NEURO-MEP

EMG, NCS and EP System

- EMG according to international standards
- multi-modality EP in base delivery set
- robust amplifiers and stimulators
- 4/8 channel system expandable up to 16 channels

EMG

Neurosoft

NEURO-MEP
FULL-FEATURED, USER-FRIENDLY, RELIABLE

Neuro-MEP is a versatile platform combining 20-year experience of clinically-relevant practice with innovative solutions and customer-focused technologies. It is designed to integrate seamlessly into your routine workflow and ensures accurate and reliable results. Due to the flexible configurations the system meets the needs of any advanced specialist. Feedback from customers and electroneuromyography experts allows us to stay at the cutting edge of the international market.


Neuro-MEP
Neurosoft
USB
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F10
F11
F12
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Neuro-MEP

EMG
ACCORDING TO INTERNATIONAL STANDARDS

Using Neuro-MEP you can perform almost all known NCS, EMG and EP tests. In recent decades the test standards have been accepted and established. These are special algorithms to study different pathologies, calculations intended for each test, reference values, etc. It is very important for a specialist to be equipped with all the tests even if some of them are not used very often.

- **NCS**
  Motor and sensory conduction velocity, F-wave, H-reflex, motor and sensory inching, motor and sensory conduction collision
- **EMG**
  Spontaneous activity, interference curve, motor unit potentials (MUP), macro EMG
- NEUROMUSCULAR JUNCTION
- MOTOR UNIT NUMBER ESTIMATION (MUNE)
- **ADDITIONAL EMG TESTS**
  Blink reflex, sacral reflex, bulbocavernous reflex, T-reflex*, galvanic skin response, long loop (transcortical) reflexes
- SOMATOSENSORY EVOKED POTENTIALS (SEP)
- VISUAL EVOKED POTENTIALS (VEP)
- AUDITORY EVOKED POTENTIALS (AEP)
- VESTIBULAR EVOKED MYOGENIC POTENTIALS (VEMP)
- COGNITIVE EVOKED POTENTIALS (P300, MMN, CNV, MRCP, P50)
- TRANSCRANIAL MAGNETIC STIMULATION (TMS)**
- INTRAOPERATIVE NEUROPHYSIOLOGICAL MONITORING (IONM)
- HEART RATE VARIABILITY (HRV)***
- ELECTRORETINOGRAPHY (ERG)***

* if tendon hammer is available
** if magnetic stimulator is available
*** if corresponding equipment is available

MODULAR ARCHITECTURE

Neuro-MEP has a modular architecture. You can select a configuration of available amplifiers and stimulators flexible enough to meet any clinical demands. All the electronic units included in the device delivery set are connected to computer with the use of USB interface. It is possible to connect up to 10 different units.

If you connect one more 4-channel amplifier unit to Neuro-MEP-4, you will get 8-channel digital system. For IONM purposes you can use up to 4 amplifier units (up to 16 bipolar channels).

To carry out some tests (for ex., motor and sensory conduction collision tests) you need 2 electrical stimulation channels. Just get the second electrical stimulator and connect it to the system.

