

RT-6100 Workflow

(NB. This guide is designed to be used in conjunction with the RT-6100 quick reference guide, RT-6100 User guide, and Nidek RT-6100 Operators Manual)

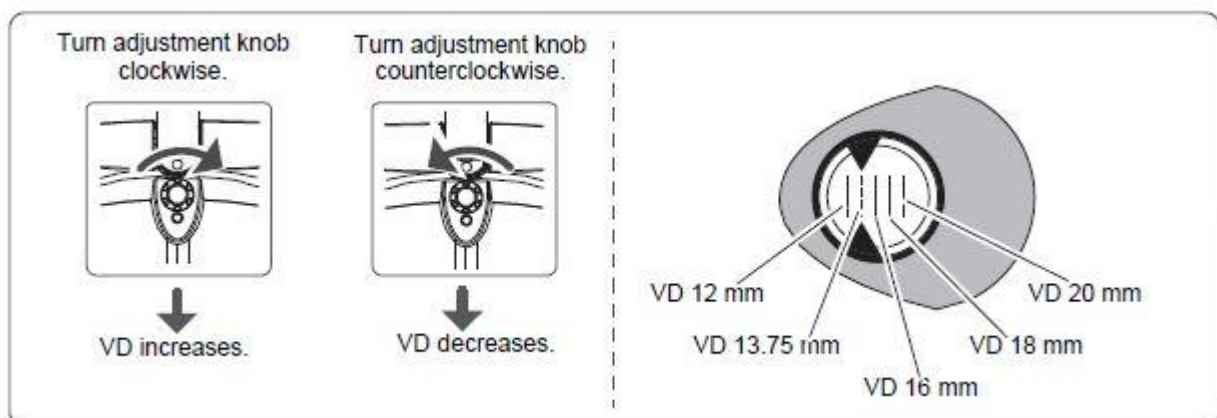
1. **Adjusting the RT-6100 head** – ensure the RT head is level by adjusting the level adjustment knob and taking note of the tiny spirit level to ensure the device is not tilted. This is best checked with the Px in position. Ensure the Px always knows to gently push against the forehead rest during use – this can be checked by the blue light being extinguished if the Px is in the correct position.

The Near point rod should be inserted into the holder on the front of the RT head.

NB. This rod will need to be removed for distance refraction if you have a room set up where the chart is reflected in a mirror.

2. **Setting the PD and BVD** – press the PD field on the RT-6100 screen. This will put two graticule lenses in front of the Px eyes. Look directly at the Px through the lenses and adjust the PD by turning the dial on the console. R or L fields can be selected to input monocular PD. Alternatively, measure PD with a ruler and input directly to the PD field.

Two LED lights on the Px side of the RT head illuminate to enable you to view the corneal profile through the vertex check window. The BVD adjustment knob can then be used to change the BVD. *NB. In most cases the BVD will be adjusted to the closest position to the RT head.*





3. **Selecting Data points** – Unaided / LM / AR / Subj / Final data points can be selected to store the Rx and VA information. This can then be used at the end of refraction to quickly and easily demonstrate to the Px the differences in the Rx found today compared to their current Rx.

Data can be set by using the dial to set the respective values for Rx and VA. When inputting VA values, pressing '**SHIFT**' on the RT-6100 console will display a '+ or -' to allow you to input if more or less than a whole line was read.

If a Nidek Lens measure or Autorefractor is connected to the RT-6100, data can be recalled by pressing the input button and selecting the required data entry.

When transferring data from Acuitas to the RT-6100, on the lens measure screen of Acuitas click 'SET DATA' and the information will be transferred into the RT-6100. The same applies to the autorefractor field on Acuitas. To copy data from one data point to another (*eg. LM to Subj*) whilst on the LM data point, hold shift and press Subj. Ensure you are using the 'Subj' data point to begin the refraction process.

4. **Adjusting SPH / CYL / AXIS** – You can change the SPH / CYL / AXIS values by selecting the required field (*monocular or binocular*) and using the dial. One click of the dial changes by 0.25D steps. Holding shift whilst moving the dial will change by 1.00D steps.





Pressing the R or L buttons / fields will select that eye alone and occlude the other. Other lens options such as retinoscopy working lenses, fogging lenses, etc can be accessed by pressing the R or L aperture fields on the RT-6100 screen.

