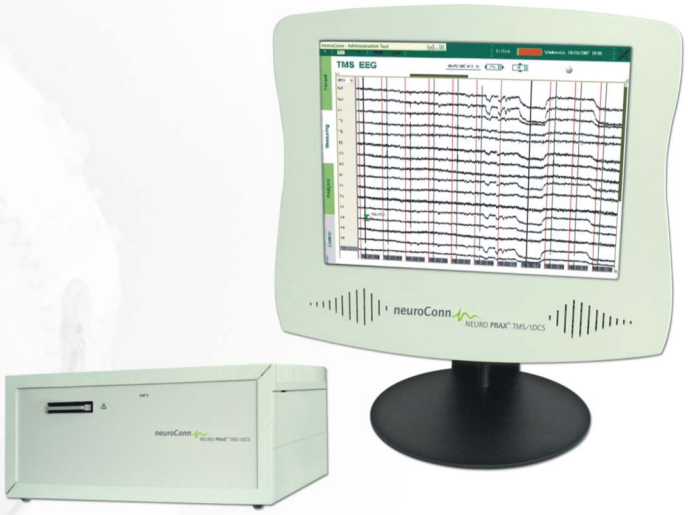
Measuring and Modulating Brain Activity



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NEURO **PRAX**® TMS/tDCS

TMS/tDCS-compatible full-band DC-EEG-system

NEURO **PRAX**® TMS/tDCS full-band DC-EEG-systems allow physiological signals such as EMG and EP to be captured in the frequency range of 0 to 1,200 Hz simultaneously and synchronously for all channels. This unique amplifier technology is capable of recording EEG activity at very slow frequencies (infraslow 0 - 0.3 Hz) to very fast frequencies (ultrafast 80 - 1,200 Hz) even during transcranial magenetic stimulation (TMS) and transcranial direct current stimulation (tDCS). The high amplifier dynamics and the high sampling rate make the NEURO **PRAX**® TMS/tDCS system particularly suitable for EEG measurement during transcranial magnetic stimulation (TMS) and transcranial direct current stimulation. Our high-performance full-band DC amplifiers come with 32 to 128 channels. The **neuroConn** software, specially tailored to the hardware, is intuitive, flexible and easy to use. There are a number of software options available such as the online correction of artifacts and eye movements, topographical analysis, spectral and amplitude mapping, spike and attack recognition, online averaging and, last but not least, synchronous videometry.

Areas of Application/Treatments

TMS/MEP	|	MEP threshold detection, MEP brain mapping (Brainsight®)
TMS-EEG	|	Recording and analysis of cortical and subcortical TMS-EEG activities, examination of the functional connectivity between areas of the brain, examination of TMS-induced modulation of brain rhythms, EEG-triggered TMS stimulation
TDCS/rTMS-EEG	|	Quantitative EEG analysis and cognitive evoked potentials before, during and after treatment with transcranial stimulation, examinations relating to the safety of transcranial stimulation

Moving thought

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CE 0118 EN DIN ISO 13485:2007

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NEURO **PRAX**® TMS/tDCS

NEURO **PRAX**® TMS/tDCS **Features**

- 32-channel full-band DC-EEG-system (64, 128 channels)*
- Channel type (EEG, EMG, ECG) selectable via software
- Non-referential storage of raw data
- Specially for measuring during transcranial magnetic and direct current stimulation
- Recovery time 3-5 ms after TMS impulse
- Real-time correction of artifacts from TMS and electrodes
- Suitable for polygraphy and polysomnography
- Simple and intuitive user interface
- EEG mountings and event markers freely selectable
- Patient database with medication and examination calendar, complete documentation of readings
- Topographical analysis, spectral and amplitude mapping
- Connection of external triggers

NEURO **PRAX**® TMS/tDCS **Specifications**

full-band DC-EEG and BIOSIGNAL AMPLIFIER

- 32 full-band DC-channels (64, 128 channels)*
- Input impedance > 10 GΩ
- 24-bit resolution per channel
- Selectable sampling rates of 60 to 4,000 sps
- Frequency range of 0 to 1,200 Hz @ 4,000 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 > 8h
- Applied part BF (CF on request)
- Dimension: 290 mm x 130 mm x 200 mm(W x D x H)
- Weight: 3.4 kg (incl. batteries)
- Data transmission via optical fiber

