VET DIAGNOSTIC EQUIPMENT





ECG, EEG, ABR, ERG

Neurosoft

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digital ECG system for small and medium-sized animals

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digital ECG system for large animals

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veterinary digital EEG system

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veterinary digital system for ERG

Neurosoft Company was founded in 1992. For more than a quarter of a century, we have been designing and developing sophisticated medical devices for neurophysiology and electrodiagnostics recognized in different medical facilities across the globe. Our valuable experience in medical devices for human beings is key to producing veterinary device lines that feature high-quality, low noise signal recording, easy to use and intuitive software design, and great customer service.

Our catalog features a comprehensive range of Neurosoft EEG and ECG systems, systems for diagnostic hearing testing and also ERG systems.

Our devices are the first choice of veterinary practices (including animal ambulatory services, animal hospitals, livestock farming, etc.) and of course, are used in the research field.

Our products are not about equipment only. We provide a complete and clear operating documentation, and superior customer support. All our products come with a 24-month warranty for electronics, and an unlimited software update period. Our company's vision is to manufacture products with the highest level of performance and state-of-the-art technology.

Electrocardiography (ECG) is one of the most commonly used medical studies in veterinary medicine. It is irreplaceable at the administration and monitoring of anesthesia during complicated medical surgeries. With an electrocardiogram (ECG), the practitioner can determine the electrical heart axis and heart rate of the examined animal as well as detect and assess cardiac conduction disorder, cardiomyopathy and electrolyte imbalance. Besides, ECG is the only test to detect arrhythmia.

POLY–SPECTRUM–8/V

digital ECG system
for small and medium-sized
animals



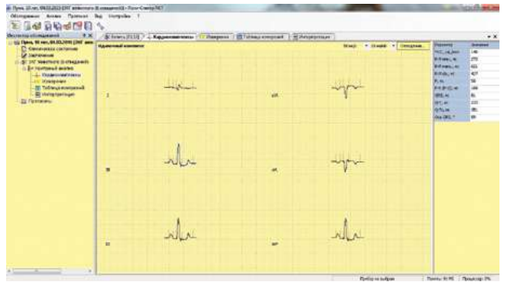
FEATURES

- Recording ECG from standard limb leads (I, II, III), augmented limb leads (aVL, aVR, aVF) and precordial leads (V1...V6).
- Skin-safe electrodes that prevent the risk of infection due to skin injury and ensure better skin contact if compared to the needle electrodes.
- Automatic QRS detection and calculation of all temporary parameters using animal-specific algorithm (for the dog, cat, etc.)
- Automatic ECG measurement and interpretation, and report generation.
- Can be used as ECG monitor during surgery.

