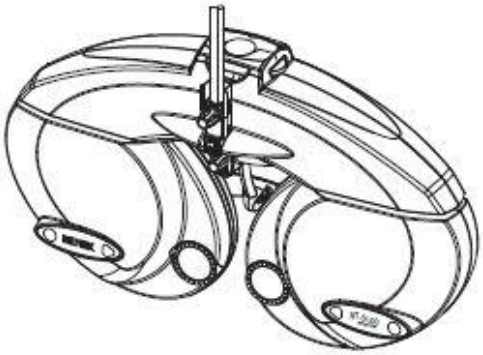
NIDEK

BIRMINGHAM OPTICAL
THE OPTICAL COMPANY

NIDEK

REFRACTOR
RT-5100



Frequently asked questions

Q - How do I measure PD and BVD measurements?

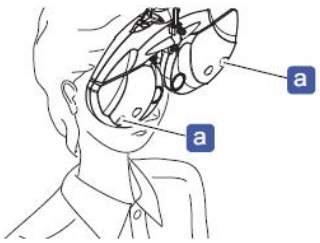
A- PD

By pressing the PD field on the RT-5100 screen the light will come on and the graticules will be displayed in the eyepieces. Monocular and binocular measurements can be inserted.

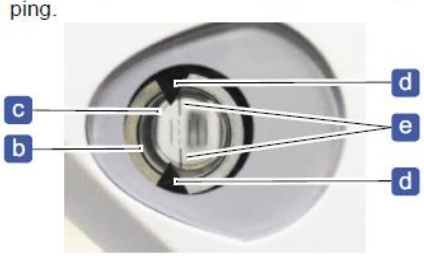
A- BVD

Look through the VD check windows **a** from the front to check the vertex distance.

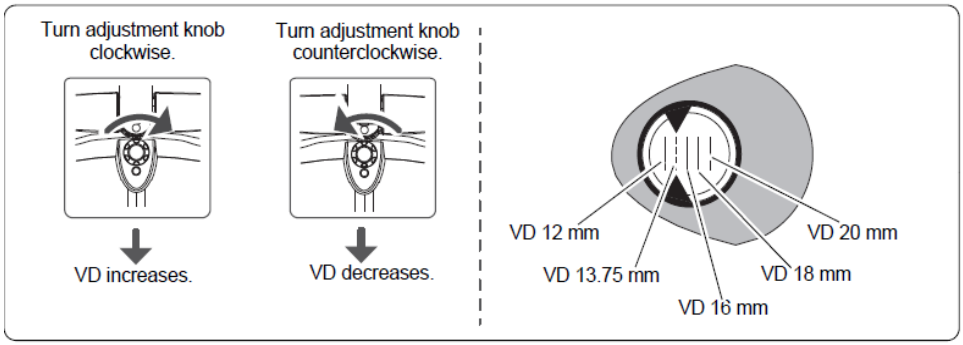
If the VD check windows are viewed at an angle, the vertex distance cannot be checked correctly. The following is the figure that the VD check windows are viewed from the front.



- The circle in the front **b** and the circle in the back **c** look concentric.
- The triangles in the front **d** and the upper and lower solid lines in the back **e** look overlapping.



Align the patient's corneal vertex to the desired marking with the forehead rest adjustment knob.



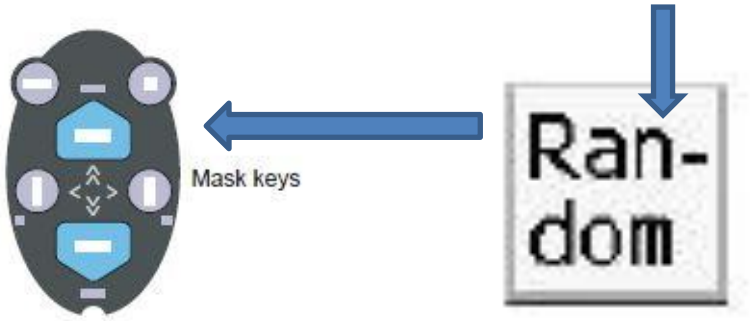
The BVD is set to 12mm when the headrest is in the original position.

Q - How do I know if the patient is in the correct position?

A- The blue light on the phoropter will be lit when the patient moves away. The light will be extinguished when the patient is in position with their head pushing against the forehead rest.

Q - Can I randomise letters displayed to the patient?

A- Yes, masking a single letter or row of letters by pressing the masking keys will isolate these letters from the rest of the chart. To randomise press the randomise button on the bottom RHS of the RT-5100 screen (NB. Is function only works when connected to the Nidek SC-1600 chart).



Q - How do I use the cross cyl dot test?

A- When you press the X-cyl dot test the RT-5100 automatically goes into cyl mode.
There are 2 different ways of confirming the cyl.

