



Optical Biometer  
**AL-Scan**



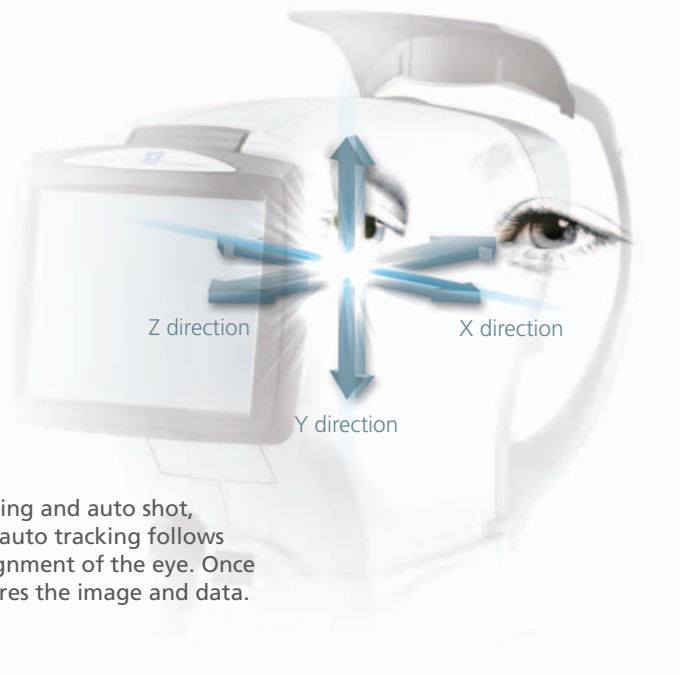
THE ART OF EYE CARE

# Effortless Measurement of 6 Clinical Parameters in 10 Seconds



NIDEK's solution is the state of the art optical biometer - the AL-Scan. In 10 seconds, six values for cataract surgery are measured:

- Axial length
- Corneal curvature radius
- Anterior chamber depth
- Central corneal thickness
- White-to-white distance
- Pupil size



## 3-D Auto Tracking and Auto Shot

The AL-Scan incorporates NIDEK's much acclaimed 3-D auto tracking and auto shot, enabling accurate measurement with ease and comfort. The 3-D auto tracking follows eye movements along the X-Y-Z directions to ensure accurate alignment of the eye. Once correct alignment is completed, the auto shot immediately captures the image and data.

# Anterior Segment Observation with Scheimpflug Imaging and Double Mire Ring Keratometry

The AL-Scan provides sectional lens image, pupil image, and reflected image of double mire rings projected onto the cornea. The sectional lens image assists in the evaluation of the severity of the cataract. The pupil image assists in the assessment for multifocal IOL. The reflected image of mire rings assists in detecting an irregular corneal surface.



Sectional lens image (Scheimpflug image)



Pupil image

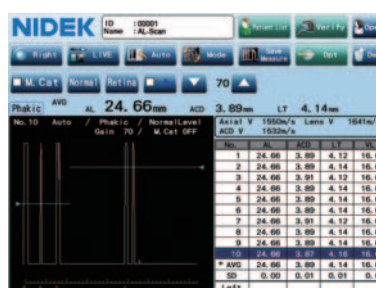


Reflected image of double mire rings

# Optional Built-in Ultrasound Biometer

In cases where the optical biometer cannot measure an eye with an extremely dense cataract, the AL-Scan provides an optional built-in ultrasound biometer, allowing measurement of virtually any cataractous eye with a combined model.

The AL-Scan requires no connection with an external ultrasound unit.



Ultrasound biometry



# IOL Power Calculation and IOL Constants Optimization

The IOL power is automatically calculated after measurement.  
Calculation of a personalized IOL constant improves postoperative accuracy.

