CANELA SOFTWARE

Acuity System Preference Guide

Canela Software
31805 Temecula Parkway
Suite 791
Temecula, CA 92592
P 310-856-9926
F 310-302-0146

Copyright © 2000-2009. All Rights Reserved.
No part of this publication or the enclosed software may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any other language in whole or in part, in any form or by any means, whether it be electronic, mechanical, magnetic, optical, manual or otherwise, without prior written consent of CANELA Software™.
CANELA Software™ DISCLAIMS ALL WARRANTIES AS TO THIS SOFTWARE, WHETHER EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, FUNCTIONALITY, DATA INTEGRITY OR PROTECTION.
CANELA Software™ and 20/20 Vision are registered trademarks of CANELA Software™.
This manual and 20/20 Vision software are copyrighted by CANELA Software™.
Trademarks of other companies mentioned in the documentation and/or software appear for identification purposes only and are the property of their respective companies.

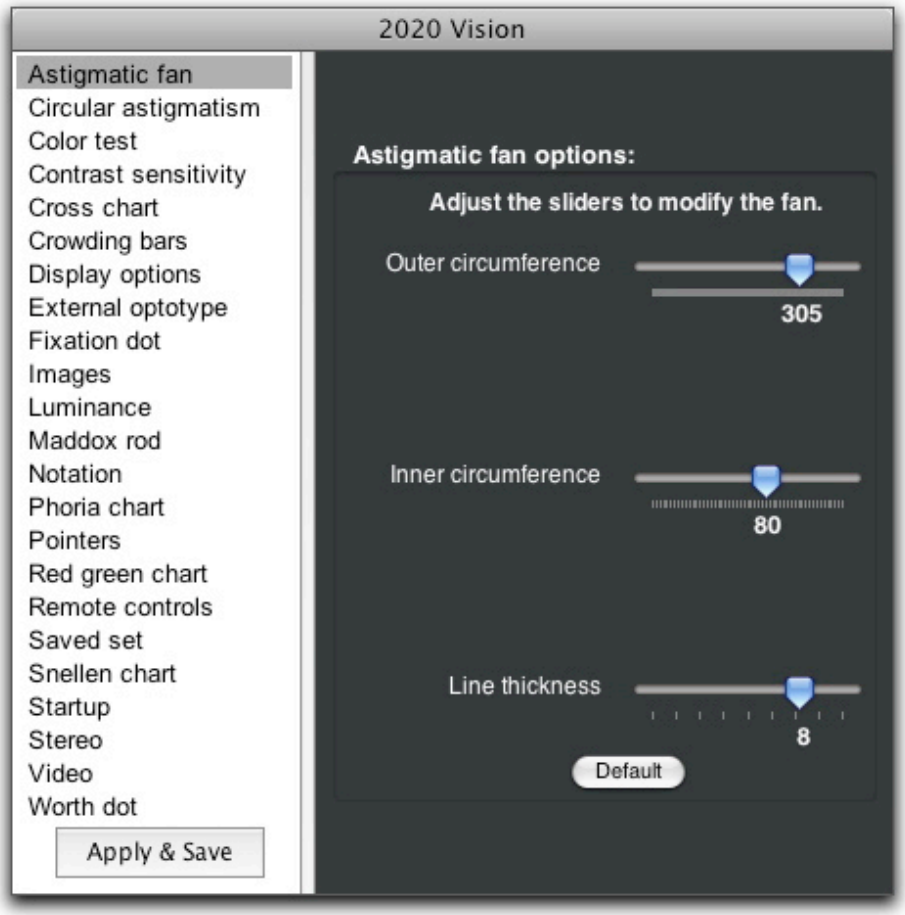
Table of Contents

I. Introduction

The software is shipped with all settings set to the suggested defaults. Many of these settings are based purely on personal preference, and have no proven clinical impact. Any setting that has a recommended value has been noted.

II.List of Preferences

1. Astigmatic Fan

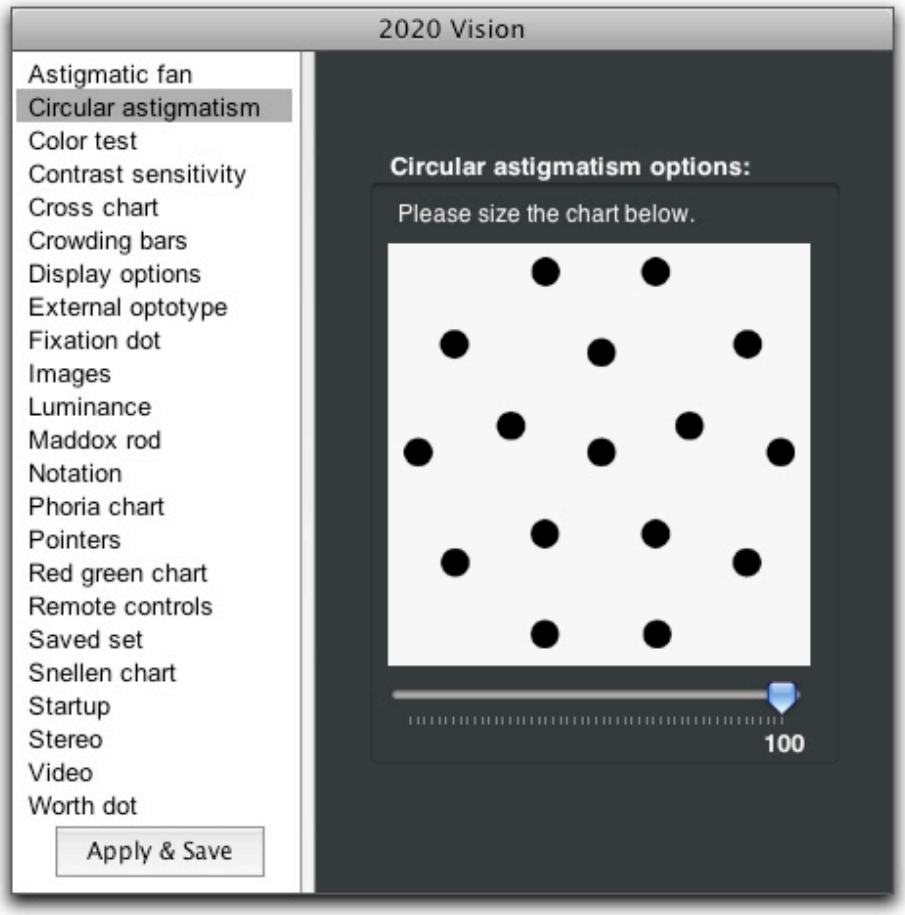


The “outer circumference” preference designates the total circumference of the fan. Modifying this value changes the end point of each “ray” of the fan.

The “inner circumference” preference designates the circumference of the inner, empty area of the fan. Modifying this value changes the starting point of each “ray” of the fan.

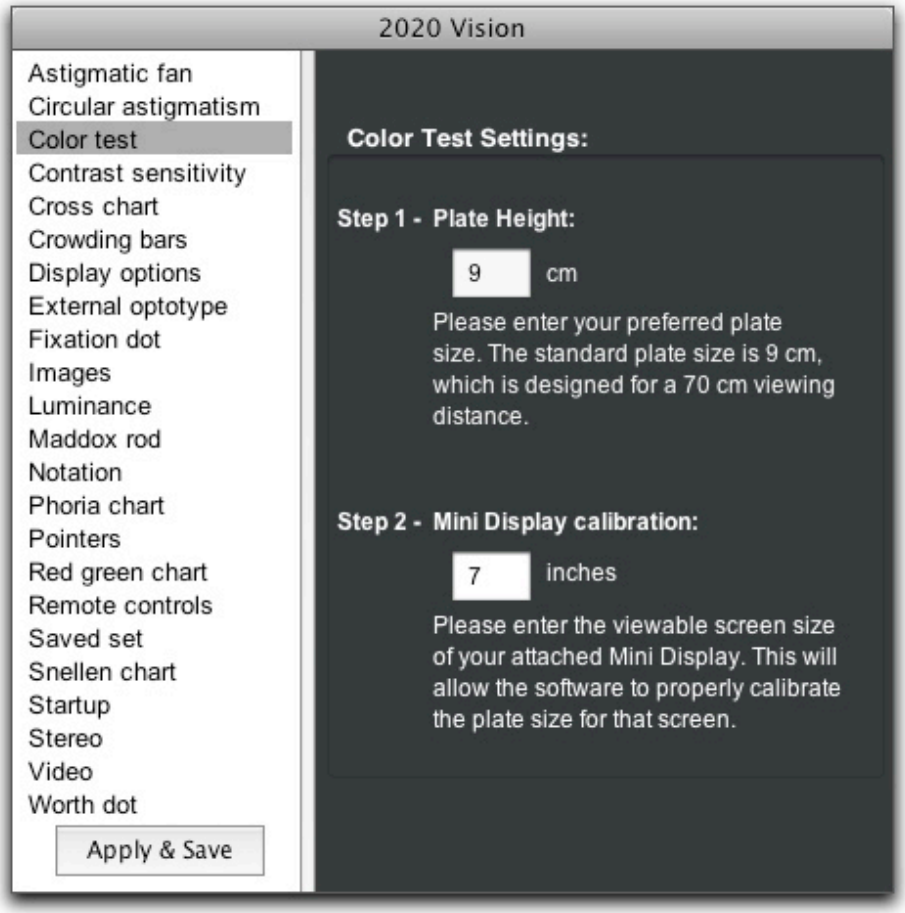
The “line thickness” preference designates the thickness of each “ray” of the fan.