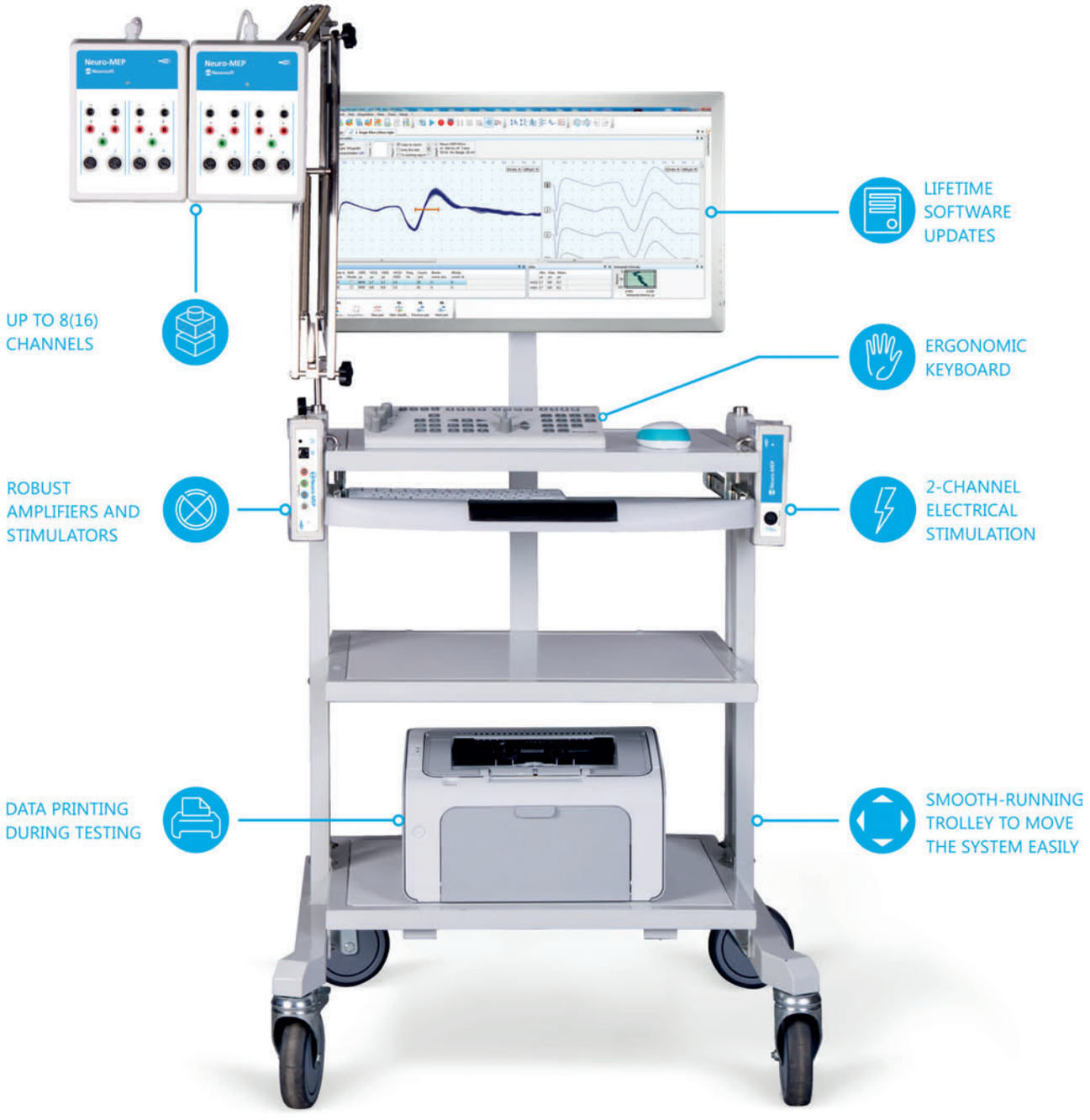
High sampling rate, high ADC resolution, low noise level and wide range of stimulation current intensity allow obtaining high quality traces even if other EMG machines can not acquire responses.

STIMULATORS

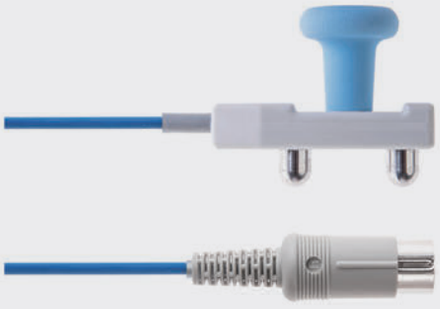
Visual stimulator
(LED goggles)

Pattern stimulator

Auditory stimulator
(TDH-39 headphones)



