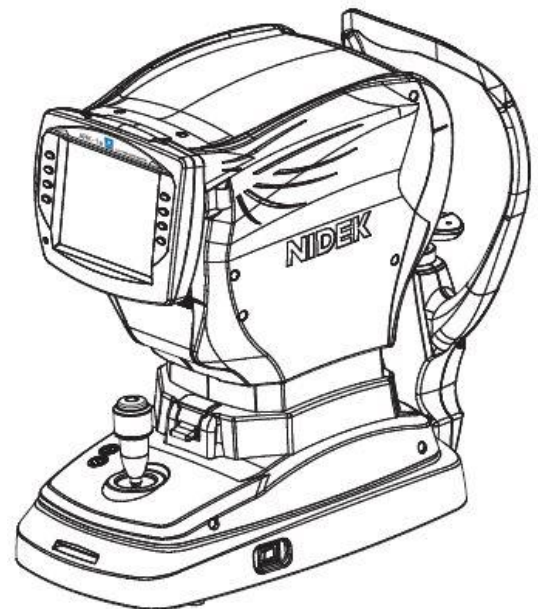# AUTO REF/KERATOMETER
ARK-1a/ARK-1

Frequently Asked Questions

Q - What would I use the Nidek ARK1 for?
A - The ARK1 has two main measurements – Auto-refractor and Auto-keratometer.
It can also measure accommodation, opacity assessment, pupil size, cornea size and PD.

Q - How do you turn on and off the ARK1?
A - The power switch is found on the base of the ARK1 on the RHS. Ensure the locking lever is unlocked during normal use.
The device moves smoothly up, down, forward, backwards, left and right.

Q - How do I check the ARK1 is measuring correctly?
A - You can use the model eye in the accessory pack to check the refraction and keratometry measurements. The measurements should be as stated on the model eye. Please contact Birmingham Optical if calibration is not correct.
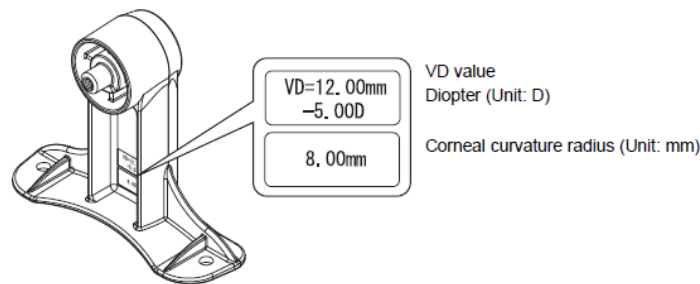
Q - Do I have to write out the information the ARK1 measures?

A - The ARK1 has an in-built printer – press the '*Print*' icon on the ARK1 touchscreen .
Or if configured to do so, the ARK1 can input information directly into practice management software or other Nidek devices (eg. Phoropters).

Q - How can I change the printer roll?
A - Gently lift the screen and open the cover and replace the printer roll, with the paper coming over the top. Close the cover and restore original screen position.
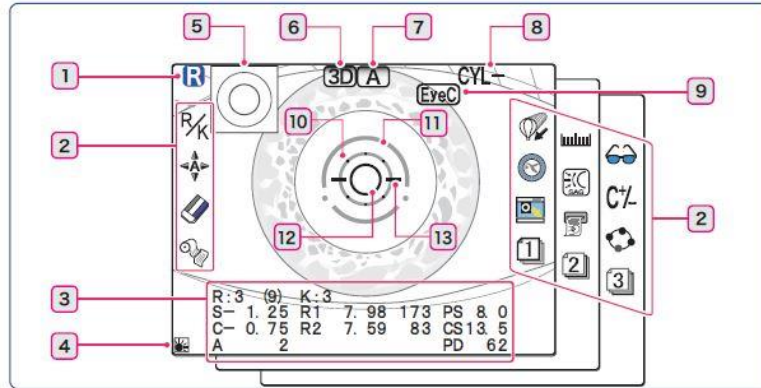
Q - How do you set the date and time?
A - Go to settings, press date and time. Set the date and time and CLOSE to complete the setting.

Q - What are the optimal settings to use?
A - For normal use, it is advisable to have the and buttons displayed along the top of the ARK1 screen. The ARK1 will then track the eye in 3 dimensions and capture automatically when correctly aligned.

**Q - What do all the icons on the screen mean?**

A -

	A	R: Number of AR measurements		C	K: Number of KM measurements
	B	AR latest values S: Spherical refractive error C: Cylindrical refractive error A: Cylinder axis * The number in parentheses indicates a confidence index.		D	KM latest values R1: Corneal curvature radius and axis angle in the flattest meridian direction R2: Corneal curvature radius and axis angle in the steepest meridian direction

E	PS: Pupil Size
F	CS: Corneal Size
G	PD: Pupillary Distance

R/K	R/K	Selects measurement mode (AR/KM, AR, or KM).
	Auto	Selects auto tracking mode (3D, 2D, OFF) and auto shot mode (ON, OFF).
	Clear	Holding down the button for about a second erases all the measured data.
	Print	Pressing the button while the memory indicator is lit prints the measured results. Pressing the button while the memory indicator is not lit advances printer paper.
	Accommodation measurement	Displays the accommodation measurement screen (ACCOMMODATION).
	Retroillumination image	Displays the retroillumination image observation screen (RETRO ILLUMINATION).
	Ring image	Pressing the button while the ring image thumbnail is shown displays the ring image in full screen.
1/2/3	Page switch	Switches the measurement screen among Page 1, Page 2, and Page 3.
	CS/PS/PD	Switches from AR/KM measurement to CS/PS/PD measurement.
	Sagittal	Displays the sagittal measurement screen (SAGITTAL).
	Eye print	Prints the eye diagram of measured data.
	Vision comparison	Displays the vision comparison screen (COMPARE).

C⁺/_	CYL mode	Switches cylinder (cylindrical refractive error) mode.
	Parameter	Holding down the button for about a second displays the parameter setting screen.

Q - What does the Px see inside the ARK1?

A - The fixation target for auto-refraction and keratometry is a hot air balloon at the end of a road.


(Advise the Px the image will go in and out of focus during measurement)

Q - How do you know if you are at the correct position to take measurements?

A - Line up the mire ring and bring the eye into focus. Pink lines above the mire ring mean you are too close to the eye – pull back. Green lines below the mire ring mean you are too far away from the eye – slowly push forward.

Focusing indicator display

For manual focusing, move the joystick forward and backward until the focusing indicator shows the optimum condition (-O-).
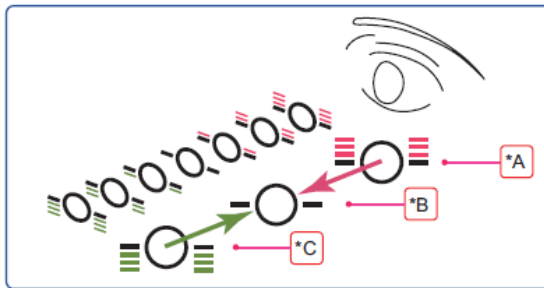
*A	Too close to the patient's eye
*B	Optimum focusing condition
*C	Too far from the patient's eye

Q - What happens when the alignment or focusing is not within the working range of the auto tracking?

A - Red arrows will appear indicating which way to move the device to achieve better alignment.

Limit indicators are displayed in each direction of up/down (⬆ / ⬇), right/left (⬅ / ➡), or forward/backward (◢ ◣ / ◤ ◥).

Q - Can I still take measurements if the Px is blinking?

A - It is possible to manual start the measurements by pressing the button on the joystick.

Q - How do you know if the patients' eye is wide enough?
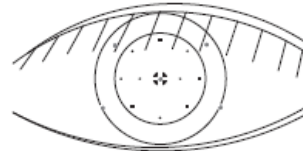
A - There is an eyelid detector .

