DRI OCT Triton2

Swept Source Optical Coherence Tomography
True Colour Fundus Camera

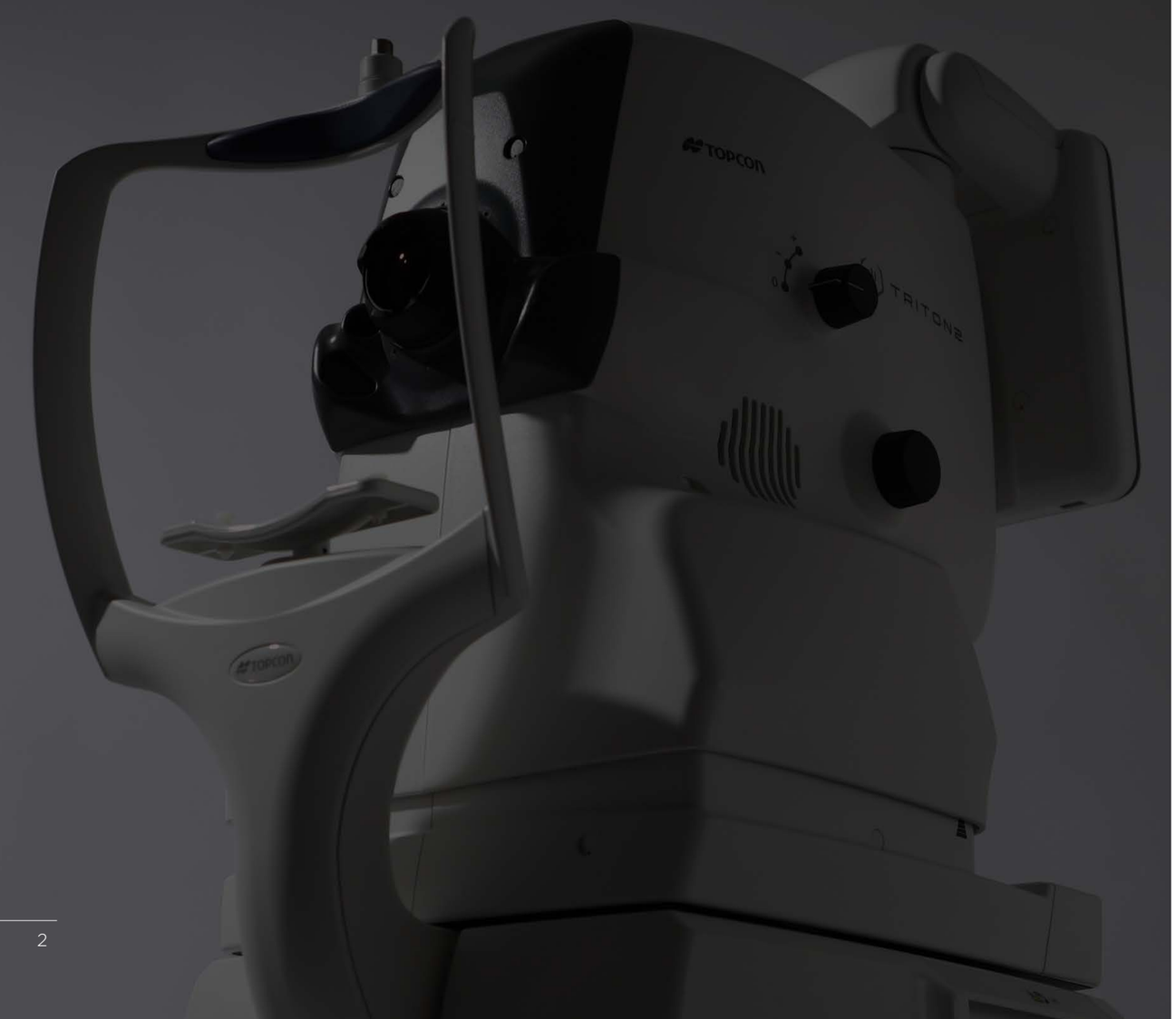
Next-Generation Multimodal Swept Source OCT



TOPCON Healthcare

NEXT-GENERATION MULTIMODAL SWEPT SOURCE OCT

Enhance clinical efficiency without compromise.
See deeper, see more.

