NEURON-SPECTRUM-AM

Portable Wireless PSG Recorder

✅ Scalable PSG recorder

✅ Full range of PSG channels in compliance with AASM recommendations

✅ Synchronous video monitoring

✅ Up to 1000 recording hours on memory card

✅ Autonomous and wireless operating modes

Neurosoft

PSG

YOUR GUIDE TO HEALTHY SLEEP

DIAGNOSIS OF SLEEP DISORDERS

Polysomnography (PSG) is the gold standard for sleep diagnosis including sleep-related breathing disorders, narcolepsy, parasomnias, sleep-related seizure disorders, restless leg syndrome, periodic limb movement sleep disorder, etc. Due to this safe, effective and painless method you can determine the exact causes of disease and find out whether the sleep disorder is idiopathic or caused by some somatic problems (e.g. sleep-disordered breathing).

AASM

II AND III TYPES
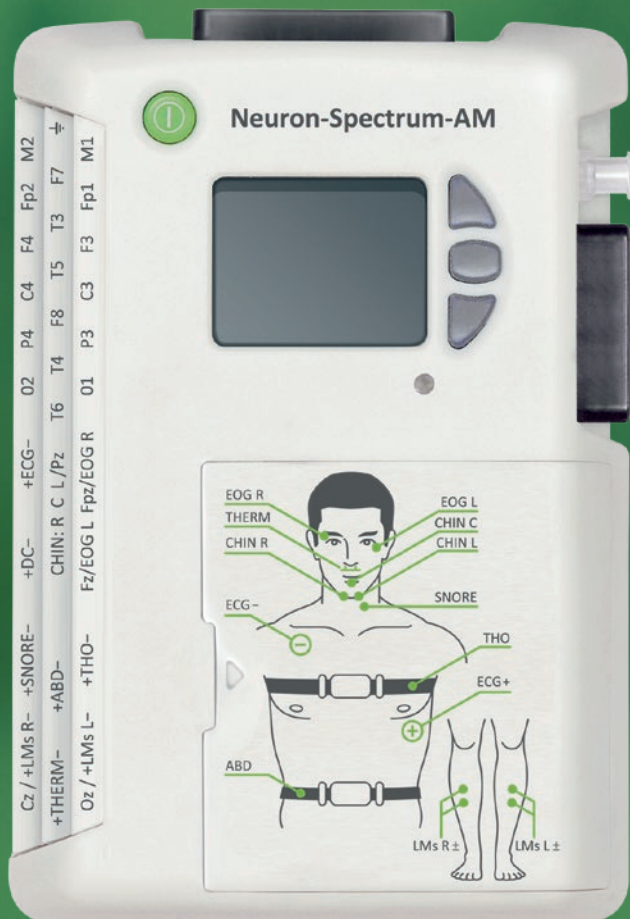according to AASM classification

EASY PSG RECORDING

The present-day diagnostic demands promote the main-streaming of portable PSG recorders that replace extensive PSG recording equipment used only in medical facility. The absolute advantage of portable recorders is the possibility to examine patients either clinically or ambulatory ensuring optimum comfort and care. Patients feel comfortable and move freely within the place where they are examined. Besides, PSG study can be performed in an unattended, ambulatory setting. The data is recorded on the internal memory card and then loaded and analyzed with the software in the morning when the exam is finished.

NEURON-SPECTRUM-AM: YOUR HANDHELD PSG RECORDER

Neuron-Spectrum-AM is a time-tested system with a full set of PSG channels. The device is referred to as type II sleep monitor according to AASM classification and ensures high-quality recording during examination. But you can use the device as cardiorespiratory monitor (type III sleep monitor according to AASM classification). The lightweight compact unit is fixed easily on a patient's body. The obtained data is analyzed and interpreted in a short time due to flexible personalized software.

NEURON-SPECTRUM-AM: WE COMBINED THE BEST

COMPACT AND LIGHTWEIGHT
weight 500 g
length < 15 cm

FULL SET OF PSG CHANNELS ACCORDING TO AASM

— Up to 16 EEG channels
— 2 EOG channels
— 2 EMG channels
— 1 ECG channel
— Channels for:
— thermistor airflow sensor
— pressure airflow sensor (cannula)
— thorax respiratory effort sensor
— abdominal respiratory effort sensor
— snoring sensor
— Built-in body position sensor
— PPG (photoplethysmography) channels
— 2 EMG channels for limb movement recording
— Built-in light sensor
— Built-in SpO_2 unit

