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Thank you for purchasing the Sharp VA version 4 software system for Windows/PC and Macintosh computers!

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END USER LICENSE AGREEMENT

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All questions concerning this Agreement should be directed to McPartland Medical, LLC (support@sharpva.com).
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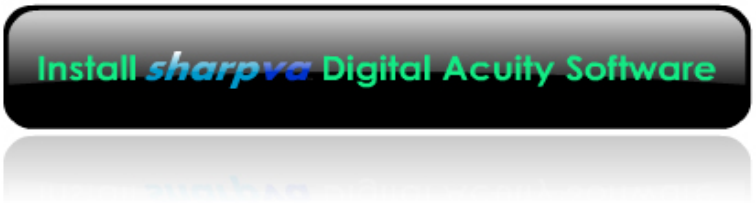
Software Installation

Windows/PC

Step 1: Insert the Sharp VA CD-ROM. The Setup Menu should launch (if it does not auto-run within two minutes, you can manually start the setup by going to *Computer* and clicking on the CD-ROM drive icon).

Step 2: Once the Setup Menu appears, click on the "Install Sharp VA Digital Acuity Software" button (pictured below), and follow the on-screen instructions.



You will be presented with two on-screen steps. Click on "Install Remote Control Driver" to complete step 1. Please note, if you have Windows 7 (or a 64-bit version of Windows Vista), you may require a remote control driver patch in order to complete step 1. These patches may be downloaded here:

Windows Vista (64-bit only): http://sharpva.com/remote/Windows_Vista_64-bit.pdf
Windows 7 (all versions): http://sharpva.com/remote/Windows_7_64-bit.pdf

Once you complete the remote control driver installation, a remote control test screen will appear. This will allow you to test every button on the remote control and will ensure a proper installation of the remote control driver. **With the remote control test screen displayed, please take your mouse and click on some of the buttons on the image of the remote control.** You will see them turn red. Next, take your remote control and hold down a button—watch for the corresponding button on the screen to turn red (just as it did when you used the mouse). If you have downloaded a remote control driver from the Streamzap website, then you have the incorrect remote control driver installed. This is not our remote control driver; only our custom remote control driver will work with the Sharp VA software. Again, please install the proper remote control driver directly from the Sharp VA CD-ROM. **If at any time during the installation process you are asked to connect to Windows Update to search for software, please select No.**

Once the remote has been properly installed, you will see the following icon in the system tray:

Continue reading for additional Remote Control Guide and Button Functions.

*Note: If you are using the old Keyspan remote control and Windows operating system, please go to remote.sharpva.com for a detailed remote setup guide.

Next, please click on "Launch Calibration Wizard". Please note, an Internet connection is required to complete this step. If the computer you intend to use the Sharp VA software on does not have a live Internet connection, you can easily complete this step on a separate computer, and then transfer the downloaded software to the intended computer via USB thumb/flash drive.

Please enter your unique Installation Password.

Next, simply answer the on-screen questions regarding your exam room setup. The online Calibration Wizard will automatically compile a custom software download specifically for your exam room, **and will add this information to your account on file**.

Next, click the download button.

Step 3: Now that your custom calibration has been downloaded, please double-click on the "setup" icon to run the installation. Please follow all on-screen instructions in order to complete the installation process. Remember, it is the responsibility of the doctor/user to ensure and make certain that proper calibration has been achieved and verified.

You are now ready to go!

PC Remote Control Guide

MAIN	MAIN Menu (aka Module Selection Menu)
EXIT	Exit Sharp VA
S	Single Optotype Isolation
S1	Single Row Isolation
S3	Multi-line presentation
#	Numbers
K	Kindergarten/Pediatric Symbols
C	Contrast Sensitivity Testing
RG	Red-Green Overlay (select charts)
E/C	Tumbling Es/Rolling Cs
Oth	Other Charts/Tests (Fixation Disparity, 4-Dot, etc)
LV	Low Vision Module
B	Black Screen w/ White Fixation Dot (1st Push)
B	Black-Out Screen (2nd Push)
B	Robot Fixation (3rd Push)
W	White Screen w/ Black Fixation Dot (1st Push)
W	White-Out Screen (2nd Push)
W	Robot Fixation (3rd Push)

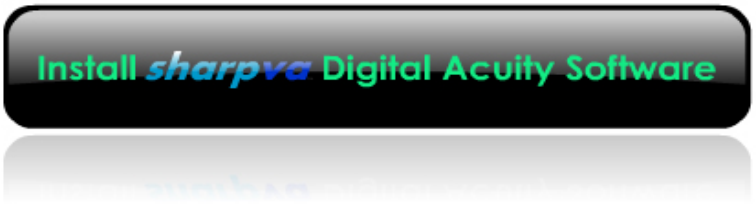
Up	Increase Optotype Size/Menu Navigation
Down	Decrease Optotype Size/Menu Navigation
Left	Change Optotype Presentation (see page 13-14)/ Menu Navigation
Right	Change Optotype Presentation (see page 13-14)/ Menu Navigation
OK	Randomization of Optotypes (select charts)/Menu Selection
Menu	Chart Selection Menu

15 20 25 30 40 60 80 100 200	Quick "Jump to" Optotype Selection Buttons
C	Cartoon Fixation Selection Menu
A	Astigmatic Testing Module
Pt	Patient Education Module
D	"The doctor will be with you..." (Courtesy Screens)

Macintosh

Step 1: Insert the Sharp VA CD-ROM and double-click on the CD-ROM icon on your desktop. Next, open the folder titled *Macintosh* and double click on the file titled ***START***. This will launch the Sharp VA Installer. Please note that an Internet connection is required to complete this step. If the computer you intend to use the Sharp VA software on does not have a live Internet connection, you can easily complete this step on a separate computer, and then transfer the downloaded software to the intended computer via USB thumb/flash drive.

Step 2: Once the Setup Menu appears, click on the "Install Sharp VA Digital Acuity Software" button (pictured below), and follow the on-screen instructions.



Next, please click on "Launch Calibration Wizard".

Please enter your unique Installation Password.

Next, simply answer the on-screen questions regarding your exam room setup. The online Calibration Wizard will automatically compile a custom software download specifically for your exam room, **and will add this information to your account on file**.

Next, click the download button.

Step 3: Please note that in order to install the Sharp VA software on a Macintosh, you will need to unzip the SVA.hqx file. This can be done by utilizing the free Macintosh application Stuffit. Remember, it is the responsibility of the doctor/user to ensure and make certain that proper calibration has been achieved and verified.

Step 4: Remote Control Setup: Follow These Directions Carefully!
First, install the included Keyspan Remote control software. Once the Remote Control software has been installed, see the following instructions:

A. Insert the Sharp VA disc; open the folder titled "Other". Next, open the folder titled "Mac Remote" and copy the file titled "sharpsystem.map".

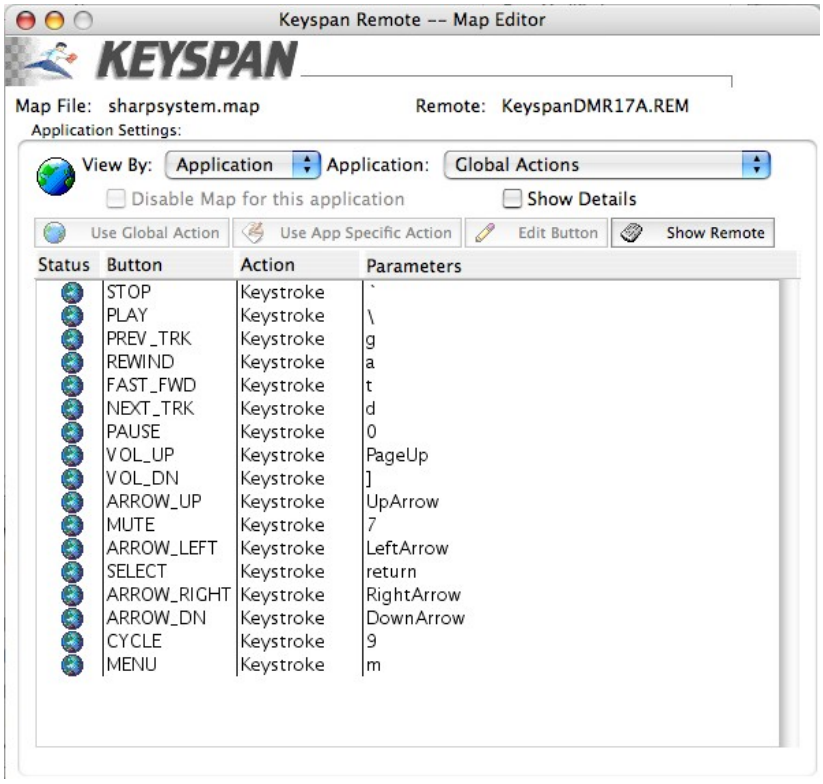
This file will need to be pasted in the following directory:
Macintosh HD > "Your Computer's Name" > Library > Preferences > Keyspan DMR Preferences

B. Open the KeyspanDMR software application. Click on *Configure*. Then on the menu bar, go to *Settings* > *Map File* > *sharpsystem.map*

C. Next, on the menu bar, go to *Edit* > *New Application* > and from here, select the Sharp VA application (most likely on your Desktop, titled "SVA").

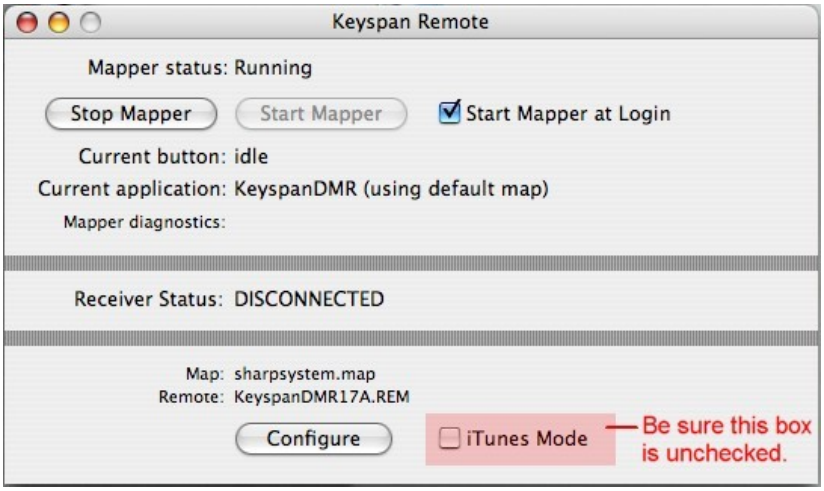
Having Keyspan Remote Difficulties? See next page.