1) There is 2 dot patterns presented simulateously where you have to refine until equally clear, this is the AUTO mode.
2) There is only one dot pattern presented where you use the 'flipper' buttons to refine asking which is clearer, 'one or two'. This is the most commonly used. If this is your preferred test you can press the button on the screen (shown by the arrow above pointing to Step ±0.25) which changes it between AUTO mode 1 and 2 or you can choose to set it as a default by selecting MENU-SETTINGS-PARAMETERS-XC – select either -0.25 or -0.50.
3) You can use any screen you wish by selecting as above, pressing axis / cyl on RT-5100 then presenting '1 or 2' options.

2) Measure the cylindrical axis with the cross cylinder lens.

Flipped cross cylinder:

Ask the patient which is sharper, chart 1 presented by pressing or chart 2 presented by pressing .

When chart 1 is sharper.

→ Turn the dial counterclockwise one increment.

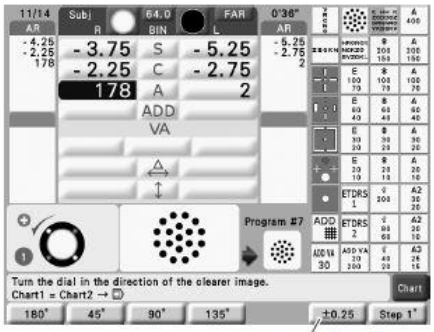
(Also possible by pressing ⊕)

When chart 2 is sharper.

→ Turn the dial clockwise one increment.

(Also possible by pressing ⊖)

Repeat the above until both charts appear equal.



Types of cross cylinder lens

Q - Can I change the power steps for sphere and cylinder powers?

A- Yes, this is possible by changing parameters found in settings. Press the arrow at the top left of the screen which will display a screen, press SETTINGS- PARAMETERS- from here you can change to your preferred steps. By default, they are set to 0.25D steps and 1.00D steps using the 'SHIFT' button.

Detailed parameter options

SPH step: 0.12 D, 0.25 D

Factory setting: 0.25 D

Setting for the increment to adjust sphere values. Selectable between 0.12 D and 0.25 D.

CYL mode: –, +

Factory setting: –

Setting for the cylinder reading. Selectable between + and –.

AXIS step: 1°, 5°

Factory setting: 5°

Setting for the increment to adjust axis values. Selectable between 1° and 5°.

SPH step (Shift): 0.50 D to 3.00 D

Factory setting: 1.00 D

Setting for the increment to adjust sphere values with (Shift).

CYL step (Shift): 1.00 D, 2.00 D, 3.00 D

Factory setting: 1.00 D

Setting for the increment to adjust cylinder values with (Shift). Selectable among 1.00 D, 2.00 D, and 3.00 D.

AXIS step (Shift): 1° → 5°/5° → 1°, 1° → 5°/5° → 15°

Factory setting: 1° → 5°/5° → 1°

Setting for the increment to adjust axis values with (Shift) when the AXIS step parameter is set to 5.

1° → 5°/5° → 1° ⇒ In increments of 1° while pressing (Shift)

1° → 5°/5° → 15° ⇒ In increments of 15° while pressing (Shift)

When the AXIS step parameter is set to 1°, the increment to adjust axis values with (Shift) is 5°.

AXIS auto step: 0.00 D to 4.00 D

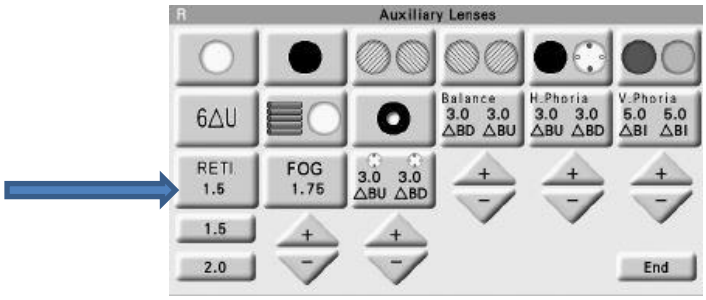
Factory setting: 0.00 D

In cylindrical axis measurement with a cross cylinder lens, the AXIS step becomes 5° when the obtained cylinder value is less than the setting. The AXIS step becomes 1° when the obtained cylinder value is the setting one or more. The setting value changes in 0.25 D increments.

When the setting is 0.00 D, the AXIS step does not change regardless of the cylinder value.

Q - Can I do retinoscopy with the RT5100?

A- Yes, select R or L aperture button on the RT5100 screen, this displays a range of auxillary lenses. From here you can select the retinoscopy working lens you desire.



Q - How do I fog one eye for binocular balancing?

A- When one eye is occluded, press the aperture, select fogging lens option. Then select other eye to swap fogging lens.

Q - Is there a +1.00 blur test?

A- Not specifically, however if you hold SHIFT while turning the central dial, it will change by 1D steps which can be presented to the patient as a +1.00 blur effect.

Q - How do I remove prism effect?

A- By pressing the Prism button on the screen it will alternate between selecting prism and removing all prism.

Q - How do I remove the near add?