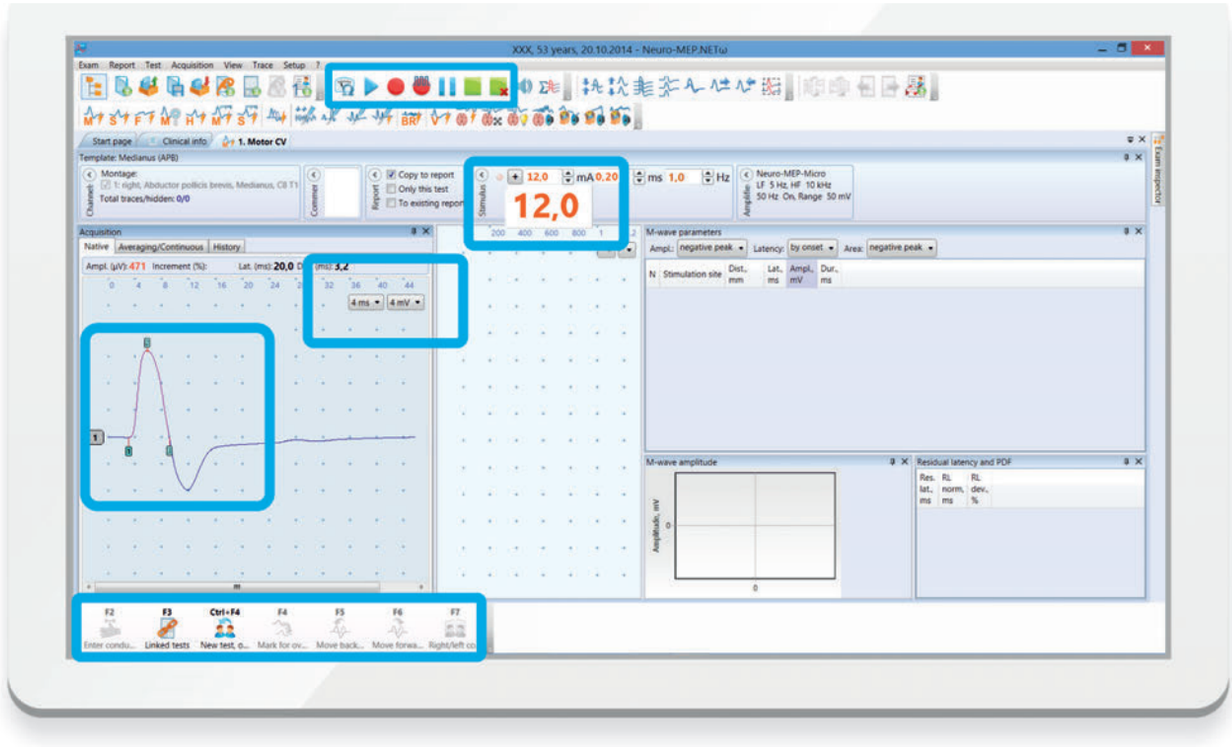
Adjustable electro stimulating probe



Stimulating bar electrode with replaceable steel and felt stimulation pads

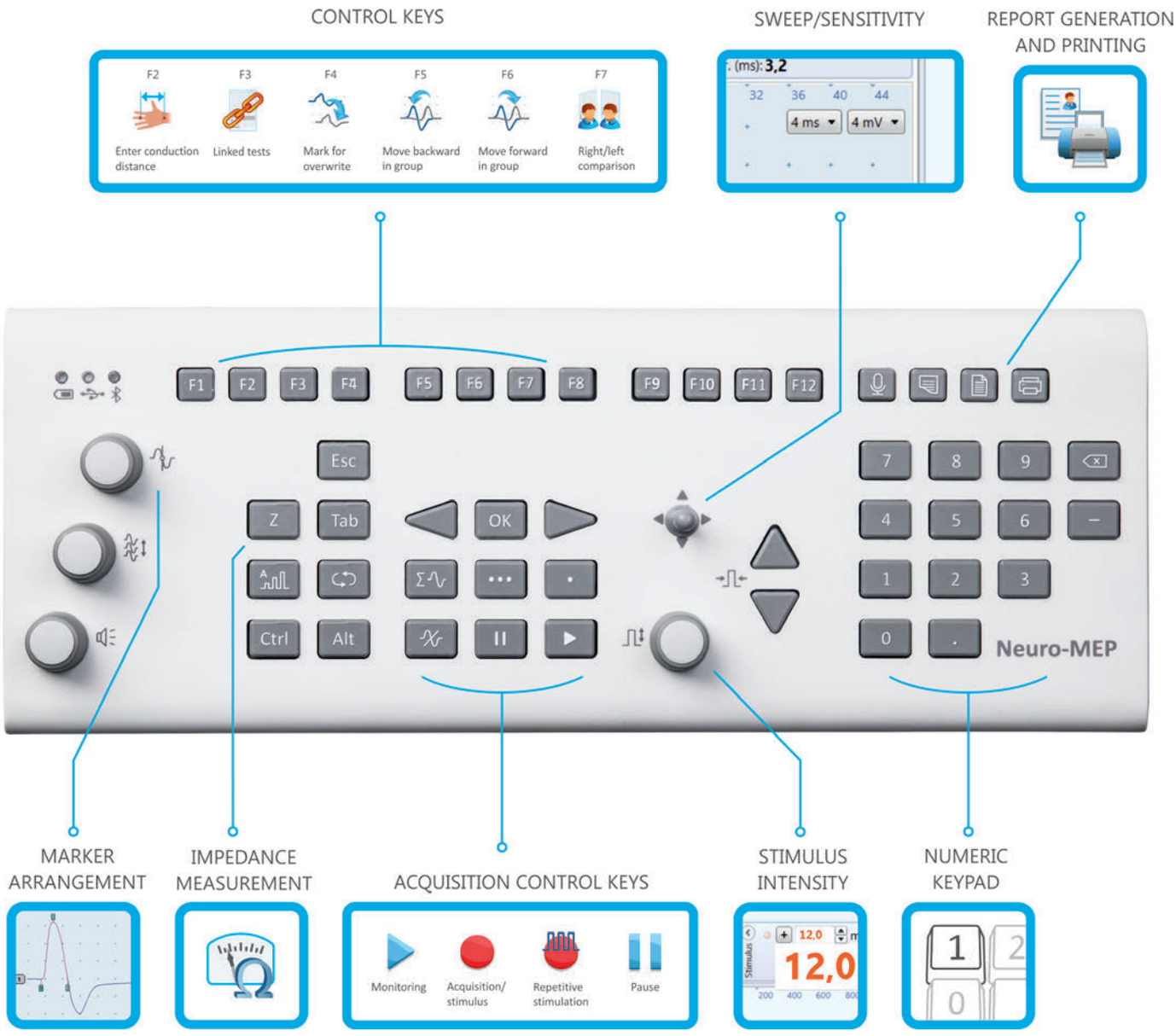
ERGONOMIC
DESIGN

To facilitate your EMG studies we have equipped Neuro-MEP with the dedicated keyboard and the footswitch.



The use of the footswitch simplifies greatly the process of EMG study. The footswitch makes it possible to start the