

Measuring and Modulating Brain Activity



neuroConn  **NEURO PRAX[®] EEG**

full-band DC-EEG-system

NEURO PRAX[®] full-band DC-EEG-systems measure physiological activity such as EEG, EMG and EP signals in the frequency range from infraslow (0 - 0.3 Hz) to ultrafast (80 - 1,200 Hz) simultaneously and synchronously for all channels. Our full-band DC amplifiers are available from 32 to 256 channels. The **neuroConn** software, specially adapted to the hardware, is self-explanatory, flexible and easy to use. It provides a wide range of software-based functions such as online artifact and eye-movement correction, spectral and amplitude mapping, spike and seizure recognition, online averaging and, not least, synchronous videometry.

NEURO PRAX[®] EEG-systems can also be extended for use as bio- and neurofeedback-systems, and they can of course also be subsequently upgraded. For example, thanks to the high-level dynamic range of its amplifiers, the NEURO PRAX[®] tDCS/TMS-system is excellent for use during transcranial Direct Current Stimulation (tDCS) or transcranial Magnetic Stimulation (TMS).

The NEURO PRAX[®] MR-system is additional ideally suited for taking measurements during functional Magnet Resonance Imaging (fMRI).

Areas of Application/Treatments

Research		Recording of full-band DC-EEG/EP and polygraphic signals
Long term monitoring		Recording of full-band DC-EEG also intracranial over several days
Outpatient department		Clinical EEG and diagnosing, cognitive evoked potentials
Neurofeedback clinic		DC-EEG-neuro- and biofeedback-systems, quantitative EEG, cognitive evoked potentials
Neurofeedback research		3D-EEG-feedback-system

Moving thought



NEURO PRAX® EEG Features

- 32-channel full-band DC-EEG-system (64, 128, 256 channels)*
- Channel type (EEG, EMG, ECG) selectable via software
- Non referential storage of raw data
- Simple and intuitive user interface
- EEG mountings and event markers freely selectable
- Patient database with medication and examination calendar, complete documentation of readings
- Suitable for polygraphy and polysomnography
- Topographical analysis, spectral and amplitude mapping

NEURO PRAX® EEG Specifications

Full-band DC-EEG and BIOSIGNAL AMPLIFIER

- 32 full-band DC-channels (64, 128, 256 channels)*
 - Input impedance > 10 GΩ
 - 24-bit resolution per channel
 - Selectable sampling rates of 32 to 4,096 sps
 - Frequency range of 0 to 1,200 Hz @ 4,096 Hz sampling rate
 - Common mode rejection rate (CMRR) > 90 dB @ 50 Hz
 - Dynamic input range ± 140 mV (± 240 mV on request)
 - Input noise < 0.9 µV (RMS) @ 0-110 Hz at 256 sps
 - Max. power consumption 1.5 W
 - Power supply via built-in rechargeable batteries
 - Continuous operation time > 8 h
 - Applied part BF (CF on request)
 - Dimensions: 290 mm x 103 mm x 200 mm (W x D x H)
 - Weight: 3.4 kg (incl. batteries)
 - Data transmission via optical fiber
 - Electrode input box, incl. connector cable (at 32 channels)
- * optional

PANEL-PC

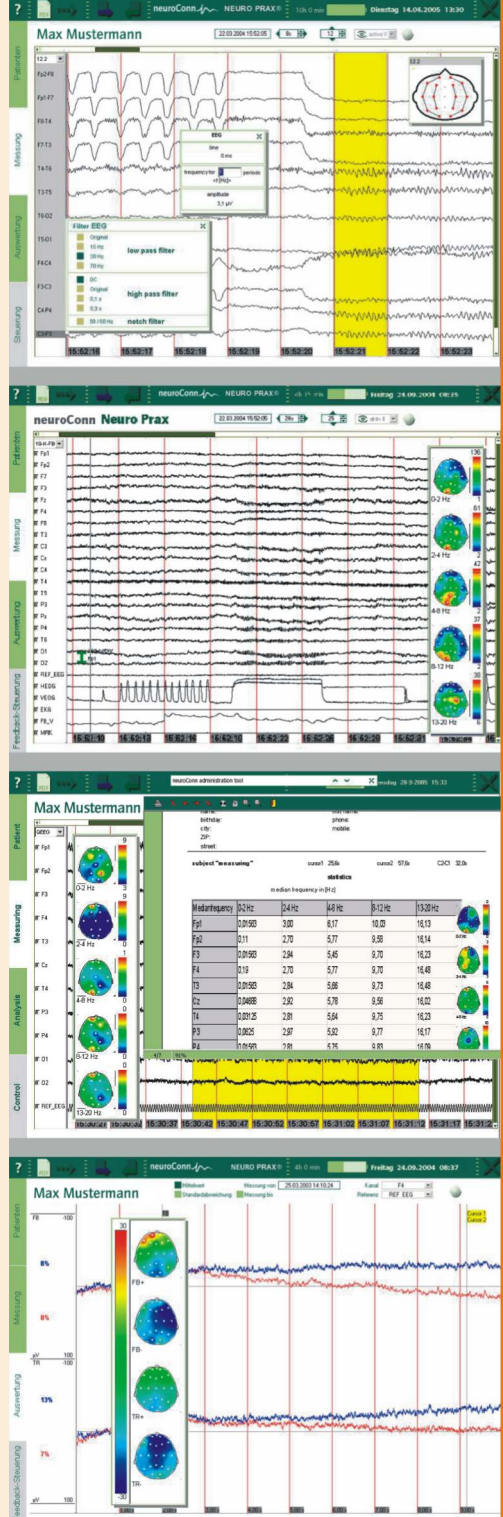
- Intel CPU, min. 2.0 GHz, min. 1,024 MB RAM, min. 150 GByte hard disc, USB 2.0, Network (LAN), min. 15" TFT Color monitor, Keyboard, Mouse
- Operating system WINDOWS XP® Pro (and later)
- Operating voltage 100-240 V @ 60/50 Hz AC
- Dimensions: 420 mm x 365 mm x 170 mm (W x D x H), weight: 6.8 kg

NEURO PRAX® EEG Options and System Extensions

- Module to correct EEG artifacts (blinking, eye movement, body movement)
- Module for cognitive evoked potentials: CNV, CPT-OX, P300, ERN and BP
- Spike and seizure detection module
- NEURO PRAX® examination license from other PC
- Export module for exporting measured data in other formats
- Module for data access within MATLAB®/Simulink®, LabVIEW®, C/C++
- Module for online data access via Ethernet by TCP/IP
- EEG-synchronous videometry
- Extra amplifier power supply system extension
- Feedback module system extension
- VEP stimulator system extension
- Optical trigger input module system extension
- Equipment trolley

Particular Advantages of our Equipment

- Complete systems – and not just individual components – are CE-approved and are certified for use in many other countries around the world.



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neuroConn supplies equipment for publicly funded multi-center studies into neurofeedback and non-invasive brain stimulation and is also a member of the "National Bernstein Network for Computational Neuroscience".

