Visual Field Analyzers
Expanding your field of vision
Offering the industry’s broadest selection of perimetry products, Carl Zeiss continues to set the gold standard for quality, precision and innovation worldwide.

It is a standard that reflects our shared commitment to the enhancement and preservation of vision. A standard that expands the potential of perimetry with new technologies that offer unique insights to support you in glaucoma clinical detection, diagnosis and ongoing management.

Every perimetry product from Carl Zeiss is designed to provide optimized workflow, better patient comfort, and superb value not only today but also far into the future.

Take a moment to find out more about the perimetry solutions from Carl Zeiss for confident early diagnosis and comprehensive disease management.

And see where vision takes you.
HFA II-i
The gold standard in perimetry to aid in glaucoma diagnosis and management

Humphrey Field Analyzer – HFA II-i Series
Validated by more than 25 years of research, design and clinical experience, the HFA is the accepted standard of care in glaucoma diagnosis and management. With over 65,000 installed units worldwide, the Humphrey Field Analyzer is the premier automated visual field perimeter.

Complete portfolio of HFA II-i perimeters

Humphrey 750i Visual Field Analyzer
The ultimate in practice efficiency, advanced features and long-term value.

Humphrey 745i Visual Field Analyzer
All the features of the 740i plus SITA-SWAP software for early detection.

Humphrey 740i Visual Field Analyzer
The basic model in automated visual field testing for comprehensive care.

Humphrey 720i Visual Field Analyzer
All purpose model for low volume practices.
HFA II-i
A legacy of perimetry innovation

Advanced analysis
The HFA is the only perimeter with progression analysis validated in the Early Manifest Glaucoma Trial.¹

Enhanced Guided Progression Analysis (GPA) software identifies statistically significant progression automatically, and presents “at a glance” visual field progression analysis on a single page report.

Visual Field Index™ (VFI™) is a simple and intuitive global index to determine percentage of field loss on every visual field.²,³

Pattern Deviation Plots identify localized field loss, minimizing ocular media effects such as cataracts.

STATPAC, the language of perimetry, compares results to proprietary age-normative and glaucoma databases.

Early glaucoma detection
SITA-SWAP software reduces blue-yellow threshold test time to just 4–6 minutes, providing a clinically practical tool for early detection of glaucoma.⁴,⁵

Enhanced exam reliability
Patented system automatically tracks and aligns head and eye position.
Kinetic, Custom and Social Security Disability testing provide a wide range of special purpose testing protocols.

Practice and patient friendly
DICOM Gateway option supports connectivity in DICOM environments such as FORUM® or the U.S. Veterans Administration Hospitals. (Check for availability.)

HFA-NET Pro with EasyConnect™ RCT provides plug-n-play connectivity solutions to connect to an office network.

Touch-screen and menu-driven interface simplifies operation.
Ergonomic design promotes maximum comfort, access and versatility.

GPA – Advancing the Science of Progression Analysis

HFA Guided Progression Analysis (GPA) software accurately differentiates statistically significant progression of visual field loss from random variability, providing an advanced, proven method to enhance the management of glaucoma.

The analysis is based upon detailed empirical knowledge of the variability found at various stages of glaucomatous visual field loss through information acquired in extensive multi-center clinical trials worldwide.

GPA Summary Report

Baseline Exams
Establish initial visual field status.

VFI Value
A summary measurement of the patient’s visual field status, expressed as a percent of a normal age-adjusted visual field.

VFI Rate of Progression Analysis
Trend analysis of the patient’s overall visual field history.⁶

VFI Plot
Regression analysis of VFI values and 3 to 5 year projection.

VFI Bar
A graphical depiction of the patient’s remaining useful vision at the current VFI value along with a 3 to 5 year projection of the VFI regression line if the current trend continues.

Current Visual Field Summary
Complete report of current visual field including VFI, MD, PSD, the Progression Analysis Plot and the GPA alert.

GPA Alert
A message that indicates whether statistically significant deterioration was noted in consecutive tests.
HFA II-i and FORUM

Key new features available with the latest system software

Improved GPA design
- Presents “at a glance” visual field progression analysis on a single page report.
- Quantifies rate of progression with new global index VFI, optimized for progression analysis.
- Displays rate of vision loss relative to patient age for individualized patient care.
- Projects current rate of progression forward up to 5 years to help assess risk of future vision loss if current trend continues.
- Combines Full Threshold and SITA strategies.
- Automates removal of tests with poor reliability.
- Streamlines clinical interpretation and simplifies patient education.

Improved workflow
- Connect to your EHR, office network or any device using DICOM connectivity with the FORUM Eye Care Data Management system.
- Provides VFI as a simple and intuitive new global index to determine the percentage of visual field loss on every test.
- Prints to virtually any network printer with HFA-NET Pro and EasyConnect.
- Allows non-IT specialists to set up networking with EasyConnect RCT.
- Improves database performance – with Archive/Retrieve up to 60X faster.

HFA II-i and FORUM

Powerful connectivity. Simple integration.

Every HFA ships with the ability to connect to an office network through the FORUM Eye Care Data Management system. FORUM provides seamless connectivity between all ZEISS instruments, and any device using DICOM, the medical standard data protocol.

HFA II-i and FORUM

HFA connectivity with FORUM delivers centralized data storage, management and retrieval to make your glaucoma patient data instantly available – right at your fingertips.
- View the simultaneous display of reports from multiple instruments such as HFA, Cirrus® HD-OCT, GDx® and fundus cameras.
- Share raw data between HFAs through FORUM.
- Correlate structure and function at a glance with the HFA-Cirrus Combined Report.
- Have a truly seamless workflow by connecting FORUM to an EHR.

