

SightPilot™ by Chronos Operator Guide



 **TOPCON** Healthcare

SEEING EYE HEALTH DIFFERENTLY

This guide is an overview. Refer to the Instruction Manual for the safe and effective operation of the product.

SightPilot™ Software Version 1.05

Preparation

- Clean the table-top, forehead and cheek rests and allow to dry
- Input patient's details
- If patient wears glasses, input details (lensmeter import or manual)
- If entering data manually, remember to include any minus signs

*This is a new device that digitally measures your glasses prescription. It is suitable for testing most people's eyes but is not compatible with everyone. We will start with an automatic measurement of your glasses prescription followed by the eyesight test.**

Positioning Patient

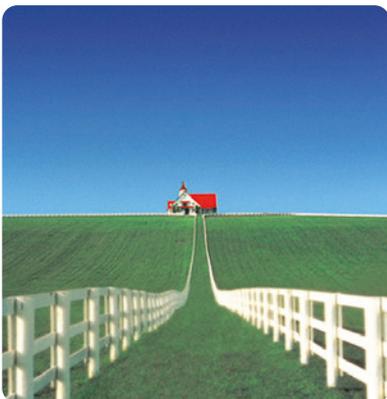


Use paddle switch on left/right of table to adjust Chronos height so forehead rest is just above patient's brow.

Please bring your head forward and place it against the forehead rest so you can see the house at the end of the road. The test will take up to 5 minutes, so you need to make sure you are comfortable. Cross your arms and rest them on the table or place them on your lap, whichever is most comfortable.

For tips on optimal patient positioning, see page 11

Device Alignment



You will hear the instrument aligning.

Do you see the house with both your right and left eye?

If the patient cannot see the house with both eyes encourage them to reposition their head until it is visible for each eye. Press START.

Tip: Check both eyes are visible on the control screen. If not, use the Up/Down arrows to bring them into view.

Continue to encourage the patient to look at the house. When completed** the measurement will be shown on the screen. Select NEXT to move to the next step.

* *The words in italics are suggestions for how to explain the different test steps to the patient. You may prefer to use different wording*

** NOTE: If alignment is not possible, the patient should be assessed using conventional refraction equipment. Explain: *It looks like your eyes are not compatible for testing on this device OR The device is not aligning with your eyes, so we will now measure your glasses prescription using other eye testing methods.*

Step-by-Step Guide

1. Patient Screening

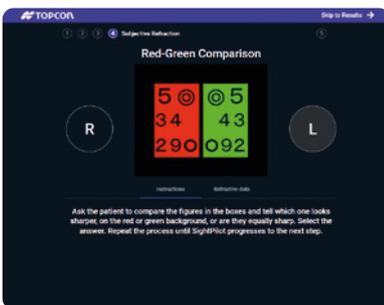


The screening step identifies the minority of patients who are better suited to a customized refraction with a clinician. Before this step, double check that the patient is comfortable and correctly positioned.

Please blink then read the letters from left to right starting at the top. It's OK to guess.

Tap to highlight each letter the patient reads correctly, then press DONE. This step is repeated for the left eye.

2. Red-Green Comparison



This test refines the spherical portion of the prescription.

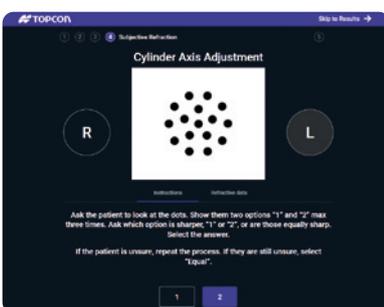
Look at the figures against the coloured background. Which figures appear sharper and blacker, the ones against the red on the left, or the green on the right, or do they look equal?

Select the colour corresponding to their answer and repeat the test until SightPilot moves to the next stage.

Tip #1: Do not leave the patient looking at the red-green test for too long. Encourage them to make a quick decision.

Tip #2: If a patient has impaired color vision, ask the question differently: Are the figures are clearer on the left or the right?

3. Cylinder Axis Adjustment (followed by power)



This test refines the cylinder portion of the prescription.

Look at the black dots and blink normally. They may appear slightly blurred. Which option makes the dots look rounder and clearer, option 1, or option 2, or are they about the same?