EXAMINATIONS

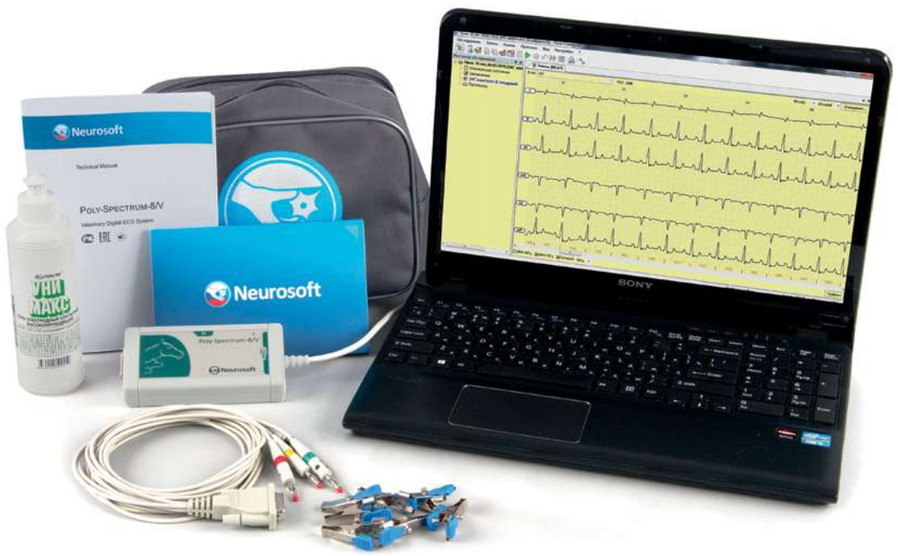


ECG of the dog



ECG of the dog. Averaged QRS complexes

DELIVERY SET



- Poly-Spectrum-8/V electronic unit
- 4-lead ECG cable (2 m)
- Veterinary ECG electrode with alligator clip (8 pcs.)
- Electrode gel Unimax (250 g)
- Technical and user manuals
- Software
- Transportation bag

POLY–SPECTRUM–8/V

digital ECG system
for large animals



Strong legs help the horse to be the first at finish. A healthy heart is the guarantee of constant winning. Look inside the heart of the horse and you will see what it is up to!

WHY USE ECG IN HORSES?

During the training, the heart of a healthy sport horse experiences serious stress that might affect the animal. Even the slightest cardiac dysfunction will immediately result in poor performance of the horse. The electrocardiogram allows monitoring heart activity, detecting heart problems, and helps to manage them promptly.

Moreover, it is well known that horses with enlarged hearts show the most incredible results at the race. ECG is not only a tool for determining such animals but it also ensures effective continuous work for improving their inherent abilities.

PRODUCT DESCRIPTION

Poly-Spectrum-8/V is a smartphone-sized device that can be simply connected to the computer via USB interface.

The system can record ECG in large animals from the standard (I, II, III) and augmented leads (aVR, aVL, aVF) as well as from the horse-specific "base-apex" and Y leads.

Poly-Spectrum-8/V is supplied with the reusable peripheral plate electrodes featuring long cable which makes the recording of ECG in large animals more convenient.

The included software ensures excellent noise reduction due to the particularly created digital filters.

The software also features automatic QRS detection and calculation of temporary parameters. The algorithm adapted to the aspects of ECG in horses is applied here.

Poly-Spectrum-8/V allows not only short-term ECG recording but is suitable for long-term cardiac monitoring during surgery and post-surgery rehabilitation.

This system makes it possible for the ECG specialist to apply widely known methods of computer-aided ECG analysis used mainly in humans for the horse: heart rate variability, ventricular late potentials, QT dispersion analyses, and exercise stress test.