A- By pressing the ADD button it will alternate between selecting the near ADD or removing the near ADD.

Q - When using the Maddox Rod test can the streak be brighter?

A- Unfortunately, no. The brightness of the streak it determined by the light source creating the streak.

Q - On the reading chart,how are the letters measured?

A- There are a number of tests on the Near chart, but they are not measure in N-point notation. You can use a conversion chart or use your hand held reading chart at a measured working distance in front of the RT5100 near chart (see quick guide).

Q - I am unsure of what some tests do?

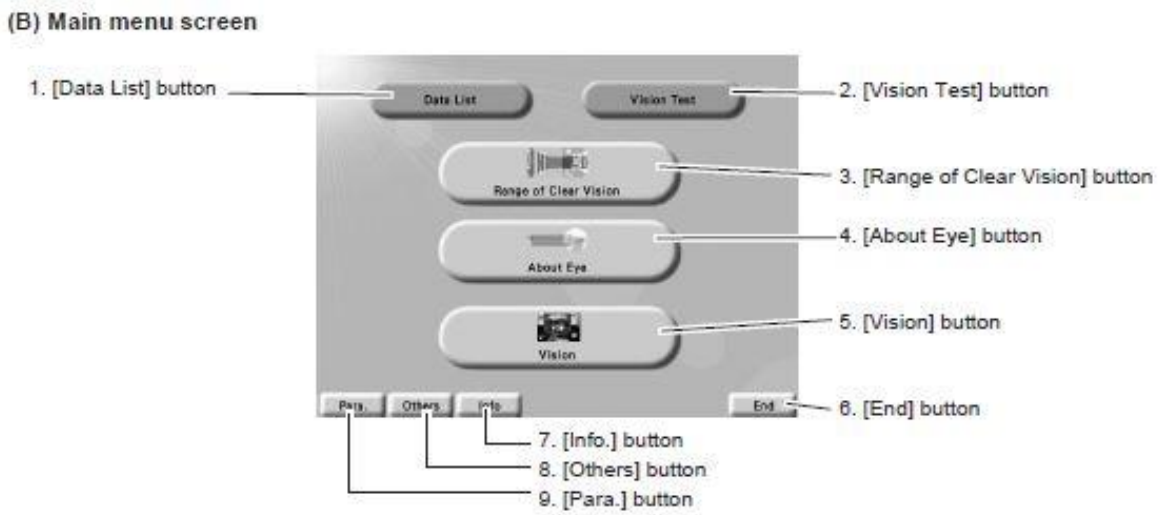
A- There is a '***HELP***' button on the console to explain how to perform the tests.

Q - How do I clear the screen in preparation for my next patient?

A- Press the '***CLEAR***' button on the console.

Q - How do I change settings?

A- To change settings, press the '***MENU***' button on the console. Here you will find parameter settings, amongst other information..

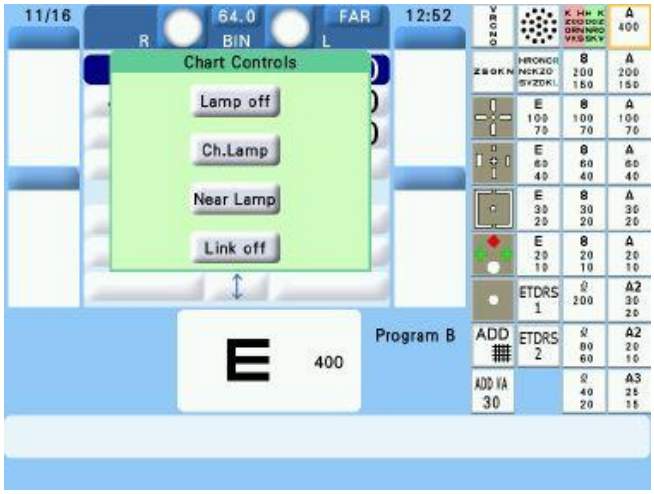


Q - Why is there different tests available depending on which room I am testing in?

A- Some tests and functions vary depending on which type of chart the RT-5100 is connected to.

Q – How do I turn off the near lamp during near ADD determination?

A- The near lamp on / off is accessible by pressing the silver button on LHS of the RT-5100 console.



Q – Link off error appears

A- The link off option is accessible by pressing the silver button on the LHS of the RT-5100 console

Q – The touch screen does not respond.

A- Press the silver button on right hand side of the control unit while holding down shift button. A window will appear on screen that says ‘touch panel calibration’, Then press dial centre switch. Now press the button in the middle of the grey dial and touch each red square that appears in the corner of the screen. Calibration should now be complete.

Q – Error RB / CB appears

A- Turn the unit off and check the cable that connects to the control box, disconnect and reconnect this. (refer to image). Then turn the unit back on and see if it is now working properly. If not, please contact Birmingham Optical.

Q – Error RB / MB appears.

A- Turn the unit off and check the cable connected to the RT head, disconnect and reconnect this (refer to image). Then turn the unit back on and see if it is working properly.