eSee Digital Acuity Chart User Guide

Version 2.2

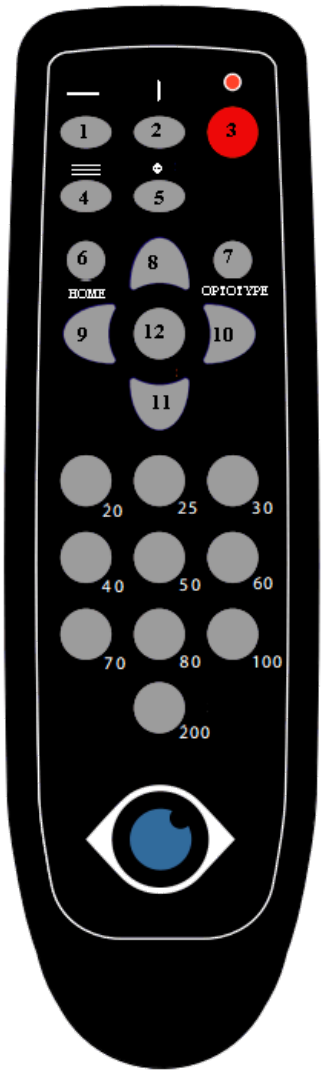
We've designed the eSee Digital Acuity chart to be easy and intuitive to use. We're confident you can be up and running in no time without any help. Even so, we understand that it's sometimes nice to have a little guidance. And even better, it's nice to know the secret tips and tricks that can help optimize your experience.

That's where this guide comes in. It goes in depth into how to use each function. Whether you have a question about how to navigate through a particular function or you are looking to become a power user, this guide can help! There is no need to read it front to back; just jump to the function you care about!

Table of Contents

Remote

This guide references the buttons on the remote by number. Please refer to the following image:



If a particular button is not listed under a function, that means it doesn't do anything for that function.

Optotype Charts

The Optotype Charts consist of five optotype sets, each containing three distinct charts[1]. The optotype sets are: Letters, numbers, shapes, pictures, and tumbling Es. Of the three charts for each optotype set, one is considered the "default" chart. It is the one that displays upon first navigation to the optotype set.

The following table explains what will happen when you press a certain button when the chart is in a certain state:

When you press...	And the chart is displaying...	The chart will...

[1] Tip: Use them for OD, OS, and OU!

Horizontal Isolation (1)	The full chart	Isolate the smallest horizontal line currently displayed.
	An isolated horizontal line	Restore the full chart of optotypes with the previously isolated horizontal line at the bottom.
	A single optotype	Expand the single optotype to a full horizontal line, maintaining the acuity.
	Halved horizontal lines or horizontal lines of single optotypes	Expand the smallest optotype currently displayed into a full horizontal line and isolate that horizontal line.
	Three horizontal lines	Eliminate two of the horizontal lines, isolating the third.
Vertical Isolation (2)	The full chart	Eliminate half of the optotypes from each horizontal line (rapid refract).
	An isolated horizontal line	Restore the full chart of optotypes with the previously isolated horizontal line at the bottom, eliminating half of the optotypes from each horizontal line.
	A single optotype	Restore the full chart of optotypes with the horizontal line of the previously displayed optotype at the bottom, eliminating half of the optotypes from each horizontal line.
	Halved horizontal lines or horizontal lines of single optotypes	Eliminate all but a single optotype in each horizontal line when displaying halved horizontal lines and restore the full chart when displaying horizontal lines of single optotypes, maintaining the currently displayed acuities.
	Three horizontal lines	Restore the full chart of optotypes with the horizontal line of the previously isolated acuity at the bottom, eliminating half of the optotypes from each horizontal line.
Three Line (4)	The full chart	Display three horizontal lines of equal acuity, that of the smallest horizontal line currently displayed.
	An isolated horizontal line	Display three horizontal lines of equal acuity, that of the horizontal line currently displayed.
	A single optotype	Display three horizontal lines of equal acuity, that of the optotype currently displayed.