Please open the **Keyspan DMR** application and click *Configure*. Use the following image to edit your remote settings:



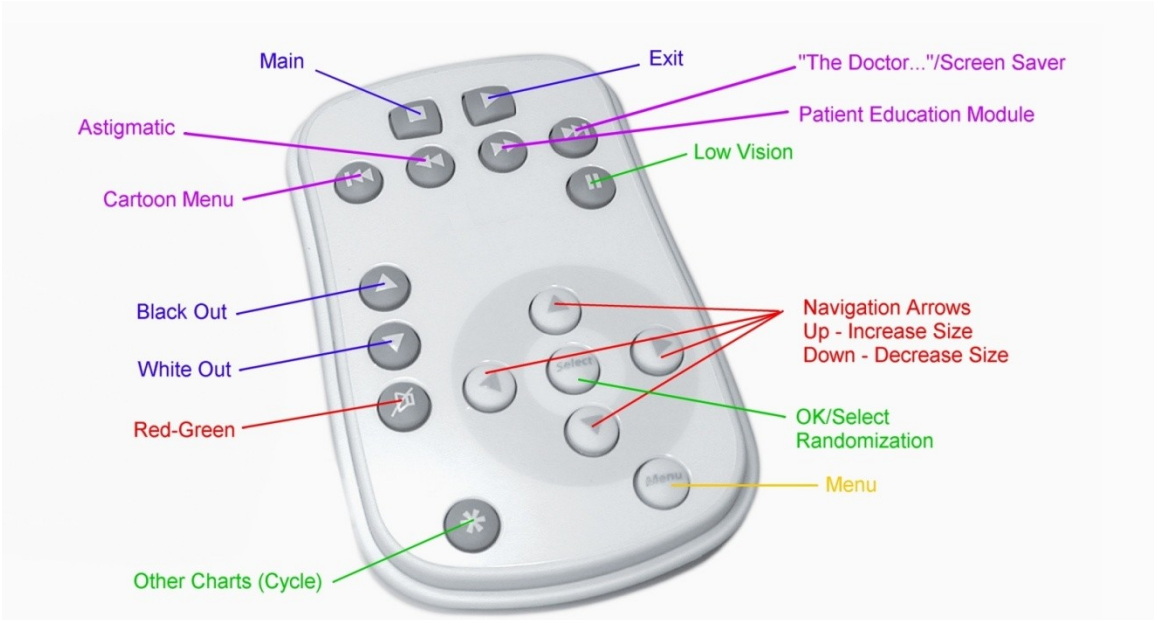
Now that your Map Editor matches the image above, save your Map file by going to **File** > **Save Map** (i.e., sharpsystem.map).

Be sure that the box titled "iTunes Mode" is unchecked.



Still having setup difficulties: http://remote.sharpva.com/KeyspanHelp.pdf

Using the Keyspan Remote Control to Operate Sharp VA v4

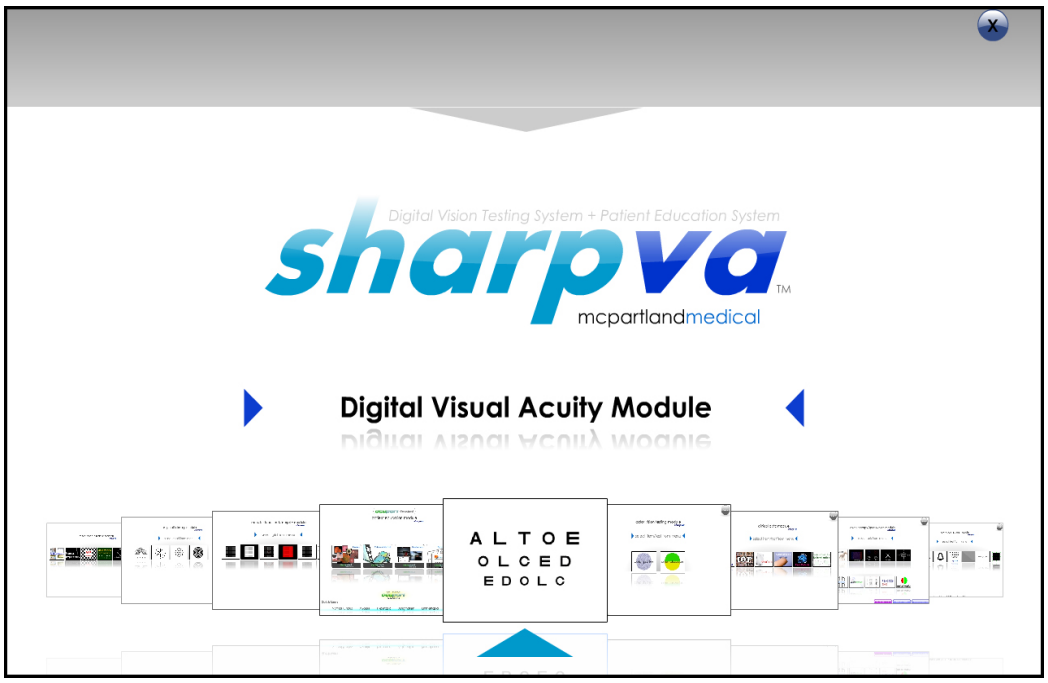


Main …Brings up Main Sharp System Selection Screen
Exit …Exit Sharp System
Cartoon Menu …Cartoon Selection Menu
Astigmatic …Astigmatic Chart Selection Menu
Patient Education Module …Patient Education Selection Menu/Pathology Photos
"The Doctor Will Be Right With You" Screen (1st Push) / Screen Saver (2nd Push)
Low Vision …Low Vision Testing (optotypes from 20/200 to 20/1200 in size)
Black Out …Black Screen w/ White Fixation Dot (1st Push), Black Out (2nd Push), Robot Fixation (3rd Push)
White Out … White Screen w/ Black Fixation Dot (1st Push), White Out (2nd Push), Robot Fixation (3rd Push)
Red-Green …Red-Green Overlay (selected optotypes only)
Other Charts …Other testing charts (4-Dot, Fixation Disparity, etc)
Menu …Pulls up the Chart/Testing Menu
Up …Increase Optotype Size / Menu Navigation
Down …Decrease Size / Menu Navigation
Right …Change Optotype Presentation (i.e., single line to single letter)
Left … Change Optotype Presentation (i.e., single letter to single line)
OK/Selection …Randomization of Letters (selected charts only)/Select on Menus

Launching the Sharp VA software

The Sharp VA software is programmed to automatically display on 'Monitor 2' when used in a dual monitor setup. If you are only using a single monitor setup, simply click "OK" when the **"Monitor No. 2 not found!"** notice appears (this is a normal part of the launch sequence).

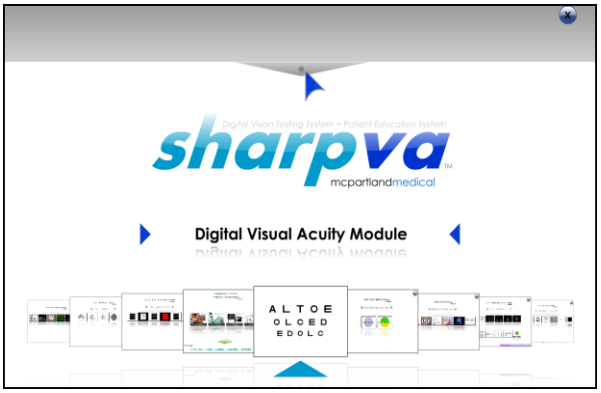
When you launch the Sharp VA software, you will first be taken to the **Module Selection Menu**:



Pictured above is the MAIN Sharp VA menu (aka Module Selection Menu), which can be accessed by pressing the MAIN button from any screen/chart within the Sharp VA software.

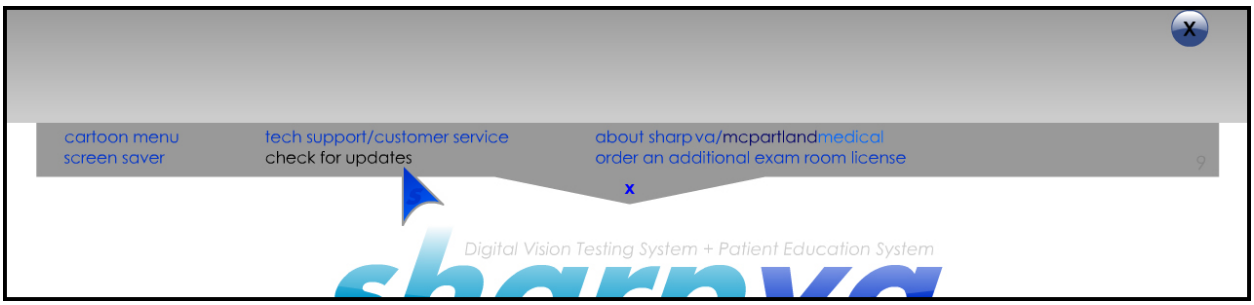
It is from this menu that you can access each of the nine Sharp VA modules:

Digital Visual Acuity Module
Color Vision Testing Module
Patient Education Module
Clinical Data Module
Macular Function & Integrity Module
Vision Therapy/Sports Vision Module
Astigmatic Testing Module
Low Vision Module
Miscellaneous Tests and Charts



In the picture to the left, please notice the mouse pointer. By clicking on this downward oriented triangle, you can access the drop-down sub-menu.

This menu will allow you to access the Children's Cartoon Fixation Menu, the Screen Saver, contact Tech Support/Customer Service, check for software updates (both Sharp VA and Ocuport), obtain remote control driver patches (if needed), and more.



Digital Visual Acuity Module

Once you select the Digital Visual Acuity Testing Module, you will be taken to the Snellen three line acuity chart (S3 button) pictured below.

