

# NEURON-SPECTRUM-4/EPM

29-channel Versatile System for EEG and EP Studies



21 EEG channels  
+ 8 channels to record EMG,  
ECG, EOG, etc



High-quality multimodality  
EP recording



Advanced EEG, EP, PSG  
analysis tools



Impedance/acquisition button  
on the front panel of EEG unit



Local, network or cloud  
storage of database



Remote EEG  
monitoring

EEG

• EP • PSG  
• Video EEG



**Neurosoft**

# NEURON-SPECTRUM-4/EPM IS MORE THAN SIMPLY EEG SYSTEM

Today almost all marketed digital EEG systems can ensure acquisition and analysis of long-latency EP. However, it is hard to find the device allowing recording also short-latency EP, EMG, ERG, PSG and HRV.

Neuron-Spectrum-4/EPM is a unique system that combines 21 EEG or long-latency EP acquisition channels, 4 wide-band polygraphic channels to record short-latency EP, EMG or ERG, 2 direct current channels, ECG channel and respiratory channel. In base delivery set it offers to perform EEG studies, record and analyze long-latency EP and also short-latency auditory, cognitive and somatosensory EP.



# ALL YOU NEED IS ALREADY INTEGRATED

Neuron-Spectrum-4/EPM is a sophisticated solution with exceptional signal quality that allows creating full-featured neurophysiological laboratory to perform PSG, EMG, ERG, video EEG monitoring and HRV acquisition and analysis\*



\* if it is equipped by additional accessories and software



# APPLICATION

The wide range of channels together with modular device design that offers adding different accessories and software allow customizing Neuron-Spectrum-4/EPM for many clinical needs:

- ▷ routine EEG;
- ▷ video EEG monitoring and LTM;
- ▷ EP, NCS and EMG studies;
- ▷ Intraoperative neurophysiological monitoring;
- ▷ PSG study, cardiorespiratory monitoring;
- ▷ cerebral function monitoring (aEEG), EEG in newborns;
- ▷ research.

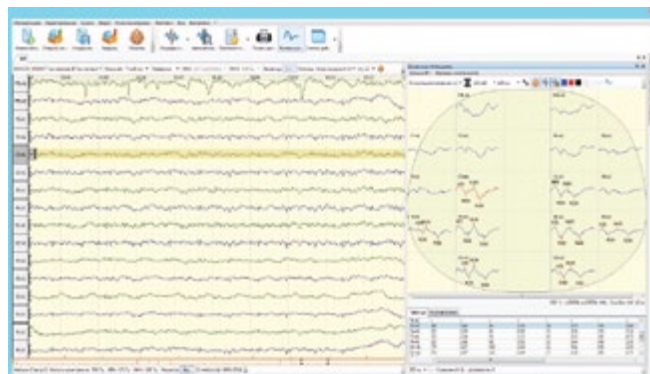
# EP STUDIES

To evaluate the functional state of the sensory pathways (auditory, visual and somatosensory) and also cognitive functions, it is offered to use the most informative techniques, for example, evoked potential study.

The set of stimulators integrated to the device, the equipment and the software included to Neuron-Spectrum-4/EPM base delivery set allow recording and analyzing both long-latency and *short-latency EP*.

## Neuron-Spectrum-LEP

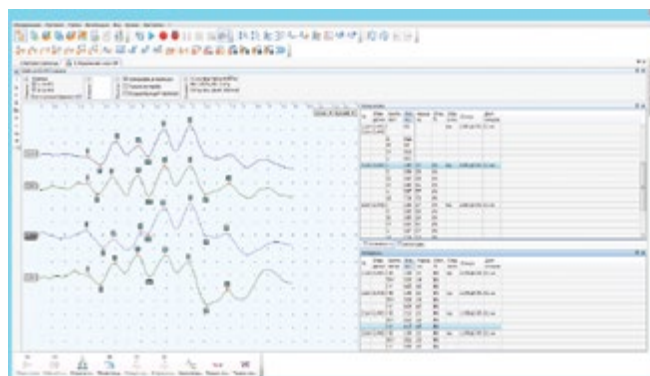
Neuron-Spectrum-LEP software allows recording long- and middle-latency auditory, visual and cognitive EP by EEG channels with brain mapping using both built-in and external stimulators. Cognitive EP can include such test types as P300, MMN, CNV, GONOGO, TOVA, VCPT. With the special stimulation software Presentation\*\* the number of tests can be enlarged.



