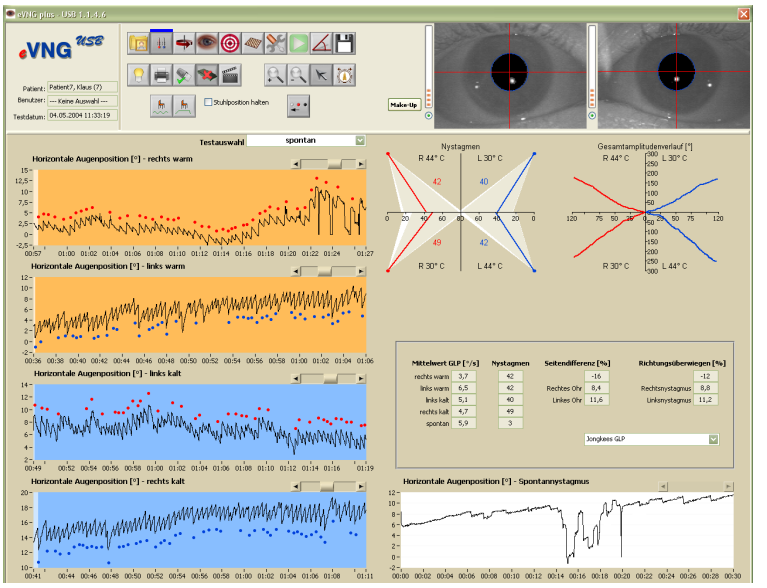
Modern computer technology springs to mind, facilitating complex evaluations in vestibular analysis.
The eVNG is connected via USB 2.0 interface to a PC or notebook. The improved algorithm is able to extract the pupil from the video stream even if the patient wears make-up. The eye movement is automatically displayed and evaluated.
The application is based on a patient database, witch contains all the related data. The database can be accessed via the local network.

All tests can be easily accessed through buttons. In the patient manager all tests are clearly displayed with date of examination and kind of test.

In the Basic Version of the program it provides tests for spontaneous nystagmus, caloric test and position/positioning tests.

An extension for optokinetic tests and rotational testing is possible at any time.



User friendly routine check with the nystagmography system eVNG

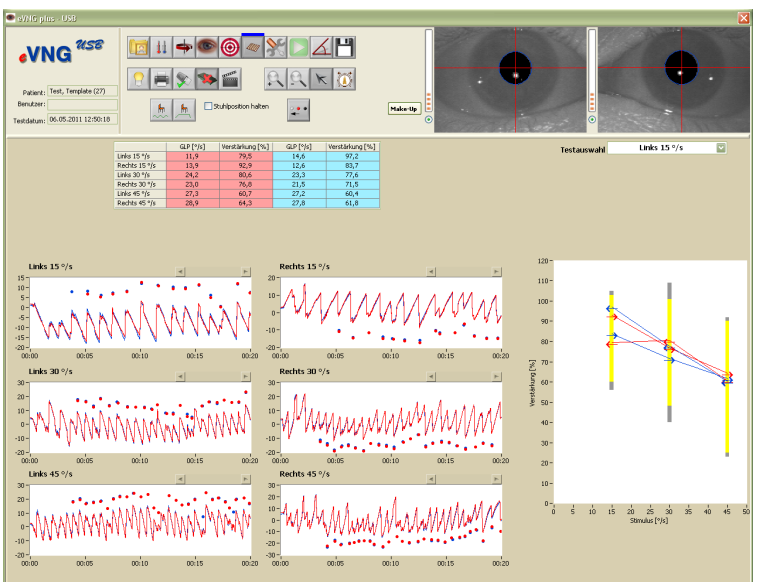
» real time image of the eyes
» improved image processing alorithm (even with make-up)
» automatic nystagmus detection
» calculation of all relevant parameters
» improved automatic artefact rejection
» sharpness adjustment
» full automatic test sequences
» stable binocularly video goggle with mask cover
» hot mirror adjustable in 3 steps
» Detailed results printout
» soft cushion for optimal and comfortable fit
» foot switch
» no other computer hardware!

Combi video goggle

The combined video mask can be used either for investigations into darkness and for visual stimulation.

The video goggle is focusable and can be individually adjusted both horizontally and vertically on the eye of the patient.

The soft cushion guaranteed a pleasant and lightproof fitting to the face.



