

NEURO-ERG

Digital ERG System

Clinical electrophysiologic testing of vision: objective assessment and analysis of retinal function and visual pathway at all levels

- Diagnostics of initial (preclinical) retinal changes

- Set of specially designed electrodes

- Mini-ganzfeld stimulator

- Penlights with concentrators for spot tests

ERG



Neurosoft

APPLICATION



The clinical electrophysiologic testing of vision is intended for objective assessment of visual pathway starting from retina to cortex:

- electroretinography (ERG) — recording of electrical activity of retina (electroretinogram) generated in response to the light stimulus;
- visual evoked potentials (VEP) — study of the electrophysiological signals extracted from the electroencephalographic activity in the visual cortex recorded from the overlying scalp;
- electro-oculography (EOG) — recording of changes in electrical potential across the retinal pigment epithelium recorded during successive periods of light and dark adaptations.



These tests allow:

- diagnosing the disorders of retina and optic nerve at early stages;
- diagnosing the congenital blindness in infants within first few months;
- studying the retina at different disorders: perform diagnostics, make prognosis and control the pathological processes in it;
- estimating the degree of visual function impairment at visual cortex level;
- assessing the reversibility of changes in visual pathway required to perform target treatment.



Neuro-ERG can be used to test both adults and infants including newborns.



Neuro-ERG complies with the standards approved by International Society for Clinical Electrophysiology of Vision (ISCEV).

NEURO-ERG DELIVERY SET



OBJECTIVE ASSESSMENT OF VISION AND ANALYSIS OF RETINAL ACTIVITY

Neuro-ERG digital ERG system allows performing the following tests:

- rod ERG;
- maximal ERG;
- cone ERG;
- pattern ERG (PERG);
- focal ERG;
- flicker ERG;
- on/off ERG;
- oscillatory potentials;
- multifocal ERG;
- flash or pattern-reversal VEP;
- steady-state VEP;
- electro-oculography.

NEURO-ERG ADVANTAGES

Robust Amplifier and Stimulator with Advanced Parameters

The high sampling rate and A/D converter resolution, wide bandpass and up to 100 Hz stimulation frequency allow obtaining the traces of premium quality.



Mini-ganzfeld Stimulator and Penlights with Concentrators

The mini-ganzfeld stimulator intended to perform the main tests (cone ERG, rod ERG, flicker ERG, oscillatory potentials) complies with the ISCEV standard requirements.

Such tests as focal ERG or cone ERG elicited by different colour flash stimuli are done with penlights with concentrators (red, blue, green, white). They are fixed on a special holder ensuring secure stimulator fixation near the pupil.



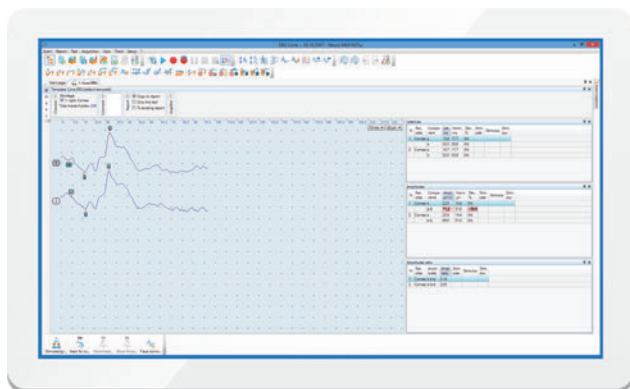
Set of Specially Designed Electrodes

The set of ERG electrodes specially designed with the assistance of A.M. Shamshinova (Helmholtz Moscow Research Institute of Eye Diseases, Russia) is supplied with the device.

