

Multichannel DC MR EEG systems

NVX-72/136/272

EEG for researchers
up to 272 channels
MR compatible



UNCOMPROMISING DEVICE FOR EEG ACQUISITION

NVX-72/136/272 are designed for a medical-biologic researching in scientific and educational institutions.

Each channel has a direct current input and individual 24-bit analog-to-digital converter for measuring the EEG signal up to 100 thousand times per second.

Possible to extend up to 272 channels by connecting two amplifiers to the media converter, which gives a single clock frequency for all ADCs and ensuring synchronous channels conversion.

Software for planning of experiment and recording signals to EDF+ 16bit, BDF+ 24bit, GDF 32bit.

NVX-272 DC EEG MR system include:

- NVX-136 DC EEG system base - 2 pcs
- Electrode cap MCScap PROFESSIONAL MR , size L 54-60 cm

NVX-136 DC EEG system base include:

- NVX136 DC EEG amplifier
- NVX136 media converter
- NVX136 battery module
- NVX136 charger
- optical cable 1 m
- optical cable 10 m
- NVX136 transport suitcase




EEG acquisition with NVX136



Specification of NVX-136

Number of DC EEG channels	136
Dynamic range	not less ± 400 mV
Input impedance	more 1 GOhm @ DC / 30pF max
EEG channels noise	less 0.9 μ Vp-p @ 0,1..30 Hz
Voltage measuring error	less $\pm 0.5\%$
DC channels number, connected via AUX	8 monopolar (4 connectors x 2 channels) or 4 differential (4 connectors x 1 channels) set by application SW
Additional dynamic range for channels, connected via AUX	not less ± 2000 mV, set by application SW
Analog-to-digital conversion	24 bit, 6th order delta-sigma modulator with 64x oversampling, one converter per each channel
Sampling rate of amplifier (high cutoff frequency at -3dB)	For 64 EEG channels 100 000 Hz (16 000 Hz) For all channels: 50 000 Hz (16 000 Hz), 25 000 Hz (9 000 Hz), 10 000 Hz (4 900 Hz), 5 000 Hz (1 600 Hz), 2 000 Hz (650Hz), 1 000 Hz (300 Hz), 500 Hz (160 Hz), 250 Hz (80 Hz)
Low frequency range at -3dB, created by application SW	set individually for each channel from a range of 0..100Hz or selected from the series 0, 0.001, 0.05, 0.1, 0.5, 1, 2, 5, 10 Hz
Low frequency range at -3dB, created by application SW	set individually for each channel from a range 5000..1 Hz or selected from the series 500, 300, 100, 70, 50, 30, 20, 10, 5, 1 Hz
TTL triggers input / output	8 / 8, not galvanic isolated from PC
Electrode impedance measurement range (absolute error)	1..120 kOhm ($\pm 10\%$), at 30 Hz
Test EEG signal	square wave 200 μ V ($\pm 1\%$), 1 Hz
Input for external synchronization of ADCs	5..100 MHz, 50 Ohm sin / square wave
Aux sensor powering	5V, up to 100 mA for all sensors with electronic protection
Connecting amplifier – media converter	Optical plastic cable 10 m (option 20 m)
Connecting media converter – PC	USB V2.0 High-speed 480 MBod
Powering of amplifier	from accumulator module 6 V, 7 A·h; current consumption: less 1400 mA for sampling rates of 25 000..100 000Hz, less 500 mA for another sampling rates, less 3 mA in standby mode
Converter	from USB 5 V; less 400 mA in active mode, less 5 mA in standby mode
Sizes and weight of amplifier	195x140x35 mm, 1200 gr.
Sizes and weight of accumulator module	195x140x48 mm, 2500 gr.
Sizes and weight of media converter	90x112x58 mm, 300 gr.



Electrode cap
MCScap PROFESSIONAL MR

High-quality Ag/AgCl sintered electrodes
up to 256 EEG channels
MR compatible
12 sizes of cap