The user application

» network ready
» binocularly analysis at 100 Frames/s
» manual nystagmn marking
» compatibel with Windows XP (32/64 Bit), Windows 7.0 (32/64 Bit)

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Modular Video Nystagmography System

eVNG

10/2012 Rev05

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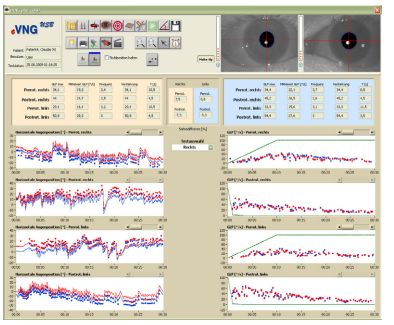
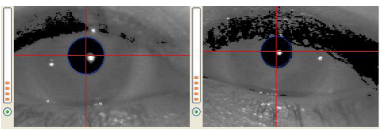
The temporal resolution of VNG systems

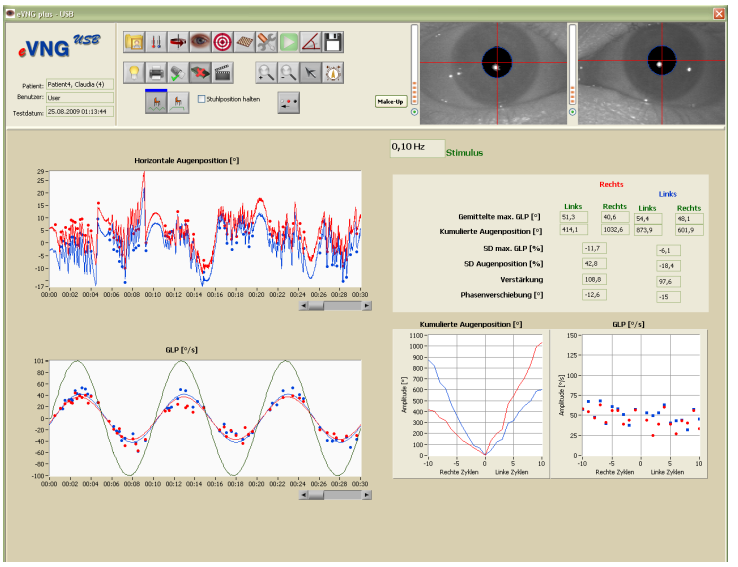


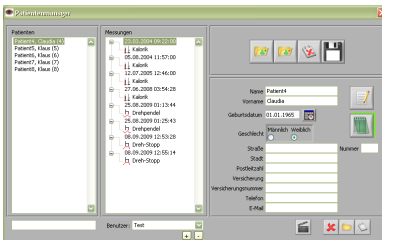
Cameras in conventional videonystagmographic systems work with the composite video signal. The time resolution of the composite standard is 25 frames/s. Each Frame contains 2 half images witch doubles the timeresolution to 50 frames/s. For many examinations is a time resolution of 50 f/s to low.
The eVNG USB don´t use this standard. So the video goggles can transfer 100 Frames/s binocularly and 200 frames/s monocularly.

Visualisation of the Data

The complete measurement data can be processed offline. The parameters of nystamgus detection can be changed to detect even very small eye movements. As a special Feature, be convinced by the animation of eye movements without additional memory usage.







Optokinetic und rotatory chair

The eVNG System is ready for optokinetic tests, smooth pursuit tests, saccadic and antisaccadic tests. For rotational testing the eVNG can be conneted to the rotatory chair Nydiag 200.

KALORIstar Arctic - the cooler one
the air irrigator with active cooling:

With the „Arctic KALORIstar“ you have a powerful tool available to stimulate the vestibular organ. Due to the innovative concept of active cooling a cold stimulus is always guaranteed. Thus, this device can be used not only in practice but also in clinical research. The eVNG USB software is able to remote control the device, with this feature a „one button“ operation is possible.

