Maestro3 Series

Optical Coherence Tomography
True Colour Fundus Camera

Faster. Smarter.
More with one touch.

TOPCON Healthcare

1. Compared with Maestro2
2. Optional
3. Confirmed with model eye

Faster.

Maestro3 offers faster[1] acquisition of OCT and OCTA[2], delivering 130,000 A-scans per second. Slit-scanning technology delivers high-quality fundus images through pupils as small as 2.0 mm[3], further contributing to the overall efficiency of the clinical workflow.

Smarter.

Powered by IMAGEnet®7, Maestro3 transforms data into clinical intelligence. The solution offers advanced visualisation, quantitative analysis, and intuitive reporting to support confident clinical decision-making.

More with one touch.

Automated alignment and capture of OCT, OCTA and fundus imaging with just one touch. ONEscan now captures OCT, OCTA and fundus imaging in a single shot, giving you access to more data, faster. Combined with comprehensive imaging and analysis through IMAGEnet7, scan protocols such as ONEscan deliver high-quality clinical insights.

MAESTRO3

Optical Coherence Tomography

KEY BENEFITS | MAESTRO3

- Fast acquisition of OCT and OCTA with 130,000 A-scans per second
- High-quality fundus images through pupils as small as 2.0 mm[4]
- Efficient clinical workflow with automated, one touch acquisition
- More data in less time with ONEscan
- Enhanced signal-to-noise ratio delivering higher quality OCTA images with Smart Denoise[5]
- Multimodal imaging in one device
- Seamless integration for efficient interoperability

MORE WITH ONE TOUCH

With just one touch, ONEscan captures true colour fundus photography as well as 12 x 9 mm 3D OCT of the macula and optic nerve head and OCT Angiography in a single acquisition. By combining fundus imaging, RNFL or GCL+/GCL++ thickness maps, and retinal and optic nerve head vascular analysis into a single scan, ONEscan reduces examination time and patient burden while delivering higher-resolution and more detailed clinical data compared to previous models.

IMAGEnet.

Fundus Image
Provides a true colour fundus image, supporting assessment of overall condition.

OCT Angiography
Visualises retinal vascular structures without dye, adding valuable information for clinical evaluation.

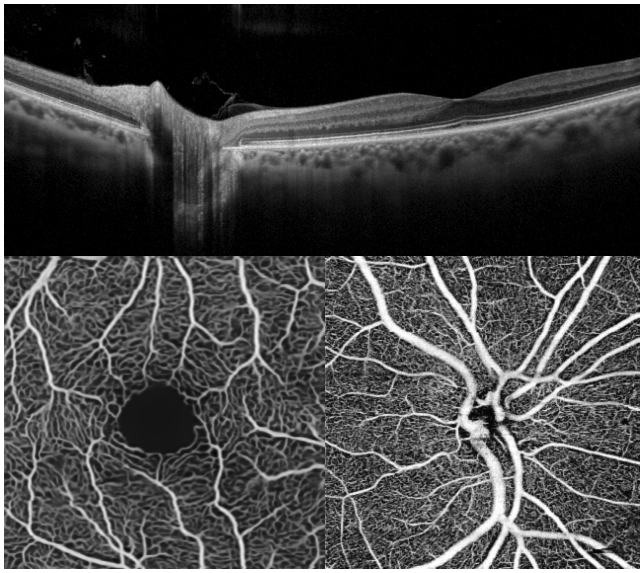
Thickness Maps
Offer quantitative analysis of retinal structures for efficient assessment and follow-up.

B-scan
Enables detailed visualisation of retinal layers for precise structural evaluation.

4. Confirmed with model eye
5. Optional

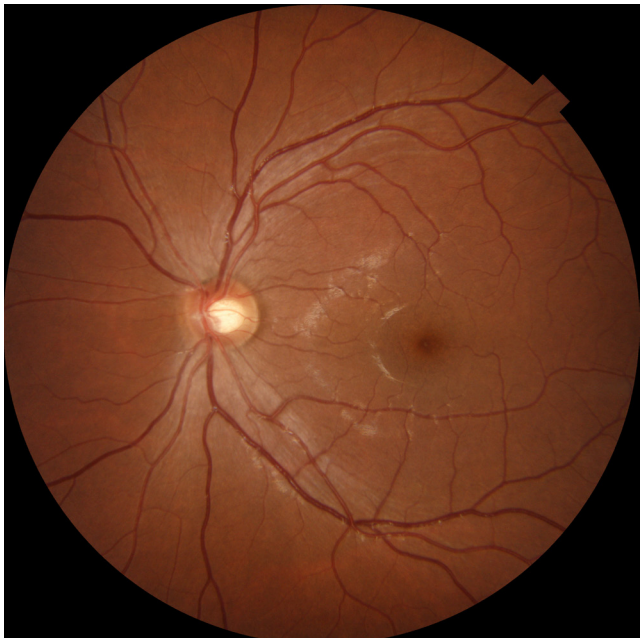
Faster[6] Acquisition of OCT and OCTA

A fast scanning speed of 130,000 A-scans per second captures dense, high-quality B-scans and OCTA images, while auto-tracking helps reduce motion artefacts caused by blinks and eye movements.