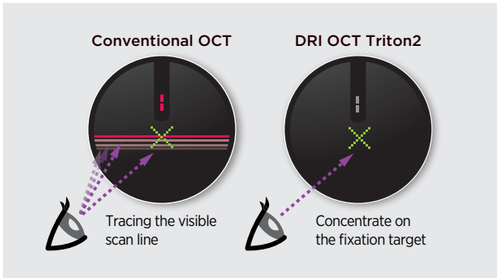


KEY FEATURES | TRITON2

- Swept-Source OCT providing high density scans and **deep penetration**
- Slit-scan technology to image through **small pupils (ϕ2.0mm or larger**[*1]**)**
- Wide-field OCT and OCTA, **up to 21mm**[*2]
- Smart Denoise[*2] provides **higher signal-to-noise ratio** on 3D OCT and OCTA[*2]
- **Flexible positioning** for easier acquisition
- **Simplified workflow** with seamless integration for quick analysis and follow-up

Invisible Scan Lines

The invisible 1,050nm wavelength light helps patients concentrate on the fixation target during the scan, reducing involuntary eye movement. It supports more efficient workflow in practice by reducing the need to rescan.

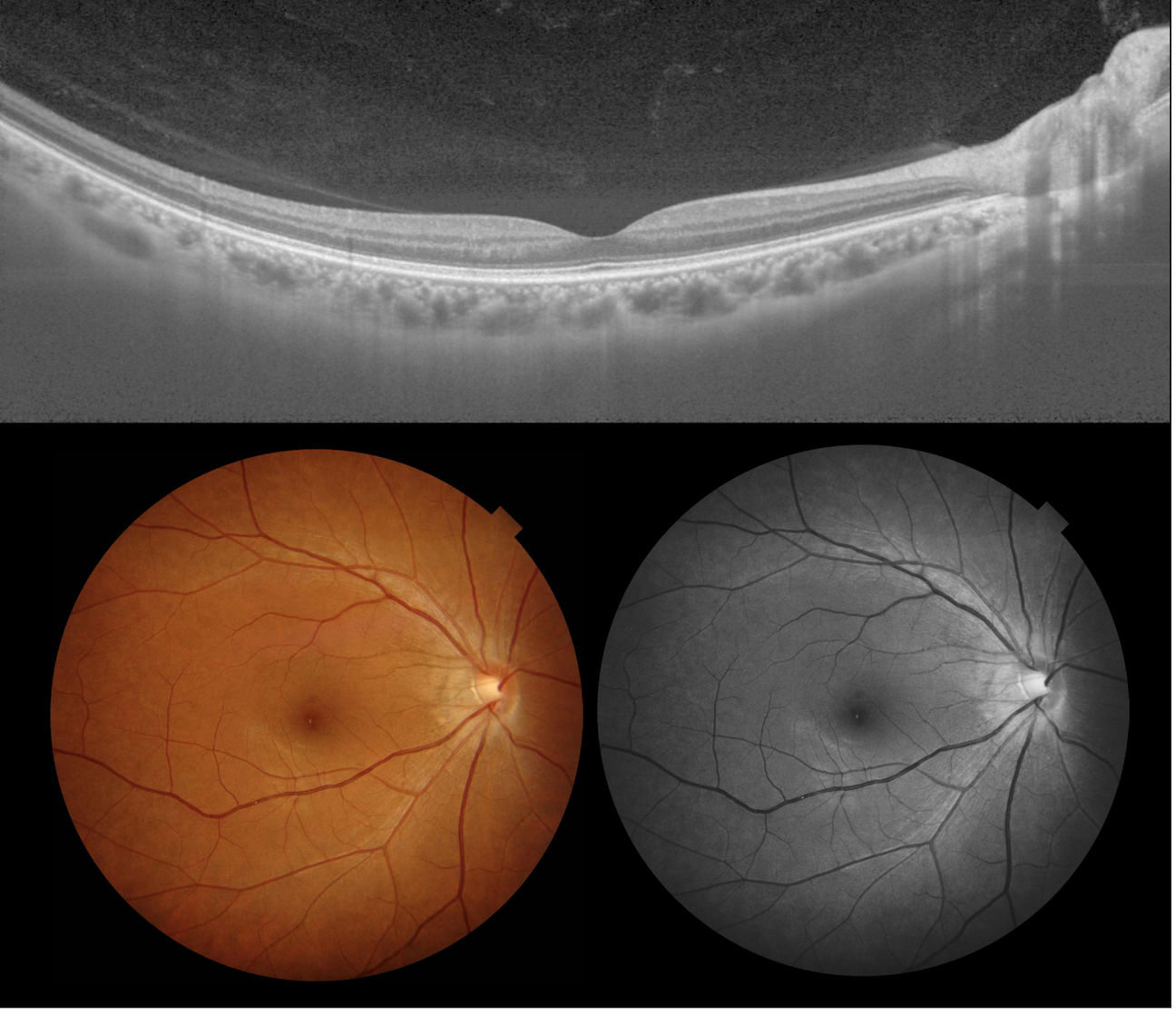


Swept Source OCT Technology

A fast scanning speed of 100,000 A-scans/sec enables capture of a dense array of clear B-scans by acquiring more A-scans within a given image acquisition time.

This helps to reduce artifacts from involuntary eye movements such as saccades and blinks.

