



 Technology for Life Science

# AP-7000

Automated perimeter for both  
static and kinetic perimetry



## 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.

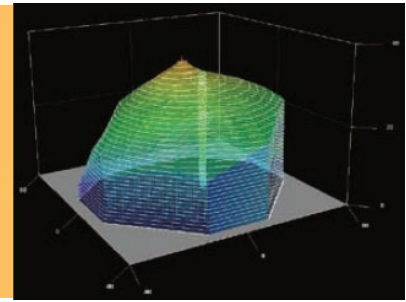


### Key features

- Consistent & reliable assessments
- Versatility of test requirements
- Advanced analysis
- Early glaucoma detection
- Results comparable with other perimeters
- Efficient & easy operation
- Enhanced patient experience
- Ergonomic design
- Advance workflow
- Language customisation (English, French, Germany, Italian, Portuguese & Spanish)

## 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.



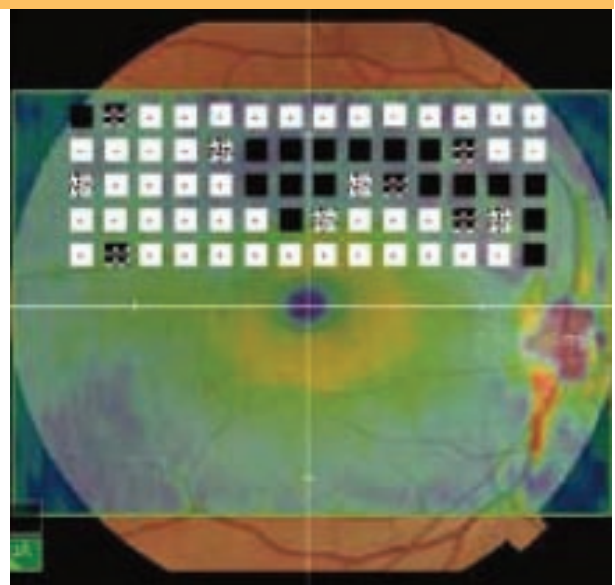
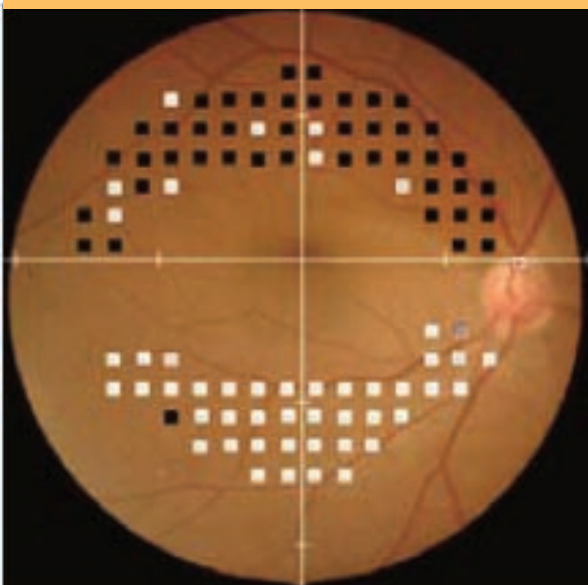
## Versatility of test requirements

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 cameras, OCT and SLO to define specific test locations on the retina.



# Simple examination & evaluation

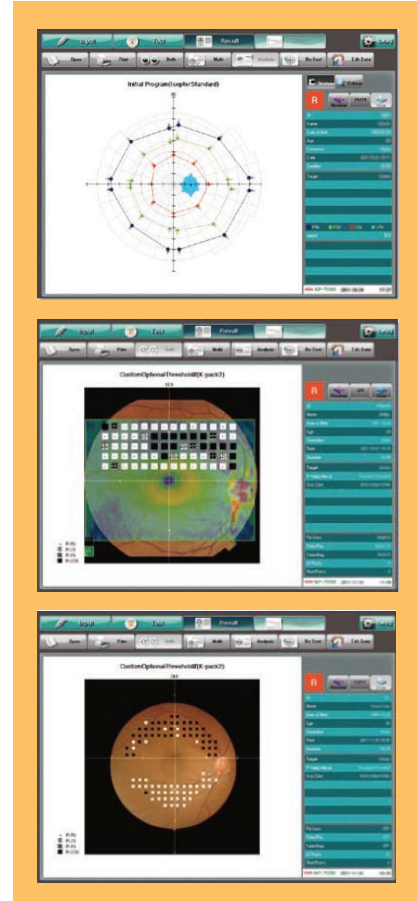
## The visual field examination

The 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 is available including the peripheral field, enabling you to spend more time with your patients.

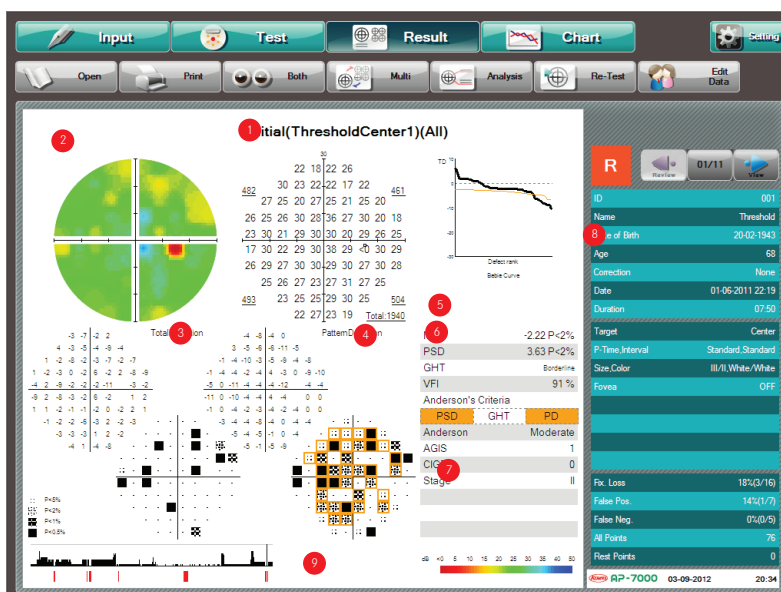
### Examination programmes

- 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 Threshold (measure values)
- 2 Grayscale
- 3 Total deviation
- 4 Pattern deviation
- 5 MD
- 6 PSD
- 7 Analytical indices
- 8 Bebie Curve
- 9 Gaze monitor



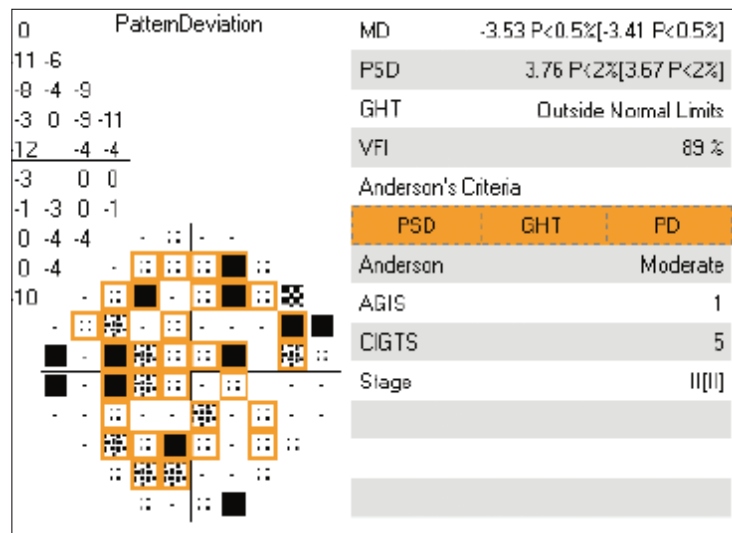
## Incorporating key analytical indices

### 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%.



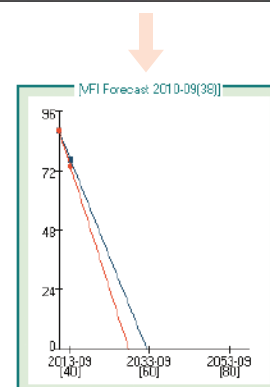
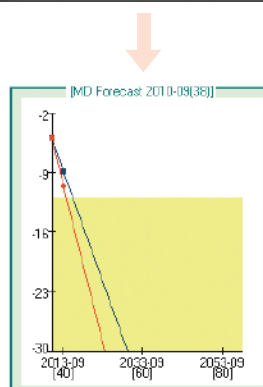
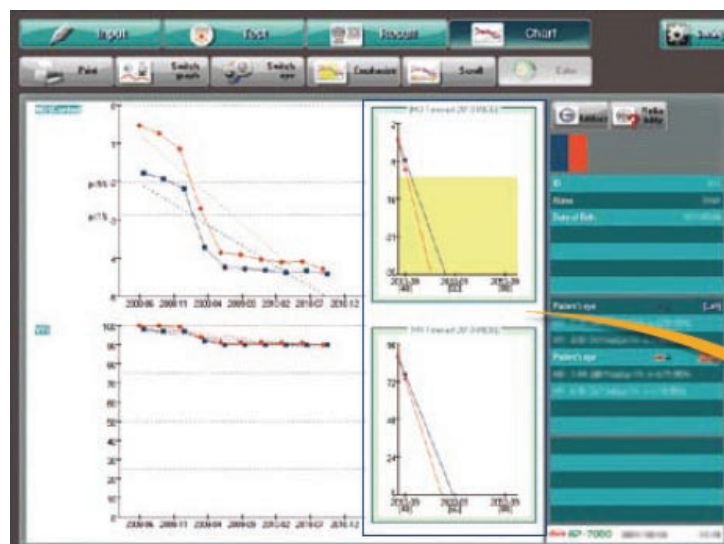
## Progression analysis & Predictive display

### 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 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

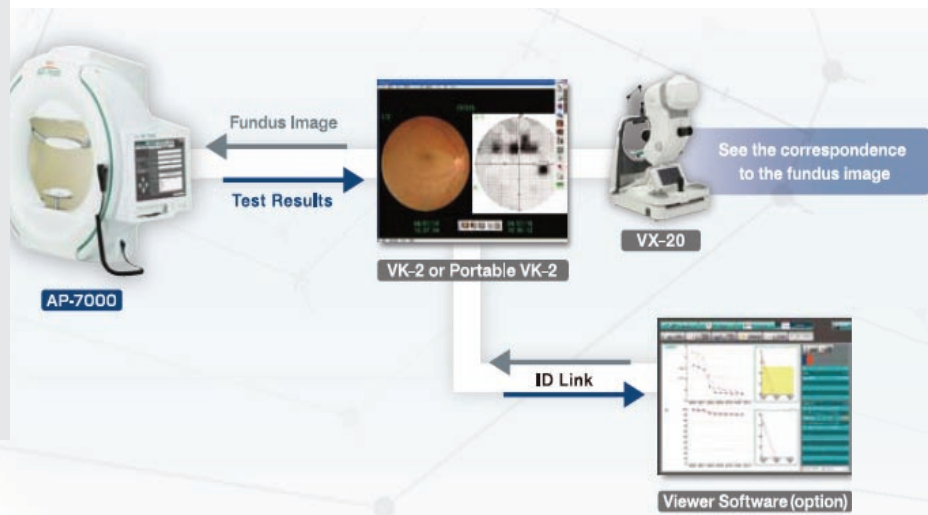
Sensors automatically detect the examination eye



## 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



# 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: 10cd/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 100-230 V 50/60Hz Power consumption: 200 VA
<b>Dimensions</b>	730(W) x 430(D) x 700(H) mm
<b>Weight</b>	26kg



## Examination

Screening	Program	Standard, Precision, Centre, Periphery, Glaucoma, V.Meridian, Centre #1, Centre #2
	Method	2zone, 3zone, 4zone, Quantify scotcoma Intensity step : 5dB / probability variable (p-value) Quick mode is available
Supra	Program	Standard, Macula, Mariotte, Optional, D-Test
	Method	Same intensity 2 zone
Threshold	Program	Centre1, Centre 2, Meridian, Macula 1, Macula 2, Periphery
	Method	All Threshold Quick 1, Quick 2, Super quick
Isopter (kinetic)	Program	Standard, Isopter + Screening 1, Isopter +Screening 2, Isopter+ Threshold
	Method	Auto, manual
Custom	Program	Circle Threshold, 1 point threshold, Quadrant Threshold, Optional Threshold#, Optional threshold#, Screening#, ScreeningO
Perimetry on Fundus		Perimetry combined fundus image
Fovea examination		It is available in the Threshold Centre examination (Threshold - Centre 1, Centre 2, Isopter + Threshold)

## Analysis

Analysis for threshold	Each examination	Grey/Colour scale, 3D display (Hill of Vision), Total value of quadrant, Glaucoma staging (8 steps), GHT, Anderson's Criteria, Anderson, 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)
	Chronological changes	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)
Comparing		Comparison can be made between results of the Threshold, Screening, or Supra examination executed twice
Combination		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.
Display	Both eyes	Results of the examination of both eyes of the same patient executed on the same day are displayed side by side
	Multi	Results of the examination executed four times (both eyes/either eye) of the same patient are displayed side by side
Patient information		ID, Name, Date of Birth, Sex, Correction, Visual Acuity, Diagnosis, Doctor, Comment
Normative database		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

Database	Patient ID list display, all list display, search function, ID extraction function
Normative Database	Built-in flash memory Capacity: For approx. 20,000 patients (40,000 examinations)

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