

Fast and accurate vestibular testing



ICS Chartr 200

● Hearing Assessment ● Fitting Systems ● Balance Assessment



otometrics
MADSEN • AURICAL • ICS

Next-generation vestibular testing



The ICS Chartr 200 system is the latest generation of our well-known vestibular test systems. ICS Chartr 200 provides you with a comprehensive, systematic solution based on years of practical experience and the largest installed equipment base. Moreover, we have worked closely with the leading balance experts to ensure the greatest possible ease of use and the most accurate test results.

Sleek and portable

In a sleek and portable design, the ICS Chartr 200 handles all traditional vestibular test functionalities and capabilities for securing data and consolidating patient records. The ICS Chartr 200 provides a comprehensive test battery for diagnosing a wide range of balance and dizziness disorders allowing you to care for your patient from diagnosis through treatment.



Balance and dizziness problems are the second most common patient complaint. In fact, the U.S. National Institutes of Health indicate that 70% of the U.S. population will experience dizziness some time during their lives.

VNG, ENG or both

Whether you choose Videonystagmography (VNG) or Electro-nystagmography (ENG), you will have the benefits of a complete, portable, easy to use system. Both VNG and ENG are primary diagnostic tools for investigating the source of a vestibular problem.

VNG directly records and measures the eye movements, and has the following advantages:

- Ability to see the patient's eyes at all times
- Video recording of the eyes which assists with diagnosis
- No drift in the tracings
- Reduction of disposable supply cost

ENG (2 or 4 channel) measures eye movements by indirectly recording the cornea-retinal potential from the eyes and has the advantage of testing some patients who cannot be tested using VNG.

VNG and ENG complement each other assuring that the clinic does not have to turn away patients in need of vestibular testing. The Chartr 200 offers a shared database for VNG and ENG.

The industry leader

Beginning with the introduction of the very first computer-based test system back in 1985, our ICS systems provide straightforward and powerful diagnostic systems that feature speed,

ease of use and expert interpretation of test results.

We provide far more than just hardware. Each ICS Chartr 200 system partners you with the industry leader in advanced vestibular testing. With the high-level

training and support offered, our reputation as the industry leader is unchallenged.



State-of-the-art vestibular diagnostics

- Lightweight and comfortable full-shield goggles with fixation light
- Stylish and portable full diagnostic system with USB connection to laptop
- Proven eye-tracking algorithm eliminates errors due to eye blinks
- Auto-adjust – one click video adjustments
- Built-in, simple to use Video Recorder and Video Playback for recording, viewing and storing video clips of eye movement
- Quick review of eye movement tracings
- Integrated analysis and normative data displays
- Built-in report template with Interpretation Assistant™
- Complete test battery includes saccades, pursuit, optokinetics, gaze, positional, Dix Hallpike, and calorics
- Choose from our extensive library of test protocols to create your own custom test batteries

Understanding clinical needs

Developed by clinicians

ICS Chartr 200 represents a state-of-the-art diagnostic solution that truly takes patient care to the next level. Working closely with leading balance professionals, the ICS Chartr 200 system is the result of years of clinical experience.

The normative values provided were developed in collaboration with Dr. Kamran Barin, Director of Balance Disorders Clinic at The Ohio State University Medical Center. Studies by Dr. Barin have played a vital role in creating the unique algorithm forming the foundation for both the interpretation assistance and the test capability.

VNG Recording Options

The VNG system offers several options for

recording the patient's eyes, depending on if the patient's eye movements are conjugate.

Binocular protocols record both eyes together. Individual eye protocols record each eye independently but at the same time, and monocular eye protocols record one eye at a time. All three options can be easily accessed using the binocular VG-40 goggles, 3 easy to use toolbar icons and test protocol menu.

Interpretation Assistant™

After completing the static positional or caloric tests, the Interpretation Assistant™ provides assistance with analyzing the test results. The objective validation and analysis of the test results is based on statistic calculations from a large population.

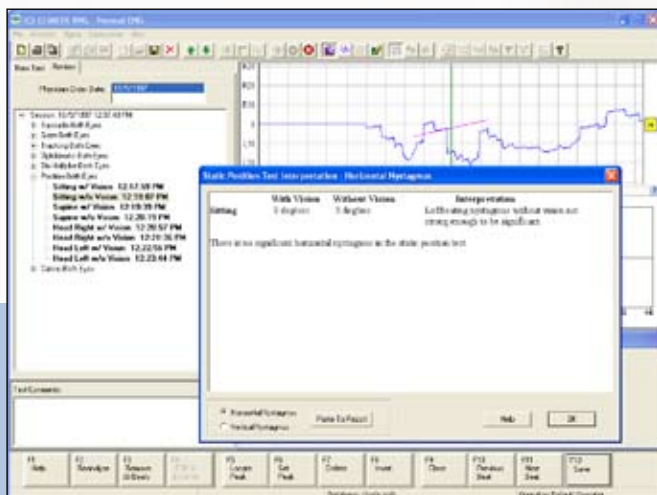
The analysis of the static positional tests requires that

vision and vision denied tests be collected separately. Once tests are completed, the clinical results are displayed for each position performed (vision and vision denied) on the screen as the degree of nystagmus, with interpretation for each individual position and an overall interpretation for all positions performed.

