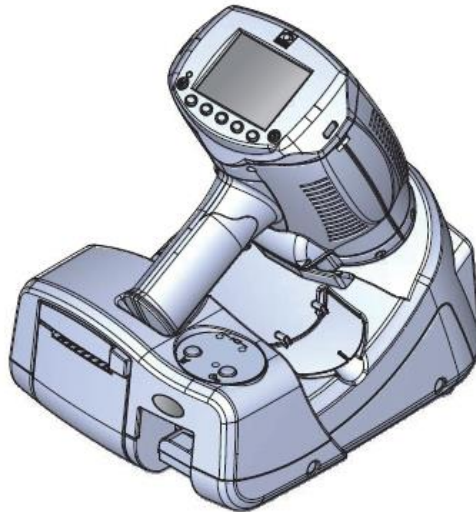




HANDHELD REF/KERATOMETER

HandyRef-K



FREQUENTLY ASKED QUESTIONS



How long does the battery last on the HandyRef-K?

The battery is lithium-ion and last approximately 140 mins. Depending on use, this could last many days in-between charges.

How do you know when the battery is low?

It bleeps 3 times

How do I know if the battery has been charged?

The battery indicator light is OFF.

There are three levels: 

How do I change the time?

In settings find parameters- SET CLOCK, when complete, press EXIT to save.

Is the HandyRef-K portable? / Can I use it with one hand?

Yes, the HandyRef-K is lightweight and designed to be used in a portable fashion with one or two hands.

Is it quick to capture measurements?

The new measurement method 'synchro scan technology' measurement starts when the alignment starts. This provides a more stable measurement value more effectively and efficiently. Auto-refraction and Keratometry normally lasts a few seconds, but there is a 'QUICK' mode for less reliable Px.

Is it easy to read the data?

It is a fully graphic LCD with 3.5-inch colour screen. Measurement results can also be printed from the dock.

What is the prescription range?

The spherical range is from -20.00D to +20.00D. Vertex distance 12mm. Cyl 0 to +/- 12D

How many patients are stored?


The device stores 50 patients or 100 eyes. All, or individual results can be recalled. At the measurement of Px #51, the data for Px #1 is erased.

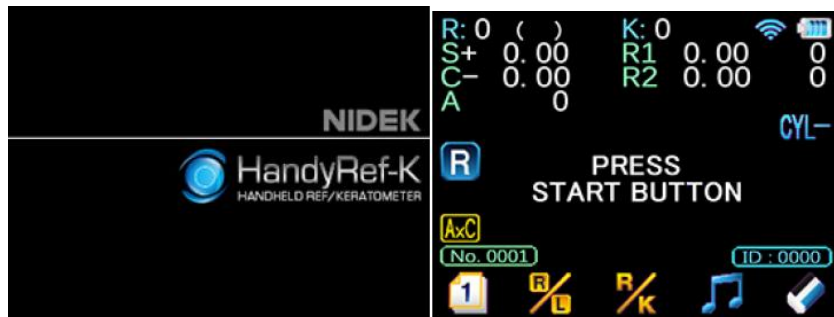


How many measurements can be taken for each eye?


A maximum of 10. If the measurements exceed 10, the device deletes the oldest measurements automatically. Normally, 3 or 5 measurements per eye is optimal.

How do I turn on the Handyref?


When fully charged press START button.  when Initialising is complete, the main screen is displayed.



Does the HandyRef-K have automatic R and L detection?

Yes, but it is possible to manually select 

Why does the HandyRef-K have a melody function?

This is useful for inexperienced patients, children, and anxious patients to aid concentration into the aperture of the HandyRef-K. 

Is measurement automatic or manual?

When the alignment / focus becomes optimal, measurement begins automatically.

How is the pupil size measured?

Measured automatically during the AR (autorefractometry) measurement. It can also be measured manually.

Can you take measurements on a patient who is lying down?

By tilting the instrument 60° or more downward, the HandyRef-K will adjust for supine measurement. Measurements can be taken at 180° or 90° to the Px head position.