2. Circular Astigmatism



The circular astigmatic (or “shower drain”) pattern may be sized according to your personal preference.

3. Color Test

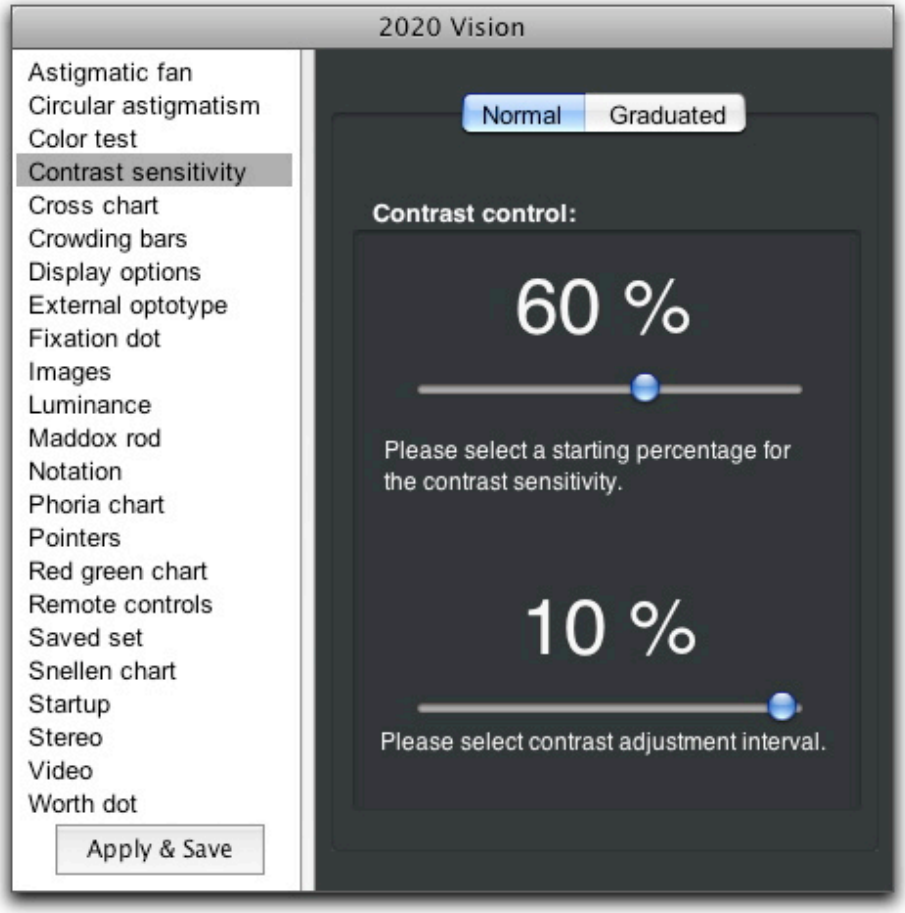


The plate height setting allows you to customize the default plate size on your main chart screen. Simply enter your preferred size in centimeters. The standard size is 9 cm viewed at 70cm, but this can be modified according to your needs.

The mini display calibration may or may not be visible to you, depending on whether you have the mini display feature installed. Enter the diagonal viewable size of your mini display to allow the software to calibrate the color test sizing for that screen. If this is incorrect, the color test may not be properly sized when viewed on the mini display.

4. Contrast Sensitivity

There are two tabs for the contrast sensitivity tests - the first tab, “Normal”, governs the settings that apply to all contrast tests. The second tab, “Graduated”, covers settings that are specific to graduated contrast degradation testing.

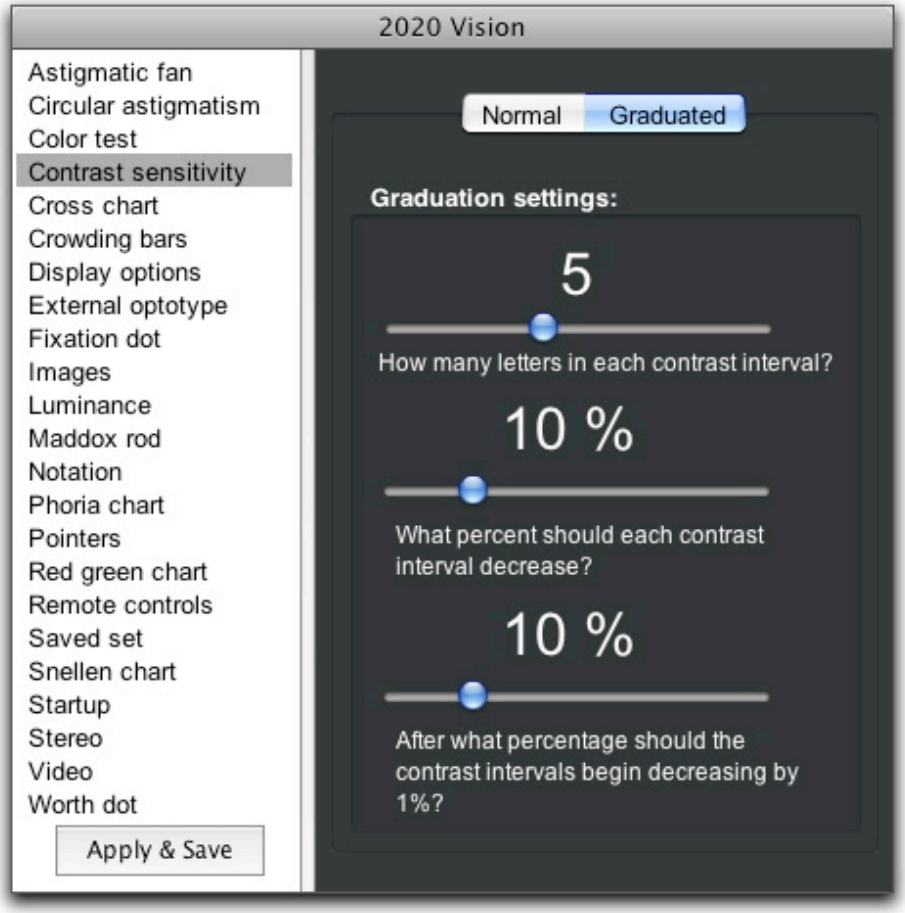


Normal:

You can control the starting percentage of all the contrast tests; in other words, at what Weber percentage should the letters be shown when the contrast testing is first enabled.

You can also control the size of the increments that you adjust the contrast levels while testing.

With the example settings, an example contrast test would be 60%, 50%, 40%, 30%, etc.



Graduated:

The graduated contrast test allows for quick contrast threshold testing. It can also be modified to fit many different testing environments.

The first setting controls the number of letters to display, per contrast level.

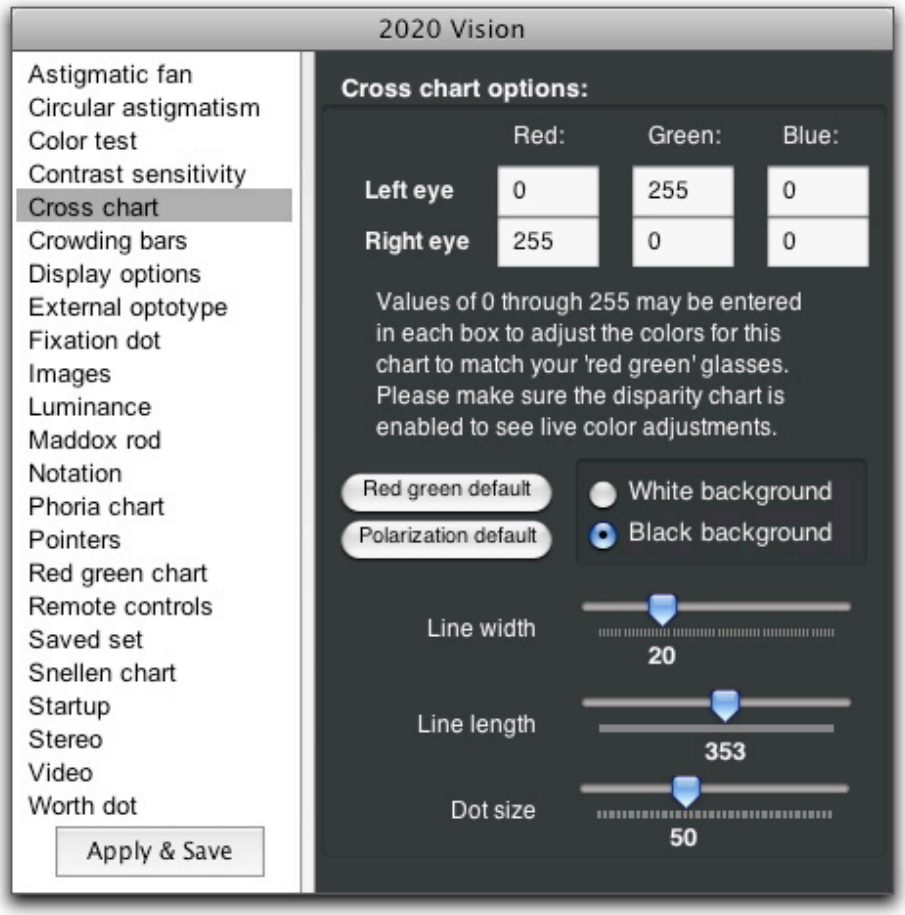
The second setting controls the amount of contrast to jump between contrast levels.