Right		Left	
AL (Opt) : 25.28	SRM: 21.7	AL (Opt) : 25.29	SRM: 21.1
ACD (Opt) : 3.29		ACD (Opt) : 3.23	
R1/R2 (42.4) : 8.82/ 8.40		R1/R2 (42.4) : 8.75/ 8.40	
R1/R2 (43.3) : 8.80/ 8.46		R1/R2 (43.3) : 8.73/ 8.41	
IOL1 Right	IOL2 Right	IOL3 Left	IOL4 Left
SRK/T	Camellin-Calossi	Holladay 1	Haigis
NS-601G	NS-601G	NS-601G	NS-601G
Opt Account #118.7	Opt Account #118.2	Opt SF # 2.13	Opt a0: # 1.500 a1: # 0.000 a2: # 0.100
Power 21.24	Power 21.87	Power 21.39	Power 21.37
20.0 - 0.86	21.0 - 0.58	20.5 - 0.60	20.5 - 0.61
20.5 - 0.52	21.5 - 0.26	21.0 - 0.28	21.0 - 0.28
21.0 - 0.17	22.0 - 0.09	21.5 - 0.09	21.5 - 0.09
21.5 - 0.19	22.5 - 0.42	22.0 - 0.42	22.0 - 0.45
22.0 - 0.54	23.0 - 0.76	22.5 - 0.77	22.5 - 0.82

## IOL power calculation formula on AL-Scan

SRK, SRK II, SRK/T, Binkhorst, Hoffer Q, Holladay 1, Haigis, Camellin-Calossi, Shammas-PL

+

Additional **Barrett formulas** available for the NAVIS-EX AL-Scan Viewer  
Barrett Universal II, Barrett True-K, Barrett Toric Calculator

## AL-Scan Viewer for NAVIS-EX

AL-Scan Viewer is software used for viewing and working with AL-Scan data via NAVIS-EX. This function enhances the capability of the AL-Scan with additional features and increases the efficiency of any clinic.



NAVIS-EX is an image filing software that enables data from the NIDEK diagnostic devices to be centralized in the NAVIS-EX database. It was initially developed for NIDEK's retinal products and has been expanded to network with the AL-Scan.

\* NAVIS-EX is optional software and is required for use of the AL-Scan Viewer.

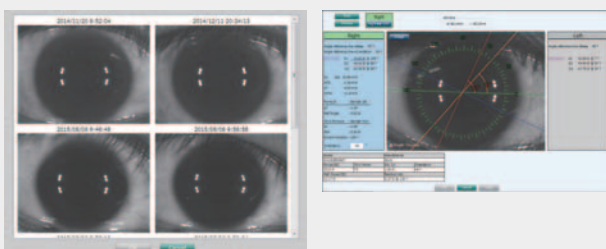
### Data Management and IOL Power Calculations

The large storage capacity of the NAVIS-EX database is available for review on the AL-Scan Viewer. The basic functions of the AL-Scan can also be performed with the AL-Scan Viewer including IOL power calculations and optimization of IOL constants.



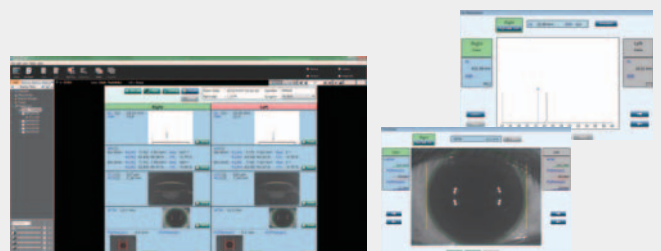
### Toric Lens Assist Function

Acquisition of multiple toric lens assist images allows selection of the optimal image for digitally marking the astigmatic axis. These images allow better surgical planning for accurate toric IOL alignment.



### Recalculation of Measured Values

The AL-Scan Viewer allows recalculation of modified axial length, white-to-white, and pupil size data for accurate calculations.