*1 Confirmed with model eye
*2 Optional

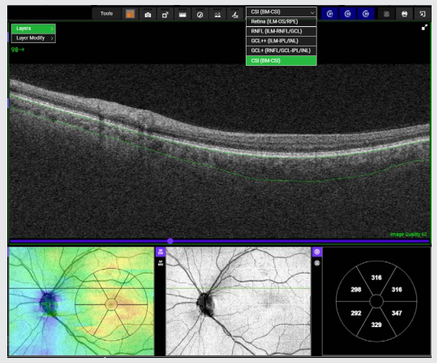




IMAGEnet

Combination Scan

The Triton2 allows for the combination of a 3D volumetric scan with reference database, and a high-resolution linear scan in a single acquisition.



Retina	ILM-OS/RPE
RNFL	ILM-RNFL/GCL
GCL++	ILM-IPL/INL
GCL+	RNFL/GCL-IPL/INL
CSI	BM-CSI

Retinal and Choroidal Thickness Maps

IMAGEnet7 provides up to 5 retinal thickness maps, enabling quantification of retinal layers and sub-layers. The Triton2 provides clear visualisation of the choroid and generates choroidal thickness maps, supporting clinicians in gaining a clearer understanding of choroidal structural changes.

Introducing New Slit-Scan Photography

The innovative slit-scan illumination and rolling shutter mechanism in the Triton2 produces excellent quality colour fundus images with less flare and shadow.*3

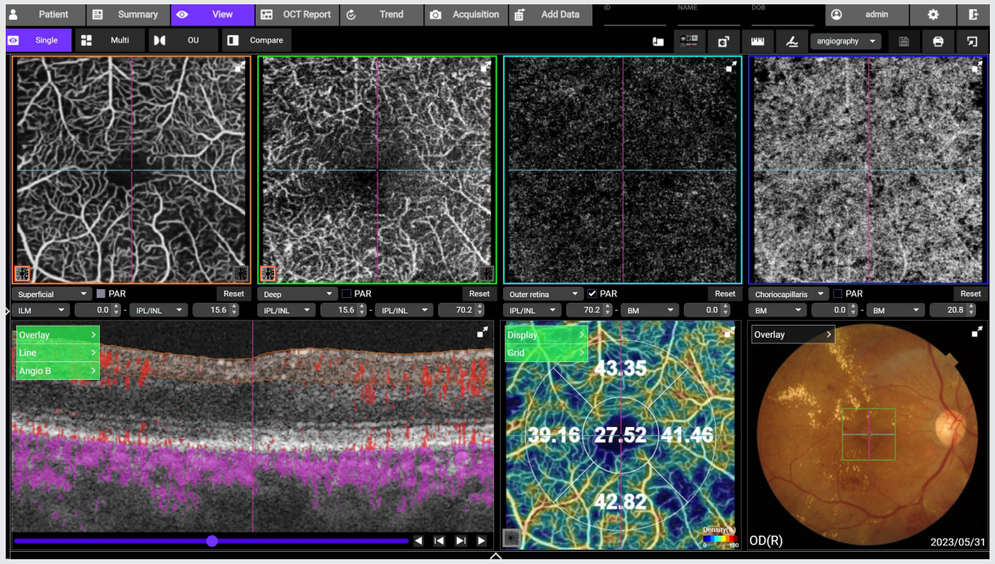
The slit-scan mechanism helps to overcome one of the known causes of poorly graded images, with its ability to effectively image through small pupils.