The final setting allows for fine control starting at a certain range; when you reach this range, the contrast level begins decreasing by 1% per letter set, rather than by the number specified by the second setting.

A graduated contrast test using the example settings would have 5 letters at 60%, then 5 letters 50%, then 5 at 40%, etc, until it got down

to 10%, at which point you would have 5 letters at 10%, then 5 letters at 9%, etc.

5. Cross Chart



The “Left eye” and “Right eye” preferences control the color that is displayed for each eye during testing. This can be set to black/white for polarized testing, or calibrated to your red/green filters on your refractor.

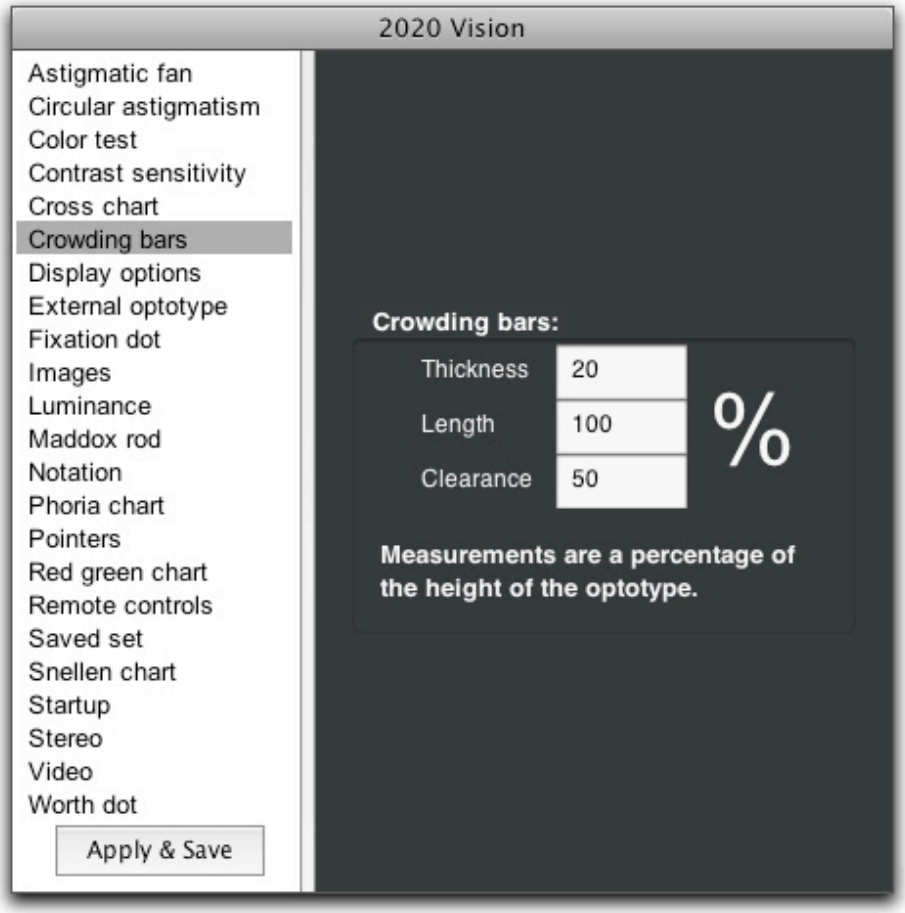
The background color can be changed to either use a black background or a white background. The white background is usually used for polarization, and the black background is used otherwise.

The thickness of each line segment can be controlled using the “line width” setting. Some doctors have suggested that thinner lines are better at detecting disparities, but there is no formal research supporting this.

The length of each line segment can be customized as well, using the “line length” slider.

The central fixation dot, which can be toggled on and off while testing, can be sized using this preference. The line segments will relocate to accommodate all dot sizes.

6. Crowding Bars



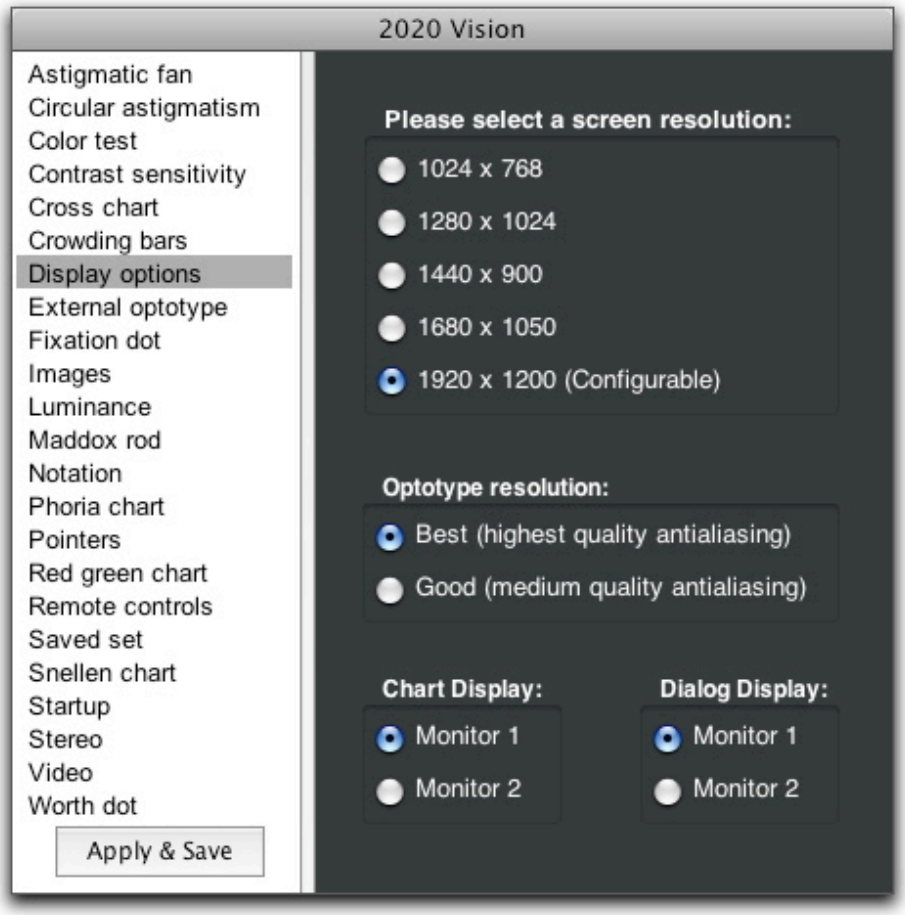
The “thickness” setting allows you to control how thick each crowding bar are in relation to the size of the optotype. This is commonly set to the stroke size of the optotype used.

The “length” setting controls how far each crowding bar reaches across the optotype. Normally this is set to 100%, meaning that the crowding bar

spans the entire width or height of the optotype. This value can be over 100%, if desired.

The “clearance” option determines where each bar is drawn in relation to the optotype. This is normally 50%, as larger values reduce the crowding effect, and smaller values tend to overemphasize it.