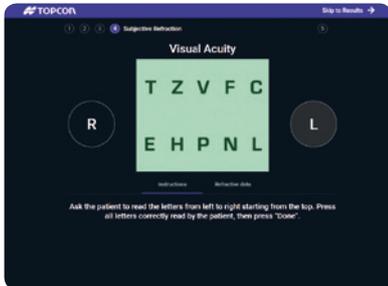
Tip: Show them options 1 & 2 a few times, leaving ~1 sec in between. If they find it hard to decide, ask again if they are equal.

Select one, two or equal depending on the patient's answer. Repeat the test until SightPilot moves to the next stage, which repeats this same test but to check the cylinder power.

Red-Green Comparison (step 2 rechecked)

The red-green test is repeated after the cylinder check if SightPilot considers it necessary. This step is not needed for all patients. Select red, green or equal depending on which background makes the figures look sharper and darker and repeat the test until SightPilot moves to the next stage.

4. Visual Acuity (distance)



Now I will work out what you can see. Please read the letters from left to right, starting at the top. It is OK to guess.

Touch all letters read correctly. If they cannot read the letters, the test will be repeated with larger letters.

Tip #1: Encourage them to read as many letters as possible.

Tip #2: Remind them to blink normally.

SightPilot will now repeat steps 1 to 4 for the left eye. The R circle will now be greyed out.

An optional binocular balance* step can be included in SightPilot between step 4 (left eye) and step 5 (binocular visual acuity). It is selected in Settings prior to inputting patient details. The Chronos refracts under binocular conditions throughout so inclusion of this additional step depends on the preference of the clinician.

5. Binocular Visual Acuity (distance)



This step works out how well the patient can see for distance with the two eyes working together. If they cannot read the letters, the chart will adjust to show larger letters.

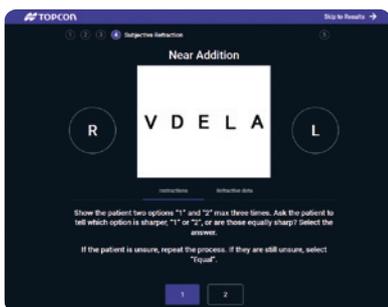
Touch all letters read correctly.

Now I will check what you can see with both eyes together. Please read the letters from left to right, starting at the top. It is OK to guess.

Near Vision Testing

(Near Addition and Near Visual Acuity will be skipped if Near Vision is set to OFF in Settings). The next few tests ensure that the patient has the right prescription for near vision. The Chronos optical heads will reposition for a closer working distance. It is useful to tell the patient so they expect this. *Close your eyes for a moment while the device changes to measure your near vision. You will hear the device realigning.*

6. Near Addition



Only patients over the age of 40 are likely to need a different lens power for near vision. This step is skipped for younger patients.

Now I'm going to show you two options for comparison. There is no need to read the letters out this time. Which option makes the letters look clearer? Option 1, option 2 or are they about equal?

Select one, two or equal depending on their answer. This step is repeated showing a different comparison, before SightPilot automatically moves to the next step.

Tip: Show them 1&2 a few times - they may find it hard to decide.

7. Near Visual Acuity



Now I will work out how well you see at near with both eyes together. Please read the letters from left to right, starting at the top. It is OK to guess.

Touch all the letters they read correctly. If they cannot read the letters, the test will be repeated with larger letters.

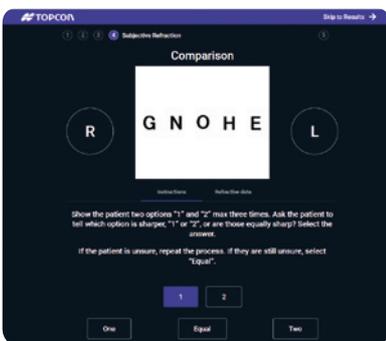
Tip: Don't forget to encourage them to read as many letters as possible.

Final Comparison

The Chronos optical heads reposition to return to distance testing for the final steps.

The device is now going to realign again for distance. Close your eyes for a moment. You will hear it aligning.

8. Comparison



Next, I will show you some more letters and give you two options to choose between. Which option makes the letters look clearer? Option 1, option 2 or are they about equal?

