

# The science of balancing performance, design and efficiency



**ICS** Chartr 200

Hearing Assessment

Fitting Systems

Balance Assessment

**GNI** Otometrics

MADSEN · AURICAL · ICS

# Next-generation vestibular testing



The new 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 our 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.

## **New design. New features.**

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. It combines the two most important tests, video- and electronystagmography, in a single convenient device. And now, the three new features; Interpretation Assistant™ ensuring accurate interpretation of test results, and the remote

*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.*

control and fixation index calculation, which help make examinations even more efficient. The new ICS Chartr 200 also 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.

### The industry leader

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

ease of use and expert interpretation of test results.

But we provide far more than just hardware. Each ICS Chartr 200 system partners you with the industry leader in

advanced vestibular testing. With the largest installed equipment base throughout the country and the high-level training and support offered, our reputation as the industry leader is unchallenged.

## ICS Chartr 200



*The new ICS Chartr 200 system provides state-of-the-art equipment for the professional evaluation of balance disorders.*



### State-of-the-art vestibular diagnostics

- Lightweight and comfortable, full-shield goggles with fixation light
- Stylish and portable full diagnostic system for USB connection with 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, 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. Studies by Kamran Barin, Ph.D. has played a vital role in creating the unique algorithm forming the foundation for both the caloric test review and the test capability.

## **Interpretation Assistant™**

After completing the caloric tests, the new Interpretation Assistant™ provides an enhanced qual-

ity of test results. The objective validation and analysis of the test results is based on statistic calculations from a large population carried out over the past 25 years.

The analysis requires a session of four caloric tests. Once all 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.

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 normative values can be customized for your laboratory. Or you may use the default settings that incorporate the most commonly used normative values.

## **Meeting clinical needs**

The algorithms combined in the Interpretation Assistant™ created in consultation with Kamran Barin, Ph.D. lies at the heart of the latest generation of ICS VNG/ENG equipment.

Together with the complete test battery, the new ICS Chartr 200 system combines state-of-the-art design with innovative features that effectively meet all the needs of a professional balance clinic.

## **Practice enhancement**

With the increasing interest in vestibular testing and treatment, VNG/ENG can prove to be a significant asset to any practice. Advanced diagnostic testing will allow you to treat your patients instead of referring them to another specialist. And through third party reimbursements, you'll also enjoy a fast return on your investment.





### 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.



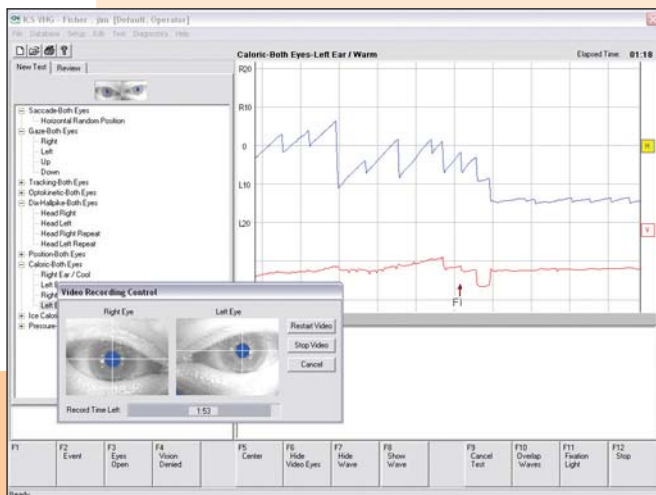
### Digital video clips for fast review

Easy review and transfer of digital video sequences allow you to share information with colleagues – and even send video files as e-mail attachments.



### Efficient operation

The infrared light ensures proper lighting for video recording even in complete darkness. The ability to record with and without the fixation using the built-in fixation light sets the perfect stage for automatic fixation index calculation.



### Interpretation Assistant™ lets you test with confidence

The remarkable algorithm developed in consultation with Dr. Kamran Barin is the key to the accurate interpretation of the caloric test provided by the Interpretation Assistant™.

After validating and analyzing the caloric VNG/ENG test results, the interpretation analysis is displayed on screen and can be transferred directly to the patient report where it can be printed or stored electronically.

# The tools to ease your workday

Following in the steps of pioneering balance clinics across the country, you can also 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.

## Most comfortable goggles

With full shield and built-in fixation light, the new 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. Fully adjustable and easy to handle, the lightweight design is also ergonomic to facilitate irrigation and patient communication.

## Easy information exchange

Quick and simple export of patient reports lets you easily share test results with colleagues.

