Chart2020® version 10 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

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

#### Functions

<table>
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<th>Functions</th>
<th>Optotypes</th>
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<td>Randomization</td>
<td>Letters, HOTV</td>
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<td>Isolation</td>
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<td>Direct Size Access</td>
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<td>Duochrome Overlay</td>
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<td>Inversion</td>
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</table>

### 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.

#### Suitability

- Ophthalmic clinics
- Clinical trial studies
- Low vision clinics
- Pre-testing exam rooms

#### Hardware

- Calibration device for screen luminance
- Real time ambient luminance

#### Targets

- Letters, numbers, pediatric optotypes
- Sine gratings

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 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

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*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.

#### Suitability

- Military
- School

#### Monitors

- Polarized using circular polarized methods
- Normal monitors using color separation

#### Tests

- Random stereo dots
- 4 shapes test
- 3 poles test

Data displays arc minutes achieved for each test. Military min req is 40 arc seconds

#### Reporting

- Displays arc minutes achieved for each test.

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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

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**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

**Binocular**

- Polarized

**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

**Standard (red | green or red | blue)**

<table>
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<tr>
<th></th>
<th>Vertical &amp; horizontal coincidence</th>
<th>Fixation disparity</th>
<th>Worth 4 dot</th>
<th>Duochrome balance</th>
</tr>
</thead>
</table>

**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.

Low Vision Optotypes
Only limited by size and resolution of monitor
20/10 to 20/2000

ePhoropter Interface
Available Q3 2019

Regulatory
ISO 8596-2009 compliant
FDA listed

Upgrade Many older electronic chart systems can be upgraded to the power of Chart2020

Demos
Try before you buy. Contact your representative or distributor for more information.

Specifications

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<tr>
<th>Options</th>
<th>Patient hold loop advertising</th>
<th>Auto backups</th>
<th>Dual monitor with private answer view</th>
<th>Customizable logo and info for reporting</th>
<th>Chat live from Chart2020</th>
</tr>
</thead>
</table>

Operating System
Windows 7, 8, 10
Mac OSX on Parallels
iOS and Android controllers and repeater screens

Users
Multiple users
Each user has multiple sequences easily edited from any library test by drag & drop

3rd Party Educational Apps
Most are easily added on request

Low Vision Optotypes
Only limited by size and resolution of monitor
20/10 to 20/2000

<table>
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<tr>
<th>Software only</th>
<th>Plug &amp; Play</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Hardware, software and IR remote supplied</td>
</tr>
<tr>
<td></td>
<td>Just mount and start testing</td>
</tr>
</tbody>
</table>

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

- **MONTHLY**
  - **LITE** $29
  - **PRO** $795
  - **BUNDLED** $1,695
  - **DYOP** $29

- **Price on request**
  - **TROLLEY BUNDLE** $2,099

**Polarized medical monitor**
- Circular polarized monitor
  - Stereo acuity auto-guided tests.
  - Polarized test library including binocularity and fixation disparity

**Datacolor spyder calibration**
- Luminance monitor calibration
  - Automated built in luminance calibration
  - Standardized contrast acuity

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

**Hardware feature options/kits**

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

**Chart2020 Connect**

Connect allows you to fully 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 user’s 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 are saved with the date and comments
- All anomalies layered on 1 image to see historic progression
- Complete history of your anomalies

**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 predefined layout
- Make your own template
- Request customized template

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