

VisualEyes™

VNG/ENG



Micromedical™
TECHNOLOGIES INC.

VisualEyes™

VNG/ENG



VISUALEYES IS THE ASSESSMENT TOOL OF CHOICE TO IDENTIFY ABNORMALITIES WITHIN THE VESTIBULAR SYSTEM. OBJECTIVELY DOCUMENT ABNORMAL EYE MOVEMENTS CAUSED BY TRAUMATIC BRAIN INJURY (TBI); BENIGN PAROXYSMAL POSITIONAL VERTIGO (BPPV); LABRYNTHITIS AND MANY OTHER PERIPHERAL AND NEUROLOGICAL PATHOLOGIES.

VISUALEYES BINOCULAR GOGGLES

THE INNOVATIVE BINOCULAR DESIGN OF THE GOGGLES INCLUDES THE FOLLOWING KEY FEATURES:

- Full field of view with a minimum +/- 45 degrees horizontal and +20, -25 degrees vertical
- Integrated external focus knob and built-in software controlled fixation lights
- Comfortable, light-tight and easy to clean goggle
- Mirrors are mounted below eye level to reduce eyelid and eyelash interference.
- Goggle weight 10.5 oz. with cover 8 oz. with cover removed.
- Designed to utilize high speed Firewire® cameras that can record at up to 100 Hz



GOGGLES WITH COVER REMOVED



To Preserve and Improve Balance

Providing Insight

into the Complexity of the Balance System.



HUMAN POSTURAL CONTROL RELIES ON THE MOTION AND GRAVITY SENSING ABILITY OF THE VESTIBULAR SYSTEM, AND THE SPINAL REFLEXES TO BALANCE THE BODY OVER THE RELATIVELY SMALL BASE OF SUPPORT PROVIDED BY THE FEET. WHEN THE INTEGRITY OF THE SENSORY INFORMATION TO THE CENTRAL NERVOUS SYSTEM IS COMPROMISED OR THE CNS ITSELF IS COMPROMISED, THE ABILITY TO STAY BALANCE IS REDUCED.

THE PREVALENCE AND DEBILITATING NATURE OF BALANCE DISORDERS CALLS FOR INGENUITY IN DESIGNING DIAGNOSTIC INSTRUMENTATION THAT CAN HELP THE CLINICIAN IDENTIFY ABNORMALITIES WITHIN THE CENTRAL OR PERIPHERAL BALANCE SYSTEM. THE VISUALEYES VNG IS THE PRIMARY DIAGNOSTIC TOOL AND THE IDEAL CHOICE FOR THE OBJECTIVE DOCUMENTATION OF VESTIBULAR AND BALANCE FUNCTION.



MicromedicalTM
TECHNOLOGIES^{INC}



SPECTRUM SOFTWARE PROVIDES YOUR CLINIC WITH STANDARD TESTING PROTOCOLS AS WELL AS PROTOCOLS THAT WILL GIVE YOU UNIQUE ASSESSMENT CAPABILITIES.

STANDARD PROTOCOLS

- Gaze
- Positional
- Dix-Hallpike
- Caloric
- Pursuit
- Saccade
- Optokinetic

UNIQUE ASSESSMENT CAPABILITIES

(some may require hardware or software enhancements)

- Active Head Rotation (VORTEQ)
- Dynamic Visual Acuity (DVA-Test)
- Pupillometry
- HVT 3D Eye Tracking – torsion measurement for ocular counter roll
- Head Impulse Test
- EOG amplifier to add ENG electrode recording capability
- Consensual Light Reflex (CLR)

ADVANCED CONCEPTS IMPLEMENTED IN THE CURRENT VERSION OF SPECTRUM (Spectrum 8)

- Full software integration of Micromedical's **AirFx™** air caloric irrigator and **AquaStim™** water caloric irrigator
- Single mouse click eye centering removes the need to adjust cameras
- Freyss caloric diagram
- Consensual Light Reflex (CLR)

CONSENSUAL LIGHT REFLEX

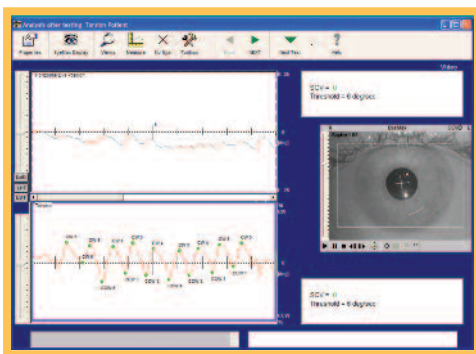
Developed at the request of our interested neurology professionals to help find oculomotor nerve lesions, the CLR examines the integrity of the retina; ipsilateral optic nerve; ipsilateral oculomotor nerve and the contralateral oculomotor nerve.





HVT 3D EYE TRACKING

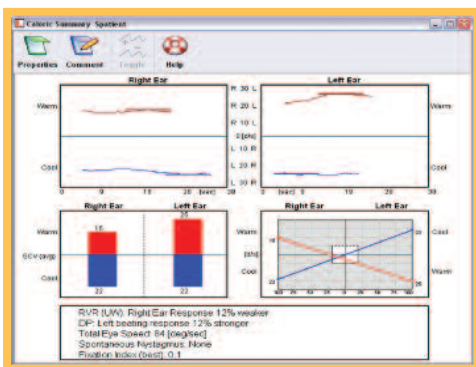
Torsional eye movement measurement provides a unique assessment of otolith function through an ocular counter roll test protocol.



- User selectable iris segment
- Torsion is recorded on one eye at 100 Hz with one degree accuracy
- Compensatory eye position is measured when the patient's head is tilted 45 degrees left or 45 degrees right

CALORIC SUMMARY

At a glance, Unilateral Weakness is identified graphically in both bar graph and Freyss diagram displays.



TURNKEY SYSTEM HARDWARE

- **COMPUTER:** Choose either Mid-Tower or Laptop configuration, with Windows® OS (computer hardware shown in photos may differ from what is supplied with your system due to our commitment to provide you with the latest technology)
- **TARGET STIMULUS:** Choose – Digital Light Bar; LCD Projector or Secondary Monitor

All systems include Micromedical's proprietary EyeMax video recording and management. EOG and VORTEQ options are available through DataLink connections

CUSTOMER CARE

MICROMEDICAL'S KNOWLEDGEABLE STAFF IS DEDICATED TO ASSISTING YOU AND MAXIMIZING YOUR INVESTMENT BY:

- Providing on-site installation and training using local representatives
- Providing technical, operational and interpretation assistance from Micromedical's experienced support staff
- Sponsoring continuing education courses
- Including a one year hardware warranty
- Including one year of free software updates

QUALITY AND REGULATORY STANDARDS

All equipment is designed and manufactured under our ISO 13485 certified quality management system to meet U.S. FDA; Canadian; European and International Standards.

- UL 60601-1
- IEC 601-1, EN 60601-1
- CMDCAS
- ANSI S3.45-2009
- Medical Device Directive (MDD) to comply with EC Directive 93/42



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