- cold stimulus 7 Kelvin under ambient temperature
- air flow 5 liters/minute
- blue display, 4 button operation
- stable hand held

Technical Specifications

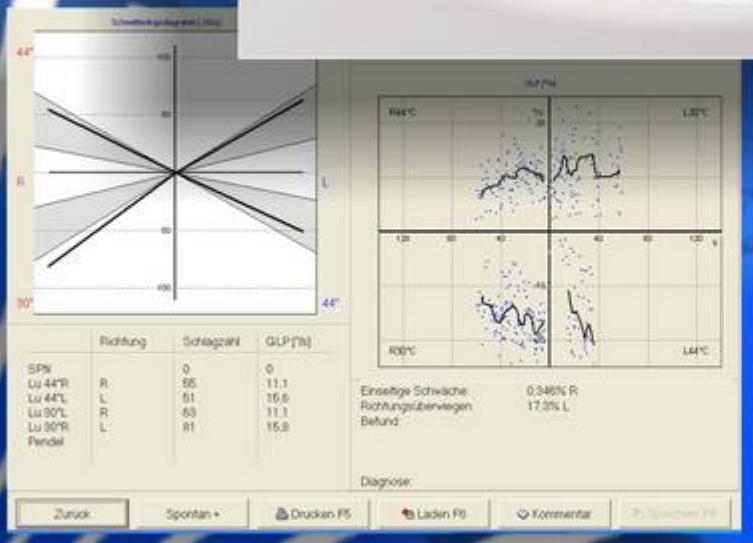
Sample rate: binocularly 100 Hz
Resolution: 0,1 °
Camera: 1280 (H) x 1024 (V)
Ilumination: DIN EN 60825-1
Applied Standards: EN 60601-1 / 1-1 / 1-2 und MDD

Software:
Caloric, Position/Positioning, Spontaneous, Optocinetic,Rotational testing
Compatibel with Windows XP (32/64 Bit), Windows Vista (32/64 Bit), Windows 7.0 (32/64 Bit)

HOMOTH

MEDIZINELEKTRONIK GMBH & CO KG

VNG 4000
video nystagmografy



we are one of the
leading companies
in the field of ENT diagnostics
- worldwide -

VNG 4000

In the field of vestibularis-diagnostic HOMOTH breaks new ground. The new developed VNG 4000 module corresponds to all requirements of most modern vestibularis diagnostic. It is designed under terms of the latest knowledge of computer technology. The operation is completely menu controlled, so the use is very confortable, especially by untrained medical staff. The eye-movement of the patient is recorded by a small light weight camera and converted into graphs in real time. The measurement is always a two chanel examination (horizontal and vertical), the artefacts are suppressed automatically. The video-mask is used for partial freesight- and dark-measurement.

The real time measurement allows watching the entire progress online on the monitor. The evaluation can be done automatically by the computer. In addition, a manual evaluation or a correction of the automatical evaluation is possible.

The fade-in of standard areas within the butterfly diagram allows the quick assignment of measurement-results. All the results can be stored space saving on hard disk using a paradox format file.

The comfortable HOMOTH EDP-connection allows a quick and trouble-free transfer of the data to a central EDP system.
All measurements result as well as all curves and data can be printed out for documentation or for patient's letter of referrals.
It is a system lasting into the future for a lot of years, because all changes in diagnostic demands can be updated or upgraded by software-download from the Homoth-homepage.

Technical data

System:	combination mask for partial free-sight- and dark-measurement with composite adaptation to a PCI frame grabber card
System requirements:	Pentium PC min. 2000 MHz, USB 2.0 port, Window 98, ME, 2000, XP
Method:	2 channel measuring with realtime recording and artefact suppression horizontal and vertical. 1. spontaneous nystagmus 2. caloric test 3. postion test
Signal resolution:	0,1 degree at 704 x 288 pixel
Signal rate:	50 Hz
Infrared light:	950 nm (limited after DIN EN 60825-1)
Focus adjustment:	one-hand operation with cardanic mounting
Measure time:	pre-selected 60, 90, 120, 150 sec.
Evaluation:	selectable - manual or automatic - with individual correction possibility 1. knowledge of the nystagmus direction 2. evaluation of the culmination phase 3. knowledge of the nystagmus numbers 4. evaluation of the velocity of the slow phase
Result presentation:	1. nystagmus curves at a max. lenght of 3 min. 2. magnifying function for small nystagmen 3. as a butterfly diagram 4. in table-form
Accessories:	2 video masks with cable powerpack 1 PCI framegrabber 1 dongle 1 installation CD 1 instruction manual