* optional

PANEL-PC

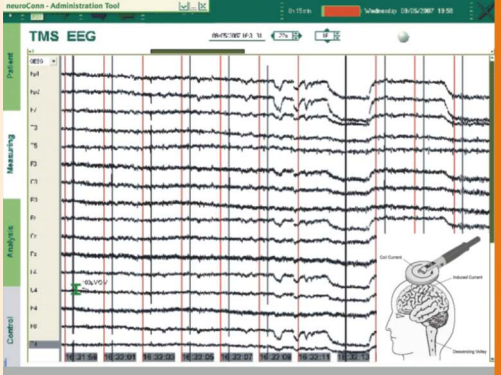
- Intel CPU, min. 2.0 GHz, min. 1,024 MB RAM, min. 150 GByte hard disc, USB 2.0, Netzwerk (LAN), min. 15" TFT Color monitor, Keyboard, Mouse
- Operating system WINDOWS XP® Pro (and later).
- Dimensions: 420 mm x 365 mm x 170 mm (W x D x H), weight: 6.8 kg
- Operating voltage: 110-240 V @ 50/60 Hz AC

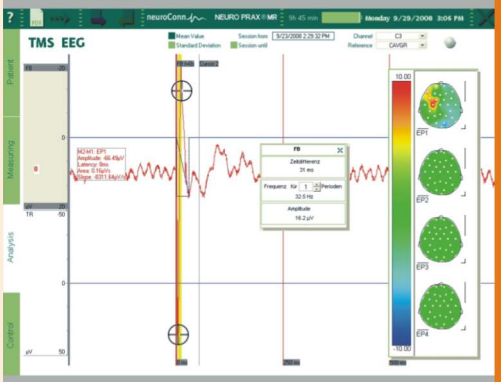
NEURO **PRAX**® TMS/tDCS **Options and System Extensions**

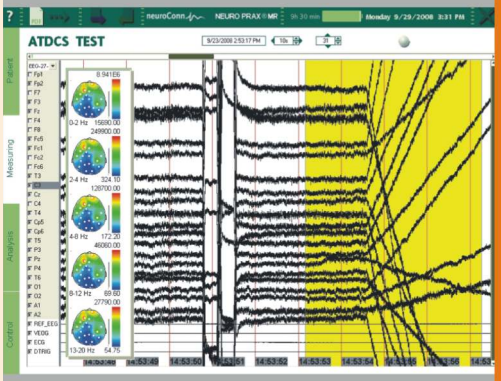
- Module to correct EEG artifacts (blinking, eye movement, body movement) in real time
- Module TMS-MEP threshold detection
- Module for spike and attack recognition, paroxysm
- Module for cognitively evoked potentials: CNV, P300, ERN, CPT-OX and readiness potential
- System extension for EEG-synchronous videometry
- NEURO **PRAX**® TMS/tDCS examination license from other PC
- Module for online data access via Ethernet by TCP/IP
- Export module for exporting measured data in other formats
- Module for data access within MATLAB®/Simulink®, LabVIEW®, C/C++
- Optical trigger input module system extension
- Feedback module and VEP stimulator system extension
- Rechargeable battery pack
- Equipment trolley

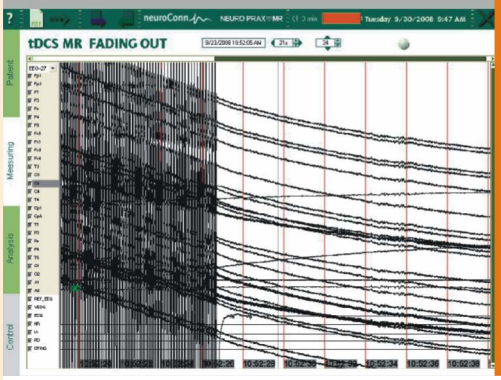
Particular Advantages of our Equipment

- 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".

bcol transcranial stimulation