This innovative technology also helps the Triton2 capture sharp, high-quality fundus images, regardless of miosis and the lighting conditions, unlike conventional fundus cameras.

*3 As compared to Topcon conventional non-mydriatic retinal camera TRC-NW400

Topcon's optional SS OCT Angiography

The optional Topcon's SS OCT Angio™ integrates OCT Angiography with Swept Source technology, and the long 1050 nm wavelength. Powered by OCTARA™, a proprietary image processing algorithm, SS OCT Angiography enables detailed visualisation of vascular structures and the monitoring of key retinal pathologies.

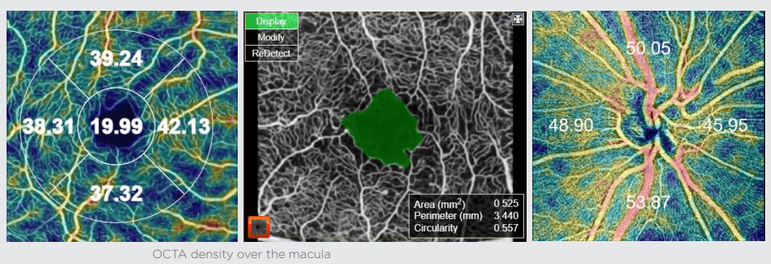


OCTA Metrics

SS 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.

En Face OCT Imaging

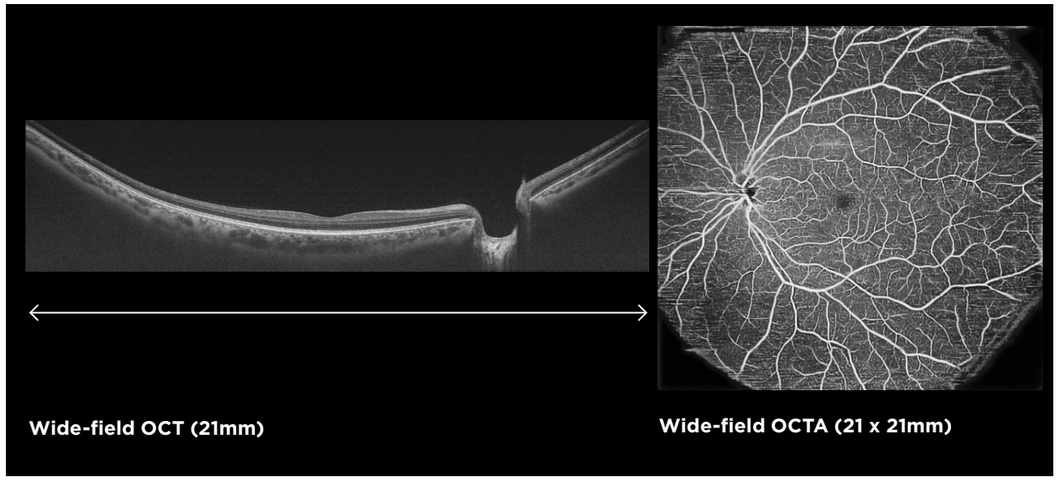
En Face imaging allows for independent dissection and examination of key layers, such as the vitreoretinal interface (ILM boundary), retinal pigment epithelium and choroidal layers.



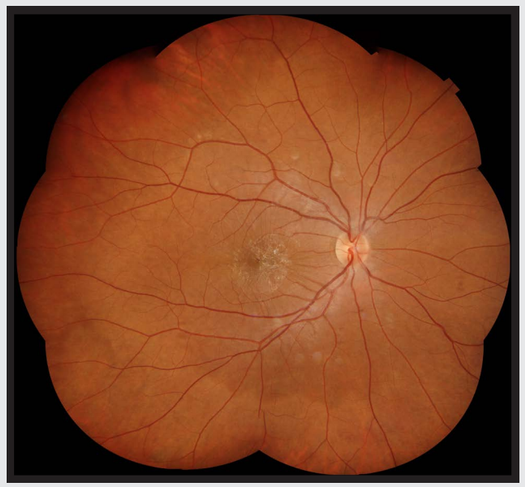
OCTA density over the macula

Wide-field Imaging

The optional wide-field attachment lens enables the capture of scans up to 21mm in length.
Gather more clinical insights with wide-field OCT and OCTA imaging - valuable in a wide variety of conditions.