From this point, several shortcuts exist to change how letters are displayed. See below:

S Press for Snellen Single Letter Isolation (press the Left Arrow to show Contour Bars)

S1 Press **Once** for Snellen Single Line Isolation, **Horizontal**

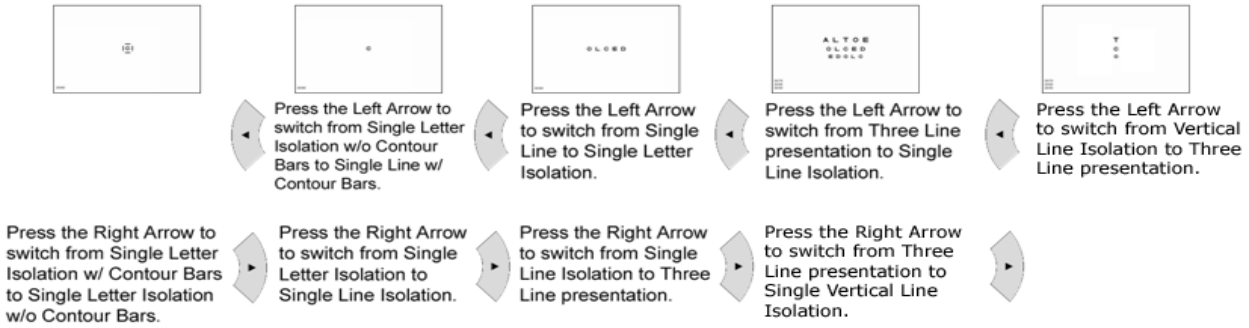
Press **Twice** for Single Line Isolation, **Vertical**

S3 Press **Once** for Snellen Three Line Presentation

Press **Twice** for Snellen Three Line Presentation with red underline

Press **Three Times** for Snellen Five Line Presentation

Shifting from **Three Line** to **Single Line Isolation** to **Single Letter Isolation** with and without contour bars.



(#) Press to display Number Charts.
Press Left to isolate a single line, Left again to isolate a single number. Press Right to cycle back.

(K) Press to display Pediatric (Kindergarten) Symbols.
Press Left to isolate a single line, Left again to isolate a single symbol, Left again to add crowding bars. Press Right to cycle back.

(C) Press to display Contrast Sensitivity Charts (see Contrast Sensitivity Testing below).
Press Right and Left to cycle between contrast tests.

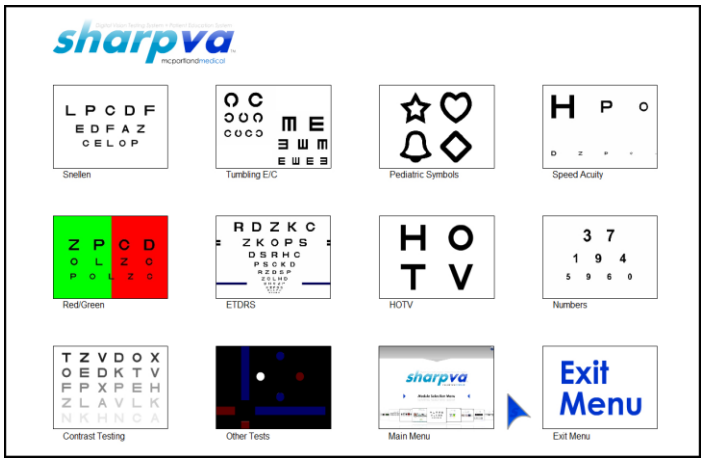
(RG) Press to display Red-Green Overlay (duo-chrome). Press again to remove.
Only available on select charts (Snellen Three Line, Pediatric Three Line, Es multi-line presentation).

(E/C) Press **once** to display Es. Press **twice** to display Cs.
Press Left to isolate a single line, Left again to isolate a single letter. Press Right to cycle back.

(Oth) Press to display and cycle through Other Charts:
Fixation Disparity (red-blue and red-green, with and without fusion lock), 4-Dot test (red-blue and red-green), Maddox Rod test, Red-Green balance circles. Press the Right and Left buttons to cycle through.

(LV) Press to go to the Low Vision Module Menu.

MENU Press to display the Chart Selection Menu.



Once you have selected the Digital Visual Acuity Testing Module, you can switch between any of the Sharp VA charts/tests quickly and easily by accessing the Sharp VA Chart Selection Menu. This can be accessed by pressing the yellow Menu button on your remote control or by pressing the **m** key on your keyboard.

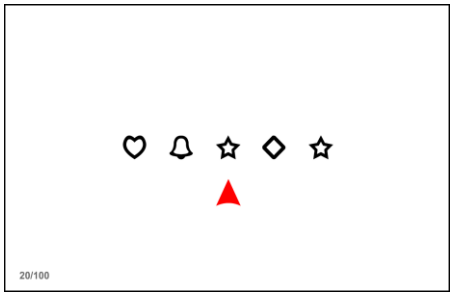
Chart Options Include: Snellen, Tumbling Es/Cs, Pediatric Symbols, Speed Acuity, Red-Green Overlay, ETDRS, HOTV, Numbers, Contrast Testing, Other Tests/Charts, Main Menu, and Exit Menu.

Randomization

Press the OK button to randomize the optotypes (all Snellen letter charts, all Pediatric Symbol charts, all HOTV charts, all Tumbling E charts, Rolling C single line and single letter charts, Number single line and single number charts).

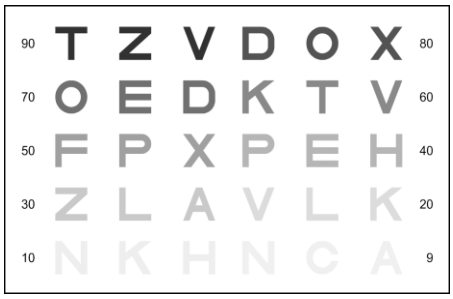
Easy Pointing Arrow

Some charts (HOTV and Pediatric/Kindergarten Single Line charts) contain an enlarged red pointing arrow (controlled by the mouse), as pictured to the right:



Contrast Sensitivity Testing

Sharp VA includes two methods to assess the contrast sensitivity of a patient. The first consists of two charts—of equal optotype size—and varying levels of contrast. Each contrast level contains exactly three optotypes as is notated as a percentage on the left or right side of the screen.

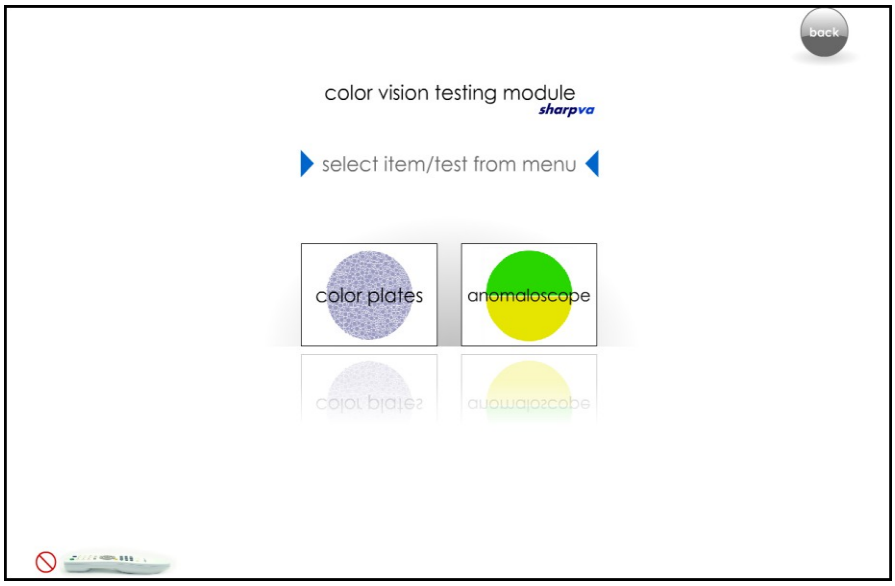


For example, in the chart above the first three optotypes are **T Z V**; all of which are at a 90% contrast level (as notated by the "90" to the left of the three optotypes). The second group of three optotypes is **D O X**; all of which are at a contrast level of 80%. This contrast chart continues in this progression (in 10% increments, and then in 1% increments).

Press the Right and Left Arrows to cycle between Contrast Tests. Press the Up and Down Arrows to increase or decrease optotype size.

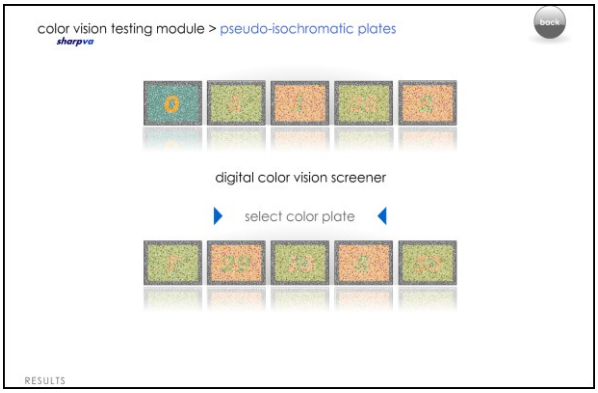
The second method of contrast testing is in the form of a standard eye chart containing varying levels of acuity in descending order. The optotypes of this chart can be increased or decreased in size by pressing the Up and Down Arrow Buttons (or Up and Down keys on the keyboard). To alter the contrast levels, simply press the Right (to decrease) or Left (to increase) Arrow buttons (or Right and Left keys on the keyboard).

Color Vision Testing Module



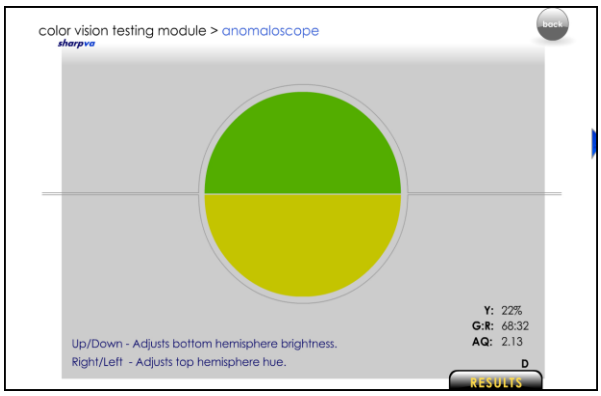
The Color Vision Testing Module is comprised of two main tests:

Pseudo-Isochromatic Color Test Plates
Anomaloscope



Pseudo-Isochromatic Color Test Plates
In addition to displaying an individual plate, you can also easily cycle through all ten plates. On the color plate selection menu (pictured here), you can click on the Results button (located in the lower left corner of the screen) to quickly interpret your color vision screening findings.

Anomaloscope



An anomaloscope is used to characterize color-matching behavior in patients. In our rendition of the anomaloscope, the patient views a hemi-bipartite field. The upper hemisphere can be varied continuously from pure green to pure red, while the lower hemisphere can be adjusted in brightness within the yellow spectrum. This will help differentiate between tri- and dichromats. This test requires the patient to use only two primary colors (instead of the normal three) to make a color match. Abnormal color matches indicate anomalous color vision. With this, one can distinguish between a protan and a deutan. A deutan will require more green to match, whereas a protan will require more red to match.