7. Display Options



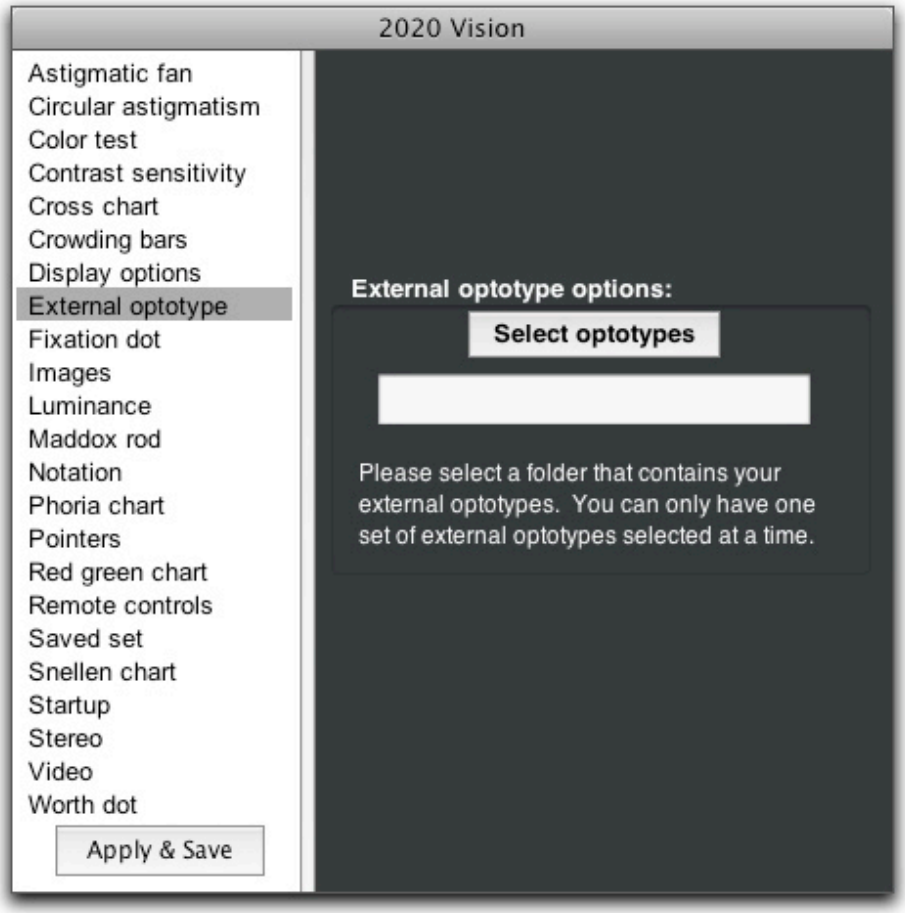
The display options control where and how the charts are displayed on the computer.

The screen resolution lets you control the size of the chart screen, with a minimum size of 1024 x 768. There is no maximum size. This is normally set to the native display resolution of the monitor.

Optotype resolution regulates the quality of the optotypes, and how much computing time is allocated to smoothing the edge of the optotypes. Best will provide the smoothest optotype edges, while Good will provide a good balance between performance and quality.

The Chart Display and Dialog Display options control which monitor the charts and dialogs display on, respectively. This only applies if you have more than one monitor attached to the system that the Acuity System is running on. Monitor 1 is the primary monitor (with the Start menu on Windows, or the Menu Bar on Mac), and Monitor 2 is the secondary monitor.

8. External Optotype

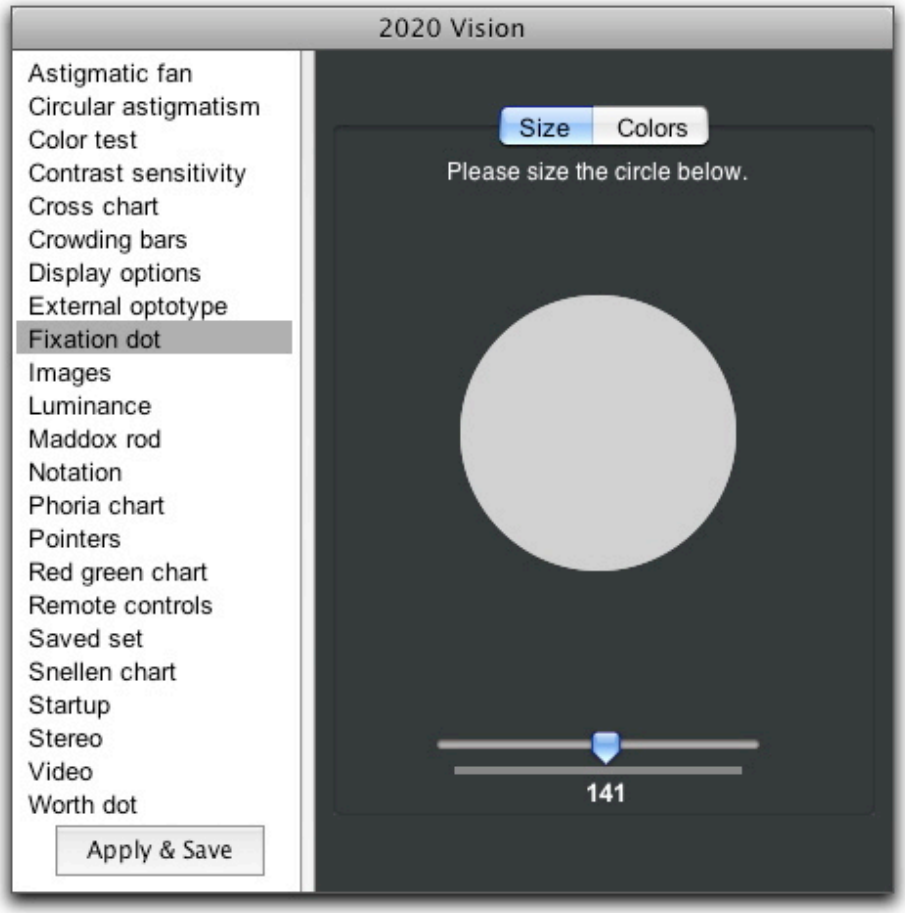


This setting allows you to specify a location of a folder of images to use as a custom optotype. It can accept most common image filetypes,

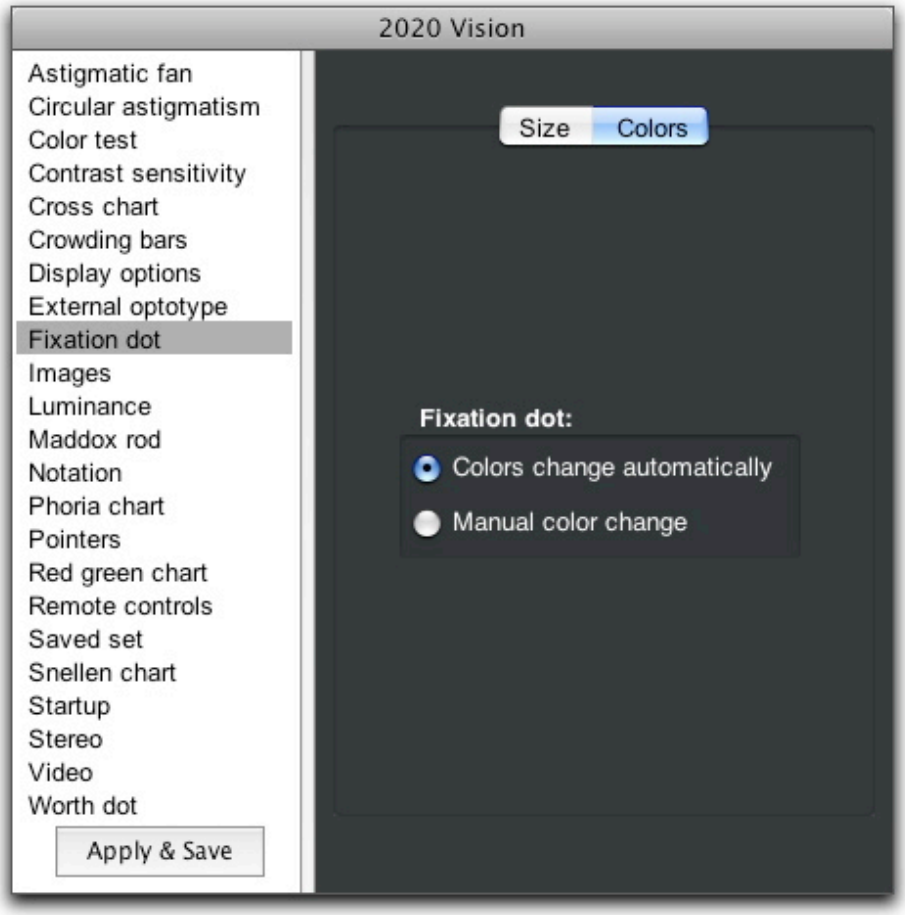
including jpg, bmp, gif, and png. Note: optotype filenames must not include spaces, and the folder must include at least 3 different optotypes in order to randomize properly.

9. Fixation Dot

The fixation dot has 2 different settings, one related to the size of the dot, and one related to the color of the dot.