stimulation or stop it with or without saving the results. So the hands are free for the manipulations with electrodes and control of other operating parameters.

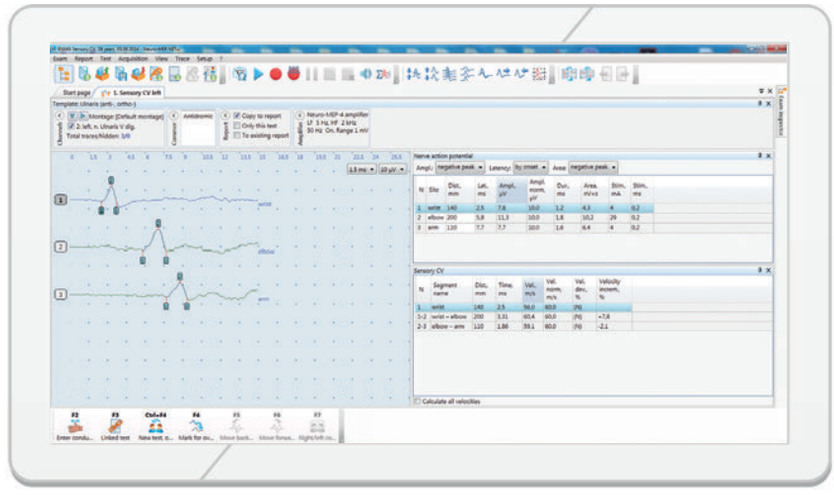
The dedicated keyboard is created to give an easy access to all main functions (to adjust stimulus, start stimulation, accept data for analysis, etc.) without changing hand position. All required controls are always at your fingertips.