	Halved horizontal lines or horizontal lines of single optotypes	Display three horizontal lines of equal acuity, that of the smallest horizontal line currently displayed.
	Three horizontal lines	Restore the full chart of optotypes with the horizontal line of the previously isolated acuity at the bottom.
Single Optotype (5)	The full chart	Isolate the leftmost optotype from the smallest horizontal line currently being displayed.
	An isolated horizontal line	Isolate the leftmost optotype from the horizontal line currently being displayed.
	A single optotype	Restore the full chart of optotypes with the horizontal line of the previously displayed optotype at the bottom.
	Halved horizontal lines or horizontal lines of single optotypes	Isolate the leftmost optotype from the smallest horizontal line currently being displayed.
	Three horizontal lines	Isolate the leftmost optotype from the bottom horizontal line currently being displayed.
Optotype (7)	Anything	Refreshes the currently displayed horizontal line(s) using a new set of optotypes, cycling through in the following order: letters, numbers, shapes, pictures, and tumbling Es
Up (8)	The full chart	Move to the next largest grouping of acuities. For example, if acuities 20-50 are showing, the chart will display acuities 25-60.
	An isolated horizontal line	Move to the next largest horizontal line by acuity.
	A single optotype	Move to a single optotype at the next largest acuity.
	Halved horizontal lines or horizontal lines of single optotypes	Move to the next largest grouping of acuities, maintaining the vertical halving or isolation.
	Three horizontal lines	Move to three horizontal lines of equal acuity at the next largest acuity.
Left (9)	The full chart	Move to the previous chart in the series of three, wrapping around to the third chart if currently on the first.

	An isolated horizontal line	Move to the horizontal line of equal acuity on the previous chart in the series of three, wrapping around to the third chart if currently on the first.
	A single optotype	If the horizontal line of the optotype's acuity contains more than one optotype, move to the previous one, wrapping around to the last optotype if currently on the first.
	Halved horizontal lines	Nothing.
	Horizontal lines of single optotypes	Move to the previous optotype in each line within the currently displayed chart.
	Three horizontal lines	Nothing.
Right (10)	The full chart	Move to the next chart in the series of three, wrapping around to the first chart if currently on the third.
	An isolated horizontal line	Move to the horizontal line of equal acuity on the next chart in the series of three, wrapping around to the first chart if currently on the third.
	A single optotype	If the horizontal line of the optotype's acuity contains more than one optotype, move to the next one, wrapping around to the first optotype if currently on the last.
	Halved horizontal lines	Nothing.
	Horizontal lines of single optotypes	Move to the next optotype in each line within the currently displayed chart.
	Three horizontal lines	Nothing.
Down (11)	The full chart	Move to the next smallest grouping of acuities. For example, if acuities 20-50 are showing, the chart will display acuities 15-40.
	An isolated horizontal line	Move to the next smallest horizontal line by acuity.
	A single optotype	Move to a single optotype at the next smallest acuity.
	Halved horizontal lines or horizontal lines of single optotypes	Move to the next smallest grouping of acuities, maintaining the vertical halving or isolation.

	Three horizontal lines	Move to three horizontal lines of equal acuity at the next smallest acuity.
Acuity shortcut buttons	The full chart	Isolate the horizontal line of the chosen acuity.
	An isolated horizontal line	Isolate the horizontal line of the chosen acuity.
	A single optotype	Isolate the horizontal line of the chosen acuity.
	Halved horizontal lines or horizontal lines of single optotypes	Isolate the horizontal line of the chosen acuity.
	Three horizontal lines	Display three horizontal lines of the chosen acuity.
Enter (12)	Anything but the menu	Open the menu
	The menu	Open the highlighted function and closes the menu

Duochrome Chart

The Duochrome Chart behaves exactly the same as the Optotype Charts save for the fact that it only contains one chart within each optotype set. Therefore, the following buttons are disabled:

- Left (9)
- Right (10)

Also, due to the mirrored nature of the chart, a few additional buttons are disabled:

- Vertical Isolation (2)
- Three Line (4)
- Single Optotype (5)

Contrast Sensitivity Testing

Contrast sensitivity testing behaves exactly the same as the Optotype Charts with one exception: The Left (9) and Right (10) buttons increase and decrease contrast rather than cycling through the set of three charts. Contrast ranges from 10%-100% and moves in increments of 10%.

Muscle Light

No buttons are active while displaying the Muscle Light.

Education

Most buttons are disabled when displaying Education images. The active buttons are:

- Left (9): Displays the next image.
- Right (10): Displays the previous image.

You can add custom images to augment the stock ones. To do so, create an “education” directory at the root of a USB drive[2]. Within that directory, add your custom images, named however you’d like. Unplug the system, insert the USB drive, and plug the system back in. The system will use up to 50 MB of images from this directory, and it will load them in alphabetical order.

Supported file types for custom images are: bmp, gif, jpg/jpeg, png, and tif/tiff. Non-animated images will be scaled to fill the screen as much as possible while maintaining scale. This includes shrinking images that are too large.