Use the buttons to show options 1&2. Select One/Two/Equal depending on their response. If they do not answer quickly, ask them if they are equally clear.

This stage is performed twice - two different comparisons are shown to each patient.

Tip: Repeat each option a few times - they may find it hard to decide.

The test is complete. You can now sit back.

Select NEXT to view results and print or export.

SightPilot may stop during any step if the patient's responses indicate that they would be better suited to a customized refraction undertaken by an eye care professional (see page 9). Should this happen, it is possible to select 'Manual Control' from the results page, and access the standard refraction interface. It is also possible to skip to the results page and select manual control at any time during the test.

Results

+ / - **6**

1 Patient ID: 12345
 Name: Patient Test
 Date of birth: 25/10/1965

Subjective Refraction

2		Sphere	Cylinder	Axis	3 Add	4 VA	5 Near VA
Right	-1.50	-0.75	151	2.00	1.0 -2		
Left	-1.75	-0.25	0	2.00	0.9 +2		
Bino					1.5 -2	0.9 +1	

- 7** Comparison: Prefers subjective refraction over the spherical equivalent
- Comparison: Prefers subjective refraction over the previous spectacles

Objective Refraction

8		Sphere	Cylinder	Axis	Add	VA
Right	-1.50	-0.75	151	0.00		
Left	-1.75	-0.25	0	0.00		

Previous spectacles

9		Sphere	Cylinder	Axis	Add	VA
Right	0.00	0.00	0	0.00	0.0	
Left	0.00	0.00	0	0.00	0.0	
Bino					0.0	

10 Print **11** Export

12 Back **13** Manual control **14** Finish exam

Results Screen

- 1** Patient details
- 2** Final refined refraction result for distance vision, for each eye, including the sphere, cylinder power and axis.
- 3** Final refined addition power for near viewing at 40cm. Combining this value with the sphere power for distance, gives the power of the glasses for near work. (This field will be zero if Near Vision testing is set to OFF in Settings)
- 4** Distance visual acuity for each eye and both eyes together.
- 5** Near visual acuity if measured (option in Settings)
- 6** Transpose subjective refraction to preferred cylinder format.
- 7** Outcome of comparison tests*.
- 8** Initial objective refraction results captured at the start of SightPilot. For comparison only.
- 9** Details of patient's previous spectacles, if imported/entered.
- 10** Print results direct from the Chronos thermal printer.
- 11** Export results to the CV5000 for clinician check or to patient record system.
- 12** Return to previous test step.
- 13** Switch to manual control interface to allow clinician to custom refract the patient or check the result.
- 14** Finish exam and prepare to test the next patient.

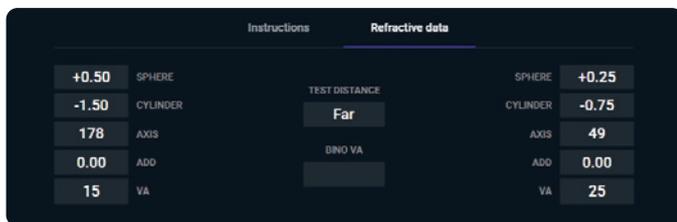
Comparison Tests

*Subjective refraction/spherical equivalent comparison: This indicates if the patient would benefit from correction of their astigmatism. This can help with the selection of contact lenses for example.

Subjective refraction versus previous spectacles confirms that the new refraction is better. In the unlikely situation that it is worse, an eye care practitioner should check the refraction.

Additional Options in SightPilot

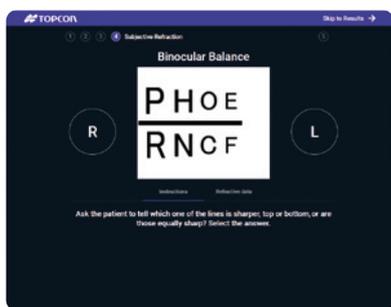
Refractive Data Tab



This tab at the top of the screen, allows you to view the refraction at any stage during SightPilot. This may be of interest to personnel qualified in refraction.

NOTE: This is for viewing only. You cannot manually change the lens powers within this tab.