ADJUSTABLE KEYS

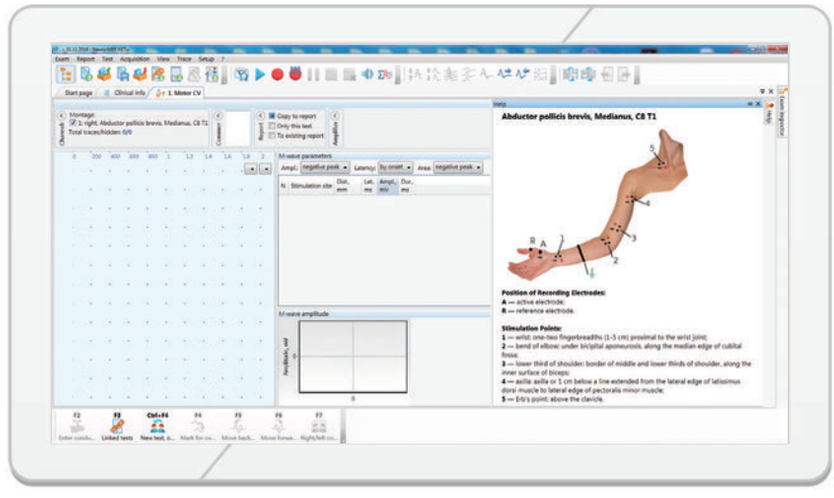
NEURO-MEP.NET
FEATURES

All EMG and EP systems manufactured by Neurosoft are supplied with the state-of-art software for NCS, EMG and EP studies.



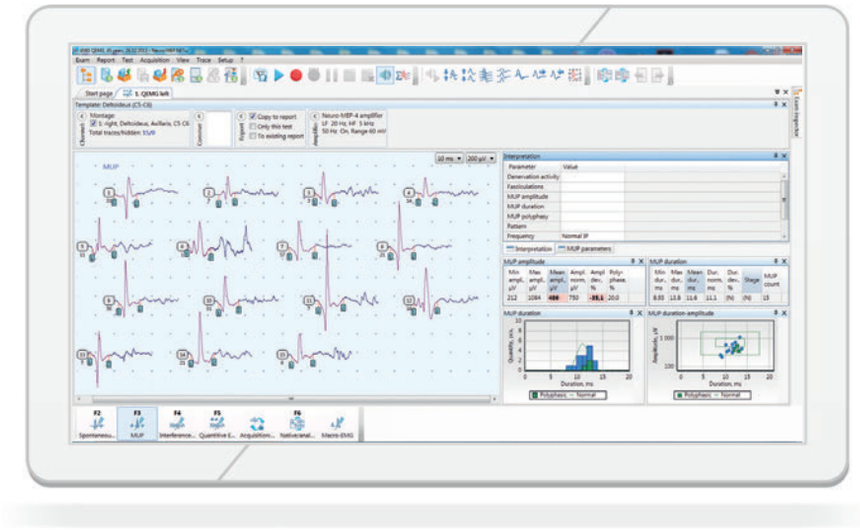
Motor and sensory conduction study

The software provides dozens of default templates to study motor and sensory conduction in most nerves accessible for stimulation. The simultaneous acquisition of motor and sensory responses is possible. Using hot key you can toggle quickly between motor response acquisition and F-wave recording mode.