Sundial

No buttons are active while displaying the Sundial.

Worth 4 Dot

No buttons are active while displaying the Worth 4 Dot.

Disparity Chart

No buttons are active while displaying the Disparity Chart.

Animations

Most buttons are disabled when displaying Animations. The active buttons are:

- Left (9): Displays the next animation.
- Right (10): Displays the previous animation.

You can add custom animations to augment the stock ones. To do so, create a “pediatrics” directory at the root of a USB drive[3]. Within that directory, add your custom animations, named however you’d like. Unplug the system, insert the USB drive, and plug the system back in. The system will use up to 50 MB of images from this directory, and it will load them in alphabetical order.

Supported file types for custom animations are: bmp, gif, jpg/jpeg, png, and tif/tiff. Of these, only gif supports animations, so that’s probably the type you’ll want to choose for this function. If you include any non-animated image, they will be scaled to fill the screen as much as possible while maintaining scale. This includes shrinking images that are too large.

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[2] This is case-sensitive, so please be sure the directory name is all lower-case!
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Colorful Shapes

Most buttons are disabled when displaying Colorful Shapes. The active buttons are:

- Up (8): Speeds up the rate of shape change. Each press speeds up the rate by half of a second. The fastest rate of change is half of a second.
- Left (9): Forces the shapes to change.
- Right (10): Forces the shapes to change.
- Down (11): Slows the rate of shape change. Each press slows the rate by half a second. There is no limit to how slow you can set it.

Settings

The Settings page is used for configuring the system.

Use the Up (8) and Down (11) buttons to select the various settings and the Left (9) and Right (10) buttons to change them. When done, use the Down (11) button to navigate to “Apply” and press the Enter (12) button. To discard any changes, navigate to “Cancel” and press the Enter (12) button. Note that “Cancel” will be disabled until the system has been through initial configuration.

Slideshow

Because the Slideshow is a screen saving mechanism for while the chart is asleep, most buttons will cause the chart to awaken while it is displayed. The exceptions are:

- Left (9): Displays the next image.
- Right (10): Displays the previous image.

By default, the Slideshow functionality is disabled. To enable it, you have to provide one or more images to display when the system goes to sleep. To do so, create a “slides” directory at the root of a USB drive[4]. Within that directory, add your images. Unplug the system, insert the USB drive, and plug the system back in. The system will use up to 200 MB of images from this directory, and it will load them in alphabetical order.

You’ll now have the option to configure two separate timeouts: the timeout after which your slides will be displayed and the timeout after which the system will enter standby. For the slideshow to display, the latter timeout must be larger than the former.

Supported extensions for slideshow images are: bmp, gif, jpg/jpeg, png, and tif/tiff. Non-animated images will be scaled to fill the screen as much as possible while maintaining scale. This includes shrinking images that are too large.

Other Useful Tips

- Power (3) is always active and behaves the same regardless of function. If you press it when the

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chart is awake and have not configured a slideshow, it will put the chart to sleep. If you press it while the chart is asleep, it will wake the chart up (as will every other button). If you have configured a slideshow, the slideshow will be displayed upon the first button press, and pressing the button a second time will put the chart to sleep.

- Home (6) is always active and behaves the same on the vast majority of functions. It returns you to the letter optotype chart with the default horizontal lines displayed. There are a few exceptions:
    - If you are using Settings or Display Calibration, the button behaves the same as the Enter (12) button.
- With a few exceptions, Enter (12) is always active and behaves the same regardless of function. If the menu is not displayed, it will be displayed. If the menu is displayed, it will select the currently highlighted function. The only exceptions are on the Settings and Display Calibration screens, where it is used to “press” the on-screen buttons.
- Try pressing an acuity button while on the menu to save some button presses!
- The chart tries to always display five horizontal lines of acuity, but if your chart is a large distance away from the patient, it will automatically adjust to a lesser number of horizontal lines.
- The standard optotype charts support the following acuities: 15, 20, 25, 30, 40, 50, 60, 70, 80, 100, 150, 200 and 400.
- The chart will never display more optotypes than can fit on the screen. Depending on your chart’s distance setting, certain horizontal lines may not display the full set of optotypes.
- The chart will never display an optotype that is too big to fit on the screen. Depending on your chart’s distance setting, certain horizontal lines at the largest acuities may not be available.

Finally, if you ever have any questions or feedback, you can always reach out to us at comments@eseeacuity.com. We love hearing from our users!