CE 0124

Rev.04 / Stand 01-2007

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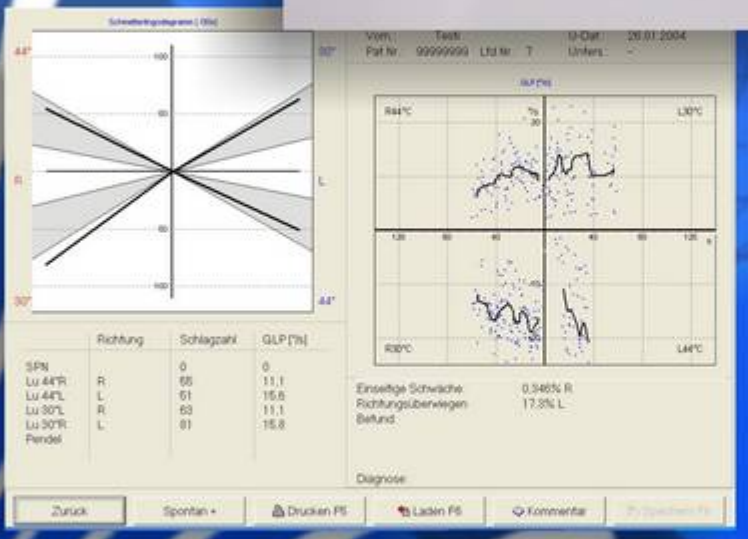
Internet: //www.homoth.de e-mail: info@homoth.de

HOMOTH

MEDIZINELEKTRONIK GMBH & CO KG

ENG 4000
electro nystagmografy



we are one of the
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in the field of ENT diagnostics
- worldwide -

ENG 4000

The new developed HOMOTH ENG 4000 2-channels module corresponds to all requirements of the modern vestibularis diagnostic. It is designed considering the latest knowledge of computer technology. The operation is complete menu controlled, so the usage is very easy, especially for untrained medical staff.

The calibration contains the individual adaptation of the patient to the measuring system will be completely done by the computer. The real time measurement allows watching the entire progress online on monitor. The evaluation is done automatically by the computer, a manual evaluation or correction can be switched on, if needed.

The fade-in of standard areas within the butterfly diagram allows a quick assignment of the measurement-results. All the results can be stored space saving on hard disc using a D-base similar format.

The comfortable HOMOTH EDP-connection allows a quick and trouble-free transfer of data to a central EDP system.

Measurement results as well as all curves and data can be printed out for documentation or for patient-referrals.

It is a system which lasts into the future for a lot of years, because all changes in diagnostic demands can be updated or upgraded via softwareupdate online fom the Homoth-homepage.

Technical data

system:	autarkic mikroprocessor-measure-system with adaptation via USB 2.0 -port with highest patients-safety.
system requirements:	Pentium PC min. 500 MHz, USB 2.0 port, Window 98, ME, 2000, XP
standards:	EN 60601 - 1 / 1-1 / 1-2 and MPG rules
method:	2 channel measuring with realtime recording. Horizontal and vertical. 1. calibration 2. spontaneous nystagmus 3. caloric test 4. individual tests
time constants:	selectable, DC, 0,2 sec, 2 sec, 5 sec
upper frequency limit:	30 Hz
amplification:	80 dB
common rejection:	> 100 dB
signal resolution:	12 bit
scanrate per channel:	100 Hz
electrodes test:	automatic impedance measuring of the single electrodes.
calibration:	with automatic electro-optic via calibration bar
evaluation:	selectable - manual or automatic - with individual correction possibility 1. knowledge of the nystagmus direction 2. evaluation of the culmination phase 3. knowledge of the nystagmus numbers 4. evaluation of the velocity of the slow phase
result-presentation:	1. nystagmus-curves at a max. lenght of 3 min. 2. magnifying function for small nystagmen 3. as a butterfly diagram 4. in table-form
power pack:	13,2 V 15 W
accessories:	1 measure cable with 5 clamps 1 bag standard electrodes 50pc 1 set cables 1 calibration bar with stand 1 power pack 1 instruction manual