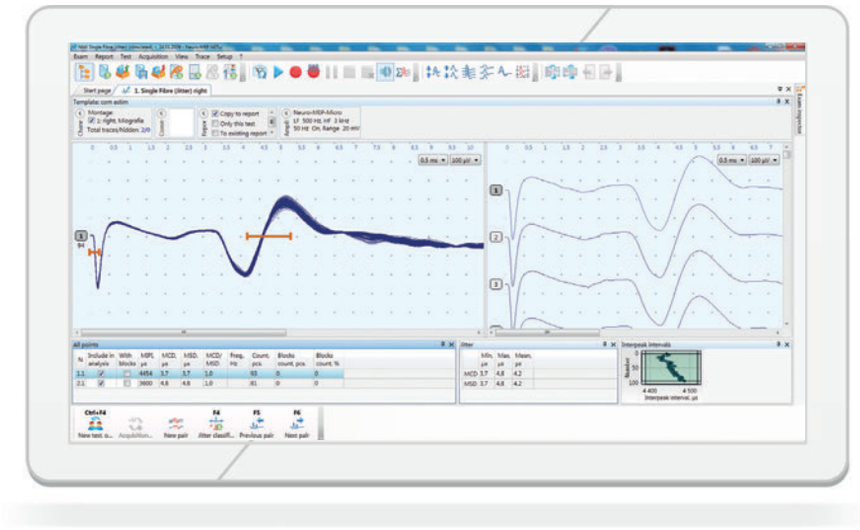
Help window

The “Help” function is very useful for EMG beginners. During any test, for example, when radial nerve conduction velocity is studied, you can press F1 key and the program will display a window with an upper limb image showing the correct placement of recording, ground and stimulating electrodes.



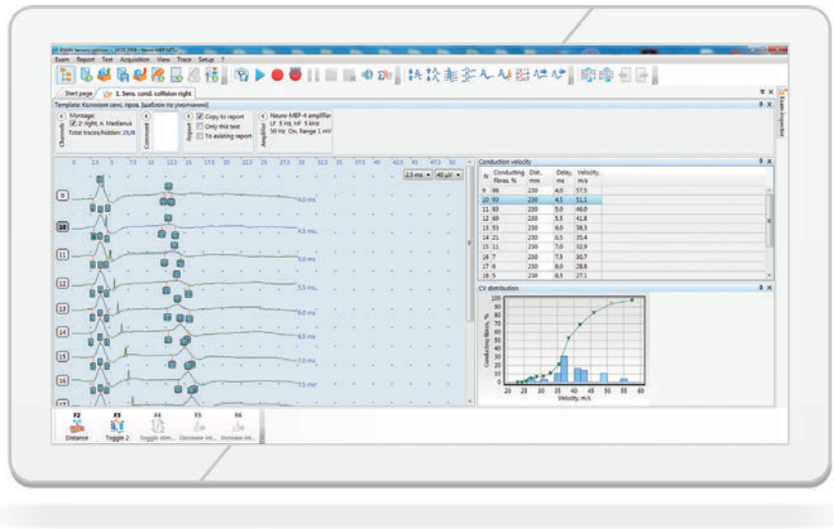
Quantitative EMG (QEMG)

It includes the acquisition and analysis of spontaneous EMG activity, interference pattern and MUP in one window. During spontaneous activity analysis you can apply algorithms of automatic classification of spontaneous activity phenomena such as fibrillations, fasciculations and positive sharp waves. When MUP is recorded, the software automatically detects MUPs and selects the ones that may be related to one and the same motor unit. If interference pattern is studied, the software creates the turn-amplitude cloud in real-time mode. It allows to adjust the required muscle contraction and perform this test correctly. On EMG study completion all main analysis results are displayed in one window.



