



# Medical Devices Catalog Vol.5



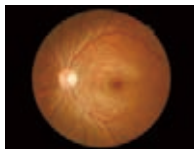
## 2D/3D Non-mydratiac Retinal Camera /Analysis System



### 2D – Normal & SP –

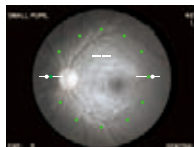
#### ■ Normal Field angle : 45°

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



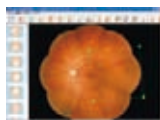
#### ■ SP (Small pupil) Field angle : 45°

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



#### Automatic mosaic merge function

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

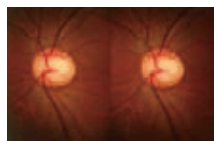


### 3D – Stereo –

#### ■ 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.



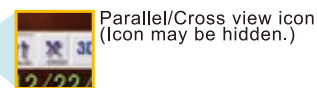
##### • Retinal observation on 3D images

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



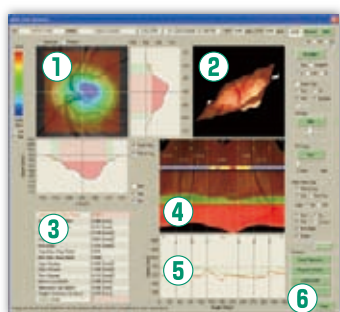
Image capturing

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



When using a 3D monitor, pressing the "3D" icon will allow the stereo pair to be viewed as a 3D image.

### 3D Analysis System (Option)



#### ■ 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.

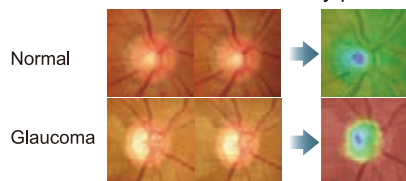
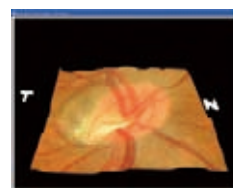


Photo: Fukui Pref. Saiseikai Hospital, Kanazawa University K. Nitta M.D.

#### ■ 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, Steinmann WG, and Spaeth GL: 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.



High Performance Digital Imaging System



Image Capture and Patient Observation

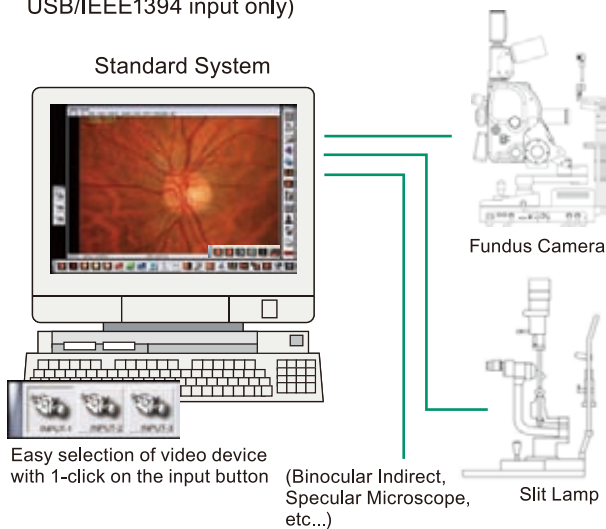
3 Instruments Inputs in 1 Imaging System

Choice of variable inputs

Y/C, VBS/RGB, composite or USB, IEEE1394

Up to 3 different digital/video observation devices

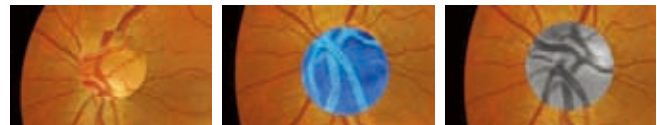
1-click switch. ("Portable VK-2" supports USB/IEEE1394 input only)



Extended Functions

Magnifying glass

The mouse cursor changes into a customizable magnifying lens (when left mouse button is pressed).



Montage function

This function is enhanced with an advanced algorithm to obtain panorama images that are easy to observe.

Automatic positioning with fine rotation adjustment and smoothing function is also available.



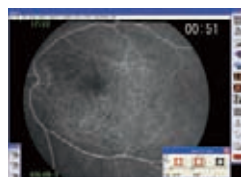
Sophisticated Image Capturing

Automatic switching of FA and Color

In ICG, FA mode, high speed capturing (1 frame/sec, depends on CCD camera), and timer is displayed on the monitor (linked to Kowa Fundus Cameras).

Multiple timers (in FA mode)

Selectable for management of several patients' timer counts.



VK-2 supports the latest high resolution cameras for best detailed images possible

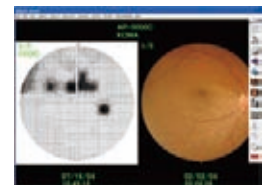
- 2.1 megapixel digital color CCD camera, Kowa "KD-211C"
- 1.4 megapixel B/W digital CCD camera, Kowa "KD-144iF"
- 3 CCD RGB color camera, "Sony\*1 DXC series"
- Specific Nikon\*2 digital SLR camera

Patient Education

- Image comparisons
- Reference (Template) image
- Fully equipped for informed consent

Link to perimeter

This unique function from Kowa allows total management of fundus images and perimetry results.



High capacity storage and archive

- CD-R, DVD-R, DVD-RW optical media for easy archive
- Support for Twain32 image scanner

E-mail function

Quick and easy sending by e-mail of selected images. Furthermore, together with the selected images an "inf.txt" file is automatically attached with the corresponding patient information.

\*1 Sony is a trademark of Sony Corporation.  
\*2 Nikon is a trademark of Nikon Corporation.

Non-mydriatic Fundus Camera

**Kowa nonmyd $\alpha$ -DIII**



**nonmyd $\alpha$ -DIII is a compact digital fundus camera that continues Kowa's tradition of electronic imaging excellence. Kowa offers speed, reliability, and high resolution photographs in a striking design.**

**Ergonomic Design**

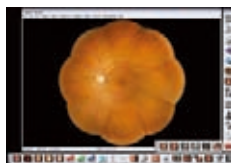
■ **The all-in-one compact, lightweight digital fundus camera incorporates advanced technology in an efficient design.**  
 This cost effective design uses intuitive ergonomic operations that makes photographic results easy to capture.

**Easy-to-Use**

■ **Easy-to-use controls are located at your fingertips.**  
 The conveniently located controls makes rapid screening easy; all operations can be carried out with the simple touch of a button.

**9 Point Internal Fixation**

■ **nonmyd $\alpha$ -DIII has two fixation modes that provide up to 9 fixation positions, "Normal" and "Mosaic".**  
 The "Mosaic mode" provides 9 fixation point for a panorama image covering a retinal area of approximately 85 degrees when using the "montage" application integrated in the digital imaging system. When using the "Normal mode" three positions are selectable Central, Disc and Macula.



**High Resolution**



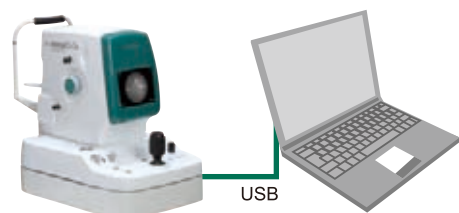
■ **nonmyd $\alpha$ -DIII utilizes an internal 8 megapixel digital camera.**  
 The high resolution digital camera provides detailed, diagnostic quality images with Kowa's exclusive "Aspherical" optical system.

**Plug-and-Play**



■ **nonmyd $\alpha$ -DIII connects to the computer through a USB interface that makes set-up and operations plug and play.**

The camera can be used with either a desktop or notebook computer with Kowa Portable VK-2 digital imaging system. Regardless of the volume of photographs taken, nonmyd $\alpha$ -DIII & Portable VK-2 lets you store, restore and compare data with ease. Shoot and forget allows easy image storage and automatic image saving.



Distribution name : KOWA nonmyd  $\alpha$ -DIII



Non-mydriatic Fundus Camera



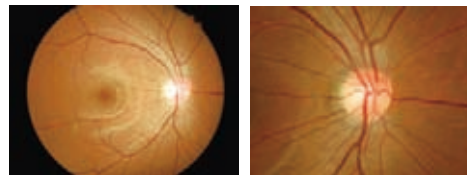
nonmyd 7, an easy-to-use fundus camera with the capability of 12 megapixel high resolution photography. Sharper, clearer images will guarantee outstanding performance in clinic scenes.

■ The lightweight digital fundus camera incorporates advanced technology in an efficient design.

This cost effective design uses intuitive ergonomic operations making photography easy.

■ Easy to use control panels located at hand reach

2 optical angles (through "Aspherical" optical system)



45°

20°



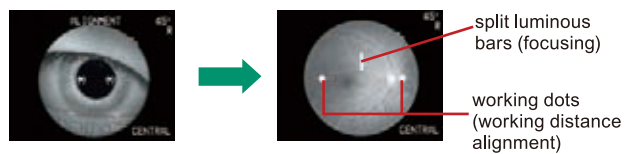
■ The nonmyd 7 utilizes a 12 megapixel digital camera.

The high resolution digital camera offers high quality images and allows easy image storage.

■ The easy to attach USB computer interface makes set-up and operations plug and play.

The camera can be used with either a desktop or notebook computer with Kowa Portable VK-2 digital imaging system. Regardless of the volume of photographs taken, nonmyd7 & Portable VK-2 lets you store, restore and compare data with ease. Shoot and forget allows easy image storage and automatic image saving.

Easy alignment in 2 steps



Once the alignment of the anterior segment is made, simply press the button in front of the joystick to shift to the fundus alignment.

3 internal fixation targets



Temporal

Central

Nasal

## Two-in-One Non-mydriatric and Mydriatric Fundus Cameras

**Kowa** VX-10α

**Kowa** VX-10i

Highly effective and ergonomically designed,  
the ideal tool for eye-care photography!

### ■ Three photographic modes

- 3 modes with one-touch switch ( nonmydriatric / mydriatric / fluorescein ).
- Mydriatric color and fluorescein photography can now be aligned through the LCD observation monitor.
- Multiple step flash for proper exposure in various photographic modes.
- Built-in internal fixation target for optic nerve head photography.
- Built-in small pupil mode (during mydriatric color and fluorescein photography) for patients with insufficient pupillary dilation.



### ■ Easy functionality

- Easy alignment and focusing adjustment with the LCD observation monitor.
- Operationally focused, darkroom adapted navigation panel.
- Clear viewfinder with a long eye relief design.
- Simple focusing with the point matching method.
- Electric insertion of the fluorescein filter.

### ■ Adapted for the latest CCD camera

- High resolution images when combined with the 2.1 megapixel digital CCD camera "KD-211C"(1600X1200 pixels) or the specific Nikon\* digital SLR camera.
- VX-10α combined with Kowa VK-2 digital imaging system is part of an ideal digital imaging environment with multiple digital/video image inputs and networking.



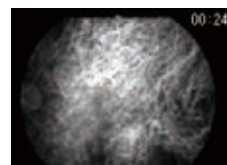
### VX-10i

#### ■ Enhanced with new capabilities

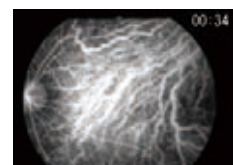
The VX-10i features almost all VX-10α functions; using the optional ICG filters enables ICG angiography. In ICG mode, LCD monitor observation of the retina is possible.

In addition, the use of the optional 1.4 megapixel black and white CCD camera allows high-resolution ICG still image photography.

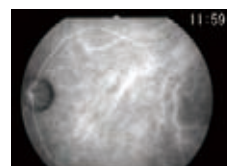
The mydriatric mode enables 50° and 30° photography. The 30° angle is particularly effective for retinal disease diagnosis (50° angle only for ICG).



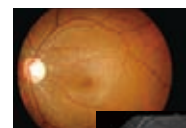
ICG (early phase)



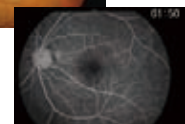
ICG (middle phase)



ICG (late phase)



Color



FA

Photo: Y. Hasegawa M.D.

\* Nikon is a trademark of Nikon Corporation.

Distribution name : KOWA VX-10α  
Distribution name : KOWA VX-10i



Hand-Held Retinal Camera



GENESIS-D™



GENESIS-D<sup>f</sup>™

A series of hand-held retinal cameras made from Kowa technology. The best choice to start retinal photography!

- ID input
- Integrated with a 2 megapixel digital camera
- One-handed focusing and shooting operations
- Power supply unit which is used also as a camera holder



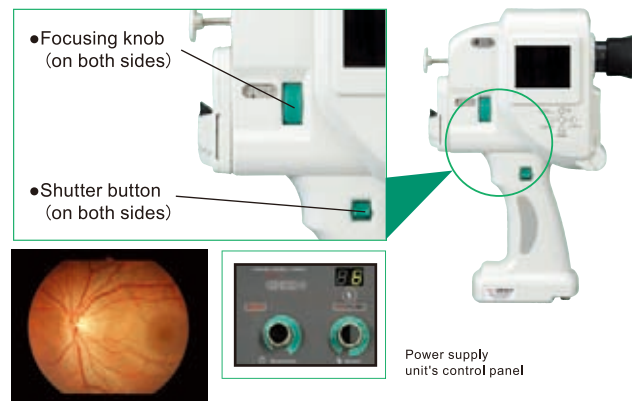
GENESIS-D

GENESIS-D<sup>f</sup>

GENESIS-D Series

■ **GENESIS-D** For color retinal photography

One-handed easy shooting



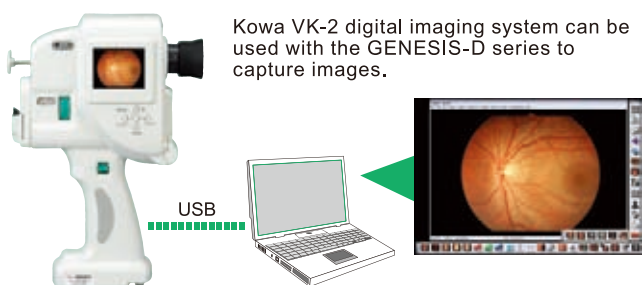
■ **GENESIS-D<sup>f</sup>** For color and FA retinal photography

Timer display when saving FA images



Options for more extended use

Digital Imaging System



Indirect lens holder

Indirect lens holder\* (for +28D aspherical lens)



Indirect lens holder\* (for +60D, +90D aspherical lenses)



\*Aspherical lens is not included.

Distribution name: KOWA GENESIS-D  
Distribution name: KOWA GENESIS-D<sup>f</sup>



Laser Flare Meter

**Kowa FM-600**

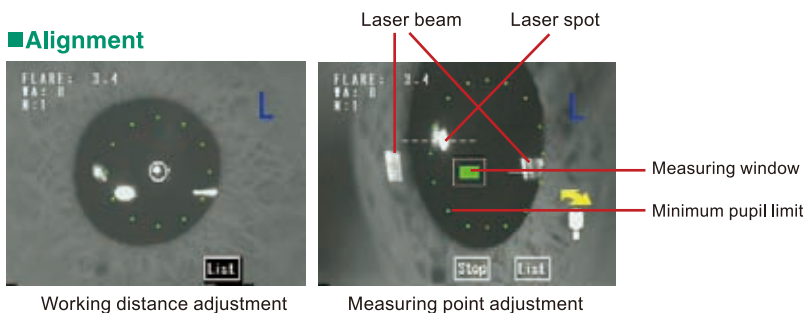


## Quantitative measurement equipment for flare in the anterior chamber

Non-contact, non-invasive, painless, in-vivo, all is possible with the compact FM-600 especially designed for quantitative measurement of aqueous flare. This measurement is known to be useful in follow up observation for patients with uveitis, after IOL implantation, etc.

Designed to operate faster, to conduct easier, and better tests, FM-600 reflects the ultimate in efficiency and accuracy in a compact body.

### Alignment



Working distance adjustment

Measuring point adjustment

Position the luminous alignment dot in the center circle while bringing the dot into focus. Then shift to the oblique alignment by pressing on the joystick button. Measurement is possible when the measuring window at the center is green.

### Measurement results



Graph results

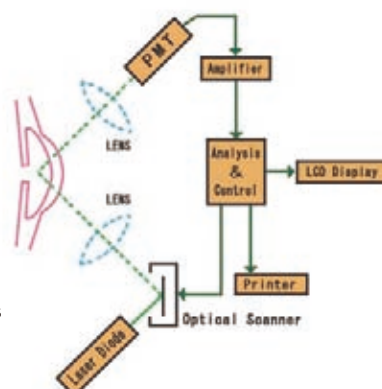
Report results

The scattered light is converted into electronic signals and the intensities are displayed as flare values on the LCD monitor.

### Measurement Principle

FM-600 is based on the measurement principle of laser light scattering detection. The instrument uses a diode laser beam to scan a measuring window that is projected inside the anterior chamber of the eye. As an aqueous protein (component of inflammation) passes through the focal point of the laser, light scattering occurs. The intensity of the scattered light (directly proportional to the amount of protein particles-flare) is detected by a photo-multiplier tube(PMT), which generates an electronic signal.

These signals are immediately digitized to eliminate outside noise interference and are processed by a computer which displays the results for user analysis. The unit of measurement employed by FM-600 is in photons per millisecond.



Distribution name : KOWA FM-600





Non-Contact Tonometer

**Kowa** *KT-800*

Simple operation with 3D auto alignment



■ **3D auto alignment function**

Up, down, right, left, and forward and backward positioning can be automatically performed just by placing the alignment spot inside a circle.

■ **Soft airflow**

Improved "softness" of the airflow. Measurement can be performed with a "soft air feeling" even during the first measurement.

■ **No measurement range switching**

Smooth and easy measurement is possible without the range switching operation (30/60mmHg) .

■ **Insufficient eye opening sensor function**

Measurement can now be processed even if the eye is not opened sufficiently.

■ **Easy paper replacement**

Speedy printing.

■ **Electrically operated chin rest**

Height of the chin rest can be adjusted with the buttons at hand.

Distribution name : KOWA KT-800



Applanation Tonometer

**Kowa** *HA-2*

Convenient item for daily clinical practice



■ **Features**

- Compact, lightweight and well-balanced; easy to handle with one hand.
- Unique one-spring mechanism assures correct reading regardless of patient posture.
- Built-in illumination permits you to use the instrument regardless of the lighting conditions of the consultation room.
- Direct reading type precision dial requires no conversion table to change the readings.
- Accessories such as adjustable head rest and interchangeable eyepiece provide most suitable conditions for measurement.



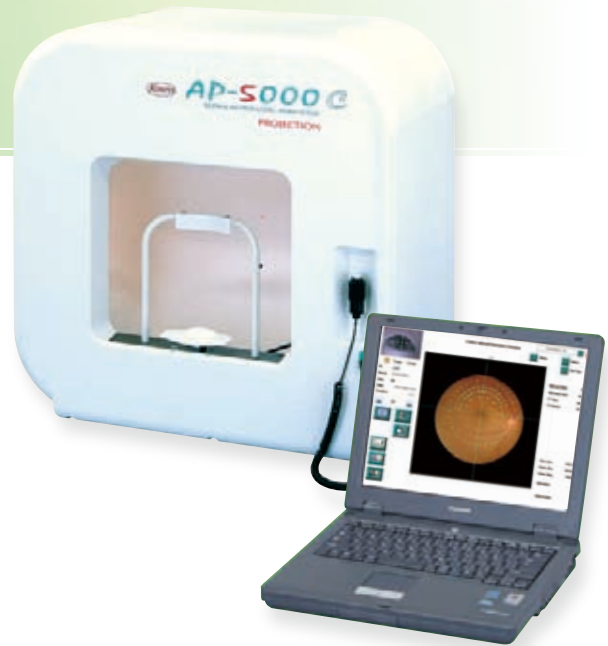
3 x Long eye relief eye piece (option)

Distribution name : KOWA APPLANATION TONOMETER HA-2



Automatic Perimeter

**Kowa AP-5000C**



**Two-in-One Perimeter for Static & Kinetic Perimetry**

Easy operation with mouse.  
 An abundant test program.  
 Combinations with fundus images are possible.  
 Test result display functions are visually easy to understand. Analysis functions are versatile.  
 The data is automatically stored in a PC and coordination with other software is easy.

■ **Threshold program**

Examination to diagnose and plot retinal sensitivity at specific test points.

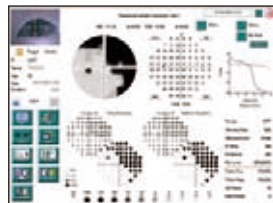
**Center 1**  
 Central 30° / 76 points

**Center 2**  
 Central 30° / 54 points

**Macula 1**  
 Central 5° / 21 points

**Macula 2**  
 Central 10° / 68 points

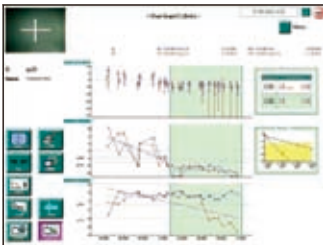
**Periphery**  
 from 30° to 60° / 68 points



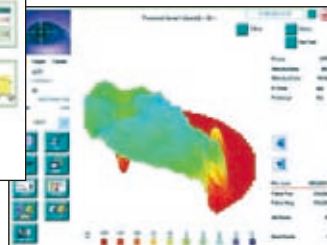
Center 1 Program

The above 5 test programs are available with "Quick" modes capable of obtaining accurate test results in minimal time (can reduce the average examination time by 40%).

**Meridian**  
 Any of 10 meridians / 14 points



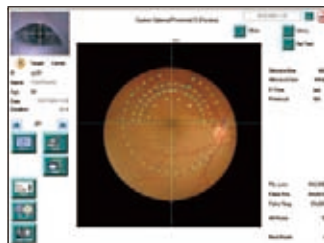
Chronological Change (Graph)



3D display

■ **Perimetry on fundus image**

While observing the fundus image displayed on the screen, you can define test points according to the specific area you wish to measure in more detail and obtain the visual sensitivity.



■ **Screening program**

Screening program to quickly evaluate the retina for relative or absolute scotomas. Starting values based on a 4 point threshold, the test results use a 4 zone evaluation that goes beyond a simple screening. Threshold examination of a single point is also available if the point is deemed to be a scotoma.

**Standard**  
 General / 83 points

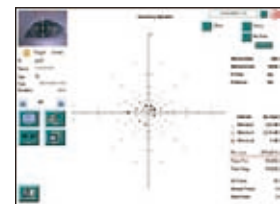
**Precision**  
 General / 140 points

**Center**  
 Central 30° / 82 points

**Periphery**  
 From 30° to periphery / 58 points

**Glaucoma**  
 Bjerrum area / 117 points including nasal step

**V. Meridian**  
 Vertical direction / 53 points

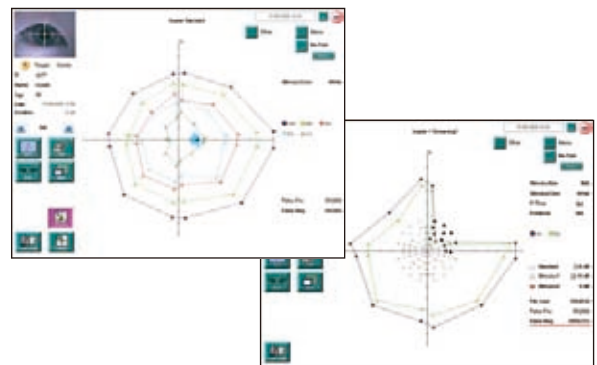


Standard Program

"Quick" mode is also selectable for the above 6 programs, the tests points are reduced which shortens the examination time.

■ **Isopter program**

Kinetic perimetry is included as a standard test program with multiple isopters available.





■ Optional accessories



Main unit with video adapter



Spare lithium ion battery



Head rest



Carrying trunk case

Portable Slit Lamp  
**Kowa SL-15**

**Compact, versatile slit lamp with desktop operability**

Enhanced portability during examination, the SL-15 features a sculpted grip for easy handling, lightweight design, longterm illumination, and an optional digital / video camera adapter. SL-15 is a highly portable slit lamp perfect in any situation.

■ Features

- Cordless and rechargeable for unrestricted examination anywhere.
- The lighting switch in the grip can be turned on with just a light press.
- Easy selection between three slit widths and spot illumination.
- Quick, one-touch selection of either 10x or 16x magnification.
- Built-in cobalt blue filter.
- The stand doubles as a battery charger.
- A lithium ion battery is utilized to make the unit compact and light. (Main unit: 790g/1.73lbs)
- Extra-bright halogen lamp light source.
- A large-capacity battery permits long-term continuous lighting. (Approx. 40 minutes)
- Simultaneous charging of the main unit and extra battery.
- Supports digital/video with the optional video camera adapter. (c-mount)

Distribution name : KOWA SL-15 **CE**

AUTO REFRACTO/REFKERATO METERS

Auto Refractometer

**Kowa KA-1000**

Auto Refkeratometer

**Kowa KW-2000**

■ KA-1000

- This automatic refractometer gives you everything that is required for glass and contact lens fitting.
- Applicable for small pupil ( $\phi 2.3\text{mm}$  in diameter) and eye with an IOL.
- Easy measurement with auto start function.
- Subject-friendly color icon display.

\* Not available in the United States.

■ KW-2000

- Gives you the same features as the KA-1000 with the added function of keratometry.

\* Not available in the United States.



Distribution name : AUTO REFRACTOMETER KA-1000  
Distribution name : AUTO REFKERATOMETER KW-2000

**CE** 0197

■ Rexxam Co.,Ltd. Kagawa factory



## Kowa WORLD NETWORK

### Japanese network of Kowa Co., Ltd.

Nagoya Head Office  
Tokyo Branch Office  
Osaka Branch Office  
Others

### Global network of "Kowa"

**North America**  
New York  
Los Angeles  
North Carolina  
Alabama

**Europe**  
Duesseldorf  
Paris  
Milano  
U.K.

**Asia**  
Beijing  
Shanghai  
Dalian  
Taipei  
Hong Kong  
Singapore  
Jakarta  
Bangkok  
Dubai  
Mumbai



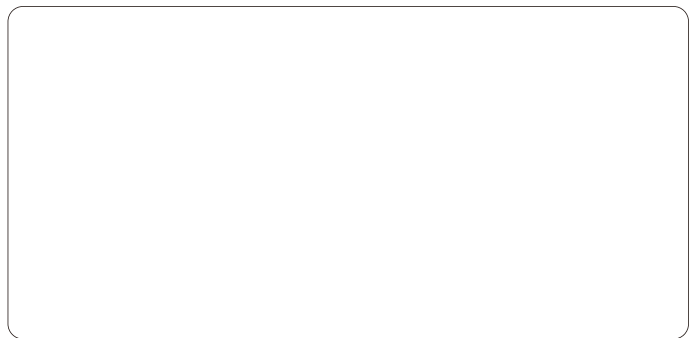
## *Kowa Company, Ltd.*

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4-14, Nihonbashi-honcho 3-chome, Chuo-ku, Tokyo 103-8433 Japan  
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URL: <http://www.kowa.co.jp/e-life/>

 **Hamamatsu Factory**  
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 **Kowa Europe GmbH**  
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Facsimile: 49(211)161952  
URL: <http://kowa-europe.com/>

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Phone: 1(310)327-1913  
Facsimile: 1(310)327-4177  
URL: <http://kowa-usa.com/>



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