The first screen you will be taken to is the Anomaloscope Menu. From this menu you can select which test to administer:

Test 1: Variable Hue (standard test)

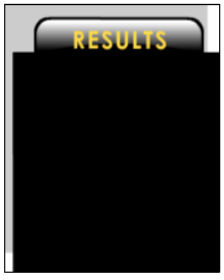
In this test, the patient is able to subjectively vary the upper hemisphere continuously from pure green to pure red. Only the upper hemisphere can be adjusted. The objective of this test is to have the patient make a color match.

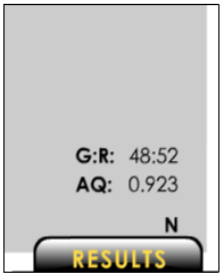
Test 1 is the recommended, most efficient, and most commonly used test with an anomaloscope.

Test 2: Variable Hue and Brightness

In this test, the patient is able to subjectively vary both the upper and lower hemispheres. The upper hemisphere can be varied continuously from pure green to pure red, while the lower hemisphere can be adjusted in brightness within the yellow spectrum.

In both Test 1 and Test 2, please notice the Results tab located in the bottom right-hand corner of the screen. By clicking on this tab, you can reveal the outcome of each color match.





Anomaloscope Results Tab: Interpretation

G:R Green to Red ratio of subjective color match

Expressed as a percentage. For example, 48:52 indicates a color match consisting of 48% green and 52% red. A ratio of 50:50 would indicate a perfect color match. An assumed color normal patient will fall within the following color match range: 59:41 to 43:57.

AQ Anomaloquotient

Calculated based on patient's subjective color match, relative to unity (product of a calculated result for a perfect color match).
Values within the range of 0.754 to 1.44 are assumed color normal.
Values greater than 1.44 are probable deutans.
Values less than 0.754 are probable protans.

Y Yellow Brightness (%)

This feature is found only in Test 2, and indicates the brightness level of the lower hemisphere of spectral yellow (expressed as a percentage).
A perfect match can be achieved with a 50% yellow brightness (Test 2).
An assumed color normal will fall within the following color match range: 40% to 60%

N Normal

A capital "**N**" will appear in the results if the subjective green-red color ratio is between 59% green (41% red) and 43% green (57% red).

P Protan

A capital "**P**" will appear in the results if the subjective green-red color ratio is less than 43% green (greater than 57% red).

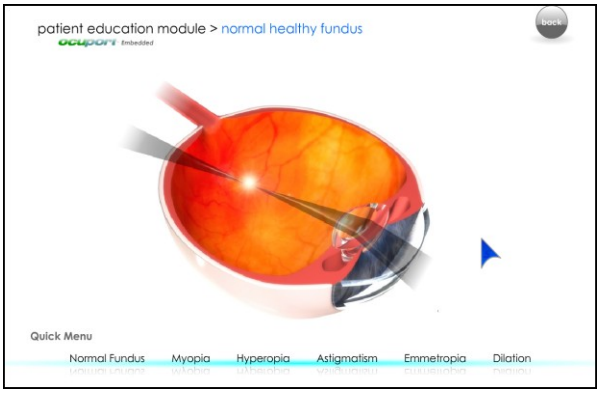
D Deutan

A capital "**D**" will appear in the results if the subjective green-red color ratio is greater than 59% green (less than 41% red).

In Test 2, a perfect color match is achieved with a 50% yellow brightness, a green-red ratio of 50:50, and an anomaloquotient of unity (1.00).

Patient Education Module

Pictured is the first screen you will see in the Patient Education module. From this screen you have a number of options.

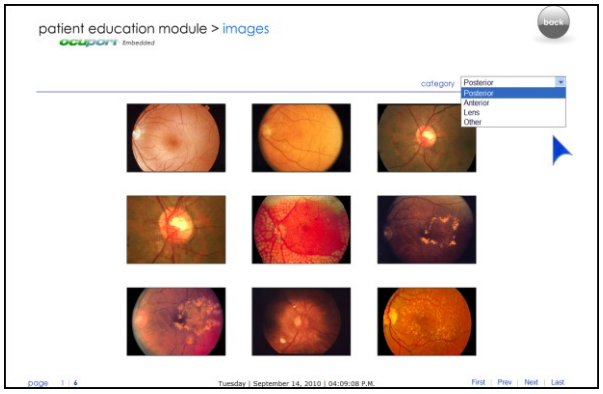


Aside from Images, Video/Animation, Simulations, and Patient Handouts, you can also use the Quick Menu (bottom of screen) to demonstrate to patients the normal fundus, myopia, hyperopia, astigmatism, emmetropia, and the effects of pupillary dilation.

Note: the Patient Education Module requires the use of a mouse, and some features require a live Internet connection.

Images

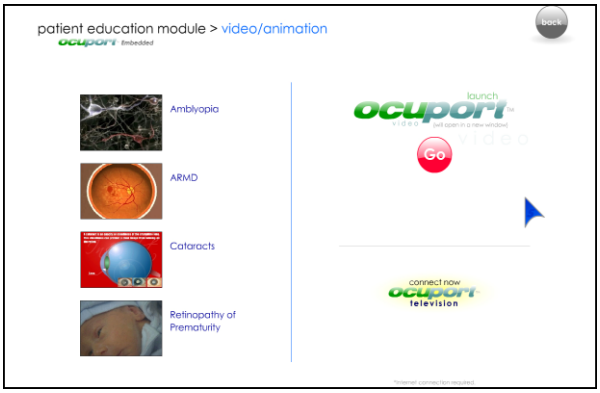
The Patient Education Module comes pre-loaded with over 100 images. For those who are exceedingly proficient with a computer, additional images can be quickly added to the Patient Education Module. For instructions on how this can be done, please go to the drop down sub-menu on the Module Selection Menu, and select *Tech Support/Customer Service*. Next click on Video Support for help.



Video/Animation

Contains a handful of educational videos that may be played on demand.

Ocuport ™ TV: Internet Connection Required
The Patient Education Module now features an immediate and direct connection to Ocuport ™ TV. Ocuport ™ TV is a web-based resource to help entertain and educate your patients (in the exam room, and while they wait).

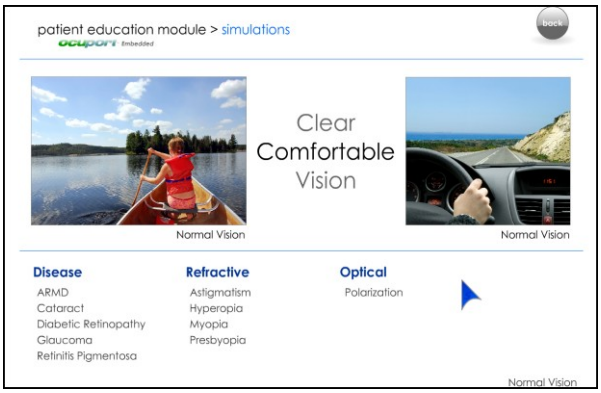


Mac: Please go to www.Ocuport.com/tv.html, make your browser full screen, and then click "Go to Ocuport TV" to start.

Ocuport ™ Video: Internet Connection Required
In addition to Ocuport ™ TV, the Sharp VA Patient Education Module also features an Ocuport ™ Video system launch button. This can be used to access additional video and animated content for supplementing patient education. Ocuport ™ Video content is frequently updated. **This feature will only work if you have the Ocuport software installed on your computer.**

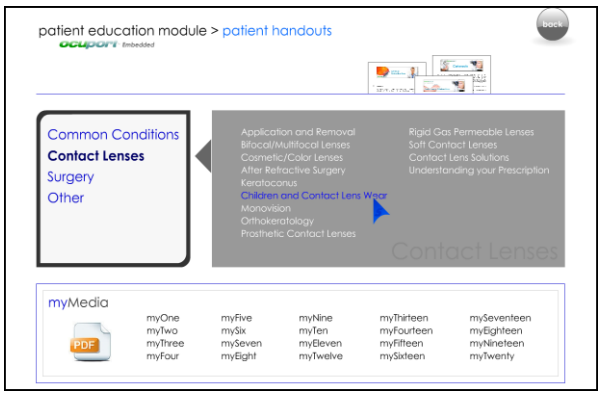
Simulations

This portion of the Patient Education Module contains images and tools that are effective in demonstrating the natural history of ocular pathology as it applies to vision. Effective demonstrations of refractive error and the polarization of ophthalmic lenses can also be found here. The Cataract simulation can also be used to show the visual effects of trace, mild, moderate, and severe cataracts.



Patient Handouts

The Patient Education Module now features a database of dozens of patient education PDF handouts that may be instantly printed and handed to your patients.



This feature will only work if you have Adobe ™ Reader installed on your computer, and may not work as intended with web browsers other than Internet Explorer (e.g. Firefox).

In addition to the dozens of topics already covered, you can also add up to 20 of your own PDF handouts. Located on the bottom of the Patient Handouts screen, notice the box titled myMedia.

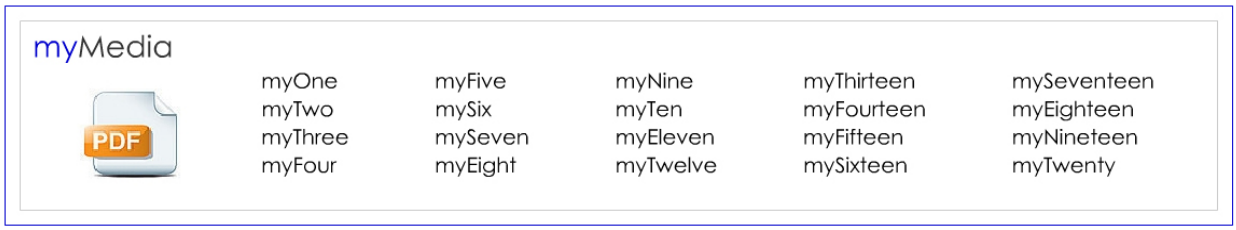
Naming custom PDF files:
As noted above, you can add up to 20 of your own PDF files. These must be named properly in order for them to be accessible via the Patient Education Module. Proper naming is as follows:

1.pdf
2.pdf
… …
19.pdf
20.pdf

To add PDF files to myMedia, simply go to

Computer > C: > Program Files > Sharp VA > PDF

Once you have located the PDF folder, drag-and-drop (or paste) your PDF file(s) into this folder.



Note: For Macintosh users, simply locate the PDF folder on your desktop to access PDF files.