*Acquisition and analysis of checkerboard pattern reversal visual EP*

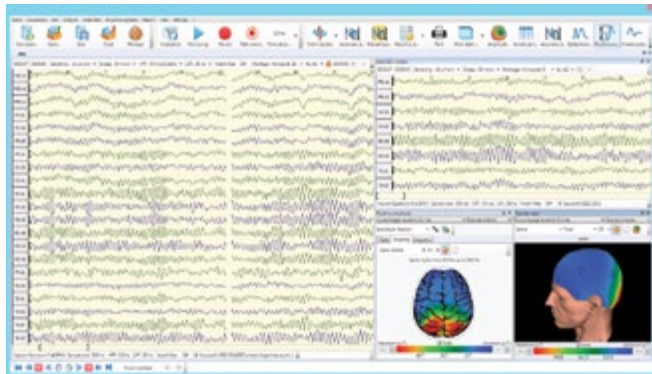
## Neuron-Spectrum-EP

Neuron-Spectrum-EP option (Neuro-MEP software and accessories) provides the possibility to study short-, middle-, and long-latency auditory, visual, somatosensory and cognitive EP by 4 wide-band polygraphic channels.

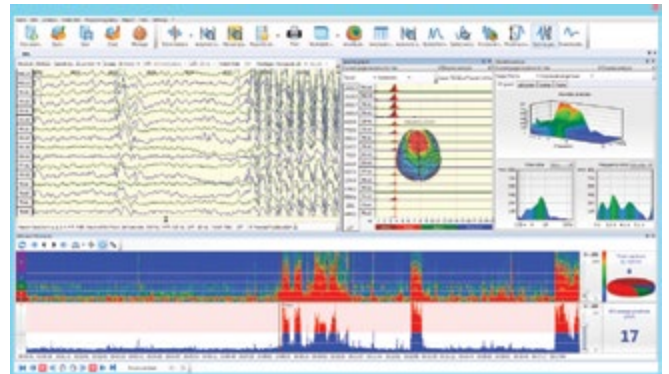


*Acquisition and analysis of short-latency auditory EP*

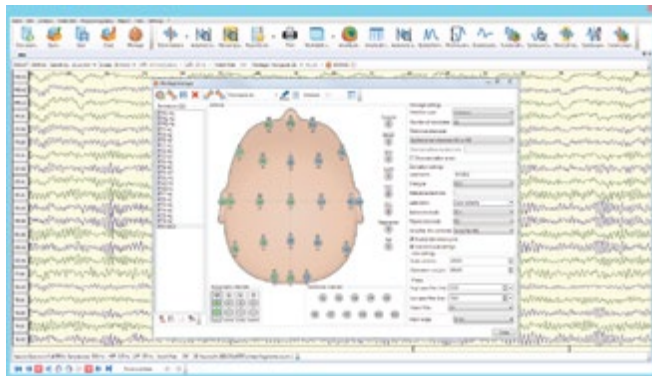
# NEURON-SPECTRUM.NET FEATURES



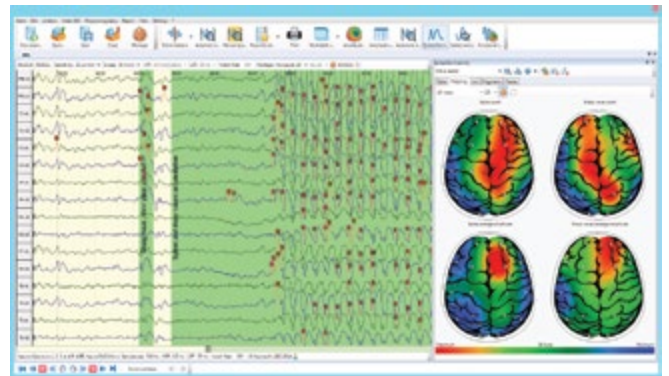
EEG acquisition



Trends of EEG parameters



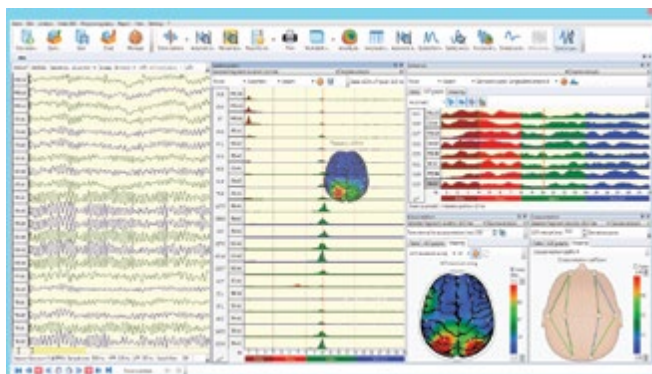
Creation and editing of EEG montages



Automatic detection of spikes and sharp waves



Brain mapping and bar charts of EEG analysis results



Graphs of spectral and coherence EEG analysis results



The second monitor is used as a pattern-stimulator

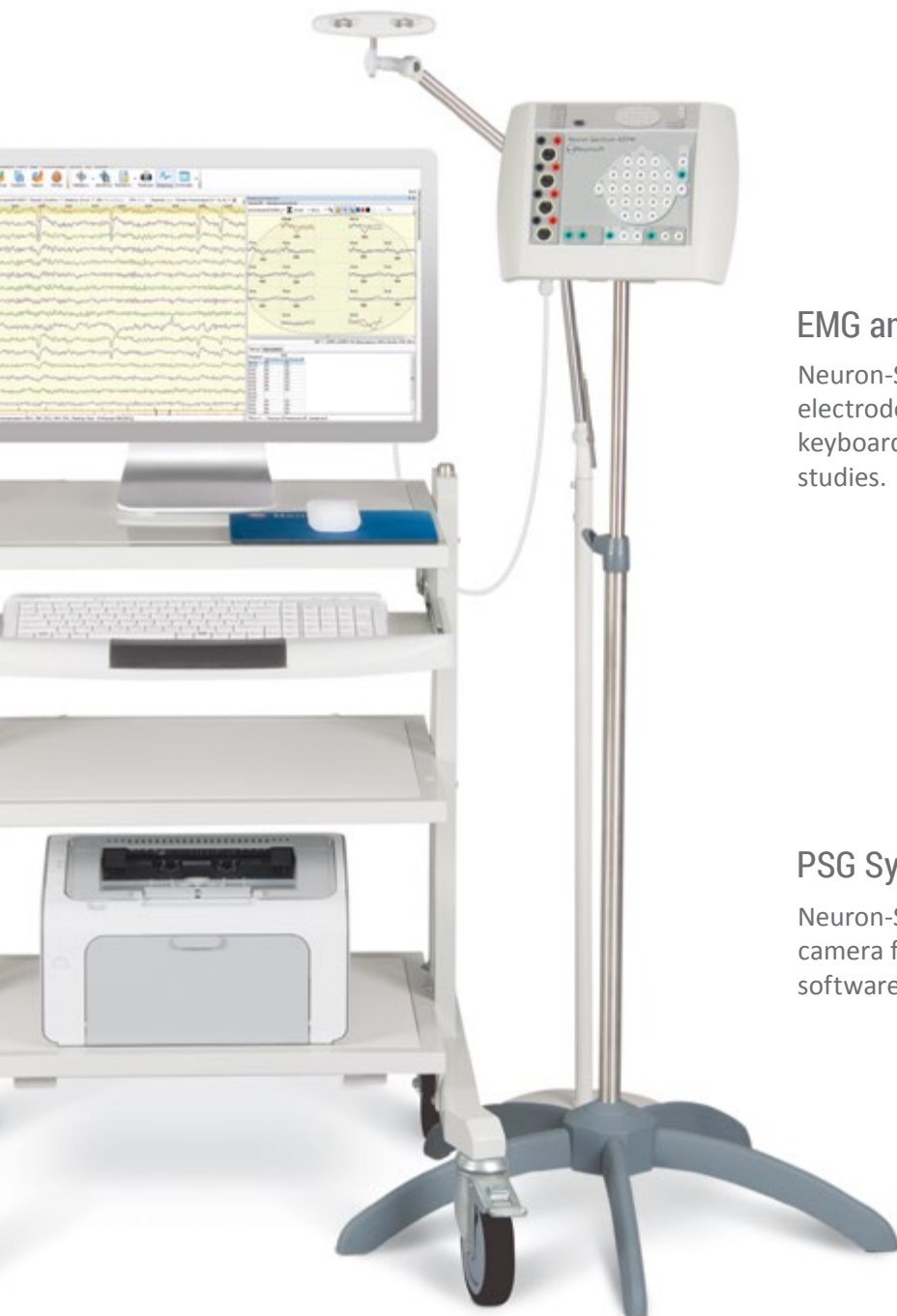


# CONFIGURATIONS

Neuron-Spectrum-4/EPM digital EEG system can be supplied as EEG workstation, portable system, video EEG monitoring system, PSG system or EMG and NCS system.