Q - What if the patient has long eyelashes?

A - If eyelashes or lids obstruct the minimum pupil diameter marker or mire ring, all measurements may be more difficult to achieve. Advice patient to open eyes as wide as possible. If required, ask the Px to hold their lids open (or you can if the Px is happy with this).
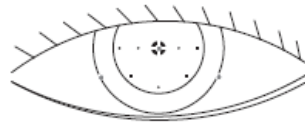
Eyelid is over the applanation area.   Eyelashes are over the applanation area.

Q - What does 'KM?', 'AR?' mean?

A - This indicates the ARK1 has been unable to achieve all required measurements.

Press the button on the joystick to retake the missing measurements. When complete '*FINISH*' appears on screen.

Q - What do the error 'ALM' mean?

A - ALM means alignment error. Check Px positioning and device alignment and try measurement again.

Q - What does PS and CS mean?

A - PS = Pupil size and CS = corneal size. These are measured automatically during auto-refraction.

Q - How do you know when the measurements are completed?

A - '*FINISH*' will be displayed on the screen. You can then move onto the next measurement or print the results.

Q - How do I know if the measurements have been taken in 'cataract' mode?

A - '*CAT*' is displayed on the screen and an asterisk will be displayed on the printout when cataract makes the measurements difficult or unreliable.
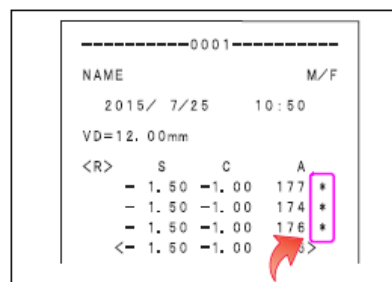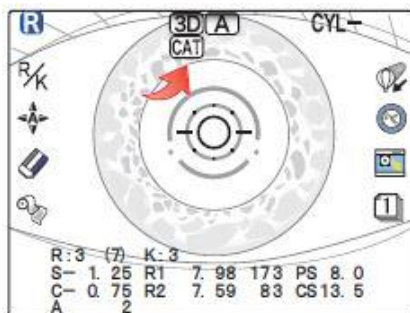
Q - Why does Keratometry have 2 separate readings on the printout?
A - The measurement of KM is one using a 'double kerato ring.' The outside ring measures 3.3mm and inside measures 2.4mm. The measurements are displayed for each of these rings.
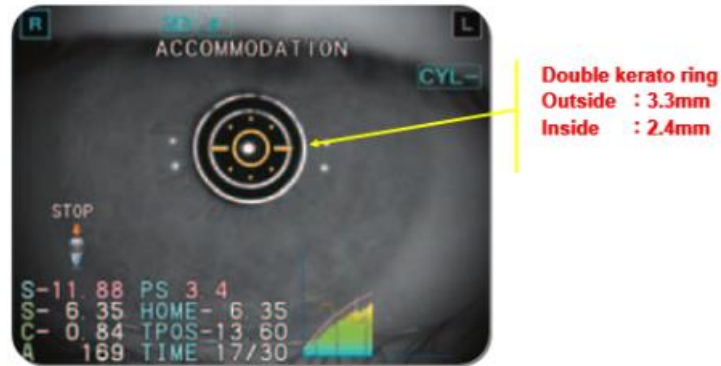
Q - Can I measure hard contact lenses?
A - Yes, use the contact lens holder which is incorporated in the spherical model eye.

Q - How do you clean the ARK1?
A - Use the dust blower to remove any dust from the measuring window and air nozzle. Use a dry microfibre cloth to gently clean the external area.
When the PARAMETER:
OTHER> WINDOW CHECK is set to (YES or (DAY) the measure window cleanliness will be checked at the device start up.

Q - How do you shut down the ARK1?
A - Line the device up and press down on the central lock. Power off the ARK1 using the switch on the RHS of the base and put the dust cover on.