Clinical Data Module

The Clinical Data Module features several useful resources:

Glaucoma Risk Calculator

Aids in determining a patient's predicted five-year risk of developing glaucoma. To use this tool, simply select the patient's age range, IOP, vertical C/D, CCT, PSD from visual fields, and whether or not your patient has an official diagnosis of diabetes. Once this is done, click the Calculate Risk button located in the lower right corner of the screen. This will give you a number. Next, click on "**what's this mean >>**" to determine what a given patient's 5-year risk of glaucoma development is (expressed as a percentage).

IOP/CCT Nomogram

This can be quickly accessed to determine if an adjustment to measured IOPs is necessary based on measured central corneal thickness.

Drug Facts

The Drug Facts tool covers most ocular medications and several popular systemic medications. This guide can be used to obtain side effects, contraindications, trade and generic names, dispensed volumes, mechanisms of action, drug classifications, potency index, and more.

Contact Lens Calculators

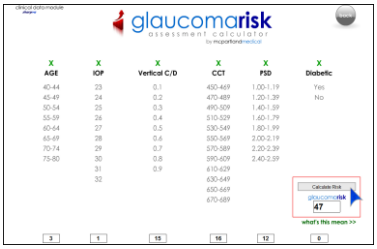
Contact lens calculators include RGP center thickness, LASIK estimation, mm-to-diopter conversion, and vertex distance. Additionally, a RGP default parameter guide is included for those who rarely utilize rigid lens designs.

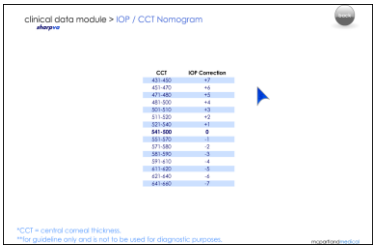
Binocular Visual Field Defects Guide

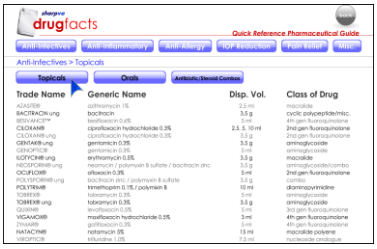
This guide provides a great reference for less common visual field defects, and their possible origins.

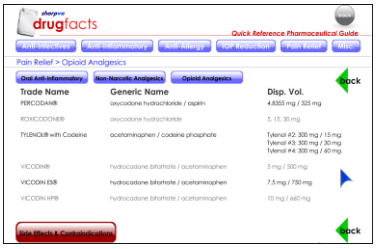
Vertical Deviation Determination Tool

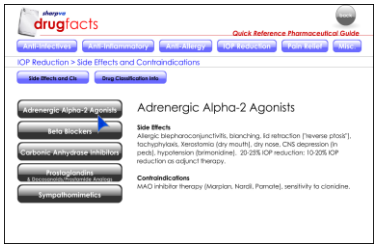
Helps determine the neurological cause of a patient's hypertropia.

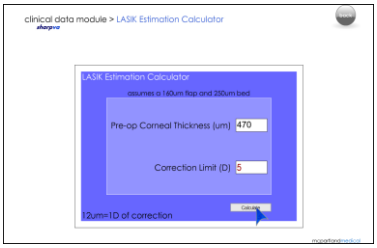


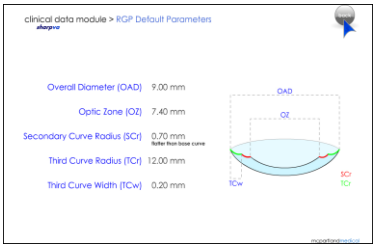


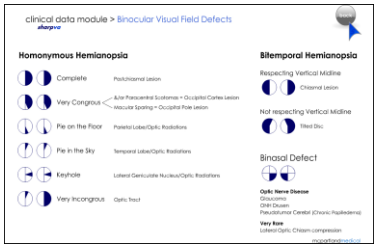




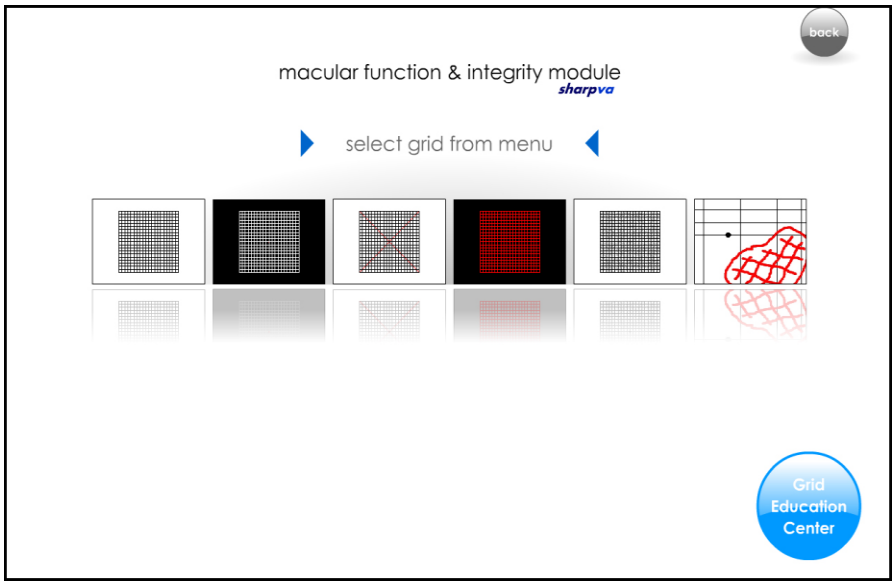








Macular Function & Integrity Module

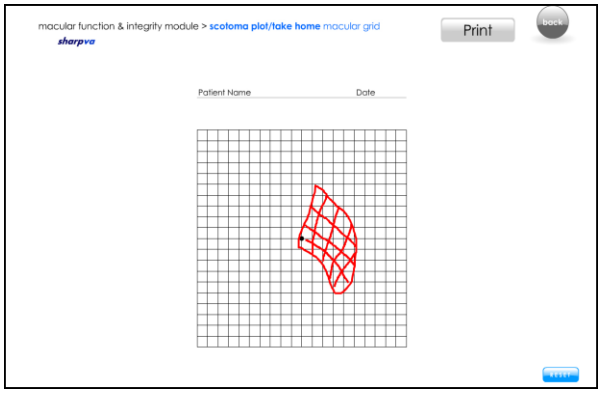


The Macular Function & Integrity Module features six different types of macular grids:

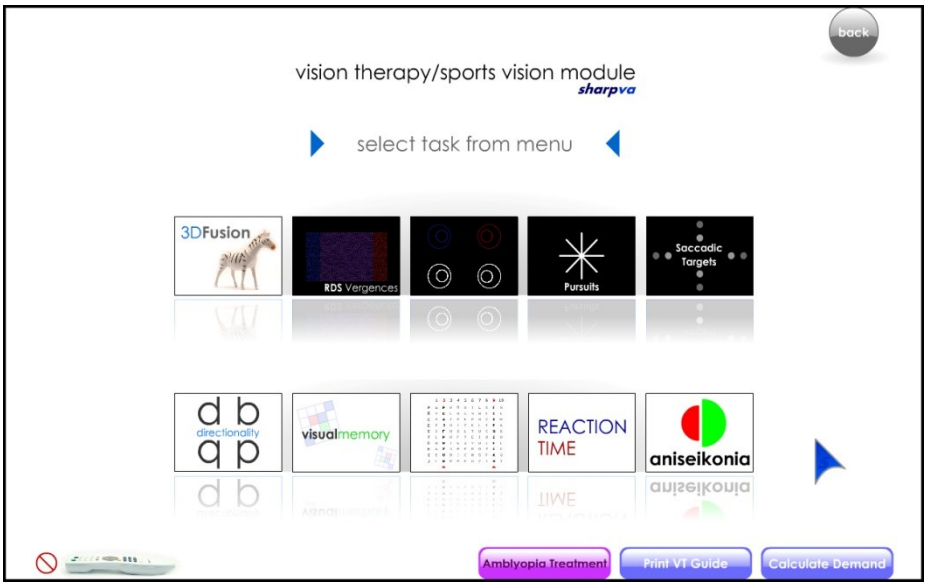
Standard, Negative/High-Contrast, Central Fixation Aid, Optic Nerve/Chiasmal/Toxic, Random Dot (Anti-Suppression), Scotoma Plot/Take Home

The Random Dot (Anti-Suppression) macular grid by McPartland Medical, LLC (patent pending) is a new and highly effective macular grid. With this grid, patients report increased retinal awareness; and thus, more precisely outlined and identifiable scotomas.

The Scotoma Plot/Take Home macular grid can be used to plot a patient's scotoma (or metamorphopsia), and thus, monitored over time. Once you select this grid, the mouse pointer becomes a small red dot—which can be used to localize abnormal macular areas. Additionally, this grid can be quickly printed for the patient to take home for self-monitoring.



Vision Therapy/Sports Vision Module

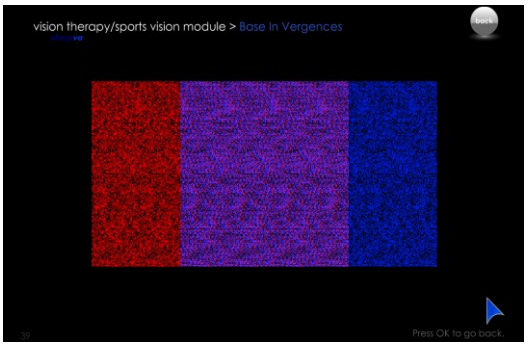


3D Fusion Vergences

3D Fusion offers six different sets of stimuli that vary in both target size and demand. Target demand may be increased and decreased by pressing the right and left arrow keys, respectively. These targets provide a strong fusional stimulus, and when fused, provide exceptional cues to depth. Some may also be used for facility tasks.

Random Dot Stereogram (RDS) Vergences

RDS Vergences are to be used with the red-blue glasses. Random dot stereogram demand may be increased and decreased by pressing the right and left arrow keys, respectively.



Concentric Circles for orthopic and chiascopic fusion.

Similar to the above tasks, these concentric circles may be used to monitor for suppression (red-blue) while providing ample cues to stereopsis.

Note: For all fusional vergence tasks, an arbitrary number is located in the lower left corner of the screen. These numbers are to be used as a reference/benchmark. Actual demand can be calculated using the Vergence Demand Calculator (located on the Vision Therapy/Sports Vision Module menu page (lower right corner of the screen).

Pursuit Targets

With each of the three pursuit targets (horizontal/vertical, star, circle) the patient should be directed to point their nose toward the cross in the center of the screen while maintaining fixation with the moving target ("Point your nose toward the cross in the center of the screen, and follow the target using only your eyes.").