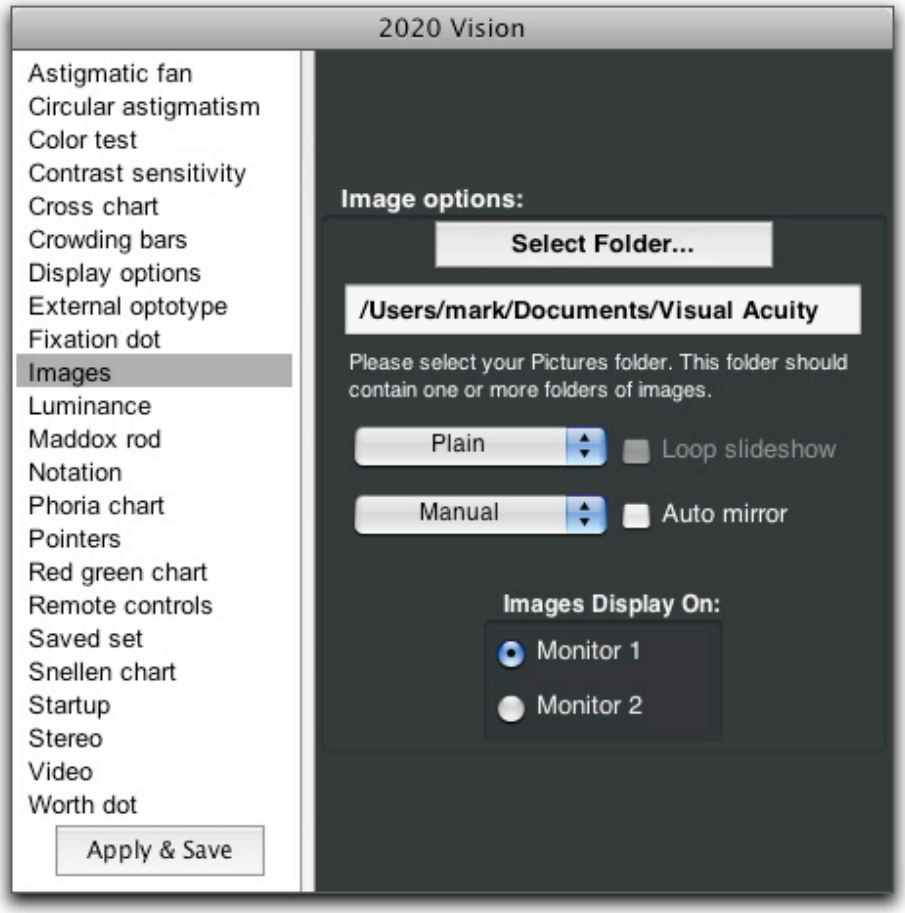


The default size of the fixation dot may be set using the slider. The dot can also be sized up and down on the fly using the remote, but it will always reset to the size specified here.



The fixation dot's color settings can be changed here. If the dot is set to change colors automatically, the fixation dot will automatically change to a random color every 3 seconds - this is good for maintaining fixation in younger children. If the dot is set to change colors manually, the color will change only from the remote. This is good for encouraging fixation in adults (ie, "Tell me when you see the dot change colors.")

10.Images



The Images preferences control settings related to the slideshow portion of the Media Center.

The first setting lets you specify a folder containing one or more folders of images (these sub-folders will be each slideshow). The images should be in a common picture format, such as jpg, bmp, gif, or png.

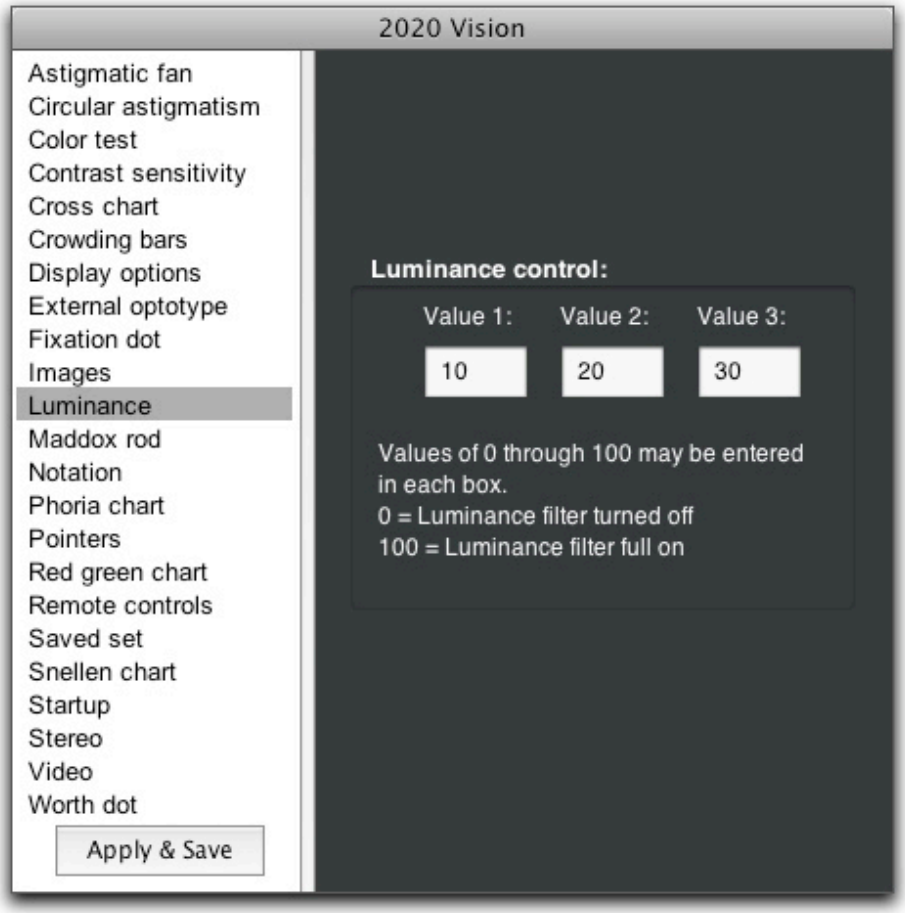
You can also control the transition effect between images in the slideshow with the dropdown labeled “Plain” in the example.

You can choose how the slideshow is controlled; either in “Manual” mode, which doesn’t change slides unless trigged by the remote, or in Automatic mode, by specifying the number of seconds between each slide.

If the slideshow is in Automatic mode, it can be set to return to the beginning of the show to play again by checking the “Loop slideshow” box.

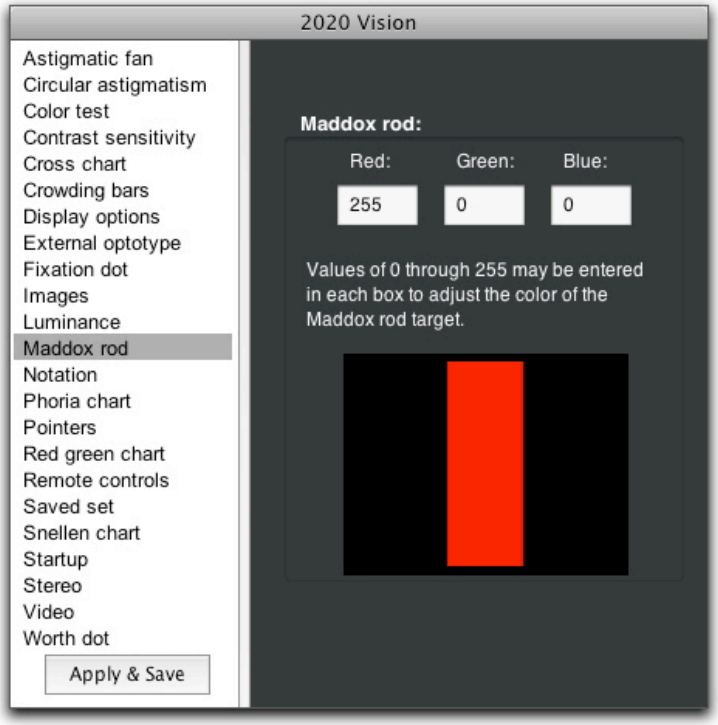
Finally, if the system is set up in a mirrored environment, by checking “Auto mirror”, the Media Center will automatically flip any images if necessary, to appear correctly when viewed through a mirror.

11.Luminance



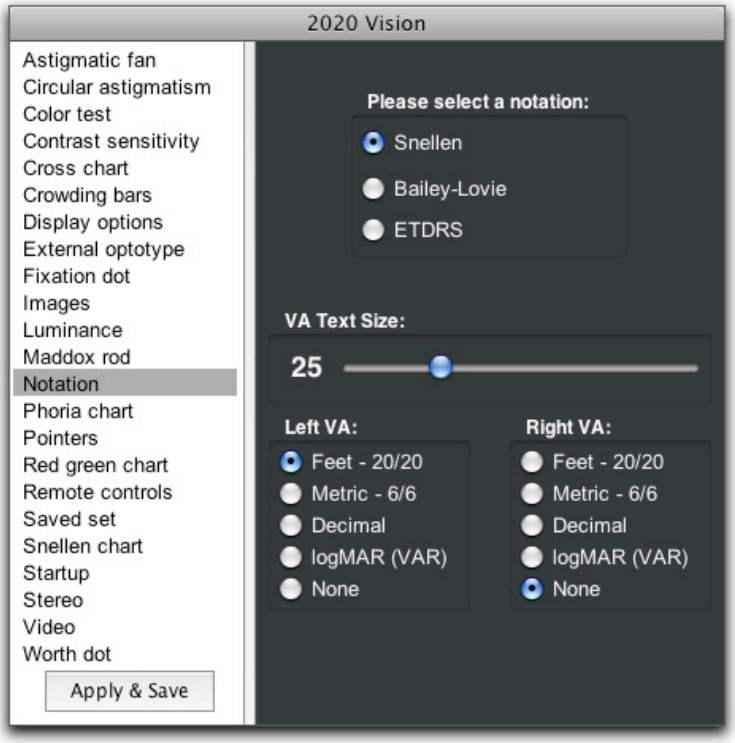
The luminance of the screen can be changed if required for patients with sensitive eyes. Normally the screen is 0% obscured, but it can be obscured by varying amounts; the three values may be changed to dim the screen differing amounts as needed. This can also be used to mimic the brightness of an old projector, if desired.