EXAMINATIONS

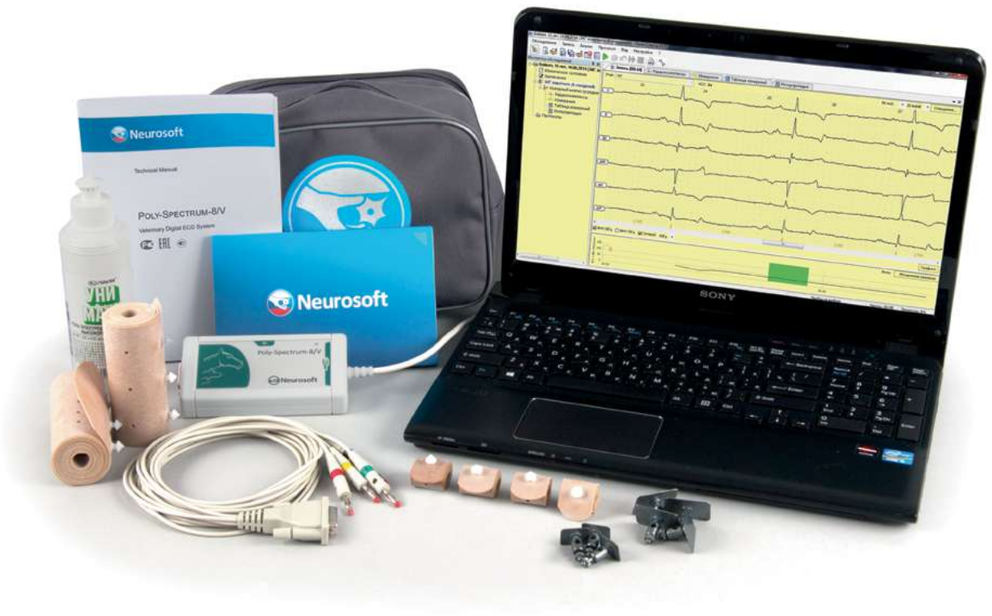


ECG of the horse



ECG of the horse. Averaged QRS complexes with automatic interval measurement

DELIVERY SET



- Poly-Spectrum-8/V electronic unit
- 4-lead ECG cable (6 m)
- Reusable peripheral plate electrode for limb (30×20 mm) (4 pcs.)
- Rubber belt for ECG electrode fixation on chest (2 pcs.)
- Rubber tape for ECG electrode fixation on limb (300×25 mm) (4 pcs.)
- Plastic button to fix rubber belt (8 pcs.)
- Electrode gel Unimax (250 g)
- Technical and user manuals
- Software
- Transportation bag

Seizures and syncopal events of different etiology, cerebral circulation failure, subdural hematoma, and traumatic brain injury are often challenges in veterinary practice. In this case, electroencephalography (EEG) is the gold standard method for the quality-assured diagnostics.

NEURON–
SPECTRUM–
1/V

veterinary digital
EEG system



WHY USE EEG IN ANIMALS?

Electroencephalography is the method of studying the brain by means of recording its bioelectrical activity. Therefore, if there is any pathological process causing brain dysfunction, it will be reflected in different EEG abnormalities.

Clinical EEG analysis provides diagnostic information regarding 3 main issues: evidence for brain damage, disease prognosis, brain damage localization.

PRODUCT DESCRIPTION

Neuron-Spectrum-1/V is a pocket-sized device that can be simply connected to the computer via USB interface.

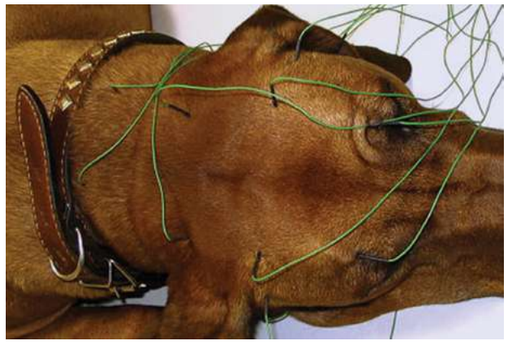
The recorded EEG data is displayed on the computer screen and can be printed out on any printer.

The included software performs brain mapping as well as spectral, periodometric and coherent analyses of EEG.

The electroencephalography is the safe and minimally invasive neurodiagnostic technique. The supplied needle electrodes are so thin and skin-friendly that they cause almost no skin irritation still ensuring good recording quality. Slight sedation of the animal is required to guarantee the smooth procedure and to avoid myographic and other artifacts.

INDICATIONS FOR EEG

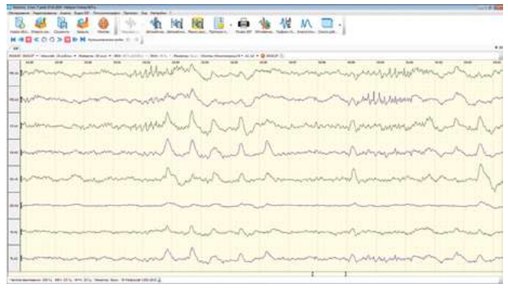
- Seizures and syncopal events of different etiology. In this aspect, special attention should be paid to epilepsy because it implies significant neurophysiological problems specific to small pets.
- Cerebral circulation failure, subdural hematoma, traumatic brain injury. In this case, EEG allows determining the lesion size, predicting outcome and evaluating treatment efficacy.
- Brain tumor. This is when EEG along with MRI might serve as diagnostic method to define tumor localization.