AUTONOMOUS RECORDER > 24 HOURS OF WORK

One battery charge is enough for more than 24 hours of recording in autonomous mode
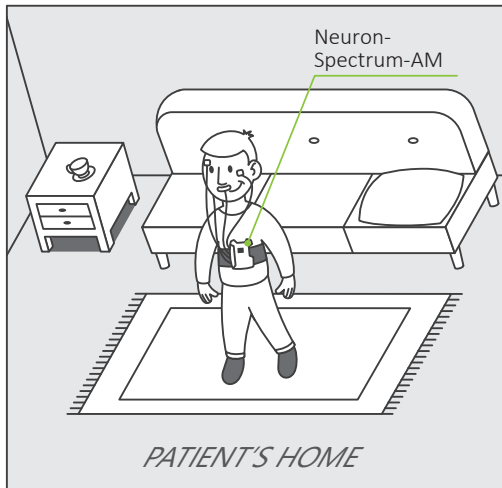
DELAYED START

This option is intended to start or stop recording at preset time
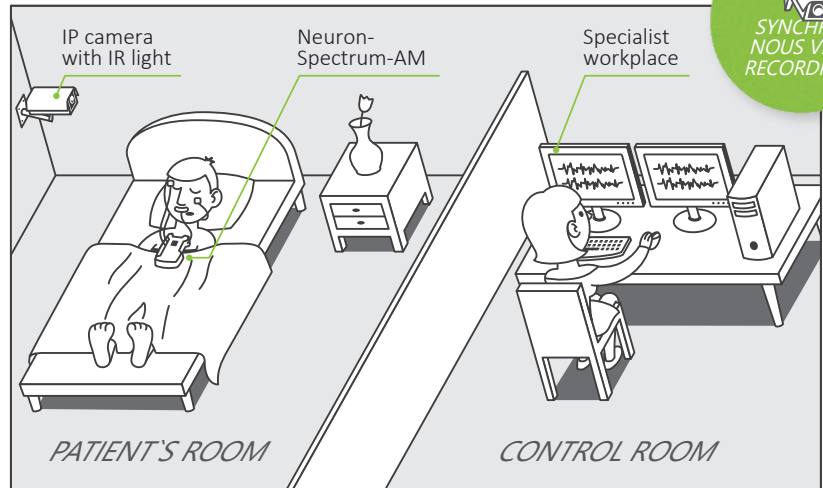
BACKUP OF EXAMINATION

A backup copy of exam is created and recorded on memory card during data transfer via Wi-Fi to avoid information loss

AUTONOMOUS AND WIRELESS RECORDER

PATIENT'S HOME

Neuron-Spectrum-AM can be used as ambulatory device (with medical attendance in a home settings). Up to 1000 hours of exams can be recorded on the memory card. The screen and buttons on the front panel help to control the process of recording.

PATIENT'S ROOM — CONTROL ROOM

SYNCHRONOUS VIDEO RECORDING

Neuron-Spectrum-AM can be used to perform PSG studies overnight in patient`s rooms within hospital. Wireless Wi-Fi connection allows real-time data transfer from the device to any computer of the local network. The device is synchronized with analog and IP network cameras to perform synchronous PSG video monitoring during the examination.

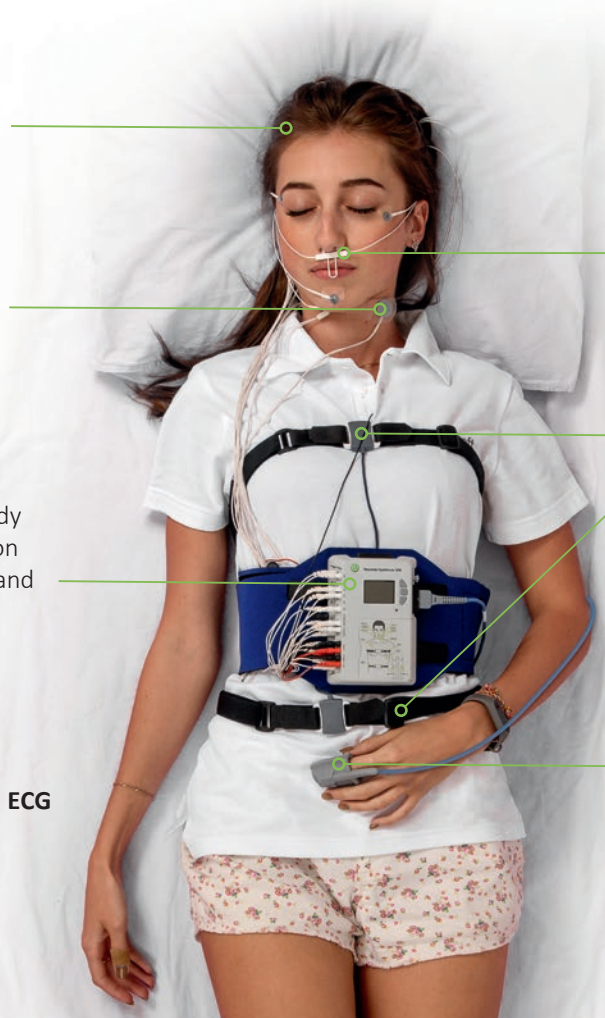# FULL RANGE OF PSG SENSORS AND ELECTRODES

Select any PSG sensors and electrodes at your choice to work with your Neuron-Spectrum-AM device with maximum efficiency.