## EEG Workstation

Neuron-Spectrum-4/EPM on the stand with desktop PC and printer.



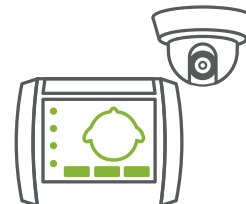
## Portable System

Neuron-Spectrum-4/EPM with a notebook for mobile medical teams to record EEG and EP in intensive care units (ICUs) or at patient's home.



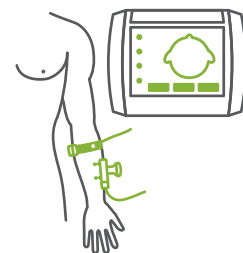
## Video EEG Monitoring System

Neuron-Spectrum-4/EPM with a camera and special software is used for long-term video EEG monitoring.



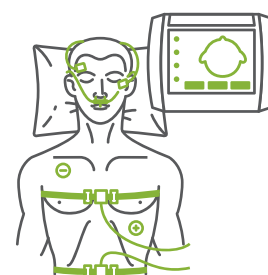
## EMG and NCS System

Neuron-Spectrum-4/EPM with special software, electrodes for EMG/NCS and needle EMG, dedicated keyboard and footswitch allows performing EMG studies.



## PSG System

Neuron-Spectrum-4/EPM with sensors for PSG, camera for night video monitoring and special software for sleep diagnostics.



# CONFIGURATIONS



## For EEG Acquisition

The caps and textile helmets with different number of built-in electrodes ensure reliable recording and high quality EEG signal.



## For EP Study

The auditory stimulator, the photic stimulator and also the electrical stimulator allow recording EP of different modalities. To estimate the patient's response during EP studies, use the patient button.