CE 0124

Rev.04 / Stand01-2007

HOMOTH Medizinelektronik GmbH & Co KG, Baumacker 1a, 22523 Hamburg
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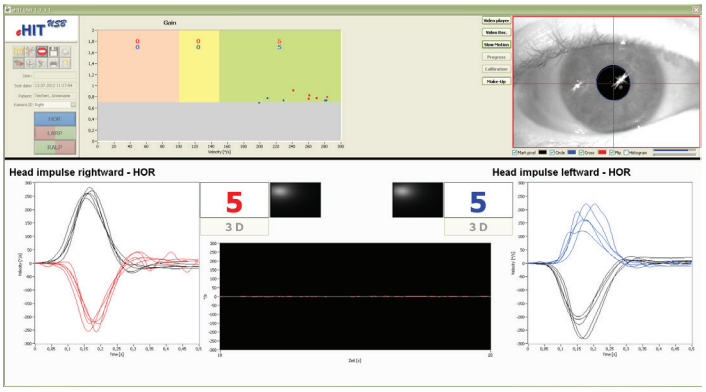
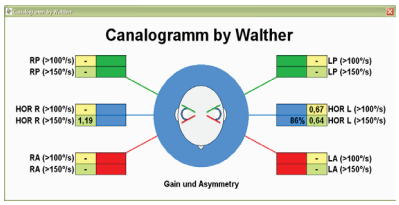
The eHIT USB – Video Head Impulse Test was designed for the daily work in the set up practice and the clinical application. It impresses by its great circumference of functions with intuitive handling. With eHIT USB a complete system is available for you to examine the semicircular canals. The test was first described in 1988 by Curthoys and Halmagyi.

How now been shown in many studies, the head impulse test should be a standard test in vestibular diagnosis. The system offers the functionality of a complete one-off solution to you.

Also, the stress for the patient is significantly reduced.

State of the art vestibular diagnostic - eHIT Head Impulse Test





- » HOR,VOR,LARP,RALP
- » very compact design
- » Combi mask with 3D gyroscop
- » USB 2.0
- » no additional hardware
- » light weight, no slipping Mask for save execution of the HIT
- » by request eHIT and eVNG in one system
- » Canalogramm by Walther

- » networking
- » spatial Resolution < 0,2°, 520 x 360 Image Area
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- » easy to use
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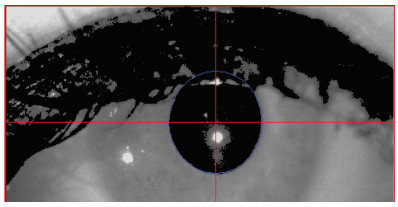
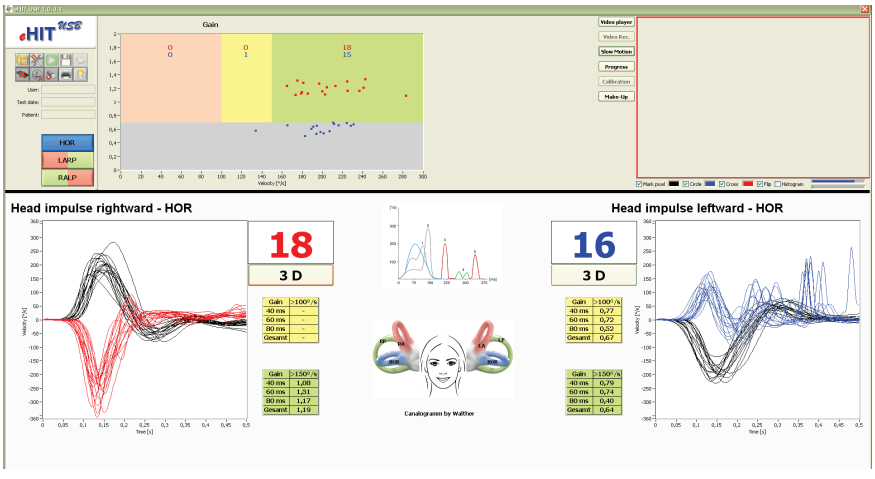
- » compatibel with Windows XP (32/64 Bit), Windows Vista (32/64 Bit), Windows 7.0 (32/64 Bit)