Binocular Balance

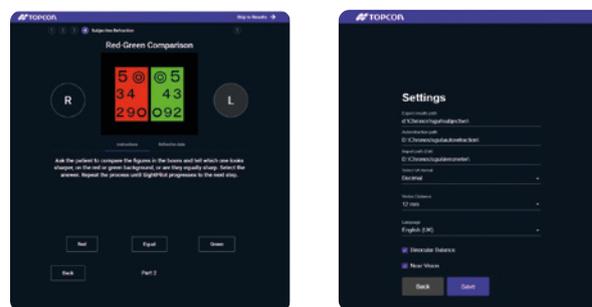


This is an extra step that can be pre-selected in Settings, if it is the preference of the responsible clinician. Chronos refracts with both eyes working together (binocular) throughout, but some clinicians may prefer an extra check. If selected in settings, this test appears between steps 4 (left eye visual acuity) and step 5 (binocular visual acuity).

Tip: Both lines may appear slightly blurred to most patients. Ask the patient which is the clearest or are they equally blurred.

Now I'm going to work out how well your eyes are working together. Look at the two lines of letters. Which line is sharper? The top, the bottom or are they about equal?

SightPilot Options in Settings



From the SightPilot home screen, you can select Settings to customize certain SightPilot settings to suit clinic workflow and clinicians' preference. Don't forget to save your choices.

DOB Format - To change the date of birth format, select your preferred language. For example, selecting English (US) will switch format to MM/DD/YYYY.

Near Vision - When Near Vision is set to ON in Settings, all patients will have their near vision assessed and patients over 40 will have the near addition measured. When Near Vision is set to OFF in Settings, all near vision tests will be skipped for all patients.

Binocular Balance - SightPilot measures refraction under binocular conditions but if preferred, an additional binocular balance check can be included (see left).

Disclaimer

The purple text in this guide, used to explain each stage of SightPilot to the patient, is for guidance purposes only. Personnel qualified in refraction may prefer to use different wording.

Start-up/Shut down



- 1 Side switch and green indicator light
- 2 Table adjustment lever

Start-up:

1. Remove the dust cover
2. Turn on the back switch
3. Turn on the side switch and wait for the flashing green light to stabilize
4. Open the tablet app or software to connect the Chronos to the table

Shut down: Complete steps in reverse order (4, 3, 2, 1)

Troubleshooting Connectivity

If the green light does not come on, or does not stabilize, try the following steps:

1. Clear the cache memory/browsing history/cookies/other site data from the tablet/PC browser.
2. Close down and reopen the SightPilot tab
3. If you have both SightPilot and the Chronos Standard Refraction Interface open on the tablet/software, try closing the Standard Interface
4. If an orange light comes on or options 1-3 do not work, shutdown and reboot the Chronos and restart the app/software.

When to use the Standard Refraction Interface rather than SightPilot

The majority of patients are suitable for examination using SightPilot. A small proportion are not compatible. If it is clear from a previous visit or the patient's records, that a patient would benefit from a customized refraction with an eyecare practitioner, you are advised not to use SightPilot. If SightPilot is used on an unsuitable patient, the software is designed to stop and inform the operator as soon as possible. This most commonly happens during the patient screening step, but can happen at any stage.

Examples of patients that may benefit from a customized refraction rather than SightPilot:

- Under the age of 8 years
- Those who cannot sit up straight for the duration of the test
- Those with poor vision in one or both eyes
- Patients with astigmatism (cylinder power) > 4.00D
- Patients with a difference (sphere power) between the two eyes of > 2.00D
- Patients with a turn (strabismus) in their eye or difficulty with eye movements
- Patient who may have difficulty understanding
- Particularly indecisive patients

NOTE: Topcon Healthcare recommends that the Standard Refraction Interface is only used by personnel qualified in refraction.

Cleaning your Chronos

Wipe the tabletop and forehead/cheek rests between patients and allow to dry. We recommend an antibacterial alcohol-free wipe for longevity of painted parts. For advice on specific cleaning of other parts of the device, please contact your Topcon service provider.

Regulatory Information



To ensure safe use of the Chronos, please refer to the user manual for full details.