High-quality Fundus Images through Pupils as Small as 2.0mm[7]

Maestro3 incorporates slit-scan illumination and a rolling shutter mechanism for fundus imaging. These technologies help reduce flare and shadow, enabling reliable acquisition of high-quality[6] colour fundus images, even in small pupils. Sharp, detailed images can be captured through pupil diameters as small as 2.0 mm[7] regardless of lighting conditions, supporting efficient image acquisition and a streamlined examination workflow.



Faster, More Efficient Clinical Workflow

Alignment, focusing, image capture, and movement from right to left eyes are fully automated with one touch, delivering a fast and effortless imaging workflow. Reliable imaging through small pupils helps reduce recaptures, improving the efficiency of image acquisition.

6. Compared with Maestro2
7. Confirmed with model eye

Multimodal Imaging

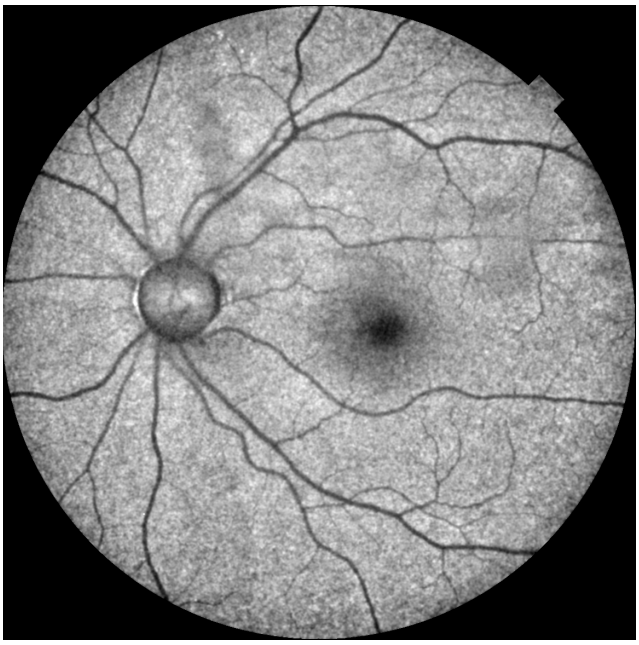
The Maestro3 offers OCT, OCTA, true colour non-mydriatic fundus imaging with a 50° field of view (approx. 74.9 degrees at the spherical centre of the eye)[8], fundus autofluorescence (FAF)[9], and anterior segment OCT[10] imaging, providing a comprehensive multimodal imaging solution in a single device. Enhancing clinical workflow efficiency, Maestro3 combines OCT, OCTA (up to 12 × 12 mm scan areas), and multiple fundus imaging modalities in one integrated platform.

8. 74.9° represents an estimated eye-angle derived from a visual angle of 50°. The conversion is based on the relationship described in the following article. Xincheng Yao, Devrim Toslak, Taeyoon Son, Jiechao Ma, 2021, Understanding the relationship between visual-angle and eye-angle for reliable determination of the field-of-view in ultra-wide field fundus photography. Biomedical Optics Express, 2021 Sep 30;12(10):6651-6659.
9. Only with Maestro3 plus.
10. Optional

FAF Photography with Maestro3 plus

Built-in autofluorescence filters enable intuitive acquisition of FAF images, allowing visualisation of lipofuscin distribution within the retinal pigment epithelium (RPE). FAF imaging provides a non-invasive metabolic perspective of the retina, supporting the assessment of RPE health and enabling detection of early or subtle changes that may not be apparent with conventional imaging modalities.[11, 12]

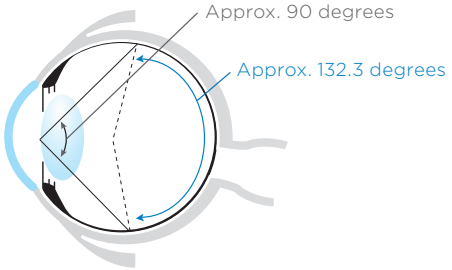
The exclusive FAF filter and advanced image enhancement technology are designed to optimise signal utilisation and deliver high-contrast images for consistent and reliable observation.[13]



Mosaic Fundus Image

In peripheral photography mode, up to 9 internal fixation positions are available to capture peripheral areas, making it possible to create a wide panorama image with an approx. 90 degrees (approx. 132.3 degrees at the spherical centre of the eye[14]) field of view.

Angle of view



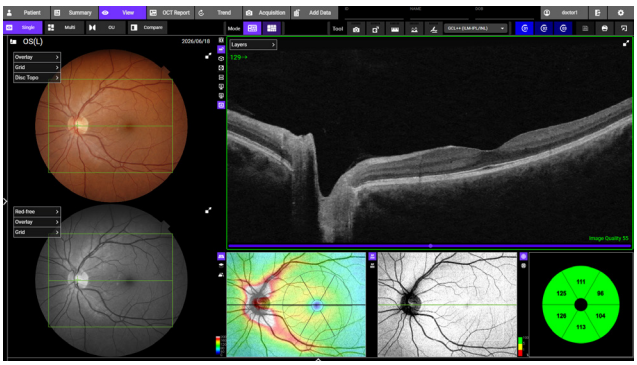
* A composite of nine images created using IMAGEnet7
* The composite field of view for a combination of Nasal, Center and Temporal images is approximately 132.3°.

11. Yung M, Klufas MA, Sarraf D, 2016, Clinical applications of fundus autofluorescence in retinal disease. Int J Retina Vitreous, 2016;2:12. doi:10.1186/s40942-016-0035-x
12. Schmitz-Valckenberg S, Holz FG, 2008, Fundus autofluorescence imaging: do you need it and when? Retinal Physician. 2008;Apr 1.
13. Spaide RF. Autofluorescence Imaging with the Fundus Camera. Fundus Autofluorescence. Springer; 2007. p.49-54.
14. 132.3° represents an estimated eye-angle for a mosaic image, derived from a visual angle of 90°. The conversion is based on the relationship described in the following article.
Xincheng Yao, Devrim Toslak, Taeyoon Son, Jiechao Ma, 2021, Understanding the relationship between visual-angle and eye-angle for reliable determination of the field-of-view in ultra-wide-field fundus photography. Biomedical Optics Express, 2021 Sep 30;12(10):6651-6659

DIAGNOSTIC CAPABILITIES

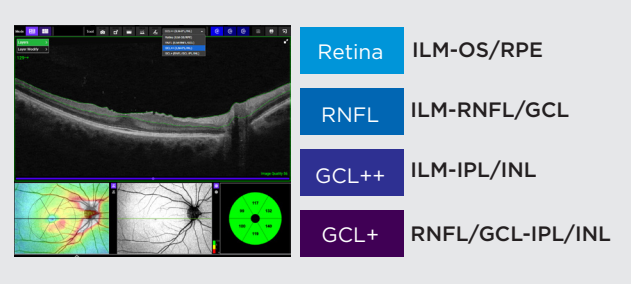
3D Wide Imaging

The 12 x 9 mm 3D Wide scan captures both the optic nerve and the macula in a single acquisition, delivering a thorough evaluation of the posterior pole. The Maestro3 reference database extends across the entire scan area, enabling detailed thickness comparisons within the visual field, ideal for detecting patterns such as thinning of the RNFL commonly seen in glaucoma[15].



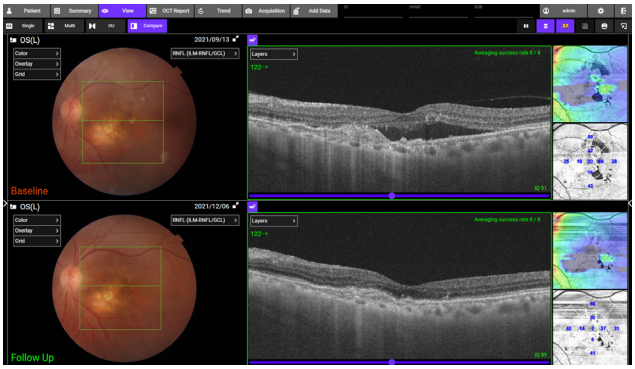
Retinal Thickness Maps

IMAGEnet7 provides up to 4 retinal thickness maps, enabling quantification of retinal layers.



Follow-up Scans

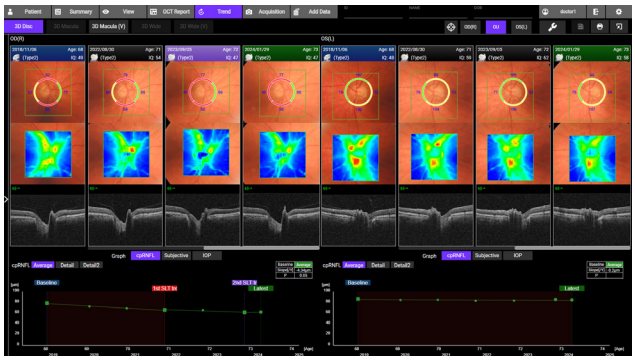
The follow-up function enables easy retrieval and re-analysis of the same location, allowing seamless comparison of past and current data. Operators simply select previous scan data, and Maestro3 automatically captures the corresponding area.



Analysed by IMAGEnet7

Trend Analysis

IMAGEnet7 offers intuitive timeline views and insightful graphs for a wide range of clinical data (RNFL, GCL, and more). The Trend View provides a powerful overview of changes over time at a glance, supporting informed and timely clinical decisions.

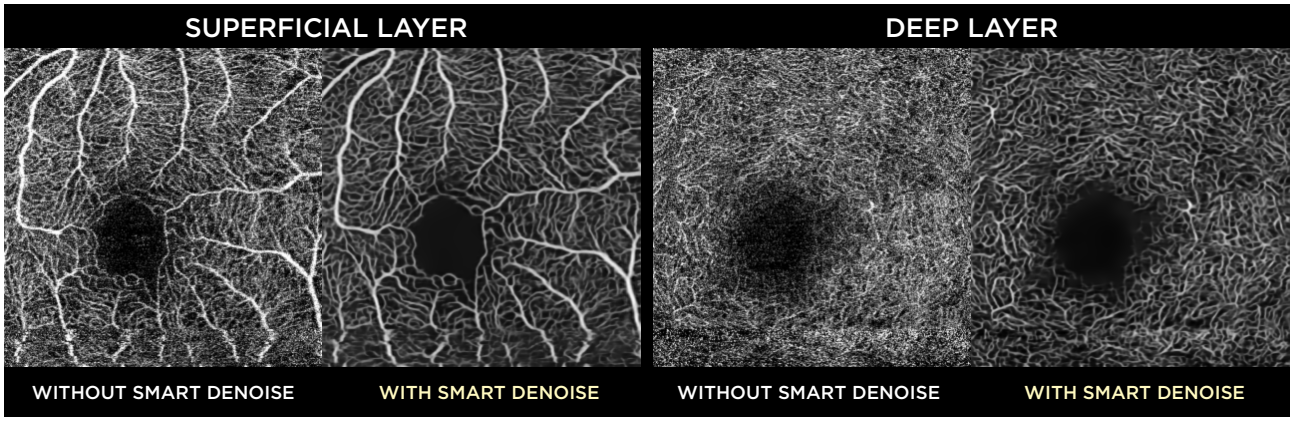


Analysed by IMAGEnet7

15. Won June Lee, Ki Ho Park et al, 2018, Comparison of glaucoma-diagnostic ability between wide-field Swept-Source OCT retinal nerve fiber layer maps and spectral-domain OCT, Eye volume 32,
Yong Woo Kim, Jinho Lee, Jin-Soo Kim, Ki Ho Park. AJO, 2020, Diagnostic Accuracy of Wide-Field Map from Swept-Source Optical Coherence Tomography for Primary Open-Angle Glaucoma in Myopic Eyes

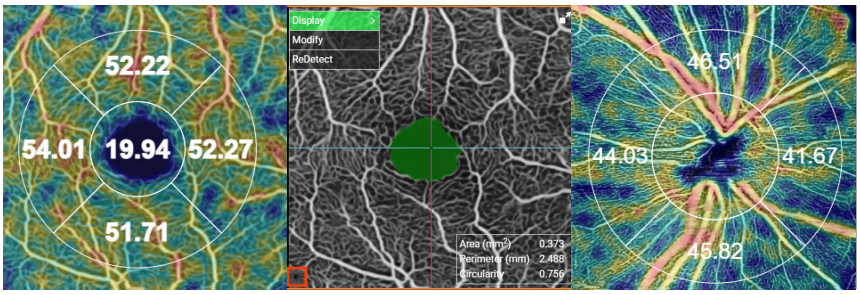
Higher Quality OCT and OCTA Images

Smart Denoise is an optional image processing algorithm which reduces artifacts and increases contrast.
High quality OCTA images with reduced noise signal are generated through the use of Topcon's unique AI algorithm.



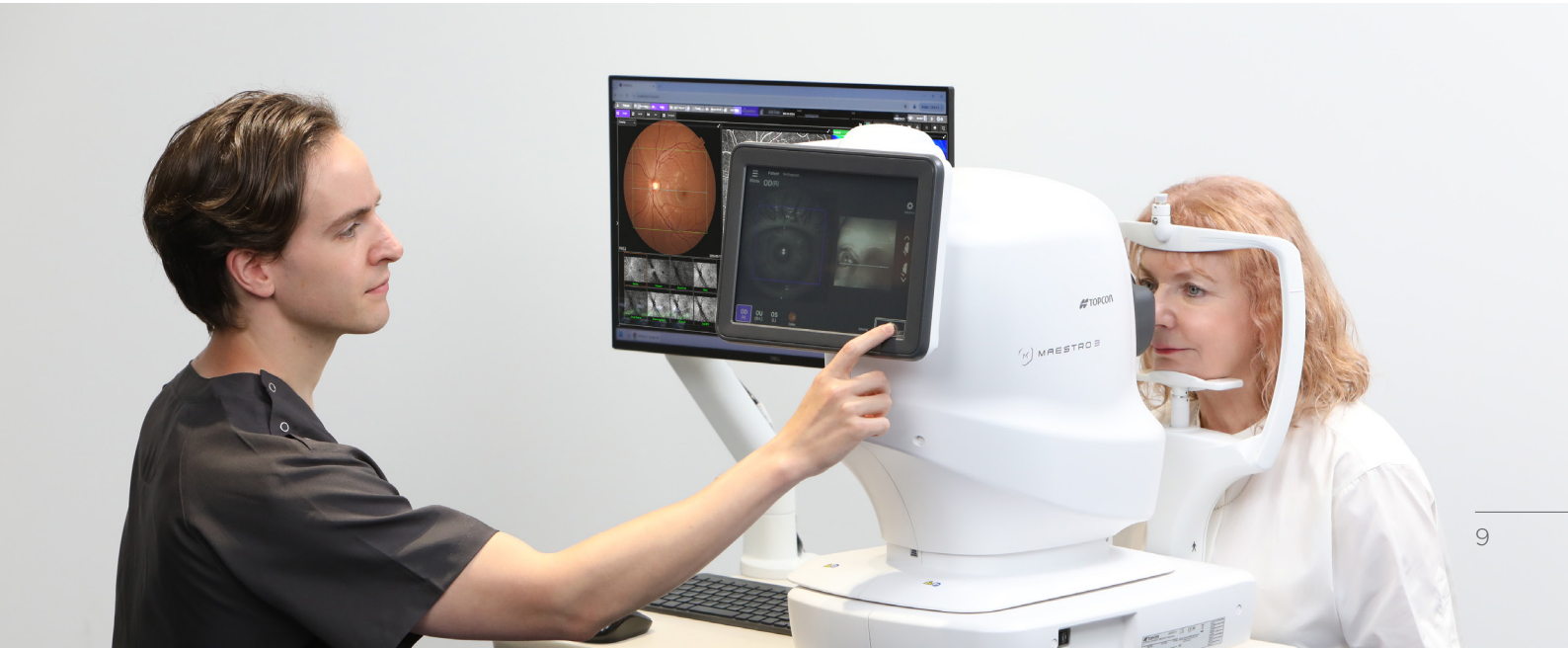
OCTA Metrics

Maestro3 OCT Angio displays OCTA density, which is the ratio between high and low signal areas.
The information is displayed as a colour map with the ability to display values for rapid comprehension.



OCTA Density Over the Macula

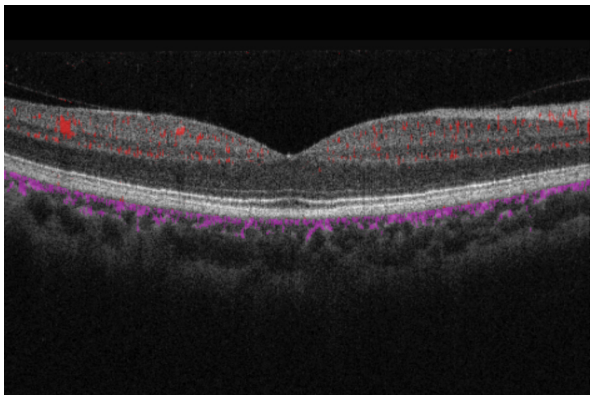
OCTA Density Over the Optic Nerve



OCT ANGIOGRAPHY

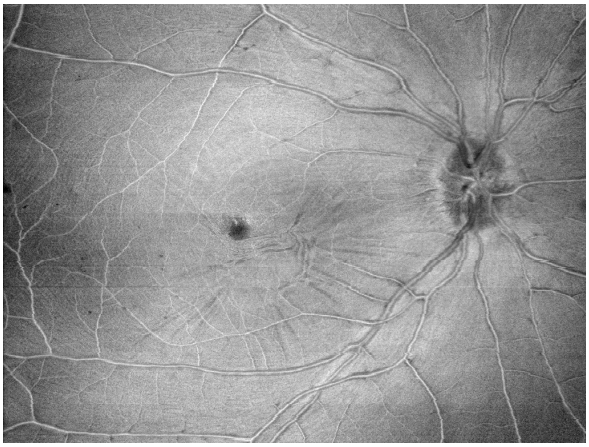
Angio B: Overlay on B-scan

Angio B displays vascular structure information on the corresponding structural B-scan by combining OCT Angiography with cross-sectional OCT imaging. This enables co-localisation of retinal morphology and vascular information within a single view, supporting efficient image review and clinical assessment.



En Face OCT Imaging

En Face imaging allows for independent dissection and examination of key layers, such as the vitreoretinal interface (ILM boundary), retinal pigment epithelium layer.



Anterior Segment Imaging

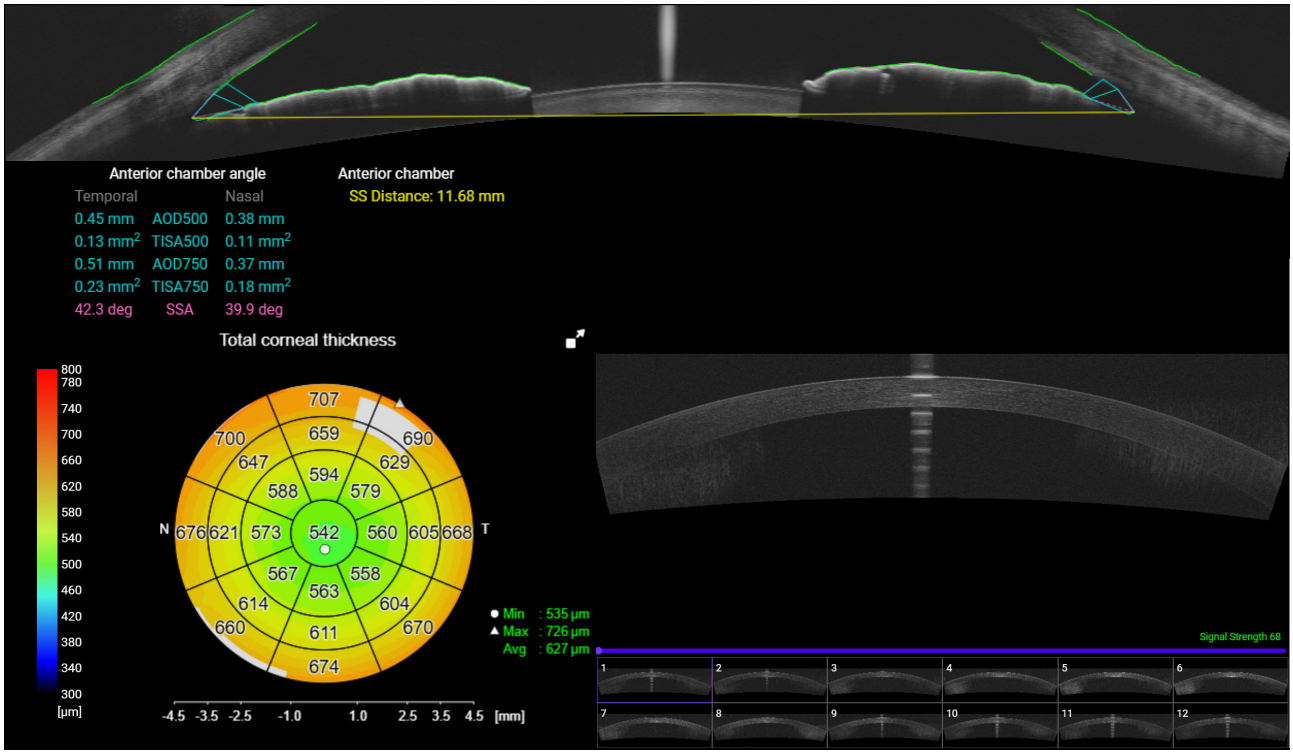
Maestro3 simplifies anterior segment imaging by automatically aligning the scan position with a single touch, allowing operators to perform image acquisition while confirming B-scan images of the target area. This auto-alignment capability supports efficient and consistent anterior segment imaging within routine clinical workflows.
In addition to the conventional imaging configuration using an optional forehead support, Maestro3 offers extended functionality through a dedicated anterior segment lens attachment. By utilising the lens attachment, a broader range of anterior segment information can be obtained, enabling enhanced assessment of the cornea and anterior chamber angle alongside standard observation.

Line scan length in 16 mm

Delivers a 16 mm wide scan that captures both iridocorneal angles in a single acquisition for fast and efficient evaluation. When used with IMAGEnet7, it provides quantitative anterior chamber angle measurements.

Radial scan length in 9 mm

Quantitative analysis from the 9 mm radial scan automatically measures total corneal, epithelial, and stromal thickness, supporting the diagnosis and monitoring of a wide range of corneal conditions.

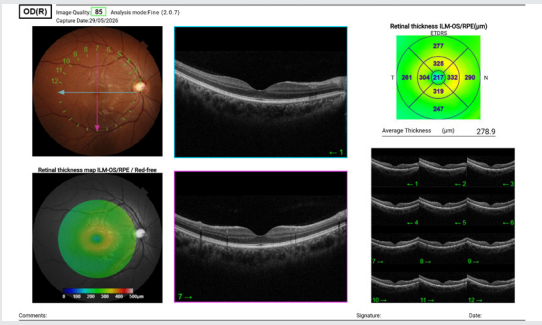


COMPREHENSIVE REPORTS

Maestro3 provides detailed analysis of key eye areas. To support streamlined workflow, comprehensive reports can automatically be exported to the EMR in different formats.

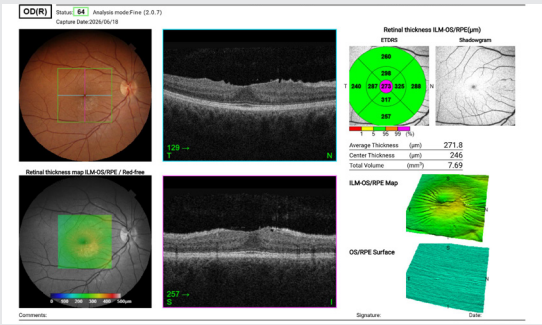
Radial Scan Report

The report generated from a 12-direction radial scan offers comprehensive assessment of the retina together with retinal thickness ETDRS grid and average thickness measurement.



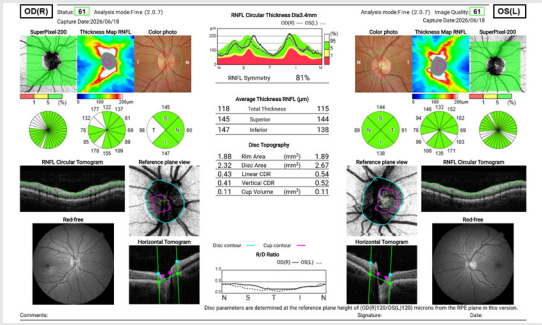
3D Macula Report

The 3D Macula Report offers complete assessment of the macula with true colour fundus image and centred fovea B-scan, while also offering thickness maps and comparison with reference database.



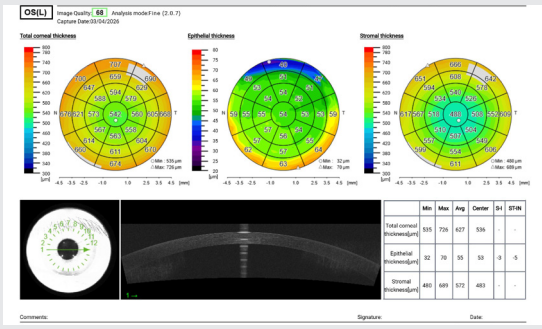
3D Disc Report OU

The report displays optic disc structures and RNFL thickness side by side for both eyes, enabling inter-eye comparison and asymmetry analysis alongside the reference database to support glaucoma assessment.



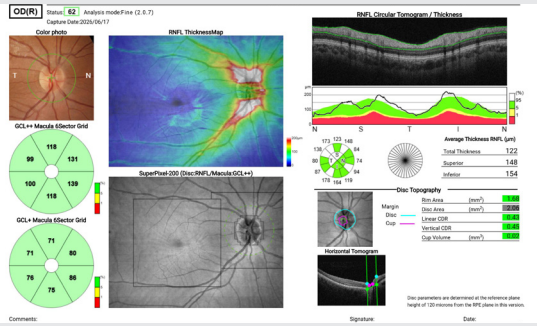
Corneal Thickness Report

This report displays comprehensive corneal thickness information, including total, epithelial, and stromal thickness maps across the cornea. Colour maps provide a clear visualisation of thickness distribution, while numerical values and summary tables support quantitative assessment. The report also includes cross-sectional B-scan, enabling detailed evaluation of corneal structure.



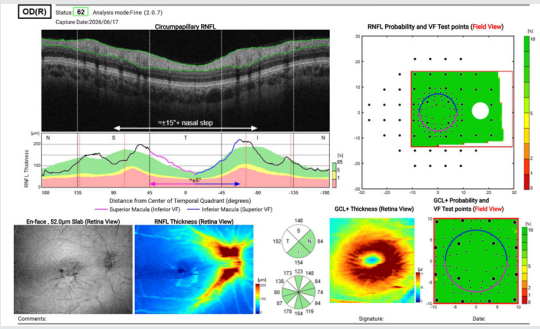
3D Wide Glaucoma Report

The 3D Wide Glaucoma Report uses 12 × 9 mm scan capturing both the optic nerve and the macula, and true colour fundus in a single acquisition.
The comprehensive report provides thickness and reference data comparison for GCL+, GCL++ and RNFL. OCT-based disc topography analysis with reference database also supports glaucoma assessment.



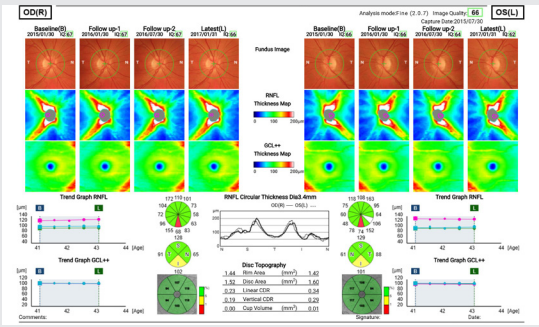
Hood Report

The Hood Report streamlines the decision-making process through the correlation of structure (GCL/RNFL) with function (overlay of visual field test locations)[16].
A single widefield OCT scan with Hood report can provide compelling information for the diagnosis of early glaucoma[17].



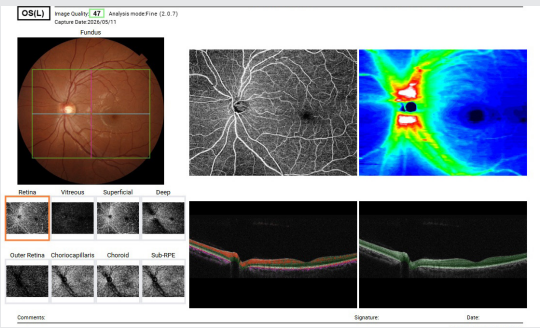
3D Wide Trend Report

Comprehensive longitudinal assessment of optic nerve head photographs, RNFL and ganglion cell layer thickness data in a bilateral change over time report.



ONEscan Report

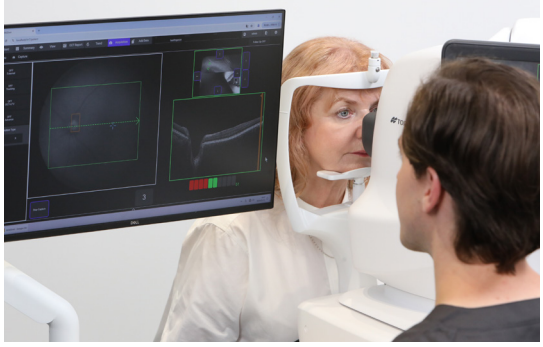
Maestro3's ONEscan integrates colour fundus imaging, OCT, and OCTA into a single comprehensive report, supporting efficient visualisation of retinal structure and vascular structure.



16. Donald C. Hood et al, 2014, Translational Vision Science & Technology, Evaluation of a One-Page Report to Aid in Detecting Glaucomatous Damage.
17. Donald C. Hood et al, 2016, Translational Vision Science & Technology, A Single Wide-Field OCT Protocol Can Provide Compelling Information for the Diagnosis of Early Glaucoma.

PC Acquisition Control

In combination with IMAGEnet7, the operator can view the live image on a large desktop monitor during acquisition.



Flexible Rotating Control Panel

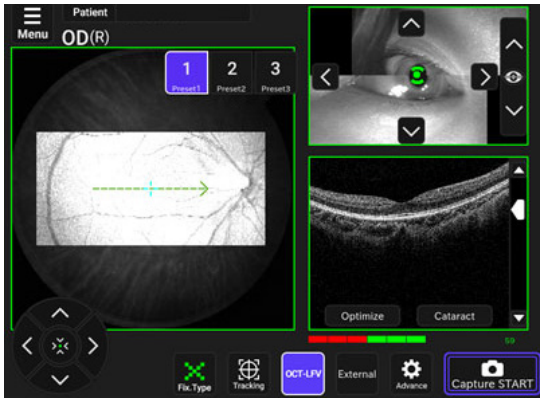
The flexible 360° rotating control panel allows comfortable operation from multiple positions while maintaining easy access to the patient.
The adaptable design supports a range of clinical setups and workflows.

Intuitive Scan Placement with Fundus-Guided Acquisition (FGA)

Easily define OCT scan locations by selecting the area of interest directly on the fundus image. With FGA, operators can capture or import a fundus image, pinpoint the desired location, and automatically acquire a single B-scan or a series of B-scans.

Live Fundus View™ (LFV)

OCT-LFV provides a real-time projection image of the retina, allowing clinicians to clearly visualise the optic disc, retinal vessels, and scan location during acquisition. This helps to confirm correct positioning before and during capture.



SPECIFICATIONS

Observation & Photographing of the Fundus	
Type of photography	Colour, Red-free *1, IR *2, FAF *3
Angular Field of View	50° ±5%
Working distance	35.5 ±0.1mm (for fundus photography)
Minimum pupil diameter	Normal pupil diameter : ø2.5mm Small pupil diameter : ø2.0mm
Fundus image resolution (on fundus)	Centre : 60 lines/mm or more Middle (r/2) : 40 lines/mm or more Middle (r) : 25 lines/mm or more IR photography : Centre: 5 lines/mm or more *2
Observation & Imaging of the Fundus Tomogram	
Scan range (on fundus)	Horizontal direction 3–12mm ±5% Vertical direction 3–12mm ±5%
Scan pattern	3D scan (horizontal/vertical) Linear scan (Line-scan/Cross-scan/Radial-scan) ONEscan Combination scan
Scan speed	130,000 A-scans per second
Lateral resolution	20μm or less
In-depth resolution	6μm or less
Minimum pupil diameter	ø2.5mm
Observation & Imaging of the Fundus Image/Fundus Tomogram	
Fixation target	Internal fixation target: Dot matrix type organic EL display The display position can be changed and adjusted. The displaying method can be changed. External fixation target
Observation & Photographing of Anterior Segment	
Type of photography	IR *2
Working distance	17±0.3mm (With the anterior segment attachment kit) 62.6 ±0.1mm (Without the anterior segment attachment kit)
Observation & Imaging of the Anterior Segment Tomogram	
Working distance	17±0.3mm (With the anterior segment attachment kit) 62.6 ±0.1mm (Without the anterior segment attachment kit)
Scan range (on cornea)	With the anterior segment attachment kit Horizontal direction 3–16mm ±5% Vertical direction 3–16mm ±5% Without the anterior segment attachment kit Horizontal direction 3–6mm ±5% Vertical direction 3–6mm ±5%
Scan pattern	Linear scan (Line-scan/Radial-scan) 3D Scan*4
Scan speed	130,000 A-scans per second
Fixation target	Internal fixation target(With the anterior segment attachment kit) External fixation target
Measurable refractive error range	
Without the diopter compensation lens *5	-13D to +12D (in fundus photography)
When the concave compensation lens is used	-12D to -33D (in fundus photography)
When the convex compensation lens is used	+11D to +40D (in fundus photography)
The pixel pitch on fundus	5.6 μm (in colour fundus photography)
OCT light source	
Medium	Superluminescence diode (SLD)
Wavelength	840nm
Base movement	Back-and-forth 40mm, Right-and-left 100mm
Base up-and-down movement	30mm
Chinrest movement	67mm
Electric Rating	
Source voltage	AC 100–240V
Frequency	50–60Hz
Power input	110–130VA
Dimensions and Weight	
Dimensions	332–427mm(W) × 541–708mm(D) × 564–754mm(H)
Weight	Maestro3: 23.5kg (±10%), Maestro3 plus: 23.9kg (±10%)

*1 "Red Free" is a digital red free system that processes and displays colour images in a simulated manner.
*2 Used solely for recording the tomographic imaging position.
*3 Maestro3 plus only
*4 Only when using the Anterior segment attachment kit AA-2.
*5 The area where the split lines are used.

IMPORTANT In order to obtain the best results with this instrument, please be sure to review all user instructions prior to operation.

Not all products, services, or offers are available in all markets. Contact your local distributor for country-specific information and availability.

CE 0123

CLASS 1 LASER PRODUCT (IEC60825-1:2014)
PRODUIT LASER DE CLASSE 1 (CEI60825-1:2014)

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