## AL-Scan Specifications

Optical measurement	Axial length	Measurement range	14 to 40 mm
		Display increments	0.01 mm
Corneal curvature radius		Measurement method	Low-coherence interferometry (LCI)
		Measurement range	5.00 to 13.00 mm
Anterior chamber depth		Display increments	0.01 mm
		Measurement range	1.5 to 6.5 mm
Central corneal thickness		Display increments	0.01 mm
		Measurement range	250 to 1,300 µm
White-to-white distance		Display increments	1 µm
		Measurement range	7 to 14 mm
Pupil size		Display increments	0.1 mm
		Measurement range	1 to 10 mm
Ultrasonic measurement (optional)		Display increments	0.1 mm
		Measurement range	1 to 10 mm
Axial length		Measurement range	12 to 40 mm
		Display increments	0.01 mm
Corneal thickness		Measurement range	200 to 1,300 µm
		Display increments	1 µm
IOL power calculation formula	Conventional	SRK, SRK II, SRK/T, Binkhorst, Hoffer Q, Holladay 1, Haigis, Camellin-Calossi	
	Post-LASIK	Camellin-Calossi, Shammas PL	
Auto tracking	X-Y-Z directions		
Auto shot	Available		
Display	Tilttable 8.4-inch color LCD touch screen		
Printer	Thermal line printer with automatic paper cutter		
Interface	LAN, USB		
Power supply	AC 100 to 240 V		
	50/60 Hz		
Power consumption	100 VA		
Dimensions/Mass	283 (W) x 504 (D) x 457 (H) mm / 21 kg		
	11.1 (W) x 19.8 (D) x 18.0 (H)" / 46 lbs.		



### AL-Scan Viewer for NAVIS-EX\*

IOL calculation formula	Conventional	SRK, SRK II, SRK/T, Binkhorst, Hoffer Q, Holladay 1, Haigis, Camellin-Calossi, Barrett Universal II
	Post-LASIK	Camellin-Calossi, Shammas-PL, Barrett True-K
Toric calculator	Barrett Toric Calculator	
Additional features	IOL registration	Maximum data entry for 100 IOLs
	Surgeon registration	Maximum of 50 Surgeons
	Surgeon-specific constant optimization	Available

\* NAVIS-EX is optional software and is required for use of the AL-Scan Viewer.

Product/Model name: OPTICAL BIOMETER AL-Scan

Brochure and listed features of the device are intended for non-US practitioners.

Specifications may vary depending on circumstances in each country.

Specifications and design are subject to change without notice.



**HEAD OFFICE**  
(International Div.)  
34-14 Maehama,  
Hiroishi-cho, Gamagori,  
Aichi 443-0038, JAPAN  
TEL: +81-533-67-8895  
URL: www.nidek.com  
[Manufacturer]

**TOKYO OFFICE**  
(International Div.)  
3F Sumitomo Fudosan Hongo  
Bldg., 3-22-5 Hongo, Bunkyo-ku,  
Tokyo 113-0033, JAPAN  
TEL: +81-3-5844-2641  
URL: www.nidek.com

**NIDEK INC.**  
2040 Corporate Court,  
San Jose, CA 95131, U.S.A.  
TEL: +1-408-468-6400  
+1-800-223-9044  
(US Only)  
URL: usa.nidek.com

**NIDEK S.A.**  
Europarc,  
13 rue Auguste Perret,  
94042 Créteil, FRANCE  
TEL: +33-1-49 80 97 97  
URL: www.nidek.fr

**NIDEK TECHNOLOGIES S.R.L.**  
Via dell'Artigianato,  
6/A, 35020 Albignasego (Padova),  
ITALY  
TEL: +39 049 8629200/8626399  
URL: www.nidektechnologies.it

**NIDEK (SHANGHAI) CO., LTD.**  
Rm3205, Shanghai Multi  
Media Park, No.1027 Chang  
Ning Rd, Chang Ning District,  
Shanghai, CHINA 200050  
TEL: +86 021-5212-7942  
URL: www.nidek-china.cn

**NIDEK SINGAPORE PTE. LTD.**  
51 Changi Business Park  
Central 2, #06-14,  
The Signature 486066,  
SINGAPORE  
TEL: +65 6588 0389  
URL: www.nidek.sg