



Technology for Life Science

2D/3D Non-mydratic Retinal Camera / Analysis System

Kowa *nonmyd WX*^{3D} RETINAL CAMERA



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Specifications

Photography modes	Normal / SP / Stereo (electrically switched)	Camera	Specific Nikon digital SLR camera
Stereoscopic photography method	Simultaneous stereo photography	Monitor	5.7 inch LCD monitor
		Internal fixation target	Central, Disc, Macula, mosaic 8 positions
Stereo photography parallax	7.4°(at the 0 diopter eye)	External fixation target	Red light (option)
Field angle	Normal : 45° SP : 45°* Stereo : 34°(20°×27°) *Some eyes may cause a flare around their circumference.	Optical head base adjustment range	Movable 40mm forward/backward Movable 98mm leftward/rightward Movable 27mm vertically (electric)
		Chin rest adjustment range	Movable 55mm (electric)
Working distance	30mm	Interface	USB
		Power supply	Input : AC100-240V 50 / 60Hz Power consumption : 150VA
Minimum pupil size	Normal mode : φ4.0mm SP mode : φ3.5mm Stereo mode : φ4.0mm	Dimensions	310(W)×504(D)×548(H)mm
Compensation range of examined eye	Without compensation : -12D~+13D Compensation - : -32D~-10D Compensation + : +10D~+35D	Weight	21kg / 46lbs (excluding the attached digital SLR camera)
Focusing	Split luminous bars coincidence		
Working distance adjustment	2 luminous dots indication type		

3D ANALYSIS SYSTEM REQUIREMENTS

CPU	Celeron® 2.0 GHz or higher
Memory	1 GB or higher
Monitor resolution	SXGA or higher
OS	Windows® XP, Windows Vista®

A diagnosis should not be made from only this analysis software, but from comprehensive vision examinations.
 Images of the monitor are compositions.
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 Specifications and appearances are subject to change without notice.

Distribution name : KOWA nonmyd WX



Kowa Kowa Company, Ltd.

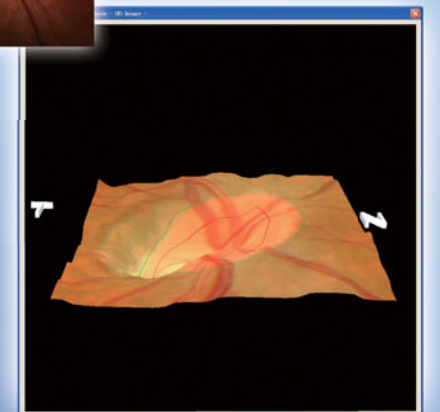
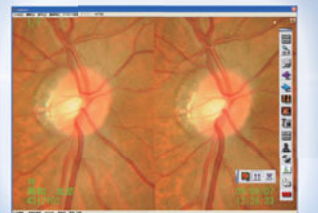
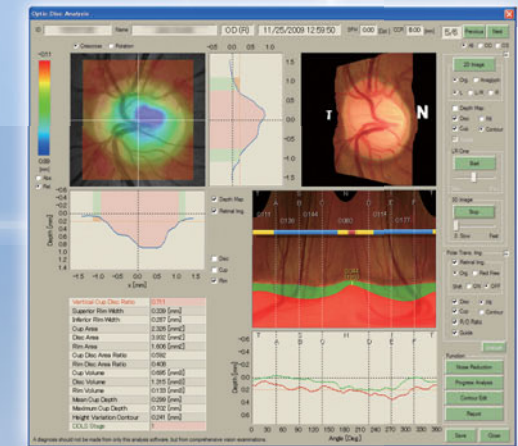
World Sales Headquarters
 4-14, Nihonbashi-honcho 3-chome, Chuo-ku, Tokyo 103-8433 Japan
 Phone: 81(3)3279-7639 Facsimile: 81(3)3279-7541
 URL: <http://www.kowa.co.jp/e-life/>

Hamamatsu Factory
 3-1, Shinmiyakoda 1-chome, Kita-ku, Hamamatsu City, Shizuoka Pref., 431-2103 Japan

Kowa Europe GmbH Immermannstrasse 43B
 40210 Duesseldorf, F.R. Germany
 Phone: 49(211)1793540
 Facsimile: 49(211)161952
 URL: <http://kowa-europe.com/>

Kowa Optimed, Inc. 20001 S. Vermont Ave.
 Torrance, CA 90502, U.S.A.
 Phone: 1(310)327-1913
 Facsimile: 1(310)327-4177
 URL: <http://kowa-usa.com/>

[REF] K9L57/AP57B_1095500MX/K



A new concept retinal camera with "SSP",
 Simultaneous Stereoscopic Photography.