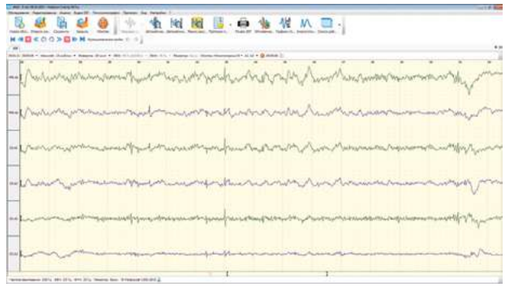
EEG examination is rather informative and it is usually enough to obtain data necessary for diagnosis, treatment decision making, and other related aspects.

It is recommended that the technician using the system is well-trained in EEG and has EEG interpretation skills.

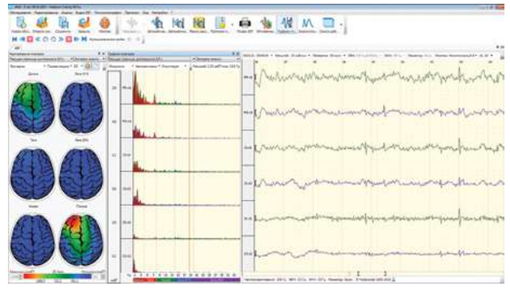
EXAMINATIONS



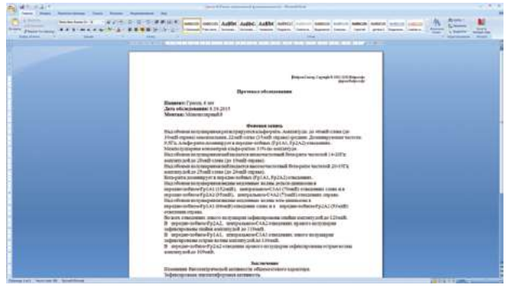
EEG of the dog. Bilateral synchronous slow wave activity



EEG of the dog. Spikes and sharp waves



EEG of the dog. Topographic maps. Spectral graphs



EEG of the dog. Examination report

DELIVERY SET



- Neuron-Spectrum-1 electronic unit
- Disposable subdermal single-use needle electrode with cable (15 pcs.)
- Assembled holder H-1S
- Holder mount
- PhS-3 LED photic stimulator on holder
- Technical and user manuals
- Software
- Transportation bag

Hearing impairment is common for more than 100 animal breeds. The statistics shows that up to 30% of all Dalmatians are born with this pathology. ABR/BAEP test is an objective minimally invasive method for detecting hearing disorders in animals at an early stage.

NEURO–AUDIO/V

veterinary digital system for diagnostic hearing testing





DIAGNOSTIC HEARING TESTING FOR ANIMALS

Hearing is the second, with regard to vision, source of learning essential information about the world around. Therefore, hearing impairment is a significant problem not only for people but for animals as well. Hearing impairment refers to total (deafness) or partial (hearing loss) inability to hear sounds. It is observed in animals of various age, sex and breed groups.

Usually, sensorineural hearing loss affects sound perception. It may occur due to the damage and hypoplasia of cochlea, dysfunction and abnormalities of vestibulocochlear nerve and auditory processing centers of the brain. In other words, the anatomical substrate of the sensorineural hearing loss is located not in the outer and middle ears, but in the inner ear and brain as a rule.

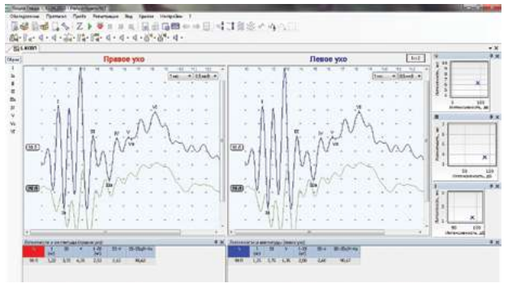
The main causes of the sensorineural hearing loss include: hereditary factor (for example, in Dalmatian, Bull terrier, Dogo Argentino and other breeds), infectious and viral diseases of a mother dog during pregnancy (herpes simplex virus, toxoplasmosis), neonatal asphyxia, intracranial birth injury, bacterial meningitis and meningoencephalitis, receiving ototoxic medications such as aminoglycoside antibiotics.

To diagnose sensorineural hearing loss, auditory brainstem response/brainstem auditory evoked potentials test (ABR/BAEP) is used. During the test, the electrical response of the brain to the auditory stimulus is recorded. ABR test is a minimally invasive method for objective assessment of auditory function in animals. To prevent excessive motion during ABR test the animal should be slightly sedated.

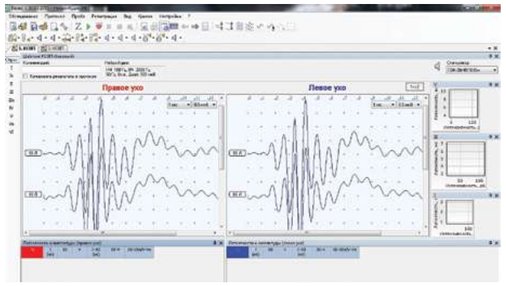
ABR (BAEP) TEST IS THE GOLD STANDARD FOR EVALUATING HEARING IMPAIRMENT IN ANIMALS

ABR (BAEP) test allows for quick and accurate diagnostics of hearing impairment of various etiologies, as well as for diagnostics of hearing impairment associated with a disease or caused by ototoxic drugs treatment. For being minimally invasive, this technique can be used in young animal patients (three weeks and above).

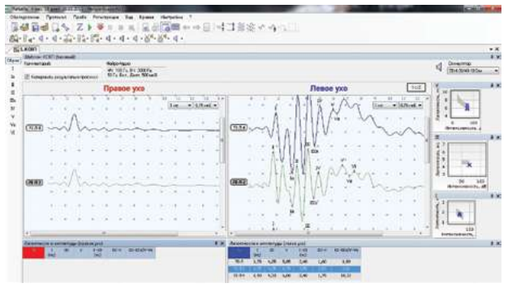
EXAMINATIONS



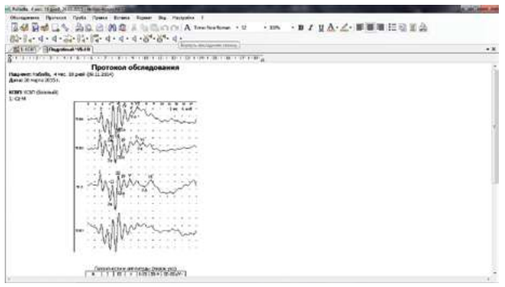
BAEP traces obtained from the normal cat



BAEP traces obtained from the normal dog

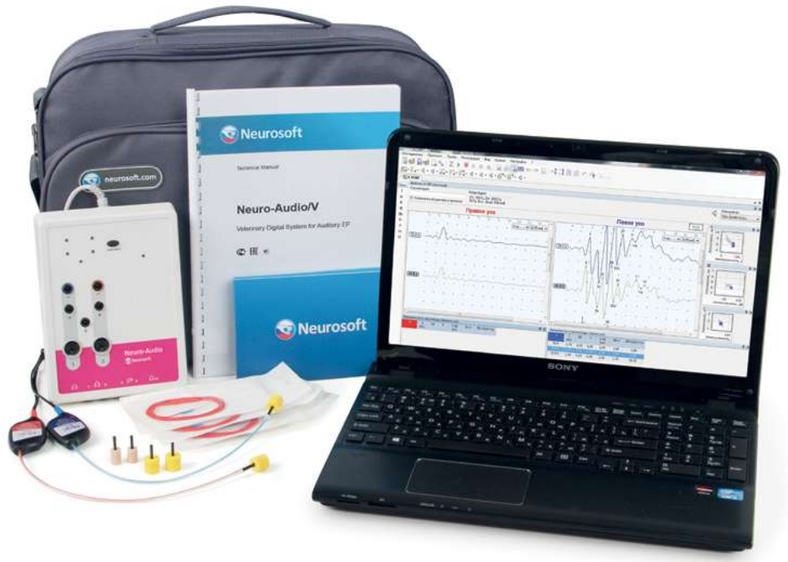


BAEP traces obtained from the cat with unilateral deafness



BAEP test. Examination report

DELIVERY SET



- Neuro–Audio electronic unit
- Disposable subdermal single-use needle electrode with cable (5 pcs.)
- Insert audiometric earphones ER-3C
- Set of disposable eartips for insert earphones
- Technical and user manuals
- Software
- Transportation bag

Electroretinography (ERG) is a well-established technique for studying the retina by means of recording its light-induced electrical activity. ERG is minimally invasive but provides accurate information about the retinal function.

NEURO-ERG/V

veterinary digital
ERG system





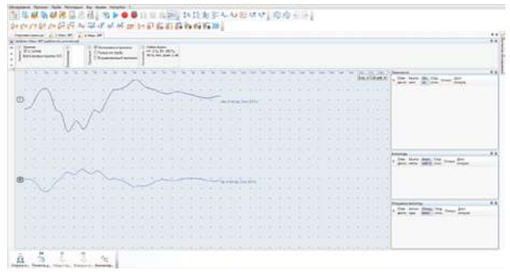
WHY USE ERG IN ANIMALS?

When visiting veterinary clinic animal owners often complain about their pets' weakness and lack of sight. The veterinarian cannot always assess pet's visual acuity objectively on the basis of obstacle course and cotton ball test results. This is when ERG matters for being the only method of visual acuity estimation in this case.

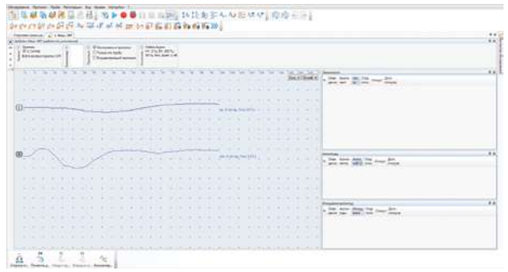
INDICATIONS FOR ERG

- Early detection of progressive retinal atrophy. In some dog breeds (Dachshund, English Cocker Spaniel, Labrador) ERG abnormalities may appear long before clinical signs become obvious (particularly, changes in the fundus of the eye).
- Sudden visual loss with a normal-appearing fundus. Here ERG allows differentiating retinal pathology.
- Mature cataract when the fundus examination is impossible. In this case ERG helps to assess retinal status and decide if the surgery is required.

EXAMINATIONS



ERG of the dog. Decreased retinal electrical activity of the right eye



ERG of the cat. Sudden visual loss. Significant reduction of retinal electrical activity of both eyes

DELIVERY SET



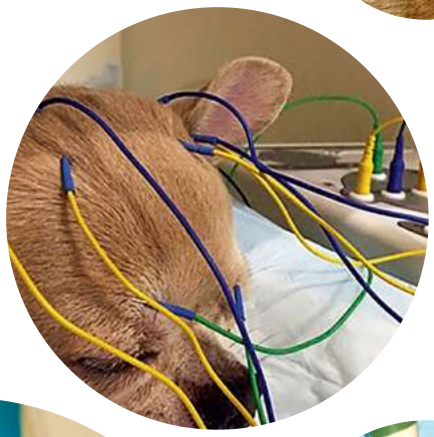
- Neuro-MEP electronic unit
- Neuro-MEP auditory-visual stimulator
- Assembled holder H-4S
- Holder mount
- ERG electrode (2 pcs.)
- Disposable subdermal single-use needle electrode with cable (3 pcs.)
- Mini-ganzfeld stimulator
- Holder for penlights and mini-ganzfeld stimulator
- Technical and user manuals
- Software
- Transportation bag

ACCESSORIES

Our company offers a wide range of products for veterinary medicine. In addition to the devices described in our catalogue we can offer you other diagnostic equipment and accessories to perform functional tests in animals - wireless digital ECG system, Holter monitor, EMG system, transcranial magnetic stimulator with a special coil for animals. We are always ready to cooperate and offer solutions that meet all your needs! Please feel free to contact us!











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