The analysis of the caloric tests requires a session of all four caloric tests. Once tests are completed, the clinical results are displayed on the screen as total response from right to left ear, unilateral weakness, baseline shift and gain asymmetry. Directional preponderance is optional.

Interpretation of these results is presented in clear text to assist in the patient counseling and the text can be transferred to the patient report.

The Interpretation Assistant™ is an integral part of the ICS Chartr 200 system. It offers you interpretation for both static positional tests and caloric tests.





Patient care with a personal touch

The convenient remote control lets you operate the software from a distance so you can maintain personal contact with your patients.



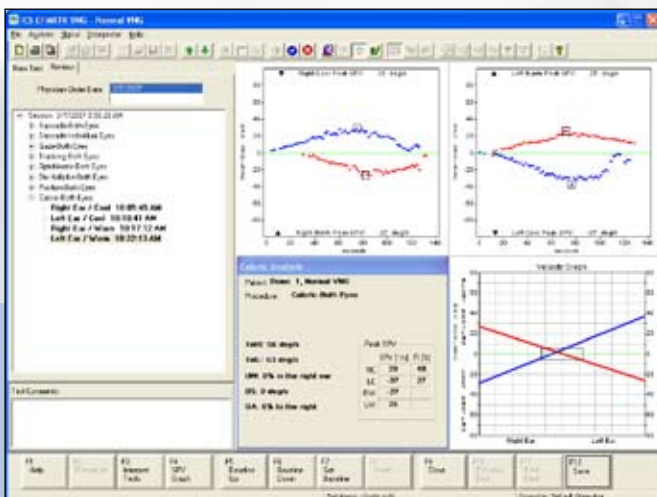
Digital video clips for fast review

Easy recording review, and transfer of digital video sequences allow you to share information with colleagues – and even send video files as e-mail attachments. A screen with your patient's eyes and start/stop recording options are visible during the entire data collection.



Efficient operation

The infrared light ensures proper lighting for video recording even in complete darkness. Record with and without the fixation using the built-in fixation light for all tests.

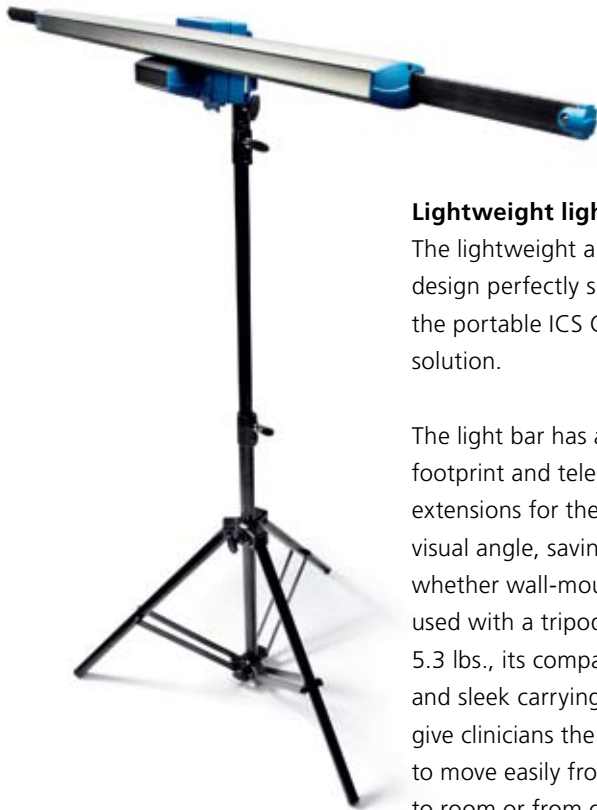


On-screen PODS and Butterfly

The ICS Chart 200 displays caloric PODS and Butterfly graphs on a single screen and page.

A truly compact solution

With its compact box, lightweight light bar and matching goggle, the ICS Chartr 200 hardware is a truly portable solution. The setup can be easily moved between offices and connected to a laptop via USB for off-site visits.



Lightweight light bar

The lightweight and flexible design perfectly supports the portable ICS Chartr 200 solution.

The light bar has a small footprint and telescopic extensions for the 30 degree visual angle, saving space whether wall-mounted or used with a tripod. At just 5.3 lbs., its compact design and sleek carrying case give clinicians the freedom to move easily from room to room or from office to office.

Most comfortable goggles

With full shield and built-in fixation light, the VG40 video goggles are the best in the market place. In addition to providing noise- and drift-free eye movement data, they are as comfortable as they are effective. One-click video adjustments let you quickly start your battery of tests.