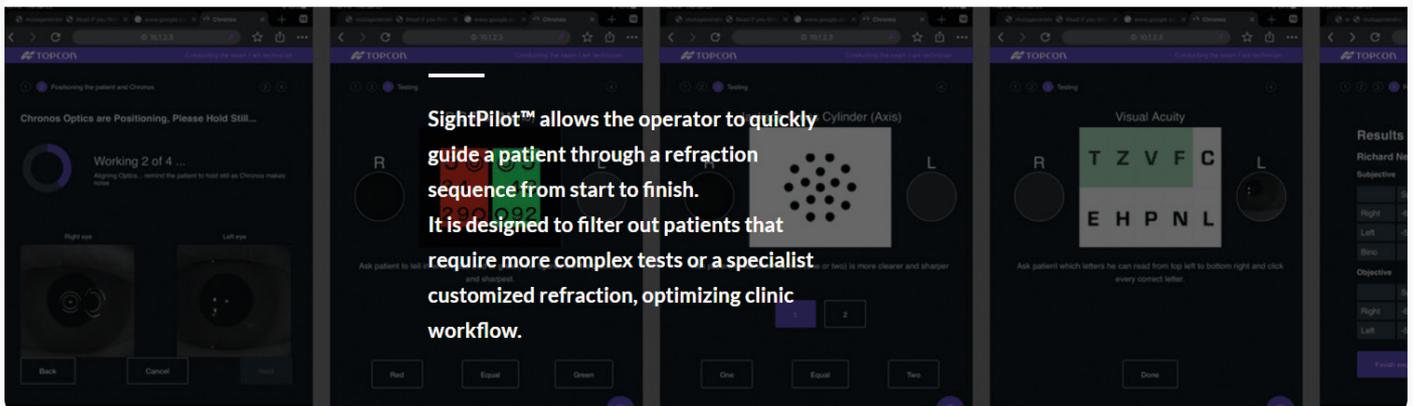


For further Training, register for Topcon Healthcare University and access our comprehensive course:
[Using Your Chronos](https://learning.topcon.com/)
<https://learning.topcon.com/>

Introduction to SightPilot™

Author Hidden

The simple, easy to use interface known as SightPilot™ controls the Chronos via a tablet and/or PC, giving the operator flexibility and choice over their testing set up.



Optimizing Patient Position

Sitting position



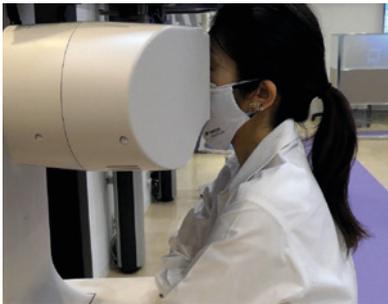
Sit close to the front of Chronos

If the chair is too far from Chronos, the angle of the patient's face will be incorrect and alignment may fail.

A chair with widely-spaced legs allows the patient to be close enough to the table.



Forehead rest



Make sure the patient is not holding the sides of the table or central column; they may accidentally touch one of the switches.

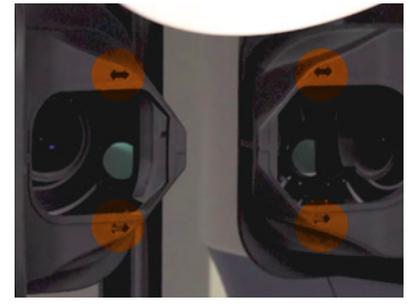
Adjust the height of the chair so that the patient can comfortably rest their elbows on the table-top.

The patient's eyes should be properly aligned and there should be no interference from their hair. With an older patient you may need to ask them to open their eyes wide.



Ask the patient to place their forehead on the forehead rest. Adjust the height of the table to ensure their eyes are aligned with the eye height markers.

Adjust their horizontal position so that the patient's eyes are aligned with the arrow mark.



If the forehead is not resting against the forehead rest, an error message is shown.



The patient's head should not be tilted forwards or backwards.



Cheek rest



The cheek rests can be adjusted if needed to ensure the patient's head is straight.

Resting on the side of the cheeks.



Not all products, services or offers are approved or offered in every market, and products vary from one country to another. Contact your local distributor for country-specific information and availability.

IMPORTANT Subject to change in design and/or specifications without advanced notice. In order to obtain the best results with this instrument, please be sure to review all user instructions prior to operation. Medical device MDD Class Im. Manufacturer: Topcon Corporation.

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