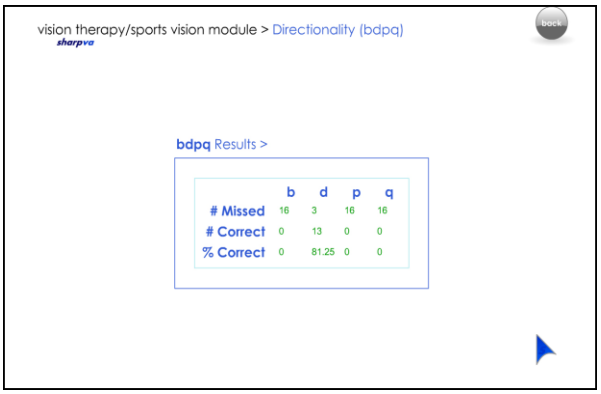
Saccadic Targets

The Vision Therapy/Sports Vision module includes four saccadic eye movement tasks. With all four, the patient should be directed to point their nose toward the cross in the center of the screen while making quick and accurate saccades between targets (any head movement is discouraged). Gross, medium, and fine saccades may be targeted by decreasing and increasing the patient's working distance, respectively. The magnitude of saccades can also be increased and decreased by pressing the up and down arrow keys, respectively, for Corner, vertical, and horizontal saccadic targets. A flash gun (or camera flash) can easily be used to give the patient feedback on their saccadic accuracy by way of a foveal after-image tag. Additionally, a web-cam can easily be utilized to record saccadic inaccuracies for purposes of feedback and demonstration.

Sequential/Color saccades are used to increase the difficulty level by adding additional stimuli ("loading"). In this task, the patient can be directed to do a variety of things (make saccadic eye movements only to a single color, between colors, excluding a specific color, even numbers only, odd numbers only, etc).

Directionality (BDPQ)

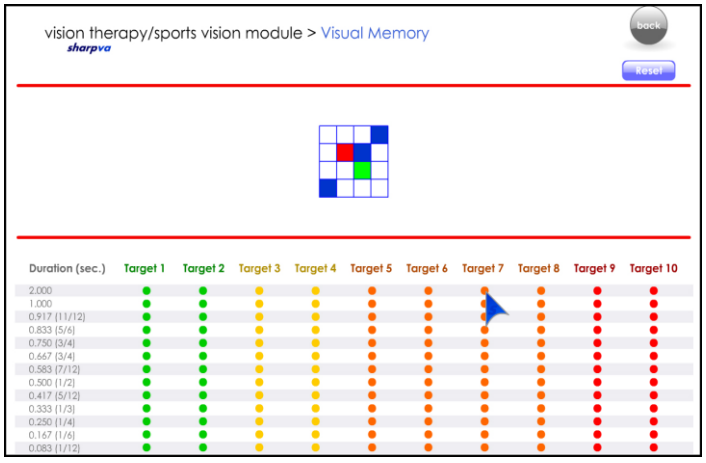
With this task, direct the patient to use the mouse to click on all of a given letter (all of the Bs, Ds, Ps, or Qs), or letters (e.g. all of the Ps and Qs, but not Bs and Ds). A time limit may be imposed to increase difficulty.



When the patient has completed the given task, click on the Results button (located in the lower right-hand corner of the screen). This will calculate the number of correct and incorrect responses (as an absolute number, and as a percentage) for a given letter.

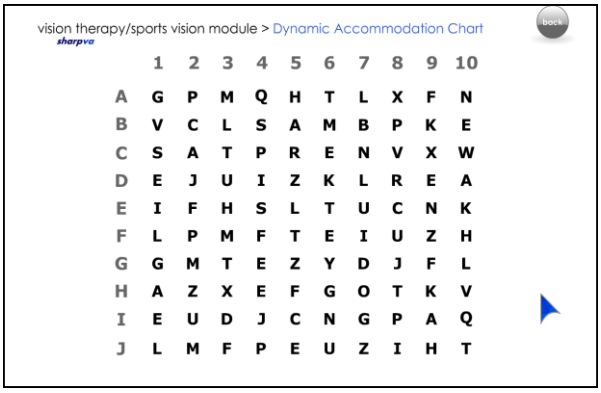
Visual Memory

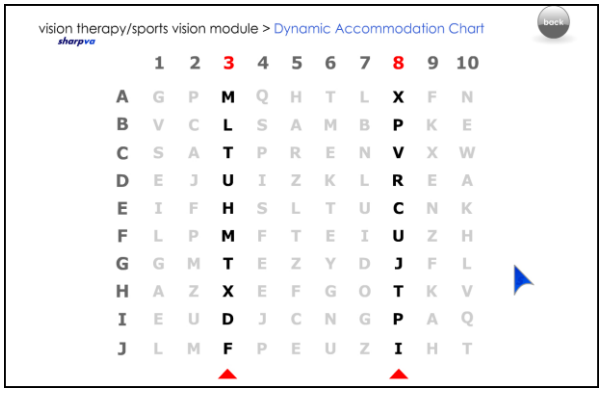
The patient's fixation should be directed at the center of the black band in the top half of the screen. The practitioner will then select a *duration of exposure* (from 2 seconds to $^{1}/_{12}$ th of a second) for one of the ten targets. Visual memory targets increase in complexity from Target One (green) to Target Ten (red). In total, 130 different combinations are available. The difficulty of this task is easily increased by requesting that the patient select the target after he/she mentally rotates the target a given number of degrees ("After viewing the target presentation, I want you to select the option that has been rotated 90 degrees clockwise from that of the observed target presentation.").



Dynamic Accommodation Chart

The Dynamic Accommodation Chart can be used to improve accommodative facility, and the accuracy of saccades (gross, medium, and fine).





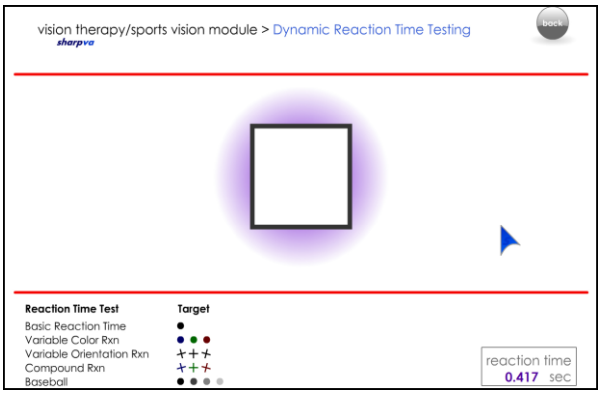
You may press the Right and Left Arrows to highlight column sets (e.g. 1 and 10, or 2 and 9, 3 and 8, etc). You may then press the up and down arrows to increase and decrease the contrast level of the non-selected columns.

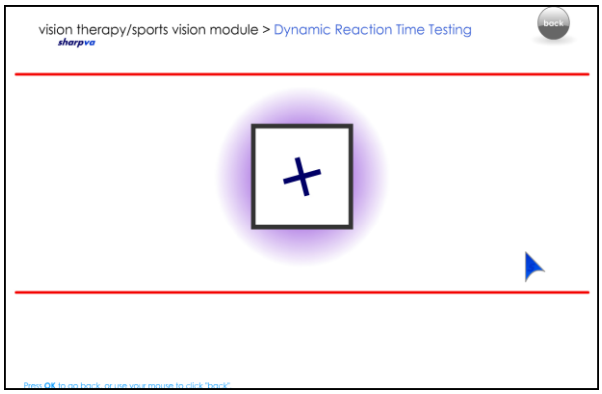
Accommodative Facility Therapy (near-far rock): Direct the patient to hold the Dynamic Accommodation near card at their measured near point of accommodation (the near viewing distance just before blur). Have the patient read a single letter on the distance chart. Next, have the patient shift their focus to read the next letter on the near card. Typically, practitioners will have the patient continue to relax their accommodation in order to "clear" the next consecutive letter on the distance chart, and then focus to "clear" the next consecutive letter on the near chart. Therapy is typically initiated with the use of a patch, and then completed binocularly.

Saccadic Therapy: Typical saccadic training utilizing this chart involves having the patient read the first and last letter of each row (in the 1 and 10 position). This task can easily be made increasingly difficult by having the patient make saccadic eye movements between the letters in positions 2 and 9, 3 and 8, etc, in a given row. This task often proves difficult, and may be made increasingly easy by pressing the right and left arrows to highlight a given column set (such as 1 and 10, 2 and 9, etc). To further make this task easier, you may press the up and down arrows to increase and decrease the relative contrast of the highlighted column sets.

Dynamic Reaction Time Testing

This test can be used to measure simple reaction time, recognition reaction time (color or orientation), and compound recognition reaction time (color and orientation). Lastly, a sports specific (baseball) variable contrast reaction time test is available. In total, 14 stimuli are available for measuring reaction time. To select and start a reaction time test, simply click on the stimulus icon below the word "Target" (see image below, in lower left corner of screen).





In each reaction time test, the patient's fixation should be directed to the presentation box in the center of the screen. With each of these tests, the user is to react by pressing the specified button (see below) once a given stimulus is presented. Each stimulus will be presented after a variable period of time has lapsed (six seconds or less). The reaction time will then be displayed in the lower right-hand corner of the screen.

Basic Reaction Time: The user is to react to a single stimulus by pressing the Up, Down, Right, or Left button. The single stimulus for Basic Reaction Time is a black **+**.

Variable Color Reaction Time: The user is to react only to the specified color stimulus by pressing the Up, Down, Right, or Left button. Color options include a blue **+**, green **+**, and red **+**.

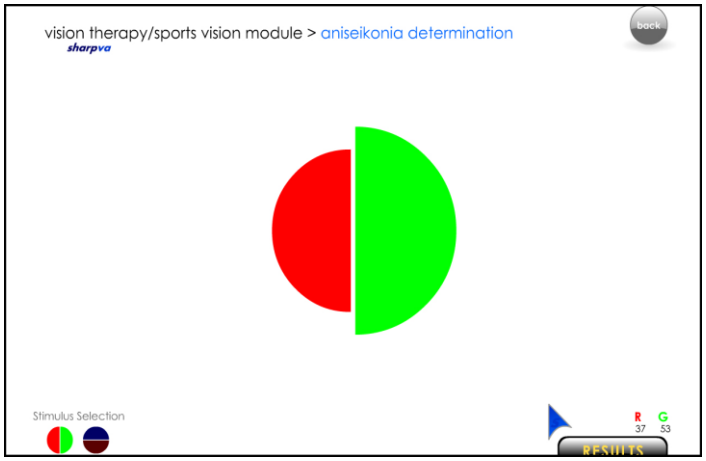
Variable Orientation Reaction Time: The user is to react only to the specified stimulus orientation (left tilt **+**, zero tilt **+**, or right tilt **+**) by pressing the Up, Down, Right, or Left button.