## 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.

## Automatic video adjust

One-click video adjustments let you quickly start your battery of tests. That gives you more time to treat and advise your patients.

## Portable solution for greater flexibility

The ICS Chartr 200 hardware can be easily moved between offices and connected to a laptop via USB for off-site visits.

## Turn the features into your advantages

- Accurate interpretation of test results by the Interpretation Assistant™
- Easy operation of integrated, software-controlled irrigator which is triggered and monitored by the ICS Chartr 200 system
- Ongoing feedback and monitoring via integrated lightbar and patient ranging
- Built-in features, such as fixation light, automatic calculation, and remote control operation, save valuable time
- Clinical and technical support by trained audiologists
- Renowned ICS training



# Comprehensive balance testing in the same system

By combining the ICS systems of video- and electronystagmography with evoked potentials, you cover all the needs of a professional clinic for treating dizzy patients. Our sleek unit supports your laptop computer to form a comprehensive, state-of-the-art test suite.

## Exclusive EP-VNG/ENG testing in one system

Providing the unique integration of EP and VNG/ENG testing, the ICS combo is the only system

in the market encompassing these imperative tests.

## Important new tests

The vestibular evoked myogenic potential (VEMP) supplements the VNG/ENG test battery by providing additional diagnostic information, thus enabling a more comprehensive evaluation. VEMP is a new test of vestibular function that is useful for evaluating the function of the otolith organs and the sacculocollic pathway in dizzy patients.



*Vestibular evoked myogenic potentials (VEMP) supplement the vestibular test battery by providing diagnostic information about saccular and/or inferior vestibular nerve function.*

## A world of education: the ICS Support Program

Our educational programs ensure that users of ICS equipment will benefit from the best legacy in the profession including:

- Classroom and on-line education
- Seminars around the country
- In-depth equipment training
- Ongoing customer support
- Data consultation with on-staff audiologists
- Clinical articles
- Our well-respected, "Insights in Practice"

You'll find more inspiration when you visit [www.gnotometrics.com](http://www.gnotometrics.com) and click on this icon



## All-in-one package

Our comprehensive vestibular test battery includes:

- Videonystagmography (VNG)
- Electronystagmography (ENG)
- Auditory brainstem response (ABR)
- Electrocochleography (ECOG)
- Vestibular evoked myogenic potentials (VEMP)

Other tests are available on request.

Contact your GN Otometrics representative for details.

# ICS Chartr 200

## Technical specifications:

<b>Interface:</b>	USB to PC
<b>Power supply AC/DC adapter:</b>	
	Input: 100-240 VAC / 50-60 Hz / 700 mA.
	Output: 15V DC / 2A
<b>Optional isolation transformer:</b>	
	115-230 VAC / 10/5 A
<b>System capabilities:</b>	
<b>Inputs:</b>	2 eyes/4 channels; full binocular testing (simultaneous collection of signals from both eyes)
<b>Coupling:</b>	DC response
<b>Resolution:</b>	0.1° typical (horizontal and vertical)
<b>Linearity:</b>	1% full scale horizontal 1.2% full scale vertical
<b>Sampling rate:</b>	Full 60 Hz for all tests
<b>Eye tracking:</b>	± 30° horizontal, ± 30° vertical
<b>Software:</b>	Windows graphical user Interface; high performance analysis software; database storage of test data; sophisticated patient and test data management
<b>Additional capabilities:</b>	
	See-through for external targets; vision denied for testing in complete darkness
<b>Weight:</b>	2.7 kg (5 lbs 7 oz)
<b>PC requirements:</b>	
<b>Processor:</b>	Pentium M or Pentium 4
<b>RAM:</b>	Minimum 512 MB RAM
<b>Bus support:</b>	USB 2.0
<b>OS:</b>	Microsoft® XP Professional - Service Pack 2
<b>Disk space:</b>	Minimum 100 MB free disk space
<b>CD drive:</b>	CD-R/W
<b>Display resolution:</b>	1024 x 768 (or greater) at 96 dpi
<b>Display color:</b>	32 bit color

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

Hearing Assessment    Fitting Systems    Balance Assessment

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ICS Chartr 200 systems come complete with a powerful processing unit, ICS VNG/ENG software, lightweight lightbar, VG40 goggles, remote control, ENG cable, irrigator cable, USB cable (20 ft), power supply, external loop-back test fixture, installation/setup guide (printed), user manual (CD) and ICS support material.



Distributor: