



# Kowa AP-7000

Automated perimeter for both static and kinetic perimetry



Now incorporating the Estermann Test

## Next generation perimeter with the gold standard threshold test

With Kowa's AP-7000 cutting-edge perimeter you can be assured of its reliability and consistency.

Kowa's latest perimeter offers many features that will not only support your patient throughout their visual field assessments but also provides you with fast and accurate results enabling you to spend more time with your patients.

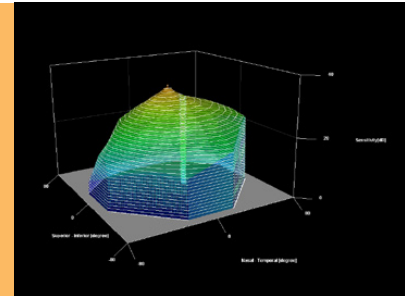


### Key benefits

- Reliability & consistency of results
- Efficient, easy operation
- Extensive variety of test strategies and screening programmes (Static and kinetic)
- Early detection of glaucoma
- Advanced analysis
- Efficient work flow through advanced networking & connectivity
- Clinic and patient friendly

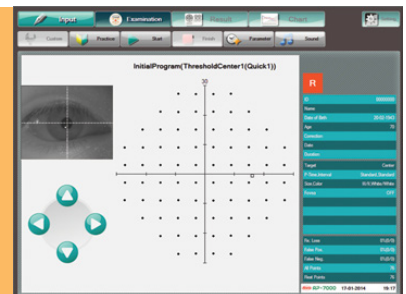
## Consistent & reliable assessments

Due to Kowa's extensive normative database which considers both the central field and the periphery, you can be assured of consistent, accurate assessments.



## Versatility of test requirements

Full threshold modes offer macular, central and peripheral coverage up to 80°, whilst screening modes provide swift evaluation of the visual field. To shorten test times, quick modes are available for both threshold and screening modes.



## Link perimetry with fundus images from a fundus camera, OCT or SLO

Static perimetry can be linked with fundus images from a fundus camera, OCT and SLO to define specific test locations on the retina.

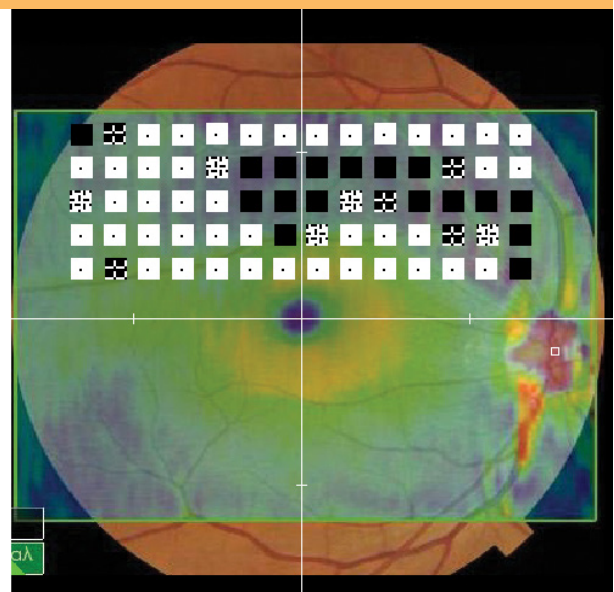
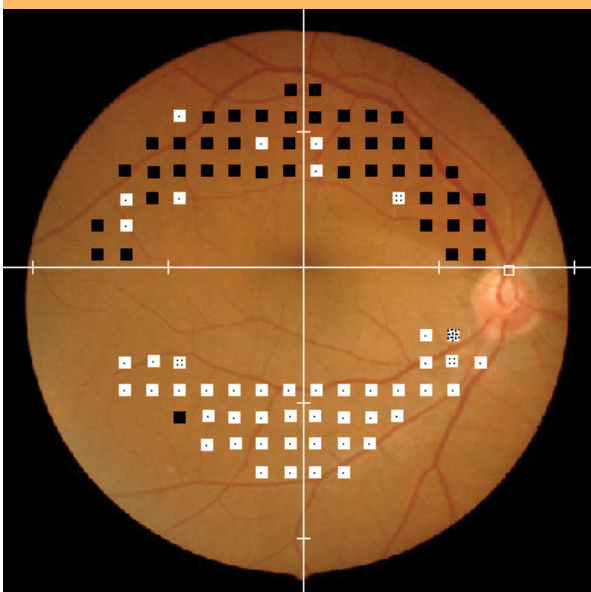


Photo: Kanazana University Department of Ophthalmology (Shinji Okubo, M.D. and Kazuhisa Sugiyama, M.D.)



# Simple examination & evaluation

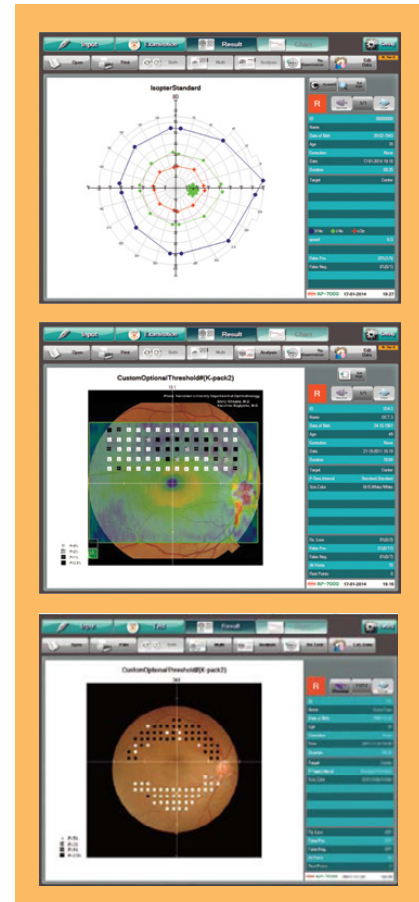
## The visual field examination

The Kowa AP-7000 offers you an extensive variety of test strategies and screening programmes to support your investigation and monitoring of the visual field.

A fast screening mode with Kowa's unique algorithm (QUICK) is available including the peripheral field, enabling you to spend more time with your patients.

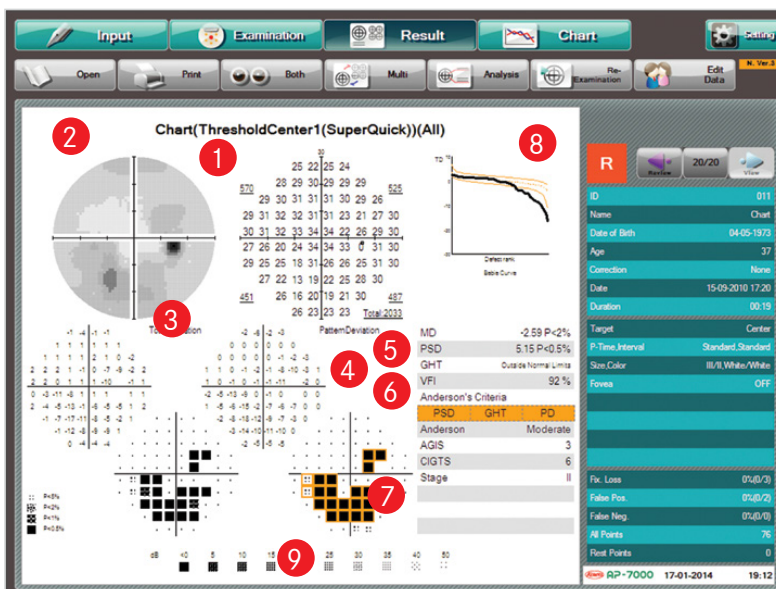
### Examination programmes

- Screening modes offering swift evaluation of the visual field for relative or absolute scotomas
- Full threshold modes offering macular, central and peripheral coverage up to 80°
- Supra-threshold mode for fast screening
- Kinetic Perimetry provided as standard
- Quick modes for threshold and screening programmes
- Automated correlation between the fundus image and the static visual field in order to analyse the structure and the function together. Capabilities to import OCT, SLO, fundus images from third party devices



## The visual field evaluation

Kowa's visual field evaluation software captures the current examination results, monitors your patients visual field history and is able to project potential future loss of vision in one simple to use system.



- 1 Examination Program name
- 2 Greyscale / colour scale
- 3 Total Deviation
- 4 Pattern Deviation
- 5 MD (Mean Deviation)
- 6 PSD (Pattern Standard Deviation)
- 7 Analytical indices
- 8 Bebie curve
- 9 Gaze monitor

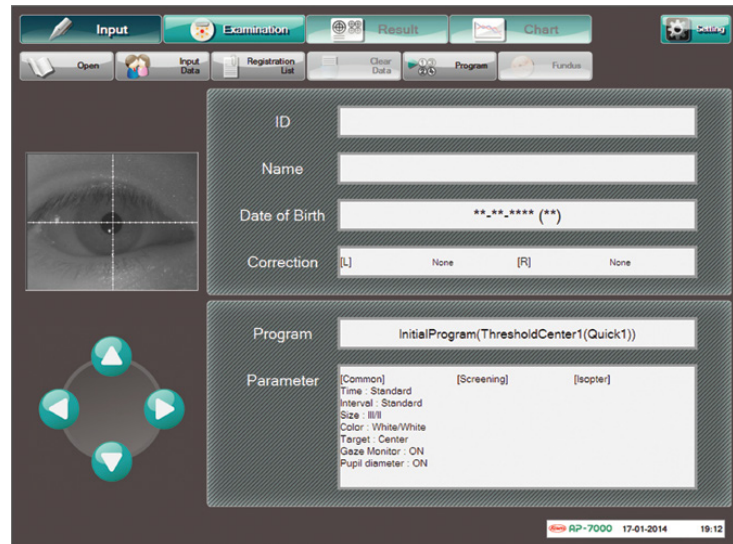
# Incorporating key analytical indices

## GHT (Glaucoma Hemifield Test)

Analyses the upper and lower hemisphere of the visual field and provides a quick indication of possible glaucoma damage.

## VFI (Visual Field Index)

The measurement of the visual field status as a percentage of a normal age - adjusted visual field in which a normal visual field is 100% and total loss of field is 0%.



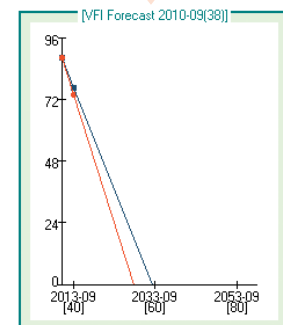
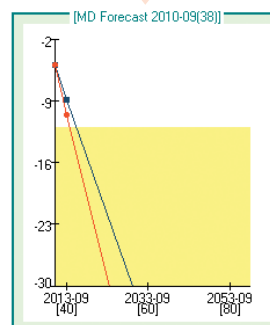
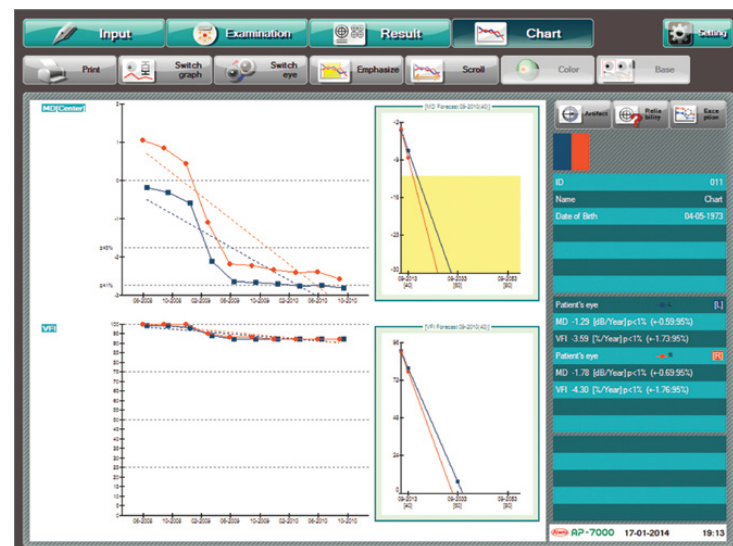
## Progression analysis & Predictive display

### Progression analysis

Creating a graphical chart from the analytical indices test results will provide a clear view of the possible changes over time in the tested eyes.

### Predictive display

Predictive graphs are displayed from calculations of linear rates of changes in analytical indices. This function predicts what values of MD (Mean Deviation) and VFI (Visual Field Index) will be reached at what age, if current rates of change in those values continue.



## Simple to use, new ergonomic design



### New touch screen panel

easy to use, quick & efficient

### New software design

with a new simple layout, making it even easier to navigate through your required assessment path

### New Integrated PC

including built in flash memory capable of storing approximately 20,000 patient tests.

### New ergonomic chin rest

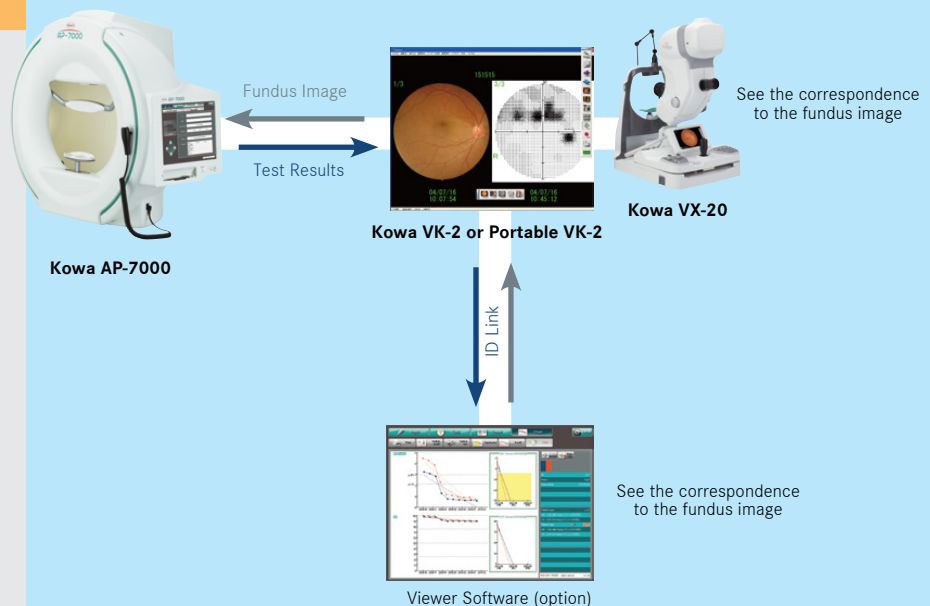
sensors automatically detect the examination eye



## Advanced network connectivity

### Get connected

- Network ready with built in PC
- Easy networking to other systems for data correlation
- Export patient data, test results & image files to your EHR system
- Store and print field plots with ease
- Link to Kowa fundus camera



## Examination

<b>Screening</b>	<b>Program</b>	Standard, Precision, Centre, Periphery, Glaucoma, V.Meridian, Centre #1, Centre #2
	<b>Method</b>	2zone, 3zone, 4zone, Quantify scotoma Intensity step : 5dB / probability variable (p-value) Quick mode is available
<b>Supra</b>	<b>Program</b>	Standard, Macula, Mariotte, Optional, D-Test, Estermann Test
	<b>Method</b>	Same intensity 2 zone
<b>Threshold</b>	<b>Program</b>	Centre 1, Centre 2, Meridian, Macula 1, Macula 2, Periphery
	<b>Method</b>	All Threshold, Quick 1, Quick 2, Super quick, Quick Alpha
<b>Isopter (kinetic)</b>	<b>Program</b>	Standard, Isopter + Screening 1, Isopter +Screening 2, Isopter + Threshold
	<b>Method</b>	Auto, Manual
<b>Custom</b>	<b>Program</b>	Circle Threshold, 1 point threshold, Quadrant Threshold, Optional Threshold#, Optional thresholdO, Screening#, ScreeningO
<b>Perimetry on Fundus / OCT</b>		Perimetry combined with fundus or OCT image
<b>Fovea examination</b>		It is available in the Threshold Centre examination (Threshold - Centre 1, Centre 2, Isopter + Threshold)

## Analysis

<b>Analysis for threshold</b>	<b>Each examination</b>	Grey/colour scale, 3D display (Hill of Vision), Total value, Total value of quadrant, Glaucoma staging (8 steps), GHT, Anderson's Criteria, Anderson's classification, AGIS, CIGTS, VFI, Total deviation, Pattern deviation, MD (Mean Deviation), PSD (Pattern Standard Deviation), Bebie Curve (Total deviation, Pattern deviation, MD, and shown with actually measured values and p-values)
	<b>Chronological changes</b>	All analysis data (Scale, Threshold, Total deviation p-value, Pattern deviation p-value, Bebie curve) Graphically displays (MD, PSD, VFI, AGIS, CIGTS, Quadrant TD, Classification, Anderson, Boxplot)
<b>Comparing</b>		Comparison can be made between results of the Threshold, Screening, or Supra examination executed twice
<b>Combination</b>		Centre and Periphery examinations can be combined in Threshold and Screening Centre examinations. Isopter examination can be combined with Threshold Centre or Screening Centre examination.
<b>Display</b>	<b>Both eyes</b>	Results of the examination of both eyes of the same patient executed on the same day are displayed side by side
	<b>Multi</b>	Results of the examination executed four times (both eyes/either eye) of the same patient are displayed side by side
<b>Patient information</b>		ID, Name, Date of Birth, Sex, Correction, Visual Acuity, Diagnosis, Doctor, Comment
<b>Normative database</b>		Ver. 1.0.0.0 issued on 2011/06/09 (Age range) 20s to 70s (Samples) 612 persons (Criteria) Questioning, visual acuity, reflection, eye pressure, visual field, and fundus

## Database

<b>Database</b>	Patient ID list display, All list display, Search function, ID extraction function
<b>Normative Database</b>	Built-in flash memory Capacity: for approx. 20,000 patients (40,000 examinations)



# Specifications

<b>Stimulus presentation method</b>	Projection
<b>Stimulus colour</b>	White, Red, Blue, Green
<b>Stimulus size</b>	Goldmann I, II, III, IV, V
<b>Maximum stimulus intensity</b>	3,183cd/m <sup>2</sup> (10,000 asb): white
<b>Stimulus presentation time</b>	0.2 sec.
<b>Stimulus presentation interval</b>	0.6 ~3.3 sec. (automatically adjusted)
<b>Background intensity</b> *Automatic light adjustment	White: 10 cd/m <sup>2</sup> (31.5asb) Yellow: 100 cd/m <sup>2</sup> (314.2 asb)
<b>Examination distance</b>	300mm
<b>Measurement range</b>	80°
<b>External interface</b>	USB, Ethernet
<b>Fixation target</b>	Orange LED Centre 1 point, auxiliary 4 point, fovea examination 4 point
<b>Eye fixation monitoring</b>	Heijl-Krakau method, Eye fixation monitor, Gaze monitor
<b>Printout</b>	USB-connected printer (available separately)
<b>Operation screen</b>	Touch panel colour LCD monitor
<b>Data save</b>	Built-in flash memory
<b>Operation support</b>	Oral instruction
<b>Chin rest operation</b>	Motor-driven
<b>Power supply</b>	Input: AC 100-230V 50/60Hz Power consumption: 200 VA
<b>Dimensions</b>	730(W) x 430(D) x 700(H) mm
<b>Weight</b>	26kg
<b>Operational Environmental Conditions</b>	Environmental temperature: 10°C to 35°C Relative humidity: 30 to 90%

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**EC REP Kowa Optimed Europe Ltd**

Sandhurst House  
297 Yorktown Road  
Sandhurst, Berkshire, GU47 0QA, UK  
Phone: +44 (0) 1276 937021  
Facsimile: +44 (0) 1276 937 023  
E-Mail: medicaluk@kowaoptimed.com  
Web: www.kowamedical.com

**Kowa Optimed Deutschland GmbH**

Bendemannstraße 9  
40210 Düsseldorf, Germany  
Phone: +49 (0) 211 542184-00  
Facsimile: +49 (0) 211 542184-10  
E-Mail: medicalde@kowaoptimed.com  
Web: www.kowamedical.com

**World Sales Headquarter**

**Kowa Company Ltd.**  
4-14 Nihonbashi-honcho 3-chome,  
Chuo-ku, Tokyo 103-8433 Japan  
Phone: +81-3-3279-7639  
Facsimile: +81-3-3279-7541  
Web: www.kowa.co.jp

**Kowa Company Ltd.**

Chofu Factory 3-1, Chofugaoka 3-chome,  
Chofu city, Tokyo 182-0021, Japan  
Phone: +81-42-4407621  
Web: www.kowa.co.jp



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