## For PSG Study

The set of polysomnographic sensors and electrodes allows acquisition of all physiological parameters during cardiorespiratory monitoring and sleep stage study.



## COMPREHENSIVE ASSISTANCE AND TECHNICAL SUPPORT



Our customers can always count on Neurosoft team for extensive support.



Together with digital system you get the detailed technical and user manuals.



We guarantee 24-month warranty for electronic units and lifetime software update.

## EEG Devices of Neuron-Spectrum Series

	EEG channels	Extra channels: EMG, ECG, EOG, etc.	Included techniques	Options	Socket to attach electrode cap	Interface
 Neuron-Spectrum-1/2/3/4	8/16/19/21	1	EEG	Video EEG, LEP, aEEG	+	Wire: USB, LAN
 Neuron-Spectrum-4/P	21	4	EEG	Video EEG, LEP, PSG, aEEG	+	Wire: USB, LAN
 Neuron-Spectrum-4/EPM	21	8 (SPO <sub>2</sub> channel is optional)	EEG, LEP, EP	Video EEG, PSG, EMG, aEEG	+	Wire: USB, LAN
 Neuron-Spectrum-AM	21	9	EEG	Video EEG, PSG, aEEG	+	Wireless: Wi-Fi, SD card
 Neuron-Spectrum-5	32	8 (SPO <sub>2</sub> channel is optional)	EEG	Video EEG, LEP, EP, PSG, EMG, aEEG	+	Wire: USB, LAN



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