12.Maddox Rod



This setting controls the color of the Maddox rod. The preview below shows the current color setting.

13.Notation



The Notation setting affects which stroke ratio and character set is used to generate optotypes, as well as using the appropriate VA progression for each set.

VA text size controls the size of the VA display on the chart screen.

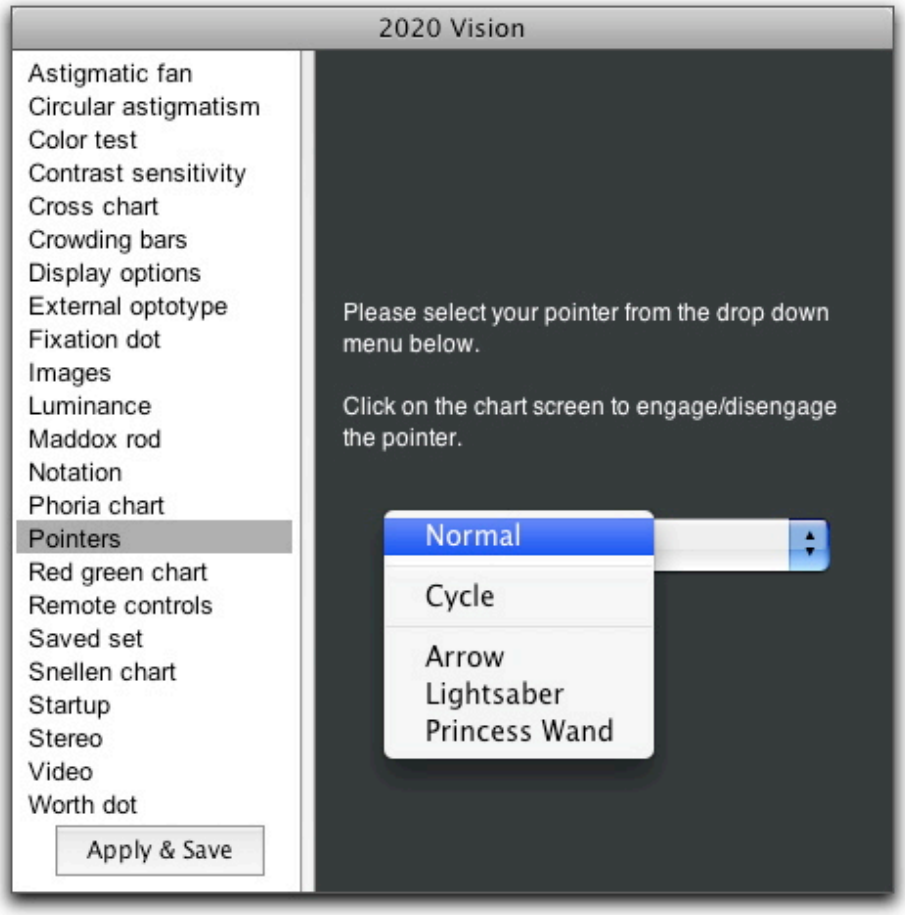
Left and Right VA settings control the display format of the left and right VA display areas, respectively.

14.Phoria Chart

The phoria chart settings control the color of the left eye, the color of the right eye, and the color of the background. This is crucial to achieving ideal cancellation during testing.

The preview area below shows what colors are produced using the current color settings.

15.Pointers



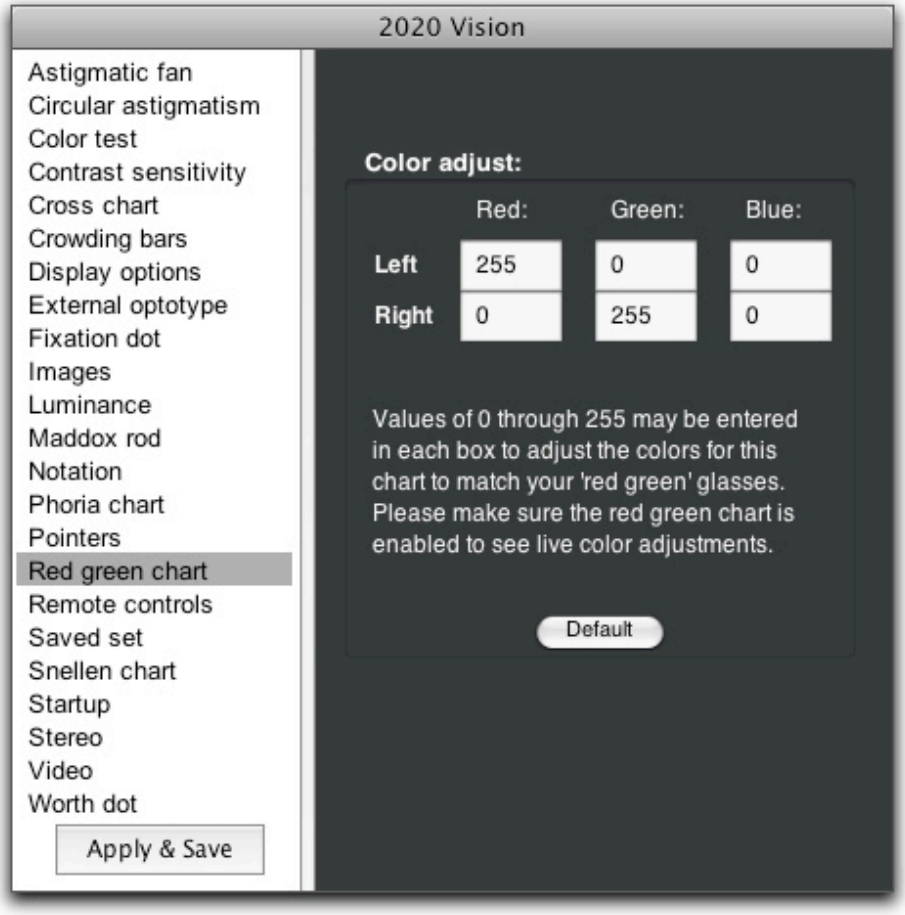
The Pointer feature gives the option of which pointer to use when toggling Pointer mode.

Normal indicates that Pointer mode is disabled.

Cycle indicates that a different pointer should be used every time Pointer mode is engaged.

If you specify a pointer (Arrow, Lightsaber, Princess Wand), then that pointer will be used whenever Pointer mode is invoked.

16.Red/Green Chart

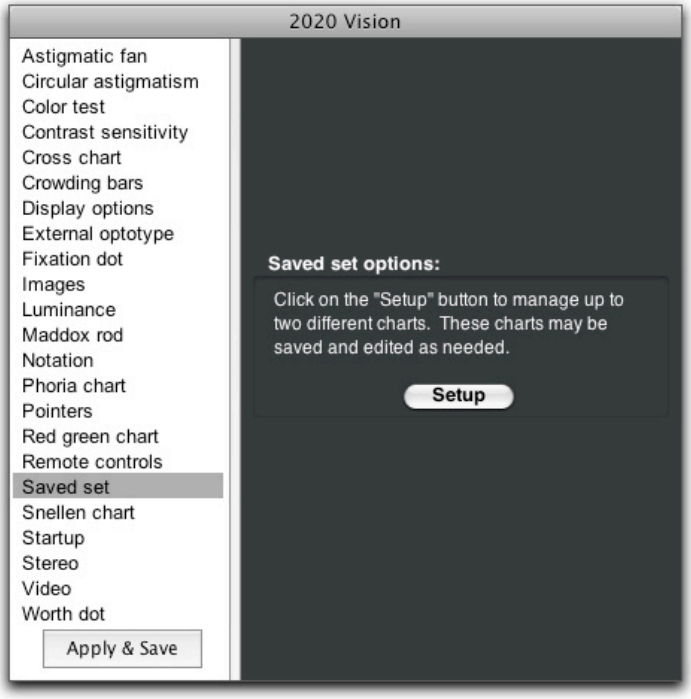


The Red/Green chart settings allow you to calibrate the red and green colors of the chart to match the red and green filters on your refractor. This is important to ensure adequate cancellation during testing.

