Chart2020® version 9 delivers a new standard for the assessment of visual acuity, binocularity, stereo acuity, contrast sensitivity and other eye performance tests. Chart2020 offers hundreds of test options and strategies yet all easily accessed with the 45 button remote, smart menu docks, the iPad® controller and mini monitor or a click of the mouse.

Run your exam room efficiently and accurately, adding high-tech appeal, reduce administration time, delegate, with instant reporting database for trends over time.

**Visual acuity**
finally a complete platform

**Feature Overview**

- Visual acuity testing
- Astigmatism
- Binocularity
- Media and education
- Reporting
- Contrast acuity
- (e)ETDRS
- Stereo acuity
- Dyop® - dynamic optotype
- iPad controller
- Soft remotes
- Near VA
- Amsler 3D
Visual acuity

Extensive library of logMAR, Snellen and equally spaced letters, with classic functions to isolate, overlay and randomize letters. Includes standard optotypes, and the revolutionary dynamic optotype Dyop®

- Auto calibration to any size monitor
- Mirrored display
- Repeater monitor option
- Easy alternate test distance selector
- Displayed notation (feet/meters/decimal or LogMAR)
- Drag and drop real-time chart editor
- Pref LogMAR allows customization of displayed optotype sizes

Contrast acuity

Test your patient’s contrast sensitivity accurately with standardized outcomes, auto-guided test strategies. Test under different lighting conditions with real time luminance meter.

- In-built monitor luminance calibration calibrates to 85cd/m²
- Calibration insures standardized outcomes
- Automated Y|N test strategy allows for pre-testing PDF reports with age based graphical overlay* helps justify surgery to insurance companies
- Test both eyes separately and together
- Luminance meter saves real-time luminance directed at patient (allows comparison of contrast acuity under different lighting conditions)
- Quick testing using standard optotypes.
- Comprehensive testing using the sine gratings, either showing a single target or a forced choice (pairs) target. Test at 1.5, 3, 6, 12, 18 cycles per degree. Repeater monitor or iPad real time display shows the answer to the doctor. Test the patient not the doctor!
- Quick start option to shorten test time
- Inter-target pause allows retina recovery time

* Normative data infrastructure provided for age based overlay on report. Data not supplied

Stereo acuity

Measure your patient’s binocularity with some fun test strategies, either with a polarized or normal monitor.

- Patient wears polarized or color tinted anaglyphs
- Identifies which object is closest
- Large step sampling followed by precision threshold
- Unique testing due to randomization of targets
- Immediate alternate test distance option
- Doctor answer view – test your patient not the doctor

SHEMESH HEALTH SOLUTIONS

SA Office: Sunny Road, Glenhazel, Unit 5, South Africa | +27 87 809 2640
USA Office: 3994 w Hillsboro Blvd, Deerfield Beach, FL, 33442 | +1 954 246 0653

Reporting

Track trends over time for patient’s visual acuity, contrast sensitivity and stereo vision.
PDF reports can be used for
1. Justifying medical procedures to insurers
2. EMH | EMR records
3. Generating referrals
Report have your own logo and practice information, patient’s information and detailed graphical and tabulated reports.

Astigmatism

Fan with rotating selector
Rotating block – variable angle
Adjustable concentric circle thickness
Adjustable showerhead dot sizes
Synchronous fan to block axis refinement
Cross cylinder

Dyop® – short for dynamic optotype.

A Dyop® is a strobic visual target (optotype) whose uniformly moving/rotating calibrated gap and segment sizes, motion, color, and contrast provide a precise method for measuring visual acuity.

Rotating segmented circular optotype
Does not require patient literacy
Minimizes fixation and decision fatigue
Avoids over minusing and memorization
Eliminates visual processing and perception
Acuity end point determined when dyop appears static
Faster and more accurate refractions
Clinically validated - Dr Paul Harris SCO OD, FCOVD, FACBO, FAAO, FNAP PROFESSOR
Eliminates guessing with similar shaped letters