Is there a minimum pupil size needed?



Yes, a minimum pupil size of 2mm is required, indicated by: Minimum pupil diameter mark

How do I cycle between AR / KM / or AR & KM?



Press R/K button until you have the desired function.

Is the HandyRef-K easy to use?

There a focusing indicator to tell you if you are too close or too far from alignment with the Px eye. By detecting the distance between the instrument and the patient's eye, the alignment guide mark is displayed on the screen to facilitate smooth movement.



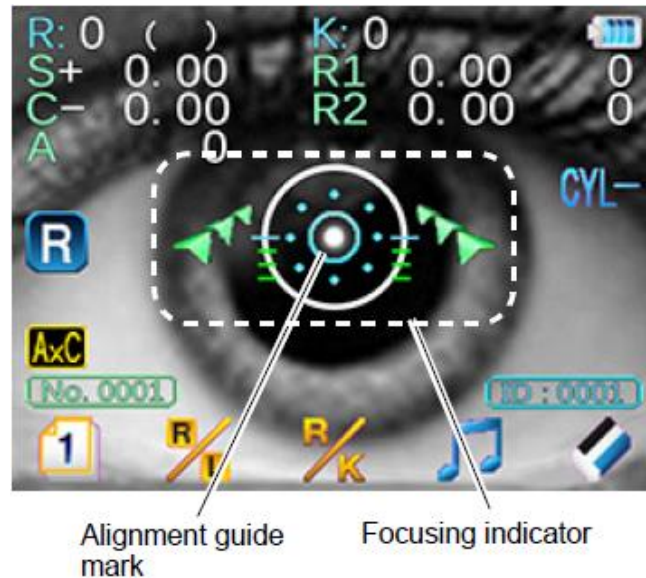
What is the fixation target?

The fixation target is a balloon at the end of a road. Instruction to the Px should be: 'Please look at the balloon. The image will go in and out of focus during measurement. Please open your eyes wide and try not to blink.'



How can I successfully take measurements?

Press the button on the handle of the HandyRef-K. Adjust the main body so that the alignment guide mark reflected from the patient's eye is positioned within the target.




When the focus is best aligned the indication, marker turns yellow.




Do I have to hold the HandyRef-K perfectly level all the time?

No, an in-built sensor detects any tilt of the instrument to compensate for axis adjustment. (when the axis

correction is set to YES). 

How can I enter 'QUICK' mode?

By holding the button on the handle for more than a second, the HandyRef-K will enter 'Quick' mode. This

allows measurements to be taken on more difficult eyes.  is displayed. Please note the focus indicator is not displayed. Measurements may be less reliable than in standing measurement mode.

How do I know when measurements are complete?

<<FINISH>> will appear on screen



Why does 'AR?' or 'KM?' appear?

This appears when HandyRef-K has not been able to capture the required number of readings. This is usually due to blinking or eye movement. Press the button on the handle whilst still in position to obtain the remaining measurements.

What does 'Err BLK' mean?

Measurement has not been possible due to Px blinking. Ask the Px to open their eyes wide during measurement.


What does 'Err CONF' mean?

Low confidence rate due to corneal distortion, for example. (Only for AR measurements)

What is 'CAT' mode?

If measurement is difficult or not possible due to cataract, the HandyRef-K will automatically change to the



cataract measurement mode as indicated by  on the display. This will also be indicated on the printout by an *. (Please note measurements are likely to have more variability in CAT mode).

How can I observe any cataract present in the Px eye?

Retro illumination enables the observation of any opacity within the optical media.



The last captured image is saved, found on the second screen of the HandyRef-K

Why does the HandyRef-K turn off by itself?

The HandyRef-K goes into sleep mode after 3 minutes. This can be altered in the parameters setting.