17.Remote Controls

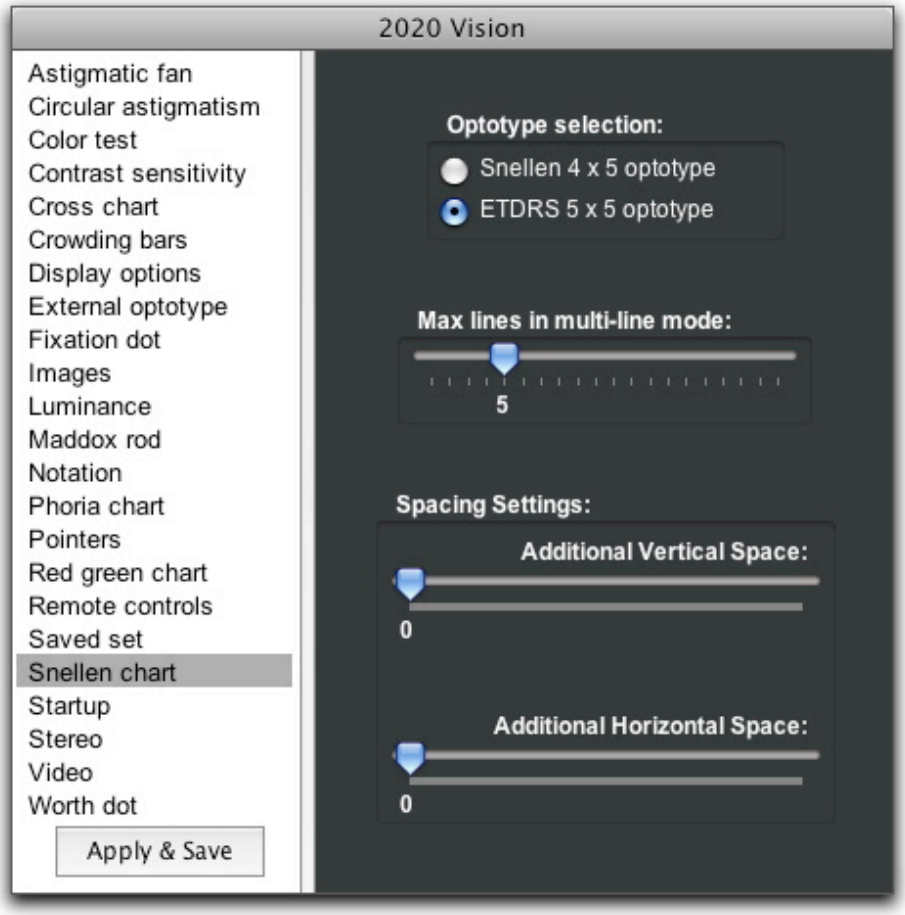
The remote control page is used for setup of the remote control. Simply click on the picture of the remote control that you're using, and the software will automatically update the software to use that remote. Your computer MUST be restarted before these changes take effect.

18.Saved Set



The Saved Set option can be used to trigger the Saved Set setup screen, which allows you to disable the random generation of optotype sequences, and to use only non-random sets that you specify. This can be useful if you want to be able to memorize your most-used charts.

19.Snellen Chart

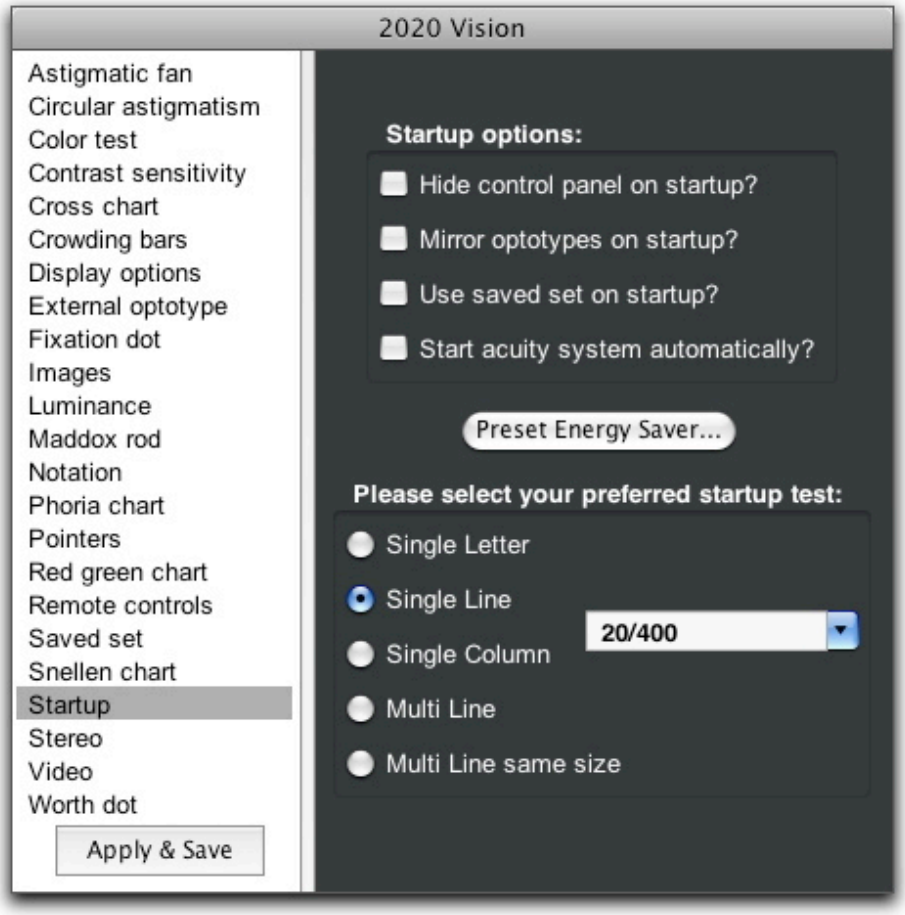


This preference option may also be called “ETDRS chart” or “Bailey chart”, depending on the notation you’re using. This also affects which settings are available to you.

When in multi-line mode, the software will always draw as many lines as is possible to fit on the screen, up to the “Max Lines” setting that you specify.

If you are in Snellen notation, you can modify the notation rules slightly if desired. This includes the ability to change the optotype ratio, and to add additional fixed space between the letters when drawing an optotype chart.

20.Startup



The startup options control the behavior of the software when it first turns on, or behavior of the computer that might affect how the software behaves.

“Hide control panel on startup?” controls whether or not the control panel is hidden when the software is first engaged. This should normally be turned on once you become familiar with the remote control.

“Mirror optotypes on startup?” allows the software to be used in a mirrored environment without having to turn on mirroring every time the software is restarted.

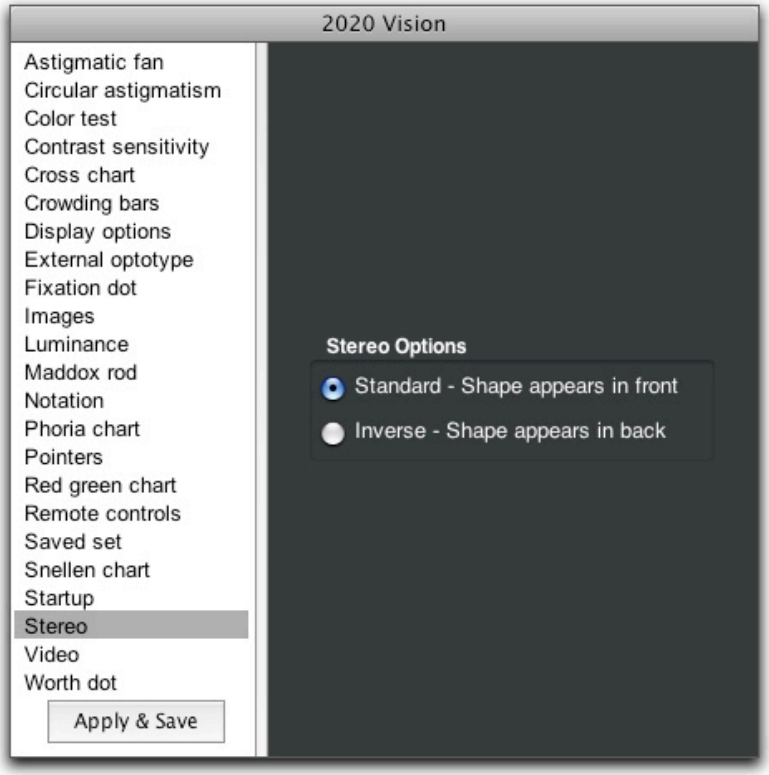
“Use saved set on startup?” indicates whether or not the software should use randomized mode.

"Start acuity system automatically?" controls whether or not the Acuity System should start automatically when the computer is started. This applies to shut down / boot up sequences, restarts, and power loss as well.

"Preset Energy Saver" will automatically change several OS-level settings to be more testing-friendly, such as disabling the screen saver and preventing the computer from going to sleep. This is a Mac-only feature, and requires you to enter your Administrator password.