Mosaic Image



Colour fundus auto mosaic image, created with IMAGEnet7

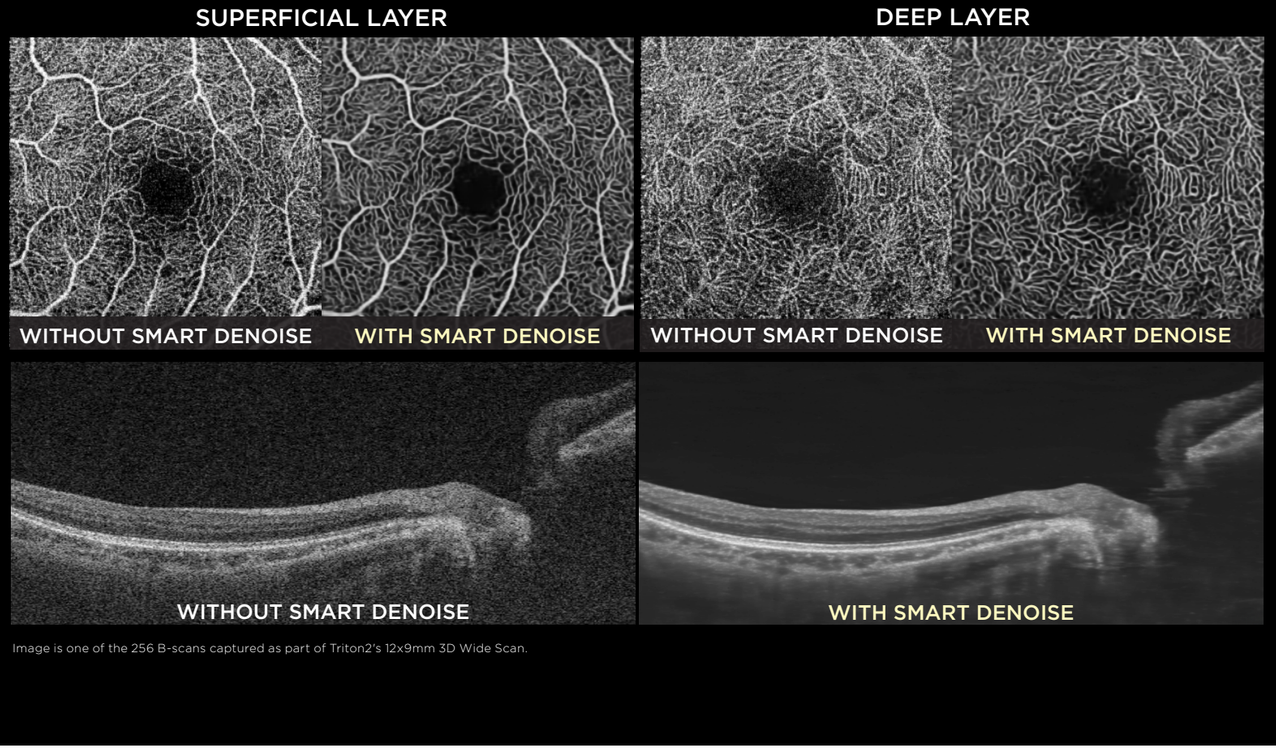


Image is one of the 256 B-scans captured as part of Triton2's 12×9mm 3D Wide Scan.



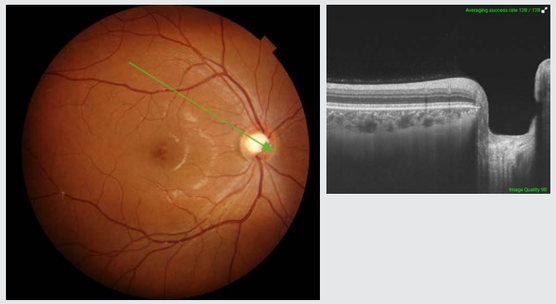
DIAGNOSTIC CAPABILITIES

Smart Denoise*4

Smart Denoise is image processing algorithm which reduces artifacts and increases contrast. High quality OCT and OCTA images with reduced noise signal are generated from every B-scan within the dense data cubes, through the use of Topcon's unique AI algorithm.

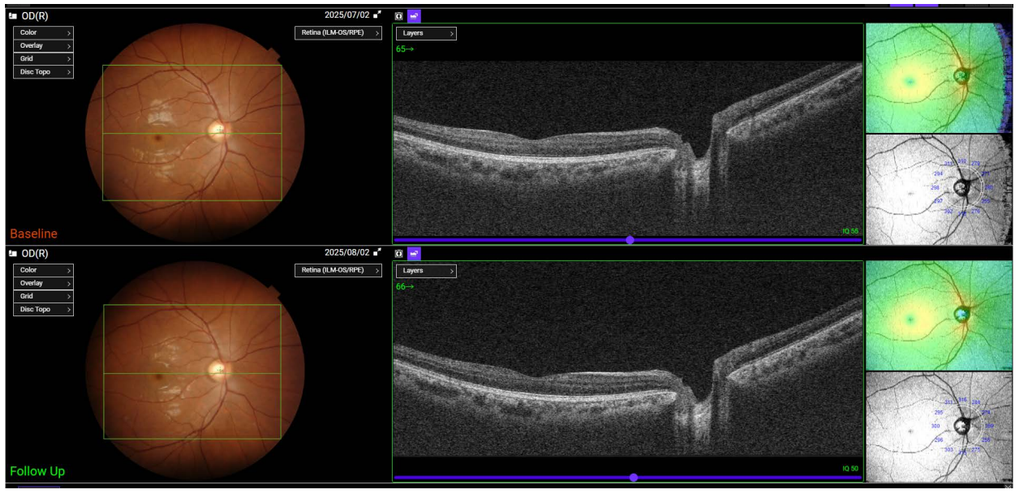
Intuitive Scan Placement with Fundus-Guided Acquisition (FGA)

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.



Follow-Up Function

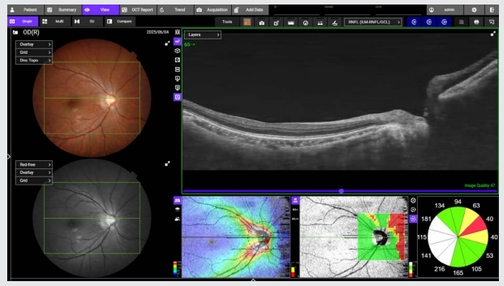
The follow-up function enables easy retrieval and re-analysis of the same location, allowing seamless comparison of past and current data. Operators simply select previous scan data, and Triton2 automatically captures the corresponding area.



*4 Optional

3D Wide Scan for Complete Posterior Pole Assessment

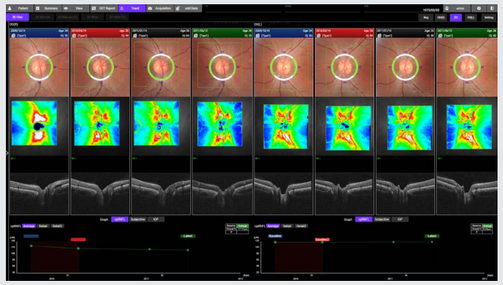
The 12x9mm 3D Wide scan captures both the optic nerve and macula in a single acquisition, delivering a thorough evaluation of the posterior pole. The Triton2 reference database extends across the entire scan area, enabling detailed thickness comparisons within the visual field, ideal for detecting patterns such as thinning of the RNFL commonly seen in glaucoma*[5].



Analysed by IMAGEnet7

Evaluation of Key Metrics Trends

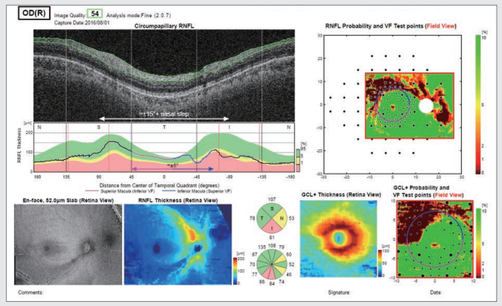
IMAGEnet7 offers intuitive timeline views and insightful graphs for a wide range of clinical data (RNFL, GCL, and more). The Trend View provides a powerful overview of changes over time at a glance, supporting informed and timely clinical decisions.



Analysed by IMAGEnet7

The Hood Report for Glaucoma

The Hood Report streamlines the decision-making process through the correlation of structure (GCL/RNFL) with function (overlay of visual field test locations)*[6]. A single wide-field OCT scan with Hood report can provide compelling information for the diagnosis of early glaucoma*[7].



The report is generated by IMAGEnet7

*5 Comparison of glaucoma-diagnostic ability between wide-field swept-source OCT retinal nerve fiber layer maps and spectral-domain OCT
Won June Lee, Ki Ho Park et al, Eye volume 32, 2018
Diagnostic Accuracy of Wide-Field Map from Swept-Source Optical Coherence Tomography for Primary Open-Angle Glaucoma in Myopic Eyes
Yong Woo Kim, Jinho Lee, Jin-Soo Kim, Ki Ho Park. AJO, 2020
*6 Donald C. Hood PhD, Translational Vision Science & Technology No.6 Vol.3 2014: Evaluation of a One-Page Report to Aid in Detecting Glaucomatous Damage.
*7 A Single Wide-Field OCT Protocol Can Provide Compelling Information for the Diagnosis of Early Glaucoma
Donald Hood et al, 2016 Translational Vision Science & Technology

Anterior Segment Imaging

The optional anterior segment imaging capabilities allow for visualisation of the cornea, anterior chamber angle, iris and anterior sclera. The anterior segment lens attachment is combined with quantitative analysis. With the addition of the optional anterior segment features, Triton2 provides a valuable solution for comprehensive (anterior and posterior) eye care settings.

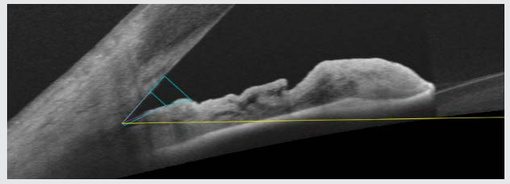
Comprehensive Assessment with Quantitative Analysis

Line scan length in 16mm

Delivering a 16mm wide scan, the Triton2 captures both iridocorneal angles in a single acquisition, enabling fast and efficient evaluation. Paired with IMAGEnet7, it delivers angle measurements.

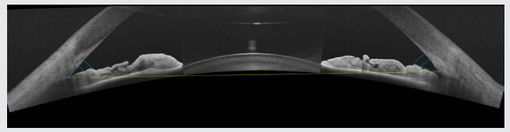
Radial scan length in 9mm

From the 9mm radial scan, the quantitative analysis provides automatic measurement of the total corneal, epithelial and stromal thickness, enabling the diagnosis and monitoring of various conditions.

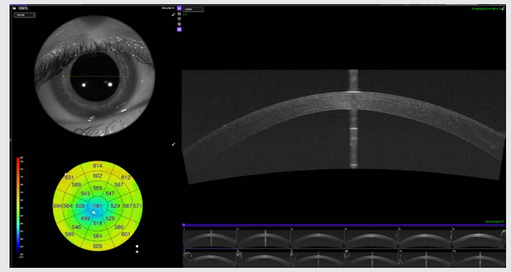


AOD500 | AOD750 | SSA
TISA500 | TISA750 | SS Distance

Anterior Chamber Angle Analysis



OCT Image B-scan Length (16mm)



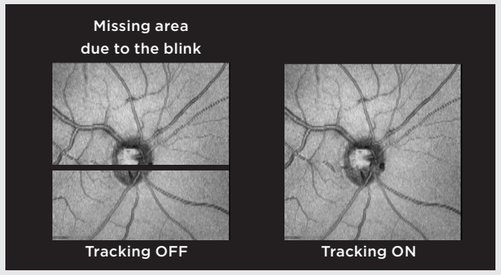
Stromal Thickness Analysis from IMAGEnet7



OTHER FEATURES