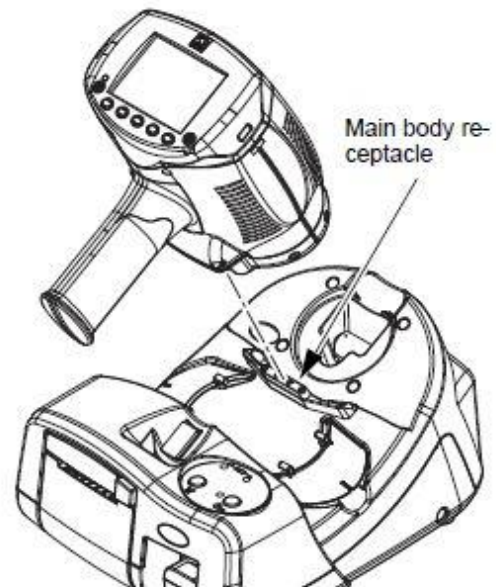
How can I print the measured data?


Either, dock the HandyRef-K and press the print button, or aim the HandyRef-K IR sensor at the dock and press the print button.

- Place the main body on the station, then press

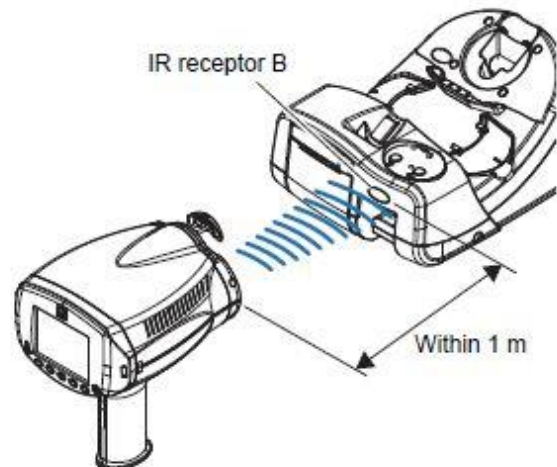


Placing the main body on the station offers more stable communication.



- Aim the main body toward the IR receptor B of the station, then press 

The maximum communication distance between the main body and station is 1 m.

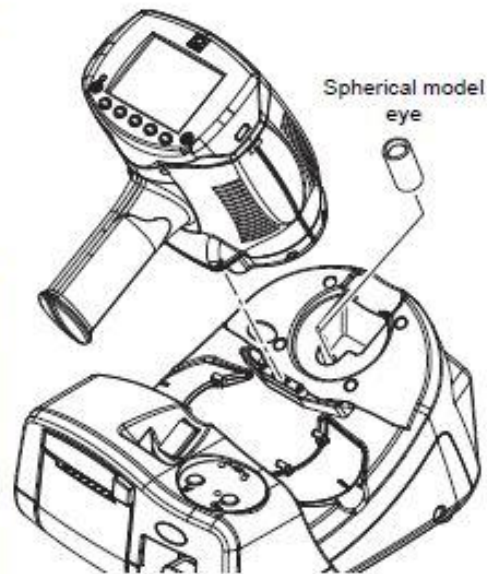



How can I check the calibration of the HandyRef-K?

Calibration / measurement accuracy check should only need to be performed once every 6 months in routine use, but perform if you are getting variability in readings. If the values differ substantially from the values marked on the model eye, contact Birmingham Optical Group.

- 1 Stand the spherical model eye with its lens facing up in the spherical model eye measuring holder.
- 2 Place the main body on the station.
- 3 Set the following parameters as shown below:

Parameter option	Setting
" 1. AR STEP" (Refractive power measurement increments)	0.12D
" 11. KM UNIT" (Display unit of corneal curvature radius)	mm
" 12. KM DISPLAY" (Corneal curvature radius measurement display)	R1, R2



- 4 Press  to select the eye to be measured.

Confirm that the  or  indication changes to  or .

Either eye (R/L) may be selected.

TIPS!

- If possible, ask the Px to lean their head back against a chair / wall for increased stability.
- Ask the Px to keep both eyes open to avoid unstable fixation and look at a target in the distance.
- Place forehead rest against the head above the eyebrows and use your hand to steady yourself.
- If you are finding the measurements are difficult to obtain or are variable, ensure the room illumination / sunlight is not reflecting from the cornea. Darken the room.