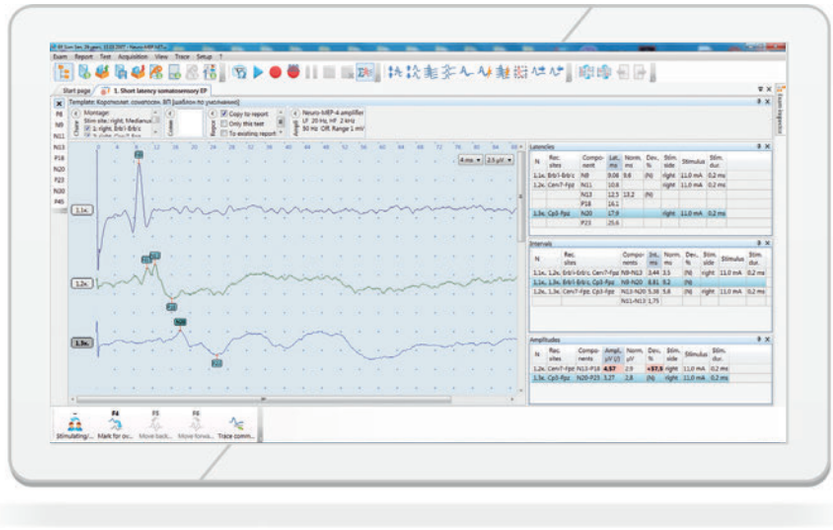
Jitter

The classic procedure of jitter acquisition is quite complex. It implies the simultaneous use of needle electrode, high interaction with a patient to achieve the required muscle contraction and active actions with software interface to set and move the trigger. Neuro-MEP.NET provides the breakthrough algorithm of automatic jitter detection. Now there is no need to think about a trigger. The program just detects the potentials itself and shows them on the screen. The same algorithm is applied to study macro EMG.



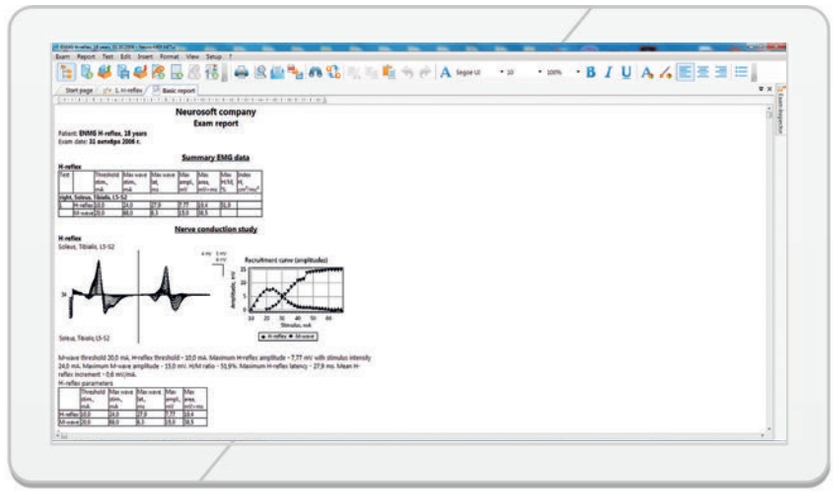
Motor and sensory conduction collision

Motor and sensory conduction collision tests can be performed using two electrical stimulation channels.



