

# VORTEQ<sup>®</sup>

Active Head Rotation & DVA-T Dynamic Visual Acuity Test



To Preserve and Improve Balance

VORTEQ / DVA-T PROVIDES THE UNIQUE TESTING NECESSARY TO ACCURATELY MEASURE A PATIENT'S VOR AND DYNAMIC VISUAL ACUITY DURING NORMAL ACTIVE HEAD MOVEMENTS.

## (AHR) ACTIVE HEAD ROTATION VOR

The Vestibular Ocular Reflex (VOR) serves to stabilize gaze during head movements by generating equal and opposite compensatory eye movements.

## (DVAT) DYNAMIC VISUAL ACUITY TEST VVOR

A performance measure of the Visual Vestibular Ocular Reflex (VVOR), Dynamic Visual Acuity (DVA) is essential for retinal image stability when performing tasks where relative motion exists between the individual and the visual information which they must acquire and resolve in order to successfully perform a task (e.g. driving, flying, athletics).

## VISUALEYES VNG WITH VORTEQ OPTION

VORTEQ is available as an option on either the VisualEyes mid-tower or laptop systems with the VOR/DVAT tests integrated into the VNG protocol for a comprehensive evaluation of the balance disorder patient.

The high performance solid state sensor is mounted on a clip (see illustration, lower right) that slides on to the back of the VisualEyes goggles (see photo inset) or on the DVAT headband.

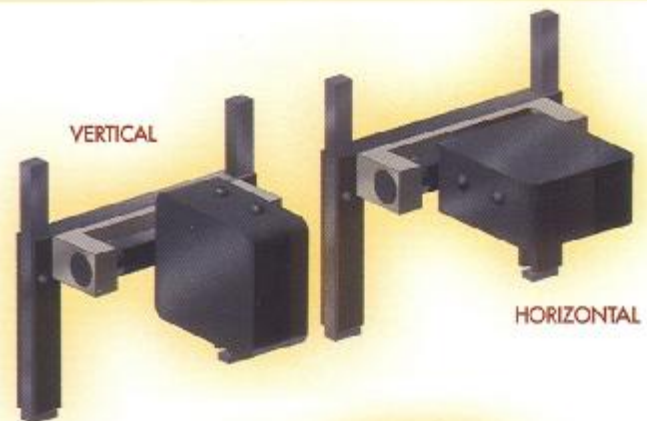
## PATIENT TESTING

**AHR:** During VORTEQ testing, patients simply shake their head "yes" (vertical VOR test) or "No" (horizontal VOR test) to the beat of an electronic metronome over a frequency range specified for that test.

**DVAT:** The static acuity level is first determined. Then during headshake, the patient's head velocity must exceed a pre-set threshold for the character to appear on the screen. The characters are increased in size from the static acuity level until they can be accurately read during head shake. Eye movement recording is not required. Passive or active head shake and even head thrust testing can be used.

## (VRT) VESTIBULAR REHABILITATION THERAPY

VORTEQ is particularly useful to help quantify visual acuity over a range of head velocities that occur in daily living. VOR and DVA improvements during Vestibular Rehabilitation Therapy can be serially documented to ascertain the amount of vestibular compensation.

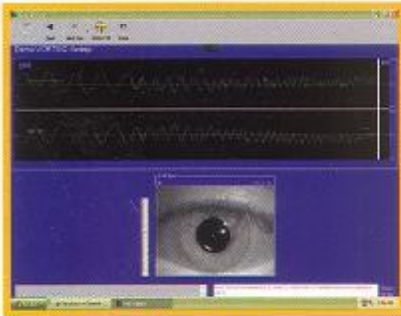


SENSOR SHOWN IN VERTICAL POSITION





## To Preserve and Improve Balance



### AHR TEST SCREEN

Sample waveform collected from a normal subject showing eye position and head position. Gain, Phase and Asymmetry are calculated.



### DVA TEST SCREEN

Characters presented are U's with possible up/down/left/right orientations that the patient must correctly identify during head motion.

### VORTEQ SENSOR SPECIFICATIONS

Micromedical's solid state sensor measures head angular velocity using a state-of-the-art silicon ring gyroscope. This technology has unsurpassed accuracy and durability.

- Frequency Range: 1-5 Hz
- Velocity Range: +/- 500 degrees / second
- Size: 1.25" x 1.25" x 0.65"
- Weight: 1.6 oz

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### BALANCE CENTERS & FALL PREVENTION CLINICS SHOULD ALSO ACQUIRE:

- VISUALEYES™ VNG (Available in Midtower or Laptop)
- BALANCE QUEST™ computerized dynamic posturography
- SYSTEM 2000® Rotational Vestibular Chair

### CUSTOMER CARE

Micromedical's knowledgeable staff is dedicated to assisting you and maximizing your investment by:

- Incorporating the latest advancements in computer technology into new systems on an ongoing basis
- Providing on-site installation and training
- Producing innovative hardware and software designs
- Providing technical, operational and interpretation assistance from Micromedical's support staff
- Sponsoring continuing education courses
- Including one year warranty on hardware
- Offering a three year on-site warranty for laptop computers
- Providing assistance with coding and billing issues
- Including one year of free software updates
- Providing Micromedical's educational Vestibular Update interactive CD

### SAFETY STANDARDS

Vorteq is designed to meet applicable medical standards worldwide.

- UL2601-1
- IEC 60601-1 patient safety standard

### HIPAA PRIVACY STANDARDS

Micromedical's Spectrum software is HIPAA ready, enabling healthcare providers or other covered entities to meet and maintain the confidentiality of patient medical information required by the Health Insurance Portability and Accountability Act of 1996.

Patient information can be de-identified for printed reports while the Windows XP® platform supplies the foundation for system security.



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