High-quality Ag/Cl cup **EEG** electrodes

Snoring is detected by piezo snoring sensor or airflow pressure sensor

Body position sensor is already built in. Just fix the recorder on a patient using a special belt and start acquisition process

Disposable adhesive or cup electrodes for **EOG, EMG** and **ECG**

Respiratory airflow is recorded with airflow thermistor sensor. The airflow pressure sensor with cannula can also be used

Respiratory effort sensors or respiratory inductive pletysmography (RIP) belts to measure **thoracic and abdominal movements**

Disposable or reusable SpO_2 sensor to estimate **arterial blood oxygen saturation**

NEURON-SPECTRUM.NET/PSG

Neuron-Spectrum-AM is delivered with powerful Neuron-Spectrum.NET software which is ideal for all PSG study types ranging from home sleep apnea testing to more complex studies with additional EEG channels. The recommended workflow, automatic scorings and calculated indices meet the AASM guidelines that provide comprehensive recommendations for evaluation, diagnosis, treatment and follow-up of patients with sleep disorders.
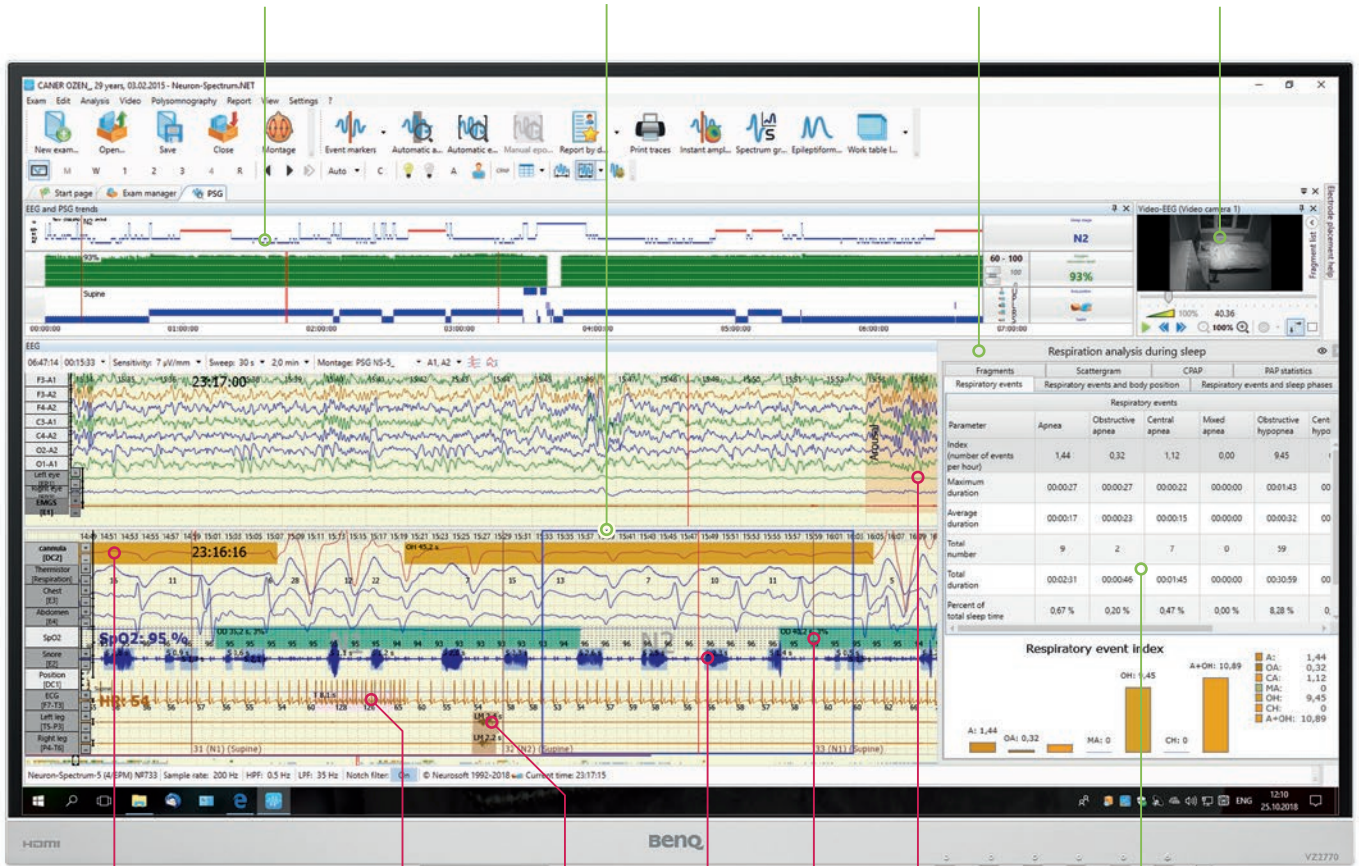
The flexible Neuron-Spectrum.NET software is an essential tool that makes your workflow more efficient. Now, PSG records can be interpreted at least in half the time and user-friendly interface provides quick and easy access to any function of the software.