The goggle's patented sleek design allows for more improved wearability. Fully adjustable and easy to handle, the lightweight design is also ergonomic to facilitate irrigation and patient communication.



The lightweight and flexible design of the light bar completes the portable ICS Chartr 200 solution.

The tools to ease your workday

Following in the steps of pioneering balance clinics across the country, you will benefit from the advantages of our innovative VNG/ENG system. Using the familiar Windows® user interface, our integrated software, shared databases, and common reporting templates are quick to learn and easy to use.

Time saving features

The ICS Chartr 200 software offers time saving options such as auto save, auto analyze and auto display.

Once data collection is complete the data will be saved, analyzed and displayed automatically. Auto fixation light allows the user to set a time when the fixation light will automatically turn on and off during caloric testing. Caloric countdown timer will display how long it has been since the last caloric test was completed.

Intelligent integration

Easy operation of integrated, software-controlled irrigator triggered and monitored by the ICS Chartr 200 system.

Ongoing feedback of patient position via integrated light bar and patient ranging.

The ICS Chartr EP 200 can be combined with the ICS Chartr 200 VNG/ENG system. Install software for both systems on the same computer and benefit from a complete test battery and a shared database.

Comprehensive reports

Detailed, customized reports are automatically created in a format that is easily understood by both physicians, audiologists and other professionals. Concise, organized reports, stored in one common database, make it easy to share data.



Easy access to educational support

Users of ICS Chartr equipment can benefit from the best training and support in the industry. Our educational programs ensure that users will benefit from the best legacy in the profession including:

- In-depth equipment training
- Ongoing customer support
- Classroom and on-line education (regional)
- Our well-respected, "Insights in Practice"
- Demo patient data assists in learning process



As a leading player we are committed to helping you improve practice workflow and enhance your patient care. Otometrics is providing a variety of educational activities worldwide every year.

You'll find more inspiration when you visit www.otometrics.com/resources

ICS Chartr 200

Technical specifications:

Interface:	USB to PC
Power supply AC/DC adapter:	Input: 100-240 VAC / 50-60 Hz / 700 mA. Output: 15V DC / 2A
Optional isolation transformer:	115-230 VAC / 10/5 A

System capabilities:

Inputs VNG:	2 eyes/4 channels; full binocular testing (simultaneous collection of signals from both eyes)
Inputs ENG:	2 or 4 channels
CMR ratio:	>100 dB at 50/60 Hz
Channel Frequency Response:	12dB/octave low pass filter with a cutoff frequency of 35Hz.
Input Impedance:	Channel 1: > 5,5 Mohms Channel 2,3,4: > 8 Mohms
Coupling:	DC response
Resolution:	0.1° typical (horizontal and vertical)
Linearity:	1% full scale horizontal 1.2% full scale vertical
Sampling rate:	Full 60 Hz for all tests
Eye tracking:	± 30° horizontal, ± 30° vertical
Software:	Windows graphical user Interface; high performance analysis software; database storage of test data; sophisticated patient and test data management
Additional capabilities:	See-through for external targets; vision denied for testing in complete darkness

Weight:

ICS Chartr 200 hardware:	5 lbs 7 oz (2.7 kg)
Light bar:	5 lbs 3 oz (2.38 kg)
Binocular Goggles:	15.2 oz (430 g)

Dimensions:

ICS Chartr 200 hardware:	1.65 x 13.7 x 11.3" / 4,2 x 34,8 x 28,7 cm
Light bar (with ends closed):	4.63 x 35.75 x 4.75" / 11,8 x 90,8 x 12,1 cm

PC requirements:

Processor:	Pentium M or Pentium 4
RAM:	Minimum 1 GB RAM
Bus support:	USB 2.0
OS:	Microsoft® XP Professional - Service Pack 2 or Vista® Business
CD drive:	CD-R/W
Display resolution:	Minimum screen resolution of 1024 (horiz) x 768 (vert) at 96 dpi. At large size (120 dpi) setting, minimum resolution is 1280 (horiz) x 960 (vert).
Display color:	32 bit color

Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States.

Otometrics is the world's leading manufacturer of hearing and balance instrumentation and software, providing solutions ranging from infant screening applications and audiological diagnostics to balance testing and hearing instrument fitting.

● Hearing Assessment ● Fitting Systems ● Balance Assessment

GN Otometrics, Europe. +45 45 75 55 55. info@gnotometrics.dk
GN Otometrics, North America. 1-800-289-2150. sales@gnotometrics.com
www.otometrics.com

The ICS Chartr 200 system comes with ICS VNG/ENG software, lightweight light bar, VG40 goggles, remote control, ENG cable (optional), irrigator cable, USB cable (20 ft), power supply, ENG external loop-back test fixture (optional), installation/setup guide (printed), user manual (CD) and ICS support material. Stand and carrying case are optional.



Distributor:



otometrics

MADSEN · AURICAL · ICS