NeoRec RatEEG12

System for Recording EEG, ECG, Respiration, and PPG in Laboratory Rats

New Opportunities for Preclinical Research in Neurophysiology, Toxicology, Neuropharmacology

The NeoRec RatEEG12 is a system designed to record 12 monopolar EEG channels, 1 bipolar ECG channel, 1 respiration channel, and 1 PPG channel in standard laboratory rats weighing around 300 grams.

The system consists of a miniature wireless amplifier, NeoRec mini, and a non-invasive hybrid Ag/AgCl electrode, RatEEG12. The electrode with the amplifier is attached to the rat's body using special fixing straps, allowing the rat to move freely while physiological data is recorded during its normal activities.

The NeoRec 21 mini is a mobile direct current (DC) EEG amplifier designed for recording EEG and other bioelectrical signals during scientific or medical research.

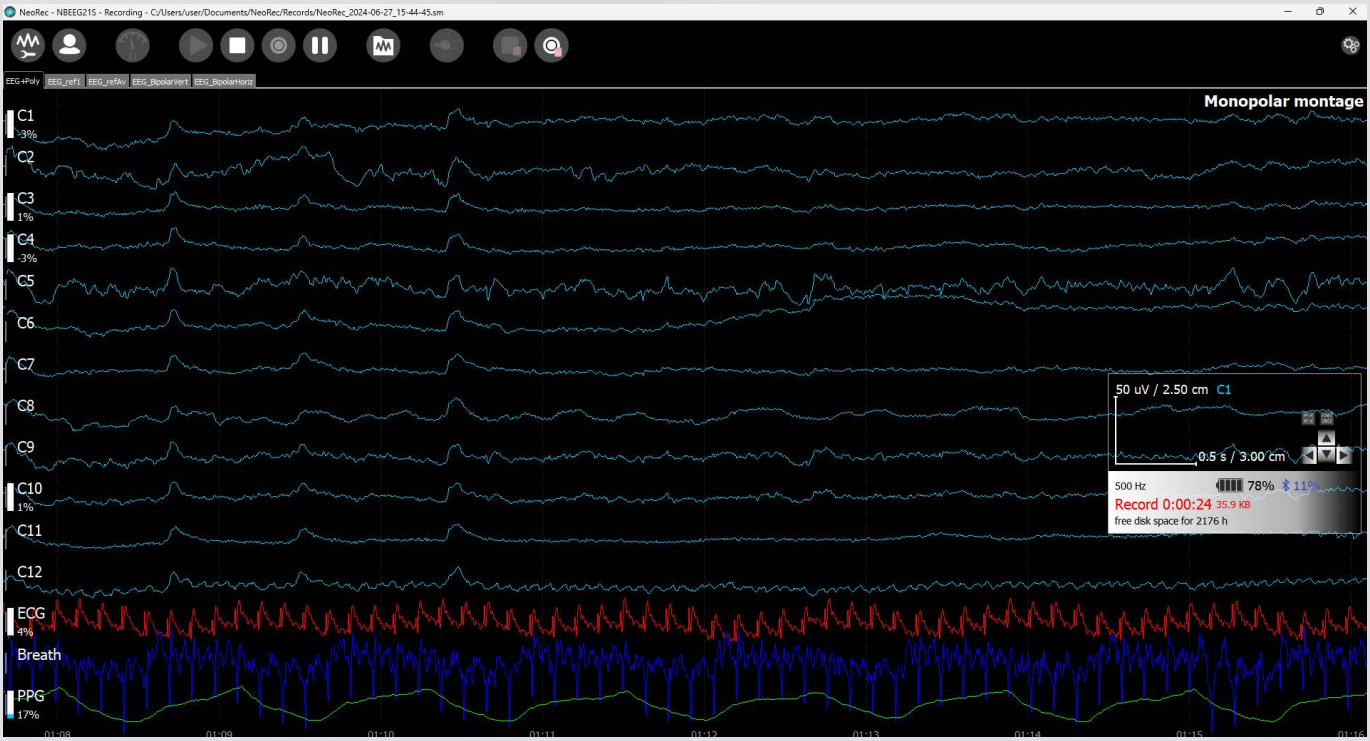
Wireless data transmission to a PC in real-time via Bluetooth or with recording on a built-in microSD memory card.

The device includes an accelerometer to track movement activity.

NeoRec 21 mini supports the NeoRec software, which includes a special profile for working with NeoRec RatECG12.

Technical Specifications

Model	**NeoRec mini**
EEG Channels	21
Input Dynamic Range	±150, ±300 mV
ADC Resolution	24-bit
Sampling Rate	125, 250, 500, 1000 Hz
Input Impedance	More than 1 GΩ
Noise (0.1 – 30 Hz range)	2 µV peak-to-peak
Inter-electrode Impedance Measurement	1 ..5000 kΩ (dry electrode check)
Events	Movement (4 sensitivity levels), orientation change, free fall, button press
Standalone Data Recording	Yes, to microSD
Support for Active Electrodes	Power and control
Continuous Operation Time	More than 2.5 hours
Wireless Interface	BLE 5.2
Wireless Certification	CE, FCC (USA, Canada, Japan, South Korea, Taiwan)
Firmware Update	Via mobile app
Dimensions	33 x 23 x 18 mm
Weight	14 g



Software

NeoRec is software designed for planning experiments, recording EEG and other biomedical signals during scientific or medical research, including preliminary processing of evoked potentials.

Recording files can be saved in various formats (EDF+ 16-bit, BDF+ 24-bit, GDF 32-bit) or streamed online via LSL (Lab Streaming Layer) for analysis with third-party software like MATLAB/EEGLAB, OpenViBE, and others.

An SDK for developing PC and mobile applications is available upon request.

Kit Includes

- NeoRec 21 mini EEG amplifier,
- charging station and microSD card,
- RatEEG12 hybrid electrode,
- head strap - 6 pcs (L, M, S - 2 pcs each),
- chest strap - 6 pcs (L, M, S - 2 pcs each),
- adhesive tape set - 10 pcs,
- syringe with blunt needle,
- storage and transport case,
- NeoRec software and user manual (downloadable from the internet).

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LLC «Medical Computer Systems»

124460, Russia, Moscow, Zelenograd,
4922nd proezd, Building 4, Structure 2
Tel: +7 (495) 913-31-94
Email: mks@mks.ru
Website: www.mks.ru
Online Store: www.mcscap.com

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