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eHIT USB

Head Impulse Test

10/2012 Rev01

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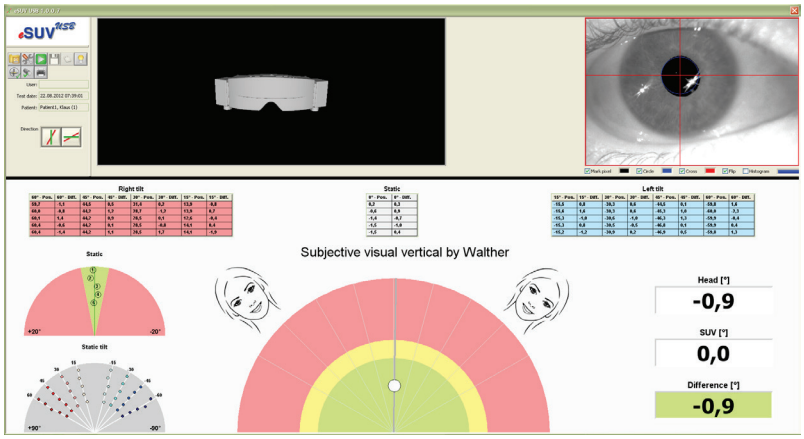
eSUV[USB]

Subjective Visual Vertical and Horizontal



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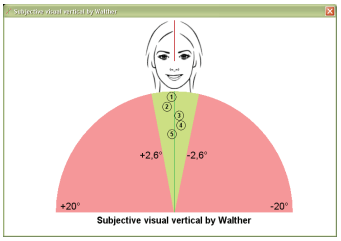
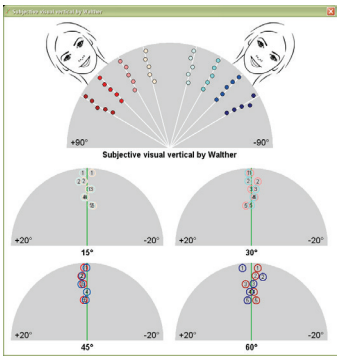
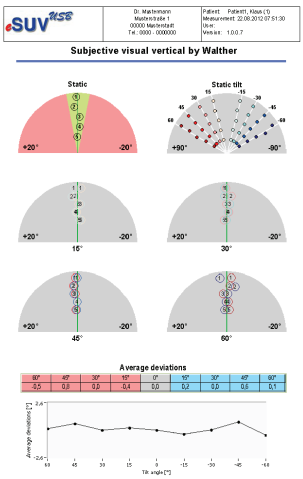
You can choose the examination for the subjective visual vertical (SSV) or horizontal (SVH).

eSUV - Subjective Visual Vertical and Horizontal

- Five values for each position (Red = Right, Blue = Left, Static = White)
- Static 0°
- Static tilt 15°, 30°, 45°, 60°
- Overview diagram static and static tilt
- Online 3D-Visualisation of the mask
- Optional video image for controlling counter rolling
- Head position in degree
- Subjective visual (SUV) in degree
- Deviations in degree
- compatibel with Windows XP (32/64 Bit), Windows Vista (32/64 Bit), Windows 7.0 (32/64 Bit)







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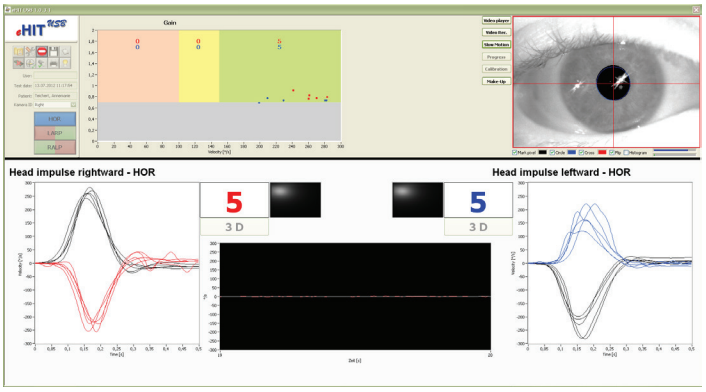

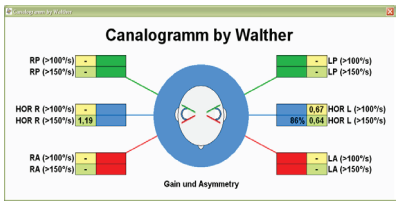

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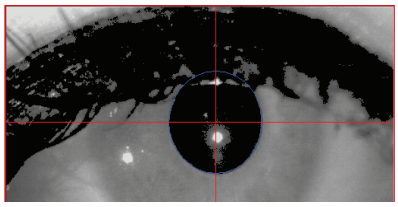