Compound Reaction Time: The user is to react only to the specified stimulus color **and** orientation (blue left tilt **+**, green zero tilt **+**, or red right tilt **+**). In this test, the user can only record a reaction time by pressing the Left Arrow for a left tilt **+**, Right Arrow for a right tilt **+**, and Up or Down Arrow for a zero tilt **+**.

Baseball Reaction Time: The user is to react to a single stimulus (baseball) by pressing the Up, Down, Right, or Left Arrow button. This reaction time test has four contrast levels to select from (100%, 50%, 25%, and 10%), each of which may be selected by clicking on the corresponding button located under the word "Target".

Aniseikonia Determination Tool

Two stimulus options are available: red-green and red-blue. Use the Up, Down, Right, and Left arrows to increase and decrease each of the hemi-bipartite stimuli until a relative size match is obtained. Next, click on the Results tab to reveal the match numbers. You can then plug these numbers into the *Retinal Image Size Calculator* on the stimulus selection menu to calculate the relative difference in retinal image size.

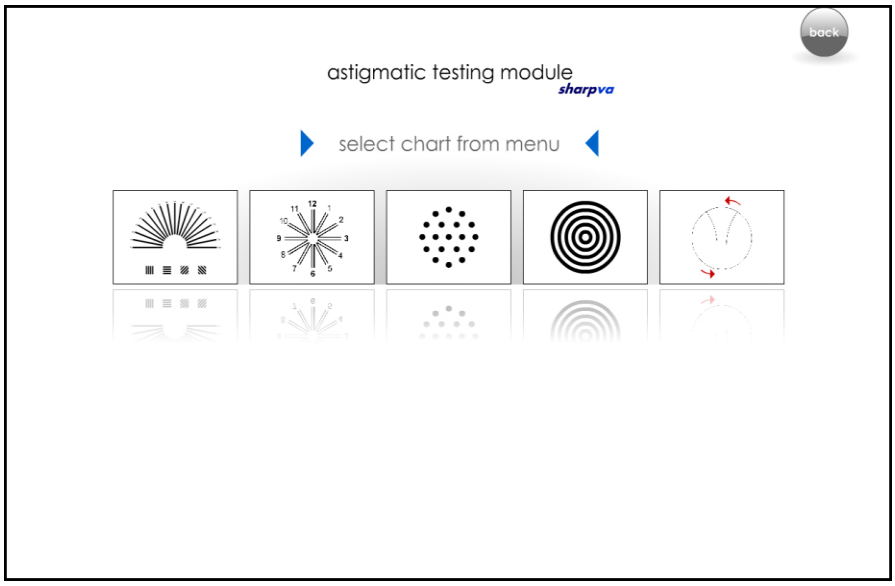


Amblyopia Treatment

Located at the bottom of the Vision Therapy/Sports Vision Module menu you will find a purple button titled "Amblyopia Treatment". Use this button to download a software trial of the Amblyopia RxTx software. The Amblyopia RxTx software features 8 key activities that are designed for use with and without a patch at near working distances. Each of the 8 key activities introduces a visual stimulus to the user—which can be varied in size and/or contrast—to best treat the magnitude of the user's amblyopia.

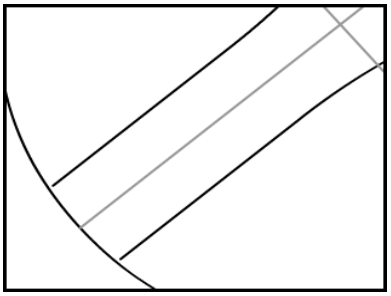
The Amblyopia RxTx software is ideal for both office and home-based therapy. Additionally, ***Revenue Copies*** may be purchased to re-sell to your patients for home-based therapy and maintenance. Revenue copies are typically sold to patients at a 3x markup. Download the trial here: http://www.sharpva.com/amblyopia.html.

Astigmatic Testing Module



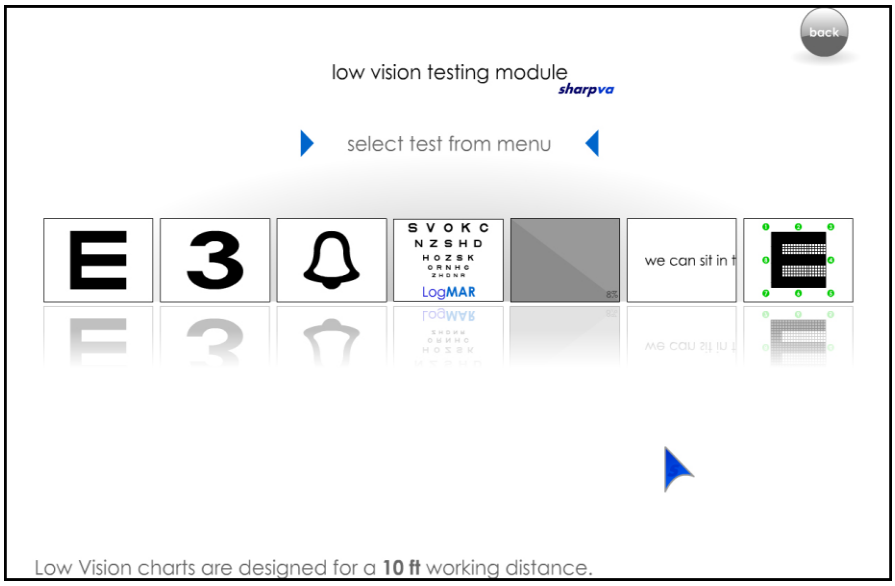
This module contains five charts used for determining the axis of astigmatism. The last astigmatic chart on the menu features a rotating dial. This dial can be rotated to the right and left by pressing the Right and Left Arrow buttons (or the Right and Left Arrow keys on the keyboard).

The patient should be directed to stop the dial when the three parallel lines appear darkest and/or boldest.



Three Parallel Lines

Low Vision Module

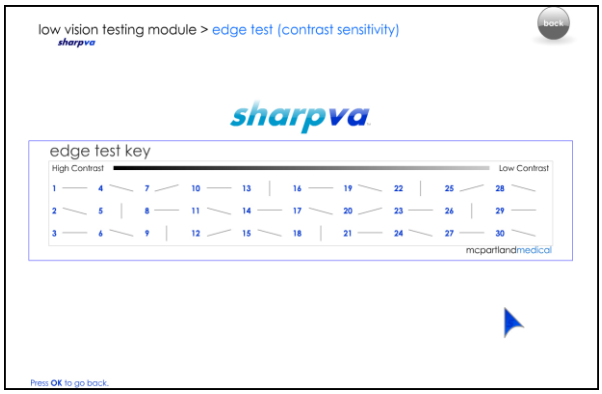


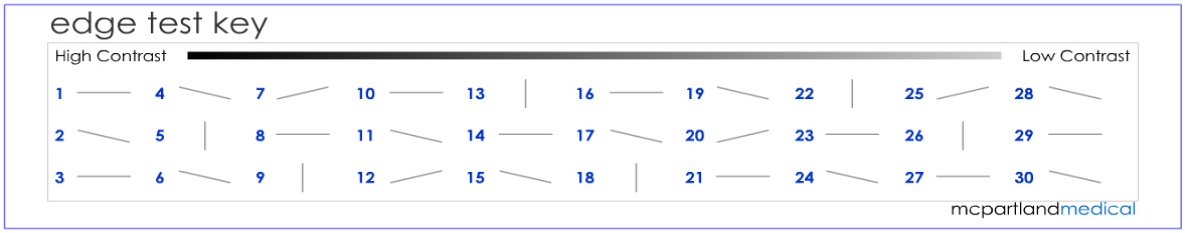
The Low Vision Testing module allows the clinician to measure visual acuities up to 20/1200 in size. Due to the fact that large optotype sizes are limited by monitor size, the Low Vision Testing Module requires a fixed testing distance of 10 feet (3 meters).

Optotypes include Letters, Numbers, and Pediatric Symbols. Other tests and charts include an ETDRS chart, in addition to the following:

Edge Test

The Edge Test provides the clinician with a means of measuring contrast sensitivity exclusive of spatial frequency (visual acuity).





Continuous Text

The Continuous Text chart provides a functional measure of visual acuity for the low vision or partially sighted patient. Additionally, this chart can help determine if a patient will respond well to using a CCTV low vision aid.

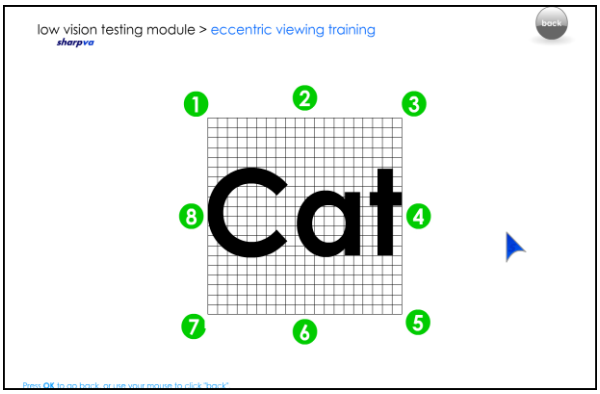
Left Arrow: scrolls text left
Right Arrow: scrolls text right
Up Arrow: increases optotype size (maximum measured acuity is 20/200 at 10ft).
Down Arrow: decreases optotype size (minimum measured acuity is 20/40 at 10ft).

Note: The effective optotype size can easily be increased or decreased by decreasing (moving closer) or increasing (moving further away) the viewing distance, respectively.

Eccentric Viewing Training

This tool can be quite effective in determining the retinal location of best functional visual acuity. The patient's inherent fixation should be directed to each green dot.

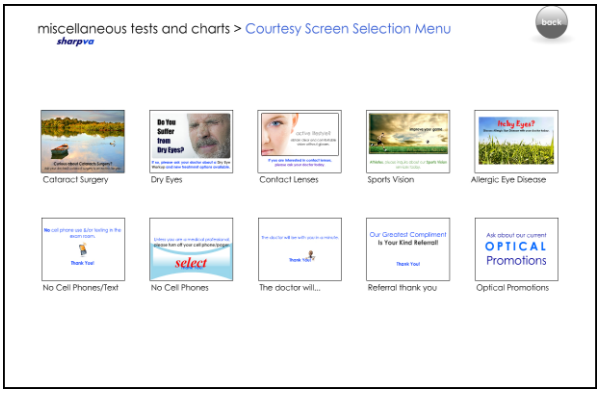
Use the Up and Down arrows to increase and decrease target size, respectively.