HFA-EHR integration with FORUM

HFA connectivity to an EHR through FORUM powerfully extends practice efficiency.

FORUM-powered, closed-loop workflow

HFA integration to an EHR through FORUM uses closed-loop workflow. Patient demographics originate in the lead system, the EHR, and are pulled into instruments connected to the EHR (through FORUM) in a standardized format using the FORUM Modality Worklist feature. This closed-loop workflow avoids patient record mismatches. For legacy patient records, FORUM offers FORUM ASSIST match, an easy way to find and merge multiple patient records using a variety of match criteria.

FORUM can also connect to networked devices without DICOM.

With or without an EHR, FORUM offers immediate efficiencies in patient record management. For a practice planning a EHR purchase, FORUM can ease the transition to paperless electronic workflow.
Humphrey Frequency Doubling Technology
Proven to find early visual field loss

Humphrey Matrix – for visual field loss detection and basic management
Operating a visual field instrument doesn’t get much easier than a Humphrey Matrix. It provides the ideal solution for busy practices seeking a single perimeter for case detection and fast threshold testing when streamlined assessment is an option. In addition to simplifying visual field testing, numerous studies show that frequency doubling perimetry can detect visual field loss missed by other methods. Its patented stimulus, space-saving user-friendly design and validated clinical performance all make the Humphrey Matrix an ideal solution for many practices.

- Proven diagnostic performance in detecting early visual field loss.
- Reliable FDT supra-threshold testing and quick threshold testing for high patient throughput.
- 15% faster threshold testing on average and up to 70% faster for more advanced cases.
- Video eye monitoring simplifies patient alignment and fixation monitoring.
- Large patient-friendly stimuli eliminate the need for trial lens correction in most patients.
- Simple operation allows less experienced staff members to operate.
- Data output option allows connectivity to OfficeMate®. (Ask for availability.)
- Connect to your EMR, office network or any device using DICOM connectivity with the FORUM system.
Humphrey Frequency Doubling Technology
Detect vision loss from ocular diseases

Humphrey FDT – for efficient visual field loss detection

Clinically validated
Multiple studies have shown that the Humphrey FDT detects visual field loss due to a variety of ocular diseases, including glaucoma. Thus FDT is ideal for clinics desiring to identify patients in need of ophthalmological referral.
- FDT is clinically validated in more than 170 peer-reviewed publications.

Proven performance on virtually all patients
Studies have found that virtually all patients can perform this fast and simple test with reliable results:
- Beijing Eye Study: 98% patient success. 14
- Tajimi Population Screening Study: 98.7% patient success. 15

Easy to operate and interpret
The FDT is optimized for use in non-ophthalmological settings and may be operated by healthcare workers having little or no specialty training in ophthalmology.
- Simplified three touch operation.
- Patients may be tested using their own glasses.
- Short test: ~ 40 seconds per eye.
- Small footprint.
- Simplified interpretation of results.

Both the Matrix and FDT also provide:
- Large, age-related normative database.
- Compact design that fits anywhere in your practice.
- Easy and intuitive operation for users of any level of experience.
- No requirement for trial lenses or eye patches.*
- Dependable performance in ambient light.

* Trial lenses are required beyond ± 3 diopters for the Matrix and beyond ± 7 diopters for the FDT.
## Technical Data

### Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>FDT</th>
<th>Matrix</th>
<th>HFA II/III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>720i</td>
</tr>
<tr>
<td><strong>Test specifications</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum temporal range (degrees)</td>
<td>30</td>
<td>30</td>
<td>89</td>
</tr>
<tr>
<td>Stimulus duration</td>
<td>300 ms</td>
<td>300 ms</td>
<td>200 ms</td>
</tr>
<tr>
<td>Visual field testing distance</td>
<td>Infinity</td>
<td>Infinity</td>
<td>30 cm</td>
</tr>
<tr>
<td>Background illumination</td>
<td>100 cd/m²</td>
<td>100 cd/m²</td>
<td>31.5 ASB</td>
</tr>
<tr>
<td><strong>Threshold test library</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N-30</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>C-20</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
</tbody>
</table>
| C-20, C-2, C-10, C-50, 
  Macula, 60-4, 
  Nasal step, 24-2, 30-2, 10-2 | •   | •      | •    | •    | •    | •    |
| **Threshold test strategies**         |     |        |      |      |      |      |
| MOB S                                 | •   | •      |      |      |      |      |
| ZEST                                  | •   | •      |      |      |      |      |
| SITA Standard, SITA Fast, Full Threshold, FastPac | • | • | • | • | • | • |
| SITA-SWAP                              | •   | •      |      |      |      |      |
| **Screening test library**            |     |        |      |      |      |      |
| C40, C64, C76, C80, C-Armal           | •   | •      | •    | •    | •    | •    |
| C-20                                  | •   | •      |      |      |      |      |
| N-30                                  | •   | •      |      |      |      |      |
| 24-2                                  | •   | •      |      |      |      |      |
| **Peripheral test patterns**          |     |        |      |      |      |      |
| **Screening test modes**              |     |        |      |      |      |      |
| Age corrected                         | •   | •      | •    | •    | •    | •    |
| Threshold related, Single intensity   | •   | •      | •    | •    | •    | •    |
| **Specialty test library**            |     |        |      |      |      |      |
| Social Security Disability, monocular, 
  binocular                            | •   | •      | •    | •    | •    | •    |
| Superior 36, 64                        | •   | •      | •    | •    | •    | •    |
| Kinetic testing                       | Option | Option | •    | •    | •    | •    |
| Custom testing                        | •   | •      |      |      |      |      |
Visual Field Analyzers

Technical Data

Selected references