



Neuron-Spectrum-61..65

Up to 78 channels
for high-quality EEG
acquisition

Continuous impedance
monitoring during
acquisition

EEG, ECG, EOG,
EMG channels, etc.

Multiple options:
EEG, LTM, PSG, EP,
CFM, BFB, etc.

Fully synchronized
HD video

State-of-the-art
techniques of mathematical
analysis



Choose Your Winning EEG Combination

For more than a quarter of a century, Neurosoft has been designing and producing various equipment for neurophysiology.

Many years of experience and the meticulous work done by our software and hardware engineers have gone into the creation of the highest quality equipment, which is being successfully used at medical facilities all over the world.

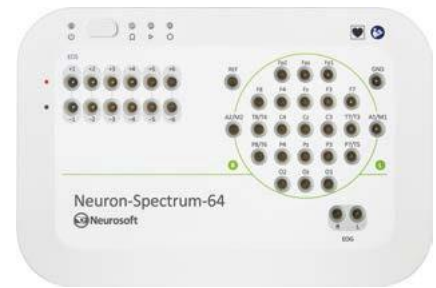


Now we offer you not just a fine product, but the advanced EEG system, which will definitely comply with every your request. It doesn't matter what you are really supposed to do: routine EEG, long-term video EEG monitoring (LTM), EP, PSG, invasive EEG, CFM or BFB trainings.

A full line of high-quality, reliable amplifiers for advanced neurodiagnostic studies.

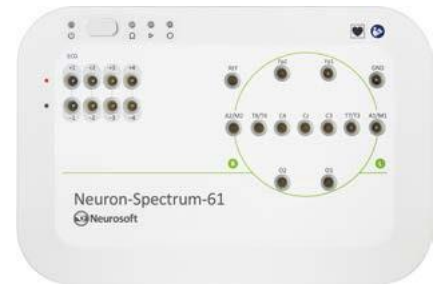
Broad Capabilities in Flexible Design

The amplifier is the heart of any EEG system. Via connecting of additional amplifiers cascade channel system upgrade is possible. We are pleased to present a range of EEG systems with various capabilities. Just choose the one that suits you best!



Neuron-Spectrum-64

25 1 6 ✓ ✓



Neuron-Spectrum-61

11 1 4 ✓ ✓

Auditory Stimulator Unit

Auditory stimulator helps clinicians perform the auditory stimulation during routine EEG by choosing the necessary audio stimulus from the list. Besides, it is simple to perform ERP study using default or user-defined stimulus.



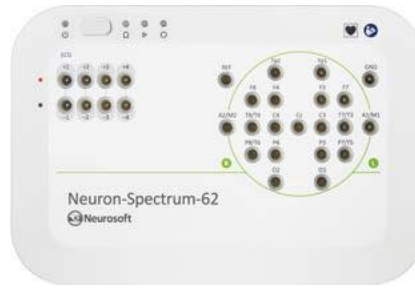
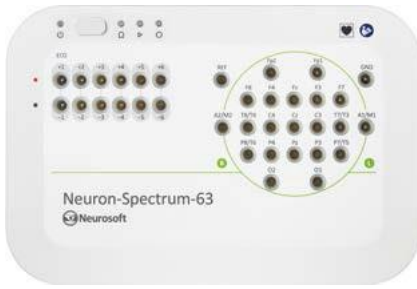
Neuron-Spectrum-65

39 1 8 ✓ ✓

The device provides 39 referential channels to acquire the high-quality EEG. These channels can work both in AC and DC modes.



The appropriate connector makes it possible to use electrode caps of various manufacturers.

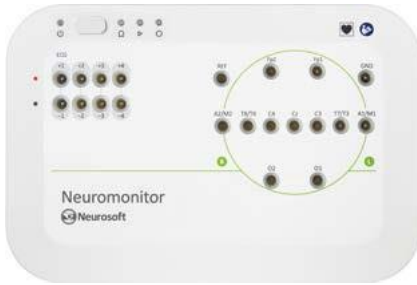


Neuron-Spectrum-63

21 1 6 ✓ ✗ ✓

Neuron-Spectrum-62

19 1 4 ✓ ✗ ✓



Neuromonitor

11 1 4 ✓ ✗ ✓

Symbols



Referential
EEG channels



ECG channels



Differential
channels



Possibility of external
SpO2 unit connection

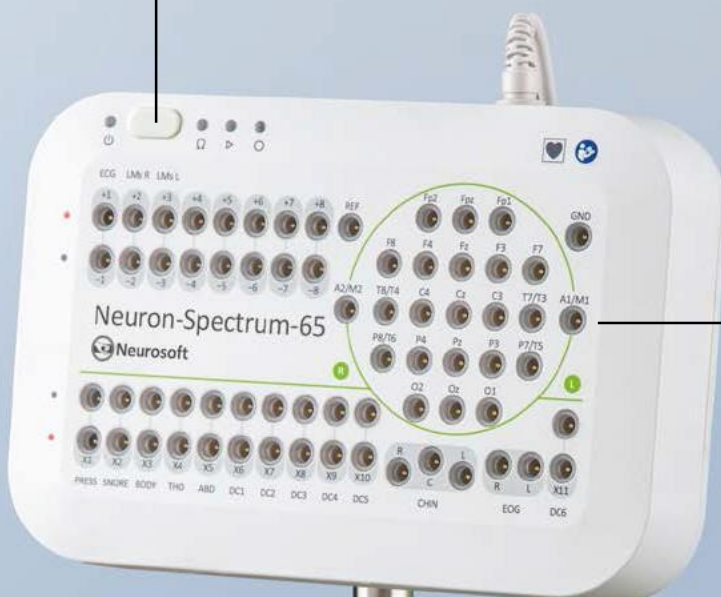


Auditory and photic
stimulators

Operation mode can be switched with just one button on the front panel. The LED indicator next to button shows the mode: acquisition, EEG monitoring or impedance measurement.



The lead connector on amplifier glows green if impedance is good and glows red if it is bad. Numeric value of impedance can be shown in Impedance Measurement window of the software.





Routine EEG

Neuron-Spectrum-64 for routine EEG

- 25 EEG/ long latency EP channels, 6 bipolar polygraphic channels for EEG, EOG, ECG, EMG, EP
- Amplitude, spectral, wavelet, correlation and coherent EEG analysis, ICA decomp./comp.
- Photic, auditory and pattern stimulators
- Long-latency EP acquisition
- Separate left/right control of photic and audio stimulators in manual and program mode
- Real time auto detection of artifacts, epi activity, spikes and sharp waves
- Multitasking – simultaneous record, review, analysis., etc. with two monitor working mode for task splitting and real time EEG comparison and analysis
- Data management Interfaces: GDT, HL7, MS SQL, MySQL, MS Access etc.

Video EEG Monitoring System

**Neuron-Spectrum-64/65
for long-term EEG
monitoring**

- High resolution HD camera
1280 x 720 pix
- Synchronous video + sound with
up to 3 HD video cameras with
built-in microphone
- Continuous impedance
monitoring
- Powerful tools for data
analysis
- Built-in voice record
software for operator
comments recording



Cerebral Function Monitoring (CFM)

Neuromonitor

is the optimal solution for cerebral function monitoring in the neonatal intensive care units. It provides necessary vital data such as aEEG, real time EEG, ECG, respiration. This information helps clinicians understand an infant's brain health and assist with treatment. Cerebral function monitoring with Neuromonitor is easy to apply, easy to use and easy to interpret.

- Up to 11 EEG channels and 4 polygraphic channels for EOG, ECG, respiration, etc.
- All-in-one PC with touch-screen
- Synchronous video monitoring
- Continuous impedance monitoring
- Simplest electrode placement with single use or reusable electrodes (cup and needle ones)
- Possibilities for networking and HL7 connection





Polysomnography (PSG)

Neuron-Spectrum-64 and 65

can be used as a type I sleep monitor* with full-featured PSG software

- Full range of PSG channels in compliance with AASM recommendations
- Portable patient unit for quick connection/disconnection
- Synchronous video monitoring
- Manual, semi-automatic and automatic sleep staging and PSG event detection
- DC channels for data transfer to Neuron-Spectrum.NET software during CPAP titration

* according to American Academy of Sleep Medicine (AASM) classification

Biofeedback (BFB)

Neuron-Spectrum-61

with a special software module is an optimal choice for biofeedback and neurofeedback trainings.

- Multi-channel data recording (EEG, ECG, EMG, respiration, SpO2, photoplethysmograms, etc.)
- Audio and visual feedback (animation, photo, music, games, video)
- Continuous training success tracking



Neuron-Spectrum.NET

The advanced Neuron-Spectrum.NET software for data storage and analysis with free configuration and setting of all interface elements. It works with OS Windows 7, 8 or 10.

1

You may choose the pre-defined electrode montages or create own - mono-, bipolar and combined in "10-10" and "10-20" international schemes.

Software includes the EEG electrode locator option. Using the locator option it is very simple to place the electrodes properly. Various physio signals – ECG, EMG, EOG, RESP, thorax /abdominal excursions, snoring, body position, limb movements, SpO2, CO2 etc. can be included in the montages.

Record of auditory EP, visual EP (flash & pattern), cognitive EP (P300, MMN, CNV, GoNoGo, OddBall, TOVA, StroopTask, VCPT. Follow – up of user selectable patterns and random visual stimuli. Auto/semi -auto registration with marker placement and repeated wave averaging ability.

2

Neuron-Spectrum.NET offers multiple features of sophisticated EEG study including all desired functional tests. All functional tests can be easily customized or created new ones

Previously recorded EEG review capability. Analysis activation possibility during new EEG acquisition.

3

Up to 256 digital leads can be shown simultaneously on the screen using cutting-edge technologies of smoothing.

The user-friendly solution for quick navigation throughout the entire EEG record streamlines the visual analysis. Contemporary tools for mathematical analysis of EEG: amplitude, spectral and bispectral analysis, correlation and coherent analysis, wavelet-analysis, periodometric analysis, independent component analysis (ICA) are always available in all software configurations.

Multilanguage software : English, Russian, French, Spanish, Bulgarian (by user choice). 2D & 3D mapping for all analysis modes and pathologic activity foci localization. 2D color trends for the complete record. Second window EEG analysis mode and real time comparison.

4

The automatic report is generated using the preset report templates with tables, graphs and auto test description. Detailed template customization capability. The report is easily edited, saved to PDF, printed or sent automatically.

Any fragment or entire EEG record can be printed at any time during the acquisition or afterwards with the conventional PC printer. External EEG systems images and reports import capability.

Technical specifications

Parameter	Value
General specifications	
Construction	one compact module
Connection to PC	via USB
Power supply of amplifier by one USB port	via one USB port
Additional power sources (batteries, adapters etc.)	not required
Amplifier channels	up to 48
EEG channels	up to 39
Differential (AC) channels	up to 8
Differential Input impedance	100 MΩ
Max. AC input range - differential channels	± 12 mV
Max. offset of input voltage (DC Input) - referent channels	± 1100 mV
Synphase signal suppression	120 dB
Input current deviation	≤5pA
Respiratory channels	1
Synphase signal suppression	120 dB
DC channels (isolated/non- isolated)	11
Impedance meter	built – in with front panel indicator for electrode status during record
Connector for standard electrode cap	2
Digital interfaces	USB (high speed), LAN, WLAN (incl TCP/IP), UDP, DHCP
EEG channel parameters	
Sensitivity (input of fixed and random values)	0.01 – 10 000 000 μV/mm
Frequency range	0 – 600 Hz / 3 dB
ADC	24 bit
Sampling rate	16000 Hz / channel, selectable
Input noise level peak to peak	1.4 μV
Mean quadratic noise	0.21 μV
Polygraphic channel parameters	
Sensitivity (input of fixed and random values)	1 - 10 000 μV/mm
Frequency range	0 – 600 Hz / 3 dB
ADC	24 bit
Sampling rate	16000 Hz / channel, selectable
Input noise level peak to peak	1.4 μV
Mean quadratic noise	0.21 μV
Photoc stimulator parameters	
Max brightness on one side	from 10000 up to 60000 cd / m ²
Duration of stimulus	from 2 μs up to 1500 μs
Stimulation frequency	from 0.1 up to 100 Hz
Stimulation	Left/ Right/ Double sided
Auditory stimulator parameters	
Stimuli	Speech, Click, Tone, mp3 or wav files
Left/ Right/ Double sided stimulation	Left/ Right/ Double sided

Accessories

Standard configuration: module amplifier/s, height adjustable (500 mm range) floor stand on castors with brakes and accessories basket, monitor arm, built – in PC workstation with installed Windows OS, 2 pcs. 24" monitors, full set of EEG/EP electrodes and caps.

Depending on your preference, the system can be supplied also with optional accessories like : photic stimulator, pattern stimulator, flash type goggles, audio stimulator, Full HD camera/s, dedicated camera stand, laser printer etc.



Electrode Caps

For our EEG systems we have selected the best electrode caps — MCScap and Electro-Cap.



PhS-1 and PhS-2 Photic Stimulators

Ph-1 allows adjusting stimulation frequency and duration. It is the best choice for routine EEG.

PhS-2, above that, has higher brightness and allows adjusting stimulation intensity for any demanding EEG study.



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