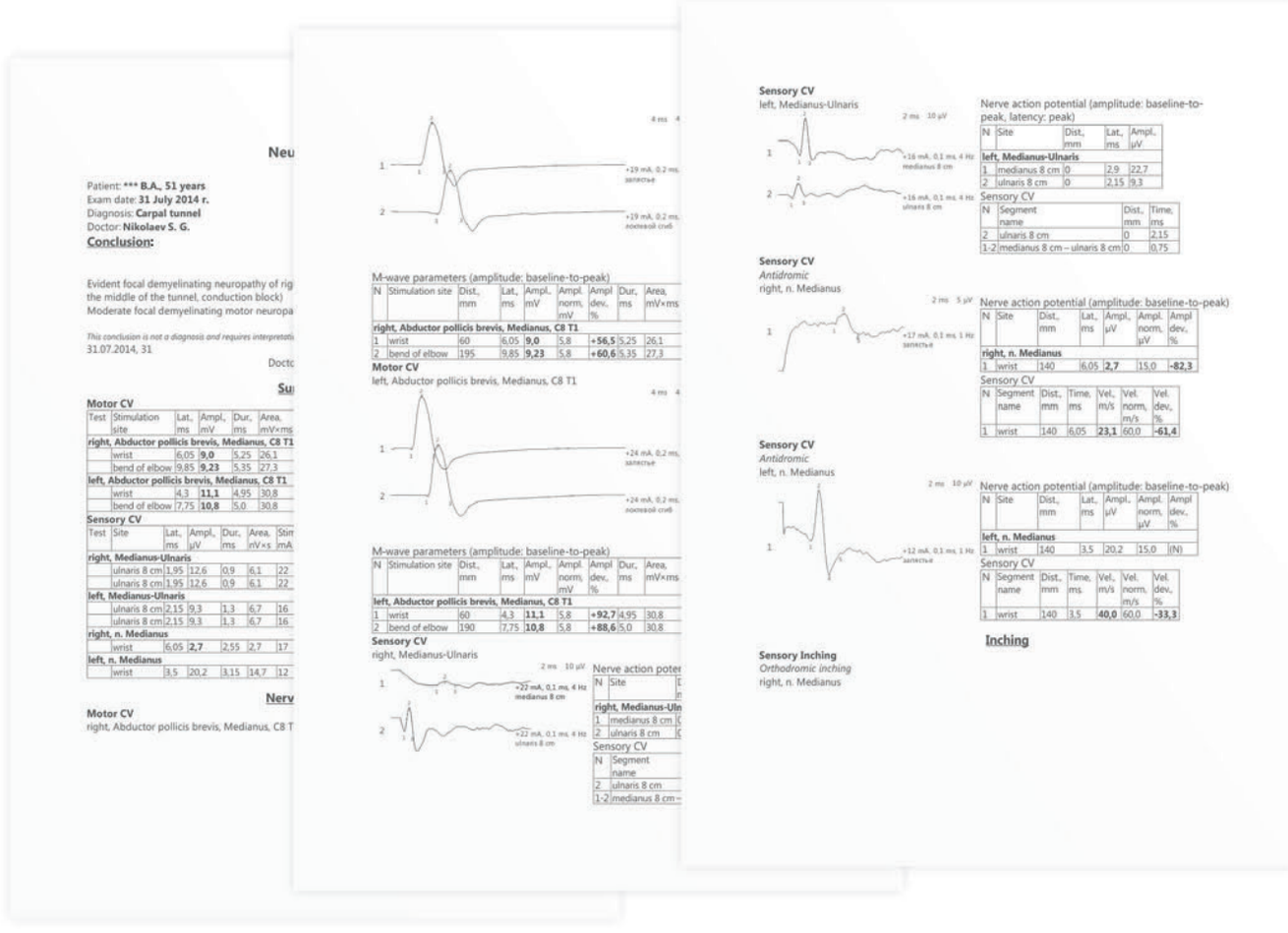
SEP

Acquisition of evoked potentials requires the use of very sensitive and high RF immunity amplifiers with a wide bandwidth as the most important diagnostic EPs are waves of a very low amplitude and high frequency. Special averaging algorithms allow obtaining high quality traces with small amount of averagings. During acquisition of SEPs from different sites the program detects automatically the main components of evoked potentials.



Report generation

On study completion the program generates the report. It includes patient's data, tables, graphs and native traces obtained during the tests. The report can be edited easily and customized according to individual demands.



ALL EP MODALITIES
IN BASE DELIVERY SET

The delivery set of Neuro-MEP systems includes the auditory-visual stimulator unit to control the auditory stimulator, the pattern stimulator and the visual stimulator (LED goggles) and the electrical stimulator control unit.

Low noise level, RF immunity and vast number of algorithms for stimulation, filtration and averaging allow obtaining traces of premium quality within a short time.

- Weighted averaging algorithm allows decreasing the number of averagings by 3-5 times to obtain reliable response.
- The automatic search of EP component algorithm can be run any time.
- Any obtained trace can be reviewed in normal or even/odd mode where even and odd components are averaged separately.
- On study completion the program generates an editable report.

EMG
PRODUCT LINE

	Number of EMG/EP channels	Number of electrical stimulation channels	Included techniques	Design
Neuro-MEP-4 	4	1/2	EMG, EP	Modular architecture: all units conveniently arranged at workplace are connected via USB and make optimal configuration of your own
Neuro-MEP-8 	8	1/2	EMG, EP	
Skybox 	5	2	EMG, EP	All-in-one: connection to PC and power supply via USB cable
Neuro-MEP--Micro 	2	1	EMG	

SERVICE
AND SUPPORT

All equipment manufactured in Neurosoft is under 24-month warranty.

The value-added distributors all over the world provide on-site installation, training and support. Ask us for information about your nearest distributor.

All software updates are free of charge.

Our own service team equipped with powerful tools for remote support is also at your disposal.

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