neurophysiological and psychophysiological information about the state of a person or group of persons.

EEG-registrators

24-channel EEG (or more)



8-channel EEG



Bio-wristband module (PPG, EDA, ECG, etc.)



8-channel EEG-headset



Elastic MCSap textile-caps



24-channel EEG-headset

EEG videomonitoring

Video equipment kit and "Encephalan-Video" software

for electroencephalographs, polysomnographs and cerebral function monitor

Video equipment kits and software "Encephalan-Video" provide quality synchronous record of video information, EEG and other physiological parameters registered with the diagnostic equipment manufactured by Medicom MTD during:

- continuous EEG monitoring in epilepsy and neurological departments for differential diagnosis of epilepsy;
- polysomnographic and scientific studies;
- neuromonitoring and cerebral functions monitoring.

Mobile video equipment kits

The mobile kit for continuous EEG videomonitoring conducted at patient's home (or in any medical department) fits into one or two compact carrying cases, is easily transported by one person and includes a telemetric portable electroencephalograph-recorder, a photostimulator, an EEG electrode set, a portable PC and the kit of video equipment.

Studies are carried out in patient-friendly environment. Patients can sleep, eat, read, watch TV, play, etc. A doctor or an assistant monitors their state, operation of the equipment and recording quality.



For the first time the company provides an autonomic video equipment kit for synchronized video record with the EEG data onto the internal video memory card of a recorder.

Stationary video equipment kits

The stationary kit provides video recording of a patient (up to 4 IP cameras) in hospital rooms specially equipped for EEG videomonitoring, patient's ward, ICU, resuscitation department or at the patient's home.

Synchronous recording of EEG/PSG and video data is the "gold standard" for epilepsy diagnosis in newborns and adults.



Biofeedback and neurofeedback

Psychophysiological telemetric system "Rehacor-T"

www.reacor.ru

with "Rehacor" Software for Functional Biocontrol with Biofeedback Training



The main features of psychophysiological telemetric system "Rehacor-T" are:

- effective procedures for training self-regulation skills and psychophysiological state as well as for correction of different psychosomatic disorders using wide range of physiological parameters and their combination;
- wireless connection to PC, self-contained power supply, multichannel record (4 or more) that allow carrying out biofeedback procedures without restricting patient's activity that is particularly effective in sport, occupational medicine and educational technologies.

Electroencephalograph-recorder "Encephalan-EEGR-19/26"

with "Rehacor" Software for Functional Biocontrol with Biofeedback and Neurofeedback Training



The main features of the electroencephalographs are:

- multiparameter record (10 or more), which allows create and use more effective scenarios of biofeedback procedures in sport, education, science and for special training and rehabilitation;
- great possibilities for biofeedback and neurofeedback procedures by EEG and superslow electrical brain activity using quantitative methods of analysis (qEEG, aEEG);
- professional neurophysiological support using software for electroencephalographical studies and additional software of electroencephalograph.

Polysomnographs

Sleep signals recorder "ApnOx"

"ApnOx-04" modification

Type IV

*for respiratory screening
(apnea screening)*

Signals and parameters:

- oxygen saturation (SpO₂);
- respiratory rate and conventional respiratory amplitude, as well as snore and airflow velocity (using pressure airflow sensor (P-Flow));
- pulse rate and perfusion index (based on photoplethysmogram using SpO₂ sensor);
- body position and total movement activity (integrated movement activity sensor);
- CPAP Pressure.

Recording modes:

- autonomous – data recording onto memory card;
- telemetric – data transmission into computer via wireless Bluetooth® channel.



basic modules
"ApnOx-04" and "ApnOx-10"

Over 10-hour record
of physiological data
onto the memory card



As a result of the study, necessary reports
on sleep statistics are generated based
on automatically detected events

www.apnox.com

"ApnOx-10" modification

Type III

*for apnea screening
and cardiorespirography
monitoring*

Supplemented
with wireless
module Poly-4



Signals and parameters:

- respiratory effort from thoracic and abdominal sensors;
- electrocardiogram;
- heart rate (based on ECG);
- snore (accelerometer sensor);
- airflow (thermistor airflow sensor);
- pulse wave transit time and indirect assessment of the blood pressure dynamics (based on ECG and PPG);
- motility (accelerometer sensors or surface EMG sensors);
- signals from DC-inputs;
- skin conductance.

PSG-EEG-Video



Additional possibilities

Electroencephalographs-recorders "Encephalan-EEGR-19/26" with SW Somnological studies "Encephalan-PSG"

Modification "Mini"

Models:

AT-Somno (Type II), AT-Somno-Video (Type I)



Telemetric and autonomous record of physiological signals (from 13 and more channels in various combinations), including 2, 6 or 8 EEG derivations using autonomous **patient transceiver-recorder ABP-10**, wireless pulse oximeter module, other modules, electrodes, and sensors.

Cardiorespiratory disorders analysis, displaying brain rhythms power indices, EOG and EMG amplitude, parameters of respiration, movements, snoring and ECG in a form of trends for quick search of EEG patterns, identification of sleep stages, as well as for manual and automatic hypnogram building.

Automatic calculation of additional sleep statistical parameters by EEG, such as:

- sleep stages duration;
- sleep efficiency;
- total sleep time;
- sleep latencies and stages latencies;
- number, index and duration of EEG arousals;
- number and duration (WASO) of awakenings.

Main modification

Models:

*AT-PSG (Type II),
AT-PSG-Video (Type I),
AT-PSG-Video-Poly(Type I)*

Telemetric and autonomous record of physiological signals (from 26 and more channels in various combinations), including 6, 11, 19 or 32 EEG derivations using autonomous **patient transceiver-recorder ABP-26**, wireless pulse oximeter module, other modules, electrodes, and sensors.

Cardiorespiratory disorders analysis, displaying brain rhythms power indices, EOG and EMG amplitude, parameters of respiration, movements, snoring and ECG in a form of trends for quick search of EEG patterns, identification of sleep stages, as well as for manual and automatic hypnogram building.

Additionally – detection of epileptic patterns, classification of spike-waves in relation to sleep structure, as well as various methods of EEG quantitative analysis.

Extended package of reports in accordance with international standards generally accepted in somnology (AASM).