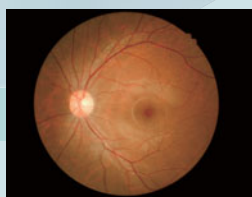
Three photography modes to choose from: Normal, SP (Small Pupil), and Stereo.



2D – Normal & SP –

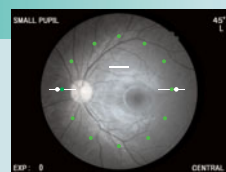
Normal Field angle : 45°

Kowa's exclusive optical design in combination with the 12 megapixel digital SLR camera delivers extremely detailed retinal images. The integrated 9-points internal fixation system allows for mosaic photography covering a large retinal area.



SP (Small Pupil) Field angle : 45°

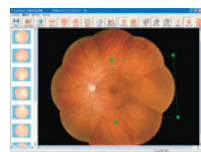
Retinal images can be taken even with smaller pupils. On screen guides indicate if the pupil size is within the sufficient range (above 3.5mm) for photography.



※ Some eyes may cause a flare around their circumference.

Automatic mosaic merge function

Mosaic images are created easily with automatic image rotation & alignment.

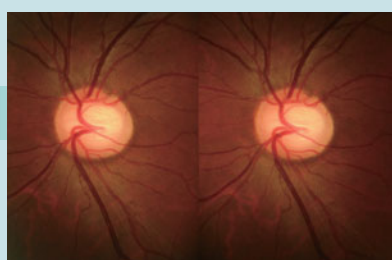


3D –Stereo–

Stereo Field angle : 34° (20°x27°)

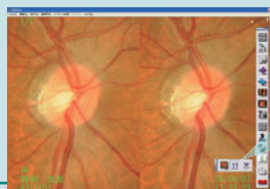
Photography

Instant and simultaneous 3D photography is possible in 1-shot. Stereoscopic images are captured without the camera shifting.



Retinal observation on 3D images

The shape of the optic cup and disc can be viewed in a 3D image.



Switch between the parallel and cross viewing methods with 1-click when viewed on a 2D monitor.

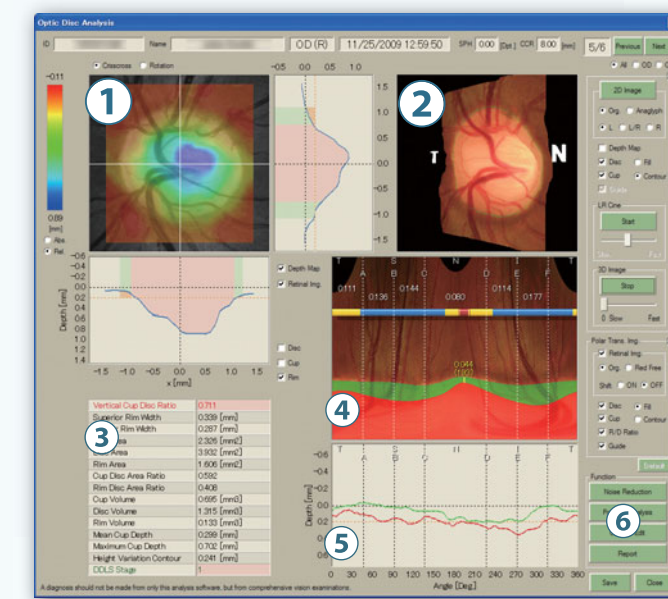
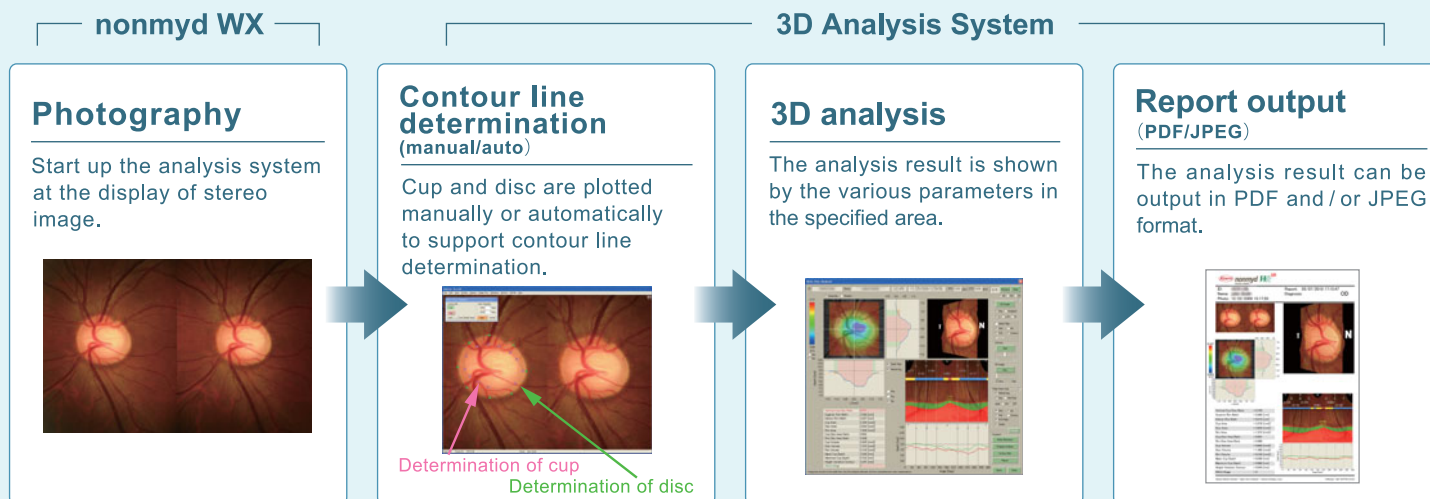


Parallel/Cross view icon (Icon may be hidden.)

Image capturing

3D Analysis System

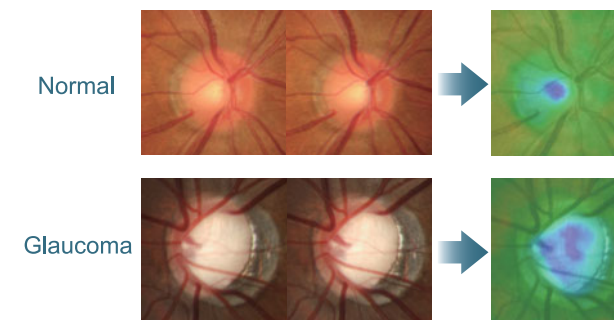
3D image analysis of optic disc



Analysis results

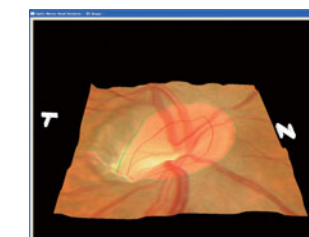
Depth distribution ①

Color-coded display of the depth distribution in the analysis area, or graphical display of the cross section of an arbitrary position.



3D display ②

Display of 3D image based on stereographic data.



Numerical data of analysis results ③

Display of optic disc parameters including "DDLS".*

Polar coordinates display ④

The polar coordinates display of the depth distribution permits visual display of the thin part of the rim. (marginal region of optic disc)

Contour line depth distribution graph ⑤

Graphical display of the depth distribution of cup and disc profiles.

Follow-up ⑥

Graphical display of cup/disc ratio, rim/disc ratio, cup area, and many other parameters.



***DDLS (disk damage likelihood scale) Stage**

Indexical values defined by the disc size and the rim/disc ratio; which was suggested by Dr. George L. Spaeth as a method to diagnose the optic disc.

Bayer A, Harasymowycz P, Henderer JD, et al.: Validity of a new disk grading scale for estimating glaucomatous damage: correlation with visual field damage.

American Journal of Ophthalmology, vol. 133(6), pp.758-763, 2002.