Automatic or/and manual hypnogram

Native traces with event marks arranged automatically

Respiratory analysis during sleep

Video recording of examination

Respiratory event (apnea and hypopnea)

Cardiac event (tachycardia, bradycardia, asystole)

Limb movement

Snore

Desaturation

Arousal

Respiratory analysis depending on sleep stage, body position, CPAP pressure, etc.
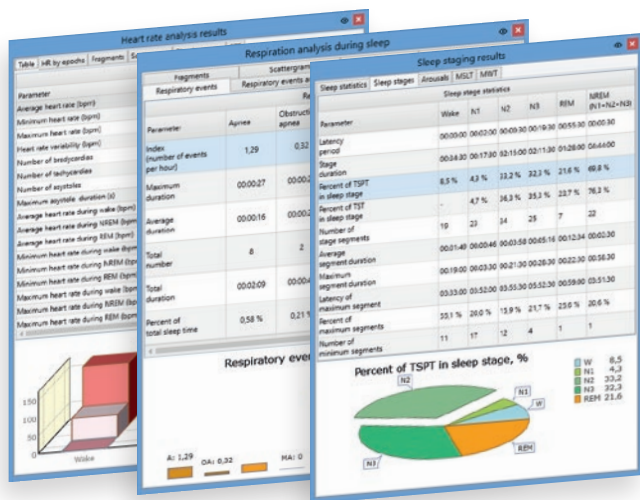
PSG EVENTS

MSLT AND MWT

Besides conventional sleep stage analysis, the software has integrated multiple sleep latency test (MSLT) and maintenance of wakefulness test (MWT).

ANALYSIS DURING ACQUISITION

Helpful feature of our software is automatic sleep staging during the recording.

PSG TRENDS

PSG trends allow monitoring the changes of specified values during the acquisition. The trends of all recorded parameters can be displayed — SpO$_2$, respiratory rate, thoracic and abdominal respiratory efforts, heart rate, snoring, arterial blood pressure, etc. Rightward the trend the information panel with the current parameter value is displayed. Use this panel during the acquisition and viewing of the examination.

ANALYSIS WINDOWS

The analysis of sleep stages, respiratory events, desaturation, heart rate, snore, body position, limb movements and hypoventilation during sleep is performed automatically. The results of analysis are clearly and conveniently displayed in tables and graphs.

PSG REPORT

You can generate PSG reports the way you want to see them. The report can include information on a patient and medical facility and also the detailed analysis of obtained PSG data (hypnogram, analysis of sleep stages, SpO$_2$ and body position trends, indices and other calculated values for apnea, hypopnea, RERA, desaturation, snore, etc.).

Using a flexible report editor a specialist can create configurable templates and select a specific report for each type of PSG study.

PSG RECORDERS

Our EEG systems of Neuron-Spectrum series can also be used as expert class PSG recorders.
Each device has its own unique features. Just select the one you need.

	Neuron-Spectrum-4/P	Neuron-Spectrum-4/EPM	Neuron-Spectrum-5	Neuron-Spectrum-AM
EEG channels	21 channels	21 channels	32 channels	21 channels
Polygraphic channels	4	4	4	4
Direct current channels	2	2	2	2
SLEEP STAGING				
Available EEG channels **	13	13	24	14
EOG channels	2	2	2	2
EMG channels	1	1	1	2
RESPIRATORY MONITORING				
Channels for:				
thermistor airflow sensor	1	1	1	1
pressure airflow sensor (cannula)	1	1	1	1
thorax respiratory effort sensor	1	1	1	1
abdominal respiratory effort sensor	1	1	1	1
snoring sensor	1	1	1	1
body position sensor	1	1	1	1
ECG channel	1	1	1	1
SpO$_2$ channel	1*	1*	1*	1
EMG channels for limb movement recording	2	2	2	2

* External unit is used for SpO$_2$ acquisition

** Number of available EEG channels during full PSG study including sleep staging, monitoring of respiration and leg movements

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