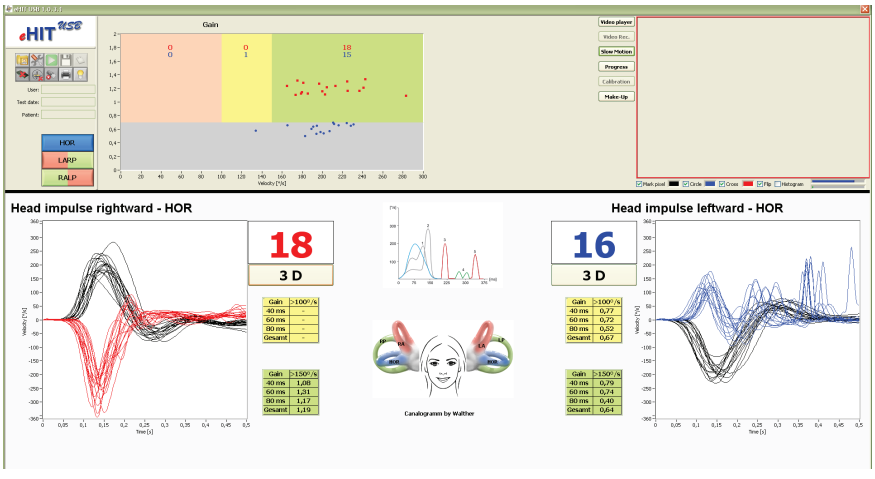

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eHIT USB

Head Impulse Test

10/2012 Rev01

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eSUV[USB]

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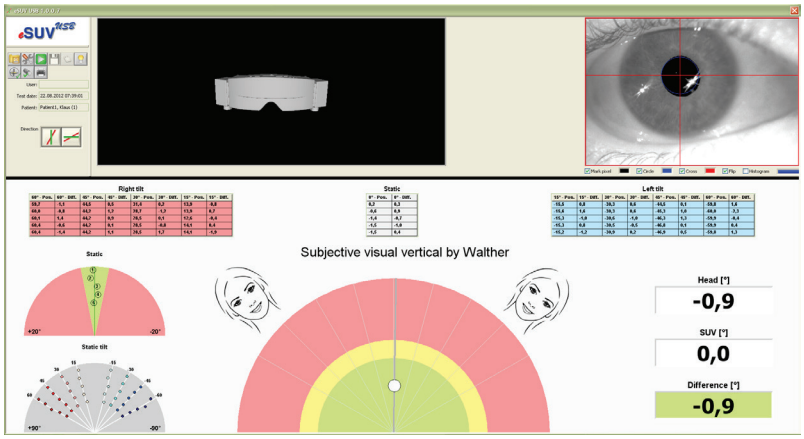

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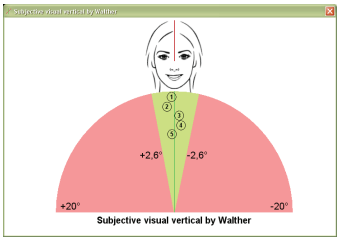

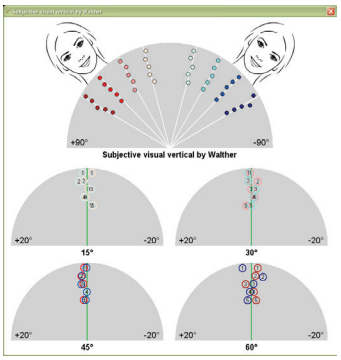

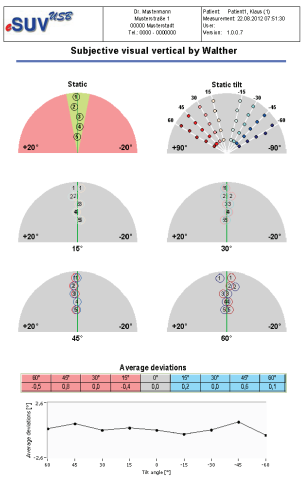

FAROMED Medizintechnik

Nystagmus-Brillen

Nystagmus spectacles

Frenzel-Brille

Frenzel-Spectacles

08-423
Nystagmusbrille nach Frenzel, 1,5 m Zuleitung, Bananenstecker und Clip-Kopfband