5. **Selecting tests** – The tests available to select are dependant on which chart is connected to the RT-6100 (*for example, there are more tests and functions available when connected to a Nidek SC-1600 chart compared to a Nidek projector chart*). Pressing the desired test on the RT-6100 console will select the test presented on the chart. For each test, pressing the '?' button on the screen will explain how to perform that test.

For visual acuity charts (*Letters / numbers / pictures*), lines can be masked horizontally, vertically, or by single letters and the relevant VA will be recorded for R / L / Binocularly also.

Whilst masked horizontally or as a single letter, the randomise button will change the letters in that line. Randomise does not work when all visual acuity lines are displayed.

If a test requires a supplementary lens, the RT-6100 will automatically place that lens in position.

6. **X-Cyl test** – Selecting the X-Cyl target (*circular pattern of dots*) will automatically begin the X-Cyl axis test. You can select a $\pm 0.25D$ or $\pm 0.50D$ X-Cyl and 5° or 1° steps. Conduct the test by alternating between the '1 or 2' options by pressing the  and  buttons on the RT-6100 console. Whichever the Px chooses, turn the dial in that direction. When cyl axis has been determined, press X-Cyl target again and the test will switch to determine cyl power. Repeat above to determine cyl power. (*NB. SPH power will change by 0.25D in the opposite direction if CYL power is changed by 0.50D*).
7. **Determining and inputting prism** – By selecting a test to determine if any prism is required (*for example fixation disparity*), or by selecting the prism field on the RT-6100 screen, R / L / Binocular prism can be determined and input both horizontally and vertically. Pressing the prism field again will remove the prism lenses to allow the Px to experience the difference with and without any prism lenses.
8. **Performing Near ADD** – Pressing the '**ADD**' field on the RT6100 screen will allow the calculation of any near addition. The RT-6100 head will converge and LED lights will light to illuminate the near charts. Flip down the near point rod and set to the desired working distance and near chart (*alternatively you can hold up a reading card or another target*). On the RT-6100 screen, select the approximate age of the Px (or no Add) and the age applicable add lenses will be inserted into the RT-6100. Near VA can be measured and required Add determined. Pressing the '**ADD**' field again will remove the addition lenses to allow the Px to experience the difference with and without any near add. By accessing the side menu , it is possible to extinguish the near lamp, allowing the Px to experience the difference with and without extra illumination.
9. **FAR / NEAR mode** – The RT-6100 can store a FAR and NEAR mode for each data point. This allows you to input different Rx (*for example if the Px has a differing amount of prism in distance and near Rx*) and quickly switch between different Rx. Select FAR / NEAR mode by selecting the mode on the RT-6100 screen.
10. **Side menu** – The side menu can be accessed by pressing the  button in the top LHS corner of the RT-6100 screen. Here you will have access to additional functions other than performing measurements on the RT-6100, such as 'Amsler grid', 'vision through a lens' and 'about the eye'.



11. **Outputting data** – Once the refraction process is completed, pressing ‘**OUTPUT**’ on the RT-6100 console will transmit the data back into a practice management system (*if configured to do so*).

logMAR	N-scale	M-units	Equivalent Snellen (imperial)	Equivalent Snellen (metric)	Common usage
-0.10	2.5	0.32	20/16	6/5	
0.00	3	0.40	20/20	6/6	Medicine bottle labels
0.10	4	0.50	20/25	6/7.5	Medicine bottle labels
0.20	5	0.60	20/30	6/9	Footnotes, bibles
0.30	6	0.75	20/40	6/12	Telephone directories
0.40	8	1.0	20/50	6/15	Newspaper print
0.50	10	1.2	20/60	6/18	Magazines, books
0.60	12	1.6	20/80	6/24	Books
0.70	16	2.0	20/100	6/30	Children’s books
0.80	20	2.5	20/125	6/36	Large print books
0.90	25	3.2	20/160	6/48	Large print books
1.00	32	4.0	20/200	6/60	Sub-headlines
1.10	40	5.0	20/250	6/75	Sub-headlines

Near VA equivalents in various measurement systems.

NB. There are many other functions and tests available on the Nidek RT-6100 Automated Phoropter. This workflow guide is intended to cover the more widely used functions and is in no way designed to be an exhaustive list of functions. Please refer to the RT-6100 Operators manual for further information.