Dyop®
## Specifications

<table>
<thead>
<tr>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mirrored lane</td>
</tr>
<tr>
<td>Customizable test distances</td>
</tr>
<tr>
<td>Alternate language optotype</td>
</tr>
<tr>
<td>Metric</td>
</tr>
<tr>
<td>Polarized</td>
</tr>
<tr>
<td>Anaglyph to monitor calibrator</td>
</tr>
<tr>
<td>Patient real time luminance reader</td>
</tr>
<tr>
<td>Customizable media library</td>
</tr>
<tr>
<td>Operating System</td>
</tr>
<tr>
<td>Windows 7, 8, 10</td>
</tr>
<tr>
<td>Mac OSX on Parallels</td>
</tr>
<tr>
<td>iOS and Android controllers and repeater screens</td>
</tr>
<tr>
<td>Users</td>
</tr>
<tr>
<td>Multiple users</td>
</tr>
<tr>
<td>Each user has multiple sequences easily</td>
</tr>
<tr>
<td>edited from any library test by drag &amp; drop</td>
</tr>
<tr>
<td>3rd Party Educational Apps</td>
</tr>
<tr>
<td>Most are easily added on request</td>
</tr>
<tr>
<td>Low Vision Optotypes</td>
</tr>
<tr>
<td>Only limited by size and resolution of monitor 20/10 to 20/2000</td>
</tr>
<tr>
<td>ePhoropter Interface</td>
</tr>
<tr>
<td>Available Q3 2017</td>
</tr>
<tr>
<td>Regulatory</td>
</tr>
<tr>
<td>ISO 8596-2009 compliant</td>
</tr>
<tr>
<td>FDA listed</td>
</tr>
<tr>
<td>Upgrades</td>
</tr>
<tr>
<td>Many older electronic chart systems can be upgraded to the power of Chart2020</td>
</tr>
<tr>
<td>Demos</td>
</tr>
<tr>
<td>Try before you buy.</td>
</tr>
<tr>
<td>Contact your representative or distributor for more information.</td>
</tr>
</tbody>
</table>

## Configurations

### Plug & Play
- Hardware, software and IR remote supplied
- Just mount and start testing

### Software only
- User supplies PC
- Installation of software via internet or remote support
- LITE, PRO or month to month versions
- Accessories sold separately

### Trolley Plug & Play
- Hardware, software and IR remote supplied on a mobile trolley.
- Move trolley easily from room to room.
- Move the trolley instead of the patient, to test at different distances.

## Purchase options

- **$29** Monthly
- **$795** LITE
- **$1,295** PRO
- **$2,099** BUNDLED
- **Price on request** TROLLEY BUNDLE
- **$29** DYOP Monthly

---

Mirror: Sunny Road, Glenhazel, Unit 5, South Africa | +27 87 809 2640
USA Office: 3994 w Hillsboro Blvd, Deerfield Beach, FL, 33442 | +1 954 246 0653
**Polarized medical monitor**

- Real time luminance reader placed at the patient
- Test acuity and contrast under glare

**Circular polarized monitor**

- Stereo acuity auto-guided tests.
- Polarized test library including binocularity and fixation disparity

**Datacolor spyder calibration**

- Automated built-in luminance calibration
- Standardized contrast acuity

**Patient luminance reader**

- 45 button infra red remote USB receiver
- Simplicity Reliability Move from room to room
- No pairing 6 month battery life

**Remote / Control options**

- iPad controller
  - Easy to pair via wifi in-built repeater monitor
  - Gesture Control
  - Easy access to control all tests and functions
  - Helps to keep eyes on patient and not the monitor

**Hardware feature options/kits**

- Datacolor spyder calibration
- Lumiance monitor calibration
- Circular polarized monitor
- Patient luminance reader
- Remote / Control options
- 45 button infra red remote USB receiver
- iPad controller
**Chart2020 Connect**

Connect allows you to full over the Chart2020 application, via taps, gestures and more. It also serves as a repeat monitor, so you don't have to turn your head to see the patient monitor. Keep your eyes on your patient not the technology!

- Connects via wifi
- One-button access to all tests
- Private doctor answer view for Contrast and Stereo
- Intuitive gestures for
  - Randomization
  - Masking
  - VA size changes
  - Moving through test sequences
- Multiple exam room setup

**Near VA**

Near VA provides a near visual acuity test. Test charts are dynamically prepared based on a users choice of settings.

- Test distances from 0.33 to 6 meters (14 inches to 20 feet)
- Gesture driven:
  - larger - smaller optotypes
  - randomization (double tap)
  - One touch, pop-up magnifier
- Masking options
  - single lines (vertical + horizontal)
  - single letter
- Notations
  - 20/xx, LogMar, Decimal, and Metric

**Amsler 3D**

Allow your patient to draw on the iPad grid where they see the anomaly.

- Anomalies gets saved with the date and comments
- All anomalies layered on 1 image to see historic progression
- Complete history of your anomalies

**TEST OPTIONS**

- White, red or black grid
- Fixation diagonals
- Centre dot blink to assist to keep eye positioned correctly

**Remote**

Remote allows you to connect to the Chart2020 application using your mobile or your tablet.

- Replace your old Infra Red remote with this app.

**TEMPLATES**

- Use our pre defined layout
- Make your own template
- Request customized template

- Use tablet | mobile as a virtual mouse, keyboard
- Use as a repeater screen