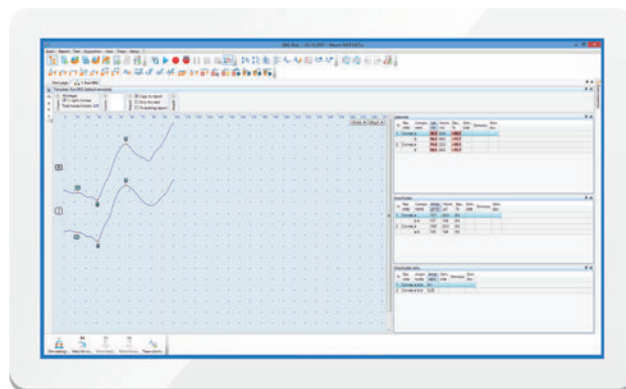
The electrodes are constructed in the form of small "hooks" and "loops". The electrodes of such shape do not cause the unpleasant feelings in a patient during the test and are very convenient for use in comparison with the contact-lens electrodes.



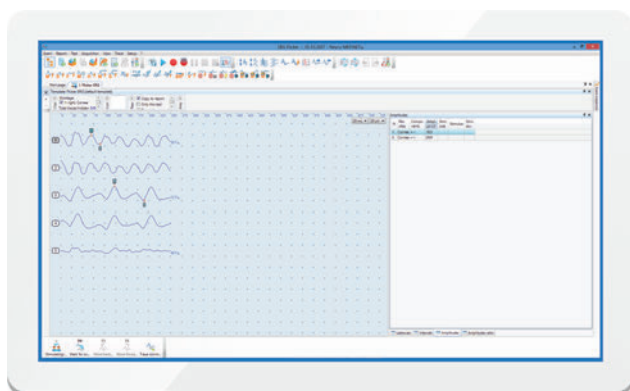
NEURO-ERG.NET SOFTWARE FEATURES



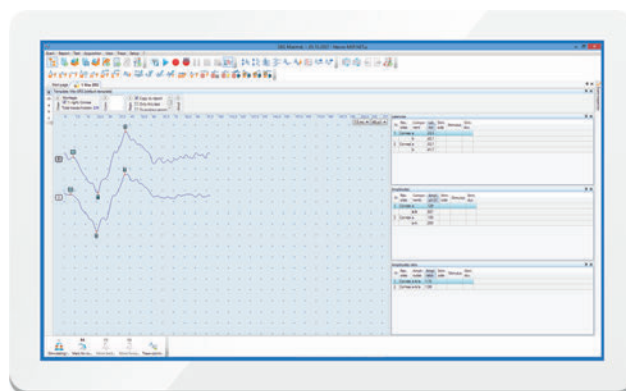
Cone ERG



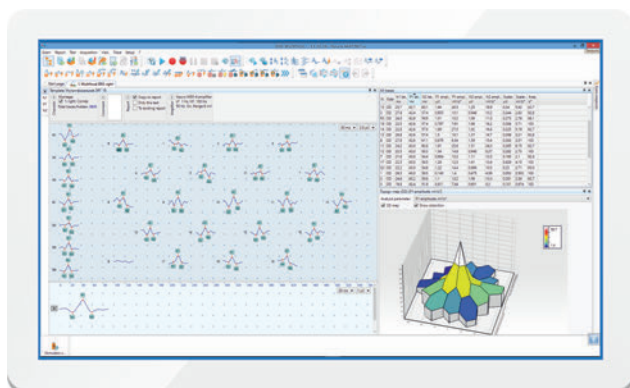
Maximal ERG



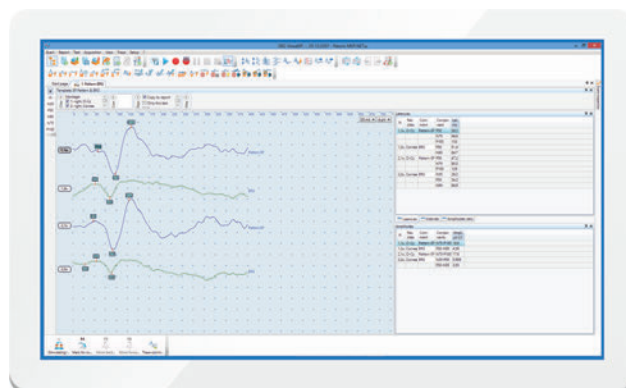
Flicker ERG



Focal ERG



Multifocal ERG



Simultaneous acquisition of VEP and PERG



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