Miscellaneous Tests and Charts

Courtesy Screens

Designed to entertain your patients, advertise the optical dispensary, and promote your professional services. These are ideal for displaying on the screen before you enter the exam room.



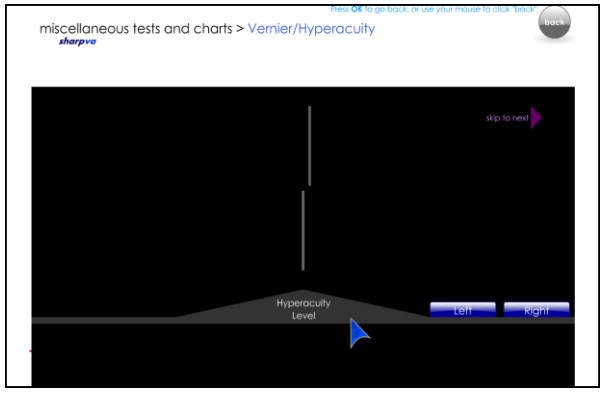
These courtesy screens can also be used to discourage cell phone use in the exam room, and encourage word-of-mouth referrals.

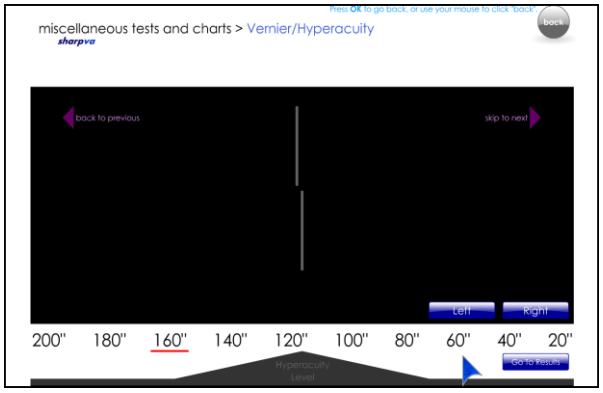
From any courtesy screen, press "OK" to return to the Courtesy Screen selection menu.

Vernier/Hyperacuity

This test is offered in two visual psychophysical methods.
In both tests, the top line is variable in location, while the bottom line is stationary.

This test is calibrated for a 10 foot working distance.

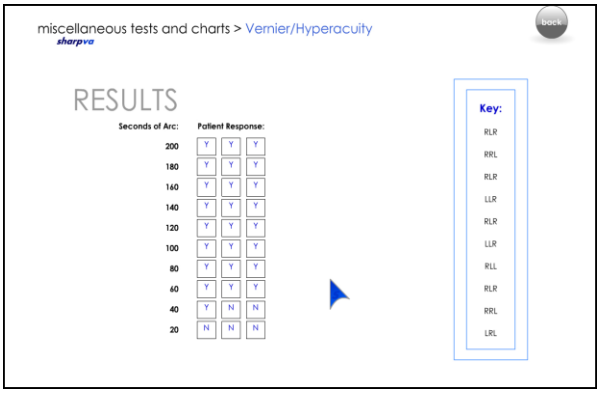




Reveal the current hyperacuity level by clicking on the upward oriented grey triangle-shaped wedge (pictured above).

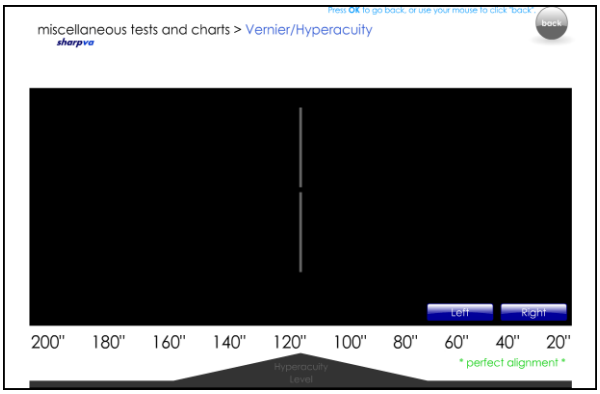
Auto Test (method of descending limits)

The objective of this test is to threshold the subject's hyperacuity, and is measured in seconds of arc. The subject should be directed to press the Right Arrow (or click the on-screen Right Button) when the top line appears to the right of the bottom line, and the Left Arrow when the top line appears to the left of the bottom line.



Patient Control (method of adjustment)

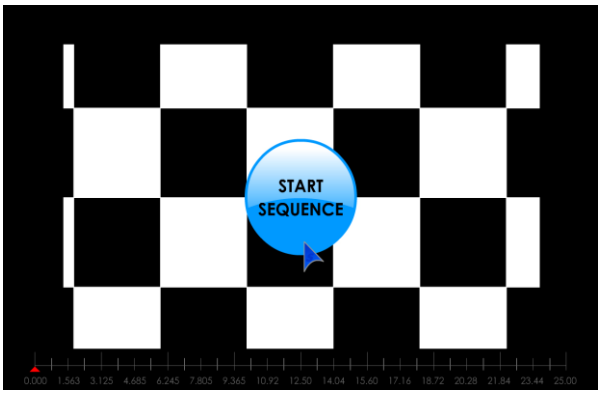
The objective of this test is to use the Right and Left Arrows to align the top and bottom lines to **perfect alignment**. This test measures one's ability to align two line segments, and is measured in seconds of arc.

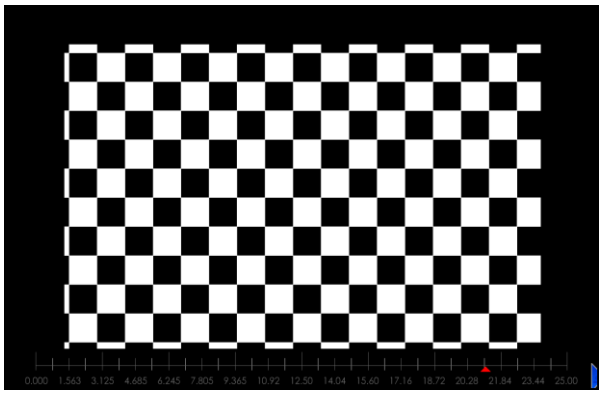


Note: Research suggests that Vernier/Hyperacuity is a function of the visual cortex rather than the retina.

Visual Evoked Potential Stimulus

The Sharp VA software now features a VEP stimulus with a 25.00 second timeline. This has been designed for use with neuro-diagnostic systems to observe evoked potentials using electroencephalography. Over the course of the 25.00 second timeline, the spatial frequency decreases until the MAR is determined. Each eye should be tested monocularly.





Night Myopia Demonstration

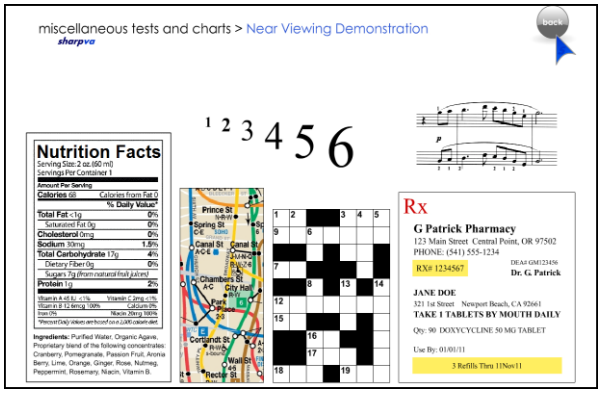
This demonstration can be used to show the effects of night myopia. This chart features a dark green background (similar to that of an interstate freeway sign), and has proven to be effective at eliciting a positive response in those with night myopia.

Mire Distortion Education

This screen can be used to demonstrate to patients the effects of poor tear film, etc.

Near Demonstration

This screen provides a great way to demonstrate a new reading and/or computer/intermediate add. Additionally, this can be used to determine a patient's computer add.



Other

Exiting the Sharp VA v3 Software

To close the Sharp VA software from any screen within the software, simply push the EXIT button. This will then take you to a screen to confirm your request to exit.

Multi-Monitor/Dual-Monitor Setup Options

For peak Sharp VA performance, a dedicated computer is recommended.

When establishing a multi- or dual-monitor setup in your exam room, you have several options. Below are a few of the most common multi-monitor setup options.

Option One: Monitor Cloning

In this option, a second monitor may be added to a single computer. Each monitor will display identical screens (i.e. the Sharp VA software will appear on both monitors). For this option to work, you do not need to add a special video card to your computer. If your computer only has a single monitor hookup, you can purchase a monitor splitter cable which will allow you to connect a second monitor.

Option Two: Separate Screens

In this option, a second monitor may be added to a single computer only if your computer has two monitor hookups. If your computer only has a single monitor hookup, you can easily add a second connection by installing a special video card. This special video card is called a *dual head video card*. Now that you have two monitor hookups, simply connect both of your monitors to your computer. Now you can use your computer's *Display Settings* to configure your dual monitor setup. **Please note that the Sharp VA digital acuity software has been programmed to display on *Monitor 2*.** For this reason, it is important to ensure that your patient view monitor is designated as *Monitor 2*.

EMR + Sharp VA Software

Option two will be the best option for displaying the Sharp VA software on one monitor, and EMR or EHR software on the other monitor. **It is important to keep in mind that the Sharp VA remote control works just like any other input device (such as your mouse or keyboard).** These input devices all control the "active window" only. Please keep in mind that you will need to make the Sharp VA software "active" before pushing the Sharp VA remote buttons (or else you are essentially attempting to control another application with the Sharp VA remote control). To ensure that the Sharp VA application is the active window, you will need to either click on the Sharp VA program **or** use the Alt+Tab function to swap between open computer applications.

Sharp VA Customer Service and Technical Support

Please use the following to resolve any issues that arise:

http://sharpva.com/video_support.html
Video Support web site.
Best option for Tech Support issues (e.g. setting up the remote control, installation, etc)!

ask.sharpva.com
Online 24/7 Support Ticket. ***Best Option for Customer Service!***

support@sharpva.com
Sharp VA e-mail Support.

1-801-348-6561
Phone Customer Service and Technical Support. Due to low demand, this number will connect you to a voice mailbox. All support is via email response and call-back basis.

www.sharpva.com
Sharp VA Website.

Additional Sharp VA Resources

update.sharpva.com
Check for Sharp VA software updates.

remote.sharpva.com
Obtain remote control drivers, patches, and other remote control information.

demo.sharpva.com
Sharp VA Demo Site.

www.sharpva.com/order.html
Order additional exam room packages, etc.

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