Nystagmus spectacles, 1.5 m cord, banana plugs and clip headband

08-423

08-424
Nystagmusbrille nach Frenzel mit Batteriegriff, Lichtstärke regulierbar

Nystagmus spectacles by Frenzel with battery handle, adjustable illumination

08-424

08-412
Nystagmusbrille nach Frenzel mit festen Gläsern und Batteriegriff

Nystagmus spectacles by Frenzel with fixed lenses and battery handle

08-411
Nystagmusbrille nach Frenzel, mit klappbaren Gläsern 1,5 m Zuleitung, Bananenstecker und Clip-Kopfband

Nystagmus spectacles with swivel lenses and, 1.5 m cord, banana plugs and clip headband

08-411 08-412

Nystagmusbrille nach Blessing

Nystagmus Spectacles by Blessing

08-427
Nystagmusbrille nach Blessing, weiß, 1,5 m Zuleitung, Bananenstecker, Clip-Kopfband;

Nystagmus spectacles Blessing, white, 1,5 m cord, banana plugs and clip headband

08-427

08-428
Nystagmusbrille nach Blessing, weiß, mit regelbarem Batteriegriff;

Nystagmus spectacles by Blessing and battery handle, adjustable illumination

08-422
Nystagmusbrille nach Blessing mit festen Gläsern und Batteriegriff

Nystagmus spectacles by Blessing with fixed lenses and battery handle, adjustable illumination

08-421
Nystagmusbrille nach Blessing, mit klappbaren Gläsern 1,5 m Zuleitung, Bananenstecker und Clip-Kopfband

Nystagmus spectacles by Blessing with swivel lenses and 1.5 m cord, banana plugs and clip headband

08-428

08-421 08-422

Air calorisator – LK 4000 blue line

Air calorisator LK 4000 is used to stimulate the vestibular system by stimulating the semicircular canal in the ear. Stimulation is achieved by blowing warm or cold flow of air through the rubber, removable part, in to the external ear canal. This stimulates the eardrum. All functions of the device are presented in real time on the LCD. You can individually set the hot or cold temperature, these settings can be saved to the device's memory. Thanks to the microprocessor control, this equipment is widely used in diagnostic tests. LK 4000 provides comfortable conditions compared to a water calorisator.

Specification:
System: microprocessor
Display: LCD
LED indicators:
blue – cold temp.
red – warm temp.
both turned off – stand by
Temp. range: 20°C~50°C(from ambient temperature)
Accuracy: 0,2°C
Stimulation time: 30, 45, 60, 75, 90, 105, 120, 135 i 150s.
Flow of air: 5,000~10.000ccm/min., adjustable
Pomp: quiet membrane pomp

Dimensions: 290×320×25mm
Weight: 4 kg
Power supply: 230/110 V, 50 Hz

Accessories:
1 probe with a start button
1 probe holder
1 power cable
1 set of air hoses
1 manual

Manufacturer:
Homoth Medizinelektronik GmbH &Co KG - Niemcy

Distributor: **VIDEOMED ZAKŁAD ELEKTRONICZNY**
ul. Klonowa 18 58-310 Szczawno-Zdrój
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Air calorisator KALORIstar Arctic with active cooling

KALORIstar Arctic is a powerful device for thermal stimulation of the middle ear. It has an active cooling system, so it is possible to stimulate with cold air even on hot days. Recommended for private offices and clinics. Arctic can be controlled from a PC computer using eVNG software by BioMed Jena GmbH.

Specification:

- Power supply: 230V + / - 5%, 50Hz
- Power consumption: max. 250 mA
- Power consumption: max. 60W
- Stimulus duration: 10s ~ 210s
- Air temperature: 20° C ~ 47° C (max. 8° C below ambient temperature)
- Air flow: 5.0 l / min. + / - 10%
- Dimensions: 115 x 307 x 257 mm
- Weight: 3.5 kg

Safety:

- Safety class (EN 60601-1): I
- Degree of safety; Type B
- Type of protection: IPX0
- IIA Classification: according to Encl. IXGuidelines EG 93/42/EEC
- CE Mark: CE 0124
- Applied standards: EN 60601-1:1990 + A1: 1993 + A2: 1995, EN 60601-1-2:2001 (EMV/EMC)

Manufacturer:
BioMed Jena GmbH
Lutherstr. 148, 07743 Jena, Germany

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