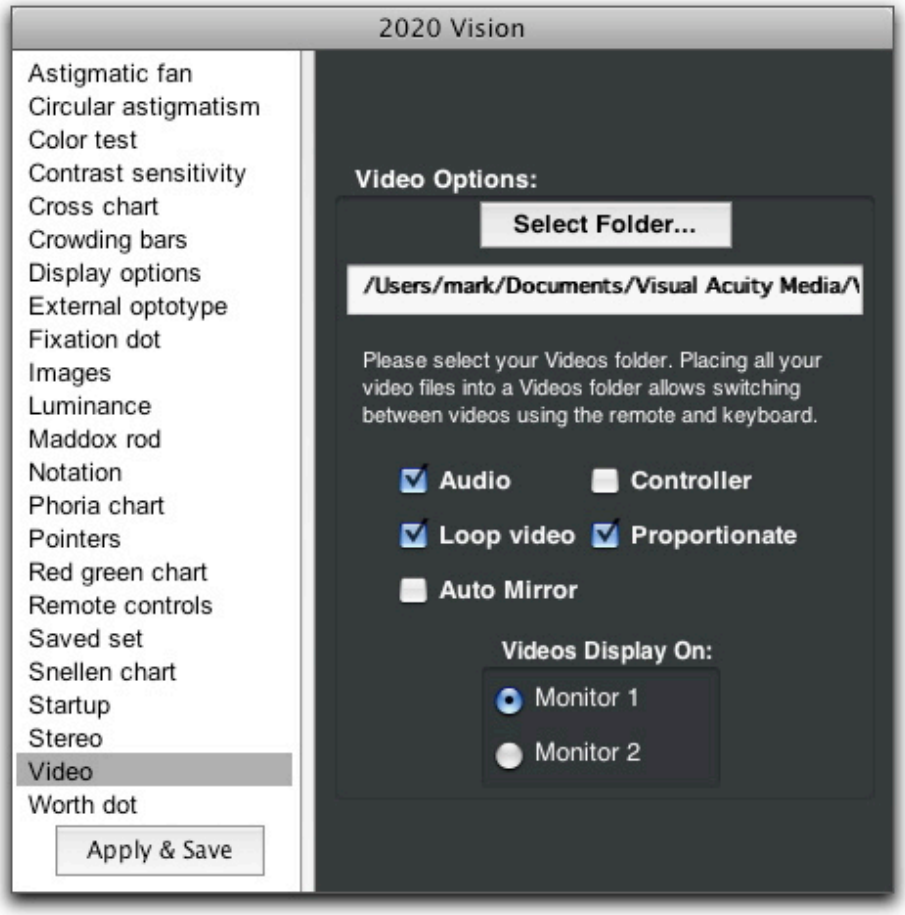
You can also select your startup test. Simply specify your preferred display mode and the starting size, and the Acuity System will always start on that test.

21.Stereo



The Stereo settings affect the Red/Blue Stereo test. Normally 3D tests have the primary shape pop into the front, but if needed this can be inverted so that the shape to identify pops into the back. This inverted method can be substantially more difficult to detect.

22.Video



The video settings control various aspects of the video portion of the Media Center.

First, you must specify a folder of videos to use as your video library. These can be any popular video format excluding WMV, such as MPG, MOV, or AVI.

“Audio” controls whether or not the videos have any audio component.

“Controller” deals with the display of a controller on the video or not - this can be useful if you plan on controlling the video using a mouse.

"Loop video" controls whether or not the video loops when it reaches the end of a clip.

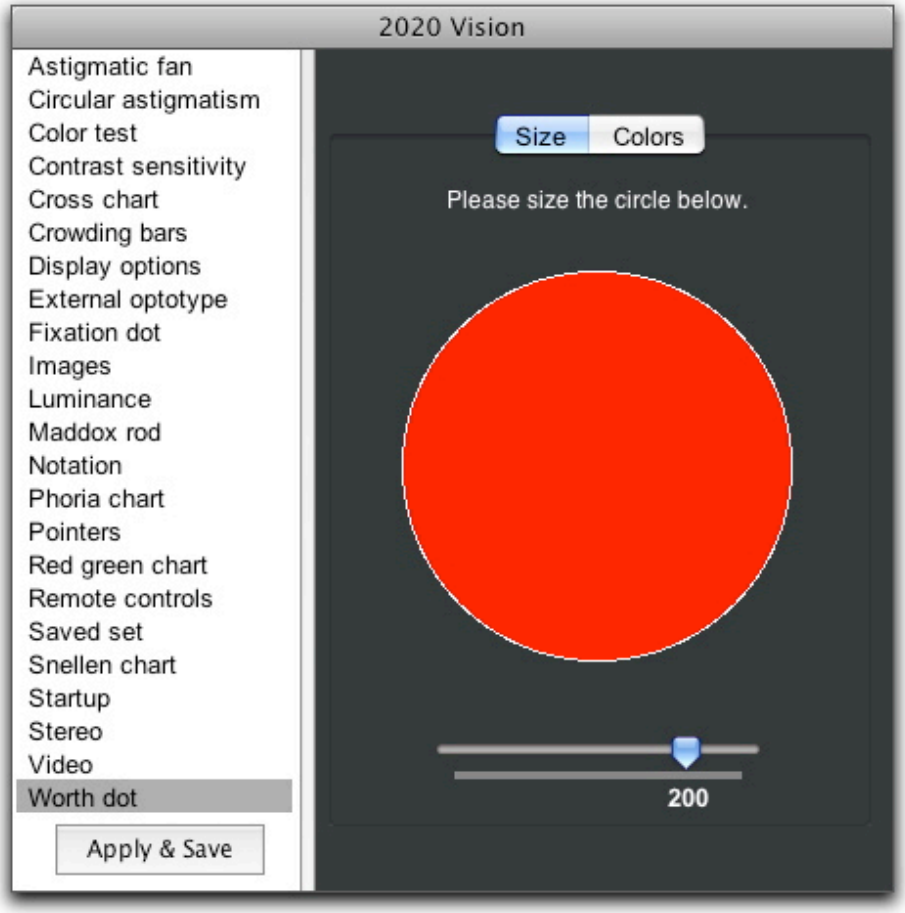
"Proportionate" determines whether a video maintains its aspect ratio when playing, or if it is stretched to fit the screen.

"Auto mirror" causes videos to display mirrored, when shown in a mirrored environment, so that they appear normal through the mirror.

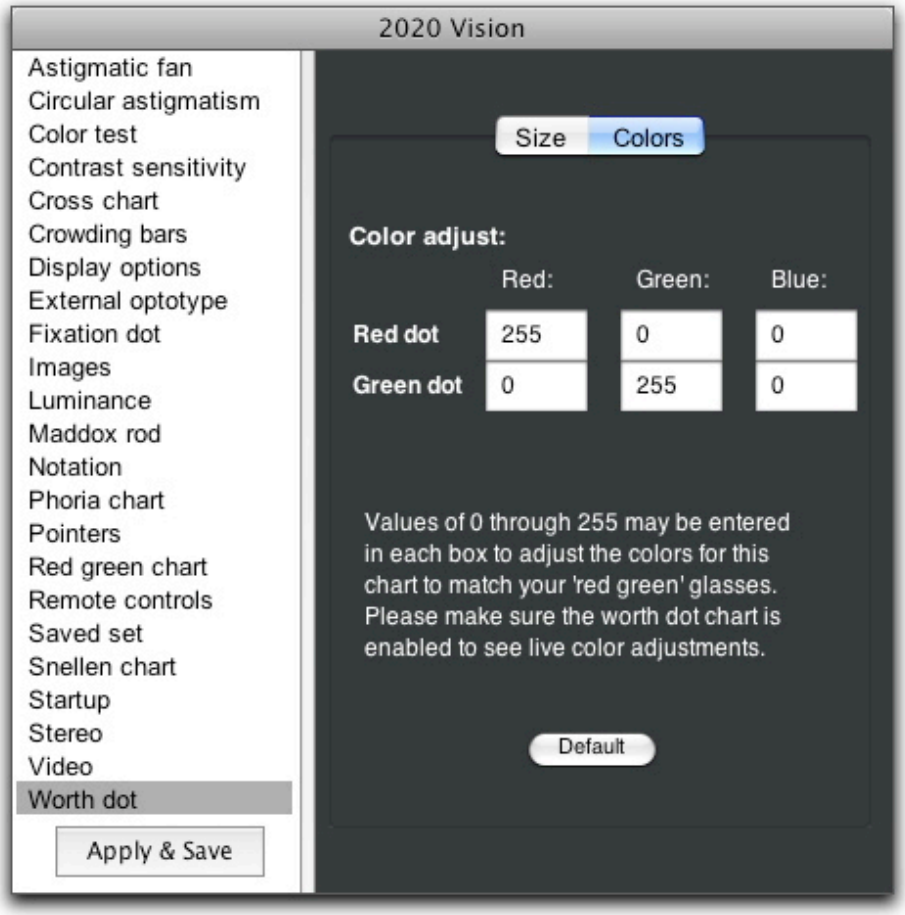
You can also control which display the video is displayed on, independently of the chart screen. This is useful if you want to show the videos on a larger wall monitor, while the Acuity System is on a smaller desk monitor. Monitor 1 is the main monitor, and Monitor 2 is the secondary monitor.

23.Worth Dot

The Worth Dot has two tabs, one to set size and one to set color.



To set the size of each dot in the Worth 4-Dot diagram, simply drag the slider to resize the preview dot, which provides a representation of how large each dot will be in the Worth Dot test.



You can also calibrate the colors of the Worth 4-Dot test to match the red and green filters on your refractor. This is critical to ensure proper cancellation when administering the test.