

# NEURON-SPECTRUM

Digital EEG System Series



From 8 to 21 EEG channels  
+ up to 4 channels to record  
EMG, ECG, EOG, etc.



Acquisition and review  
of EEG in arbitrary  
monopolar and bipolar  
montages



EEG, EP, PSG  
acquisition



Impedance/acquisition  
button on the front panel  
of EEG unit



EEG acquisition  
in unshielded room



Simplicity along with  
high-quality signal

EEG

• EP • PSG  
• Video EEG



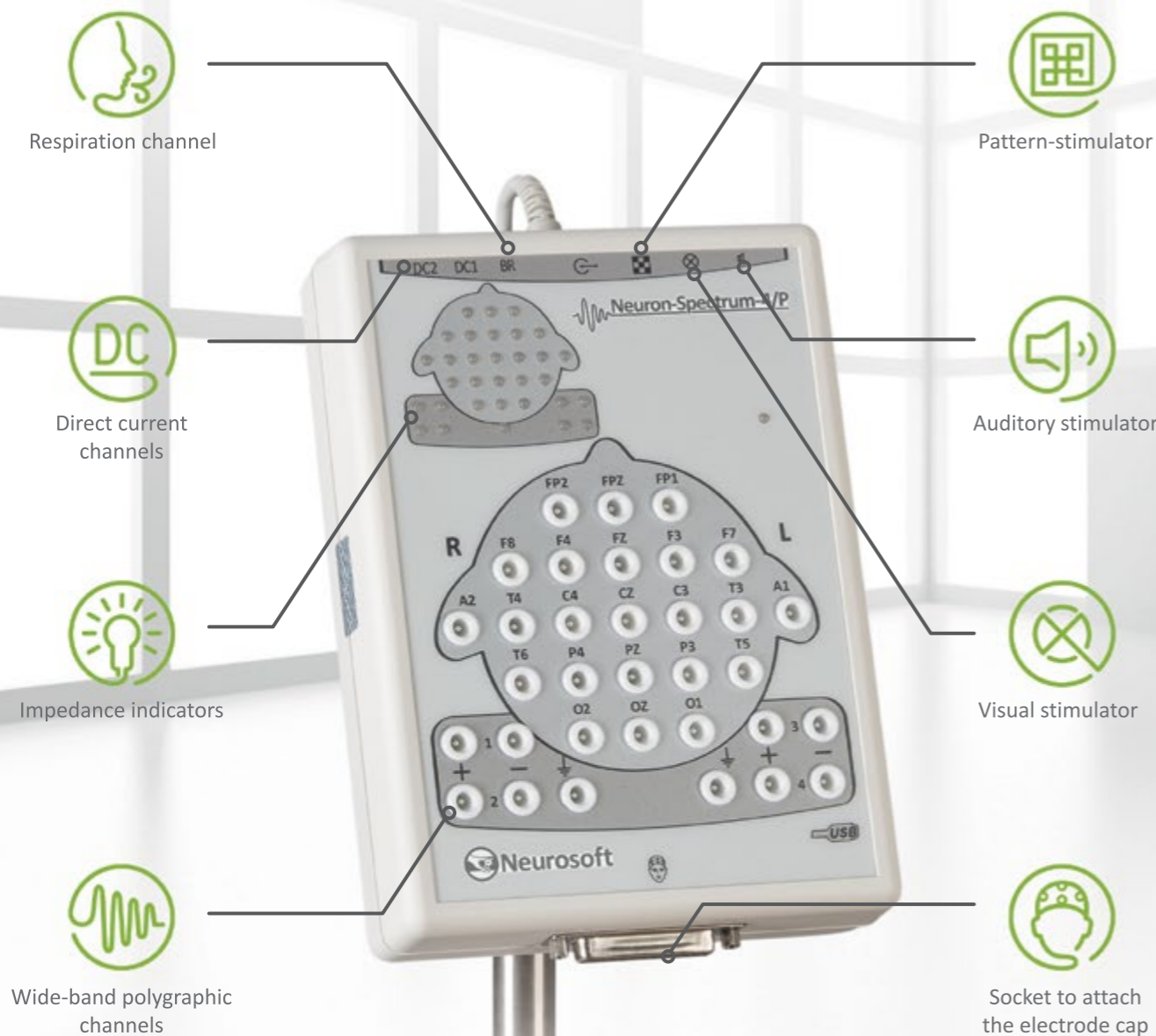
**Neurosoft**

# NEURON-SPECTRUM-4/P, 4, 3, 2, 1: FROM ROUTINE EEG TO RESEARCH LAB

Neuron-Spectrum-4/P, 4, 3, 2, 1 are not just ordinary EEG machines. These devices embodied 25-year Neurosoft experience in EEG, EP and PSG fields and cutting edge technologies of noise rejection and signal processing.

The amplifiers and stimulators are combined in one unit. The device interchanges with the computer and is powered via USB.

The devices of Neuron-Spectrum series are designed to ensure most efficient and simple day-to-day workflow due to an easy operation at routine EEG studies, advanced software with multiple analysis options and easily customizable interface.



# MAIN ADVANTAGES

## High-quality EEG Acquisition

The high sampling rate (up to 5 000 Hz) allows recording EEG signal in full frequency band without certain "swallowing" of sharp EEG components or abrupt amplitude reduce. With the low noise level the most spare EEG filtration is applied or the filtration is not done at all that saves maximum useful information in the raw signal.

## Operation in Unshielded Room

The digital EEG systems of Neuron-Spectrum series can be used in any unshielded room saving considerably the specialist's workplace preparation costs, increasing the staff's operation convenience and ensuring patient's comfort.

## Impedance Indication on the Front Panel of EEG System

Often the digital EEG system and the computer to process and analyze the obtained signals are located in neighbour rooms or even far from each other. The impedance indicators on the front panel allow monitoring the signal quality during the electrode placement staying near a patient.

## Socket to Attach the Electrode Cap

No adapters or other facilities are required to connect the electrode cap. Just plug it in a standard EEG system socket.

## Stimulators

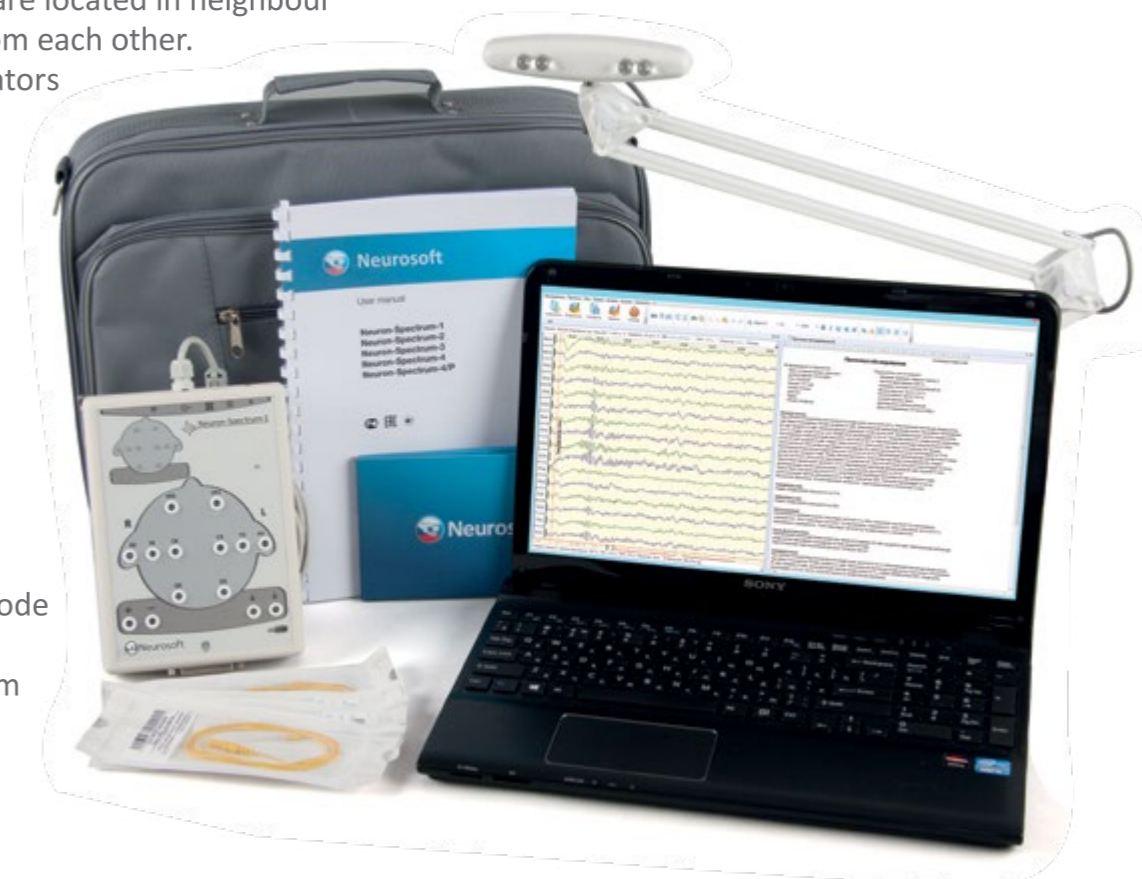
The visual, auditory and pattern stimulators are designed to perform different stimulation procedures during EEG test and also record long-latency and cognitive evoked potentials. Besides the built-in stimulators, the external stimulators can be connected to the device trigger in/out or USB port.

## Optional Channels

Four polygraphic channels are intended to perform PSG studies (to record ECG, EMG and other signals). The respiration channels allow recording the respiration rate and the amplitude with simple and reliable airflow thermistor sensor. The direct current channels can be used to plug in different sensors of third-party manufacturers, for example, to monitor the patient's body position.

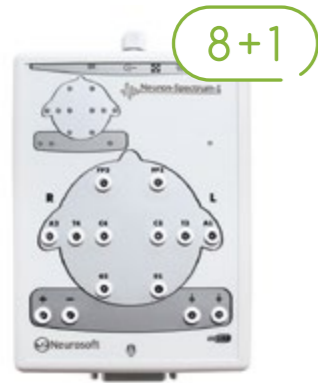
## Portable EEG System

The devices of Neuron-Spectrum series are ideal for outpatient EEG testing. They are powered via USB and interchange EEG data using the same cable. EEG lab can be opened at any site and the mains socket is not required. Just connect the device to notebook or even tablet PC.





# NEURON-SPECTRUM AMPLIFIERS



Neuron-Spectrum-1



Neuron-Spectrum-2



Neuron-Spectrum-3



Neuron-Spectrum-4



Neuron-Spectrum-4/P

21+4+2 — 21 EEG channels + 4 polygraphic channel + 2 DC channels

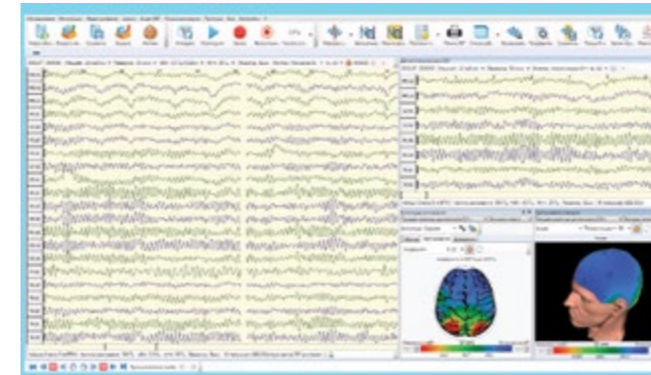
## APPLICATION

Neuron-Spectrum-4/P, 4, 3, 2, 1 devices can match perfectly your day-to-day routine EEG needs. However, they can do more.

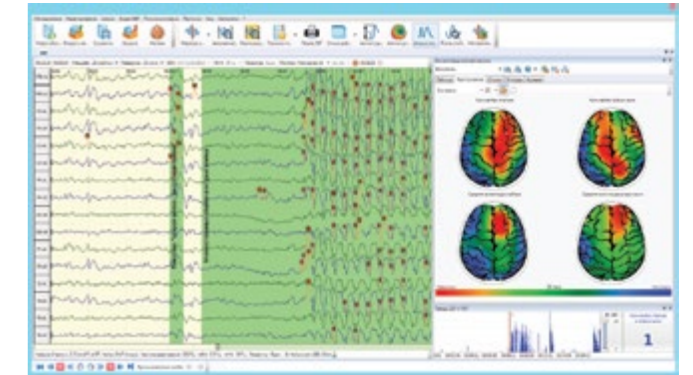
Due to the wide range of channels, exceptional signal quality, customizable software and added accessories these devices can be used in different fields:

- ▷ routine EEG;
- ▷ video EEG monitoring and LTM;
- ▷ EP, NCS and EMG studies;
- ▷ PSG study, cardiorespiratory monitoring;
- ▷ cerebral function monitoring (aEEG), EEG in newborns;
- ▷ brain death diagnosis using EEG;
- ▷ biofeedback trainings;
- ▷ intraoperative neurophysiological monitoring;
- ▷ research.

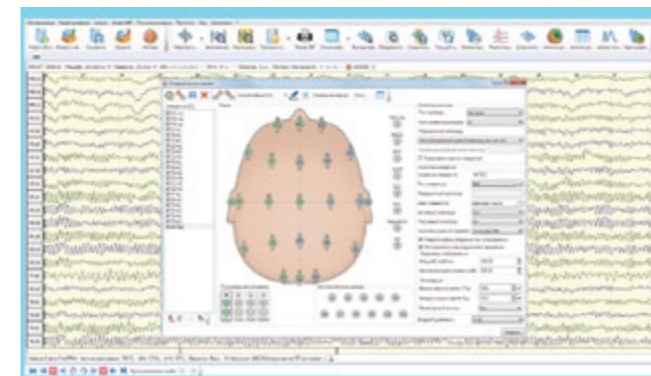
# NEURON-SPECTRUM.NET FEATURES



EEG acquisition and analysis



Automatic detection of spikes and sharp waves



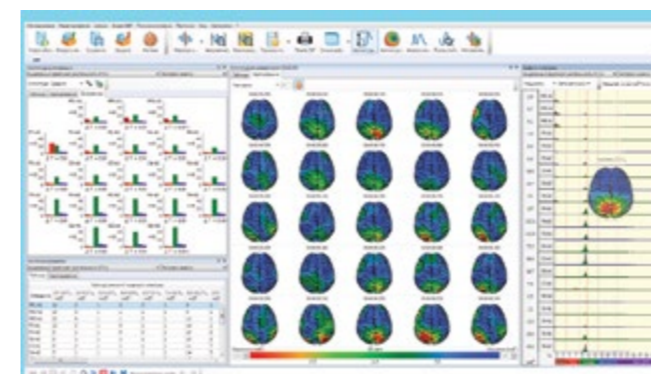
Creation and editing of EEG montages



Video EEG monitoring



Automatic generation of EEG exam report



Brain mapping and bar charts of EEG analysis results



The second monitor can be used as a pattern-stimulator

The program features are described in details in Neuron-Spectrum.NET user manual.



## CONFIGURATIONS

The digital system of Neuron-Spectrum series can be supplied as EEG workstation, portable system, video EEG monitoring system or PSG system.

### EEG Workstation

Neuron-Spectrum-4/P, 4, 3, 2, 1 on the stand with desktop PC and printer.



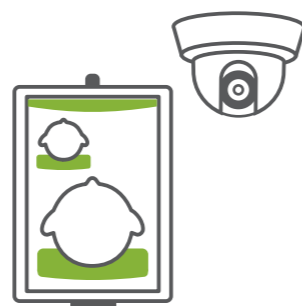
### Portable System

Neuron-Spectrum-4/P, 4, 3, 2, 1 with a notebook for mobile medical teams to record EEG and EP in intensive care units (ICUs) or at patient's home.



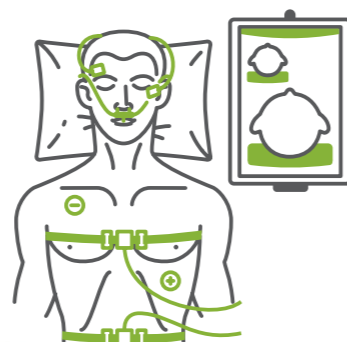
### Video EEG Monitoring System

Neuron-Spectrum-4/P, 4, 3, 2, 1 with a camera and special software is used for long-term video EEG monitoring.



### PSG System

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



## ACCESSORIES



### MCScap-EC21 Electrode EEG System

It is a special textile cap with 19 thin and flat EEG electrodes and 2 ear electrodes connected to 150 cm long cable. Electrode EEG system is connected to the amplifier using DB25M connector.



### Helmets to Fix Bridge EEG Electrodes

Polyurethane chin rest, thickened harness (4 mm) and improved fixation make the helmets more reliable and low-wearing.



### PhS-2 Photic Stimulator

PhS-2 photic stimulator designed with the most modern LEDs of superior brightness and cutting edge electronics acquired the white emission color, wider illumination area, adjustable brightness and flash duration and can be used with light filters. Together with the software that allows customizing the stimulation programs and stimulate in automatic mode, PhS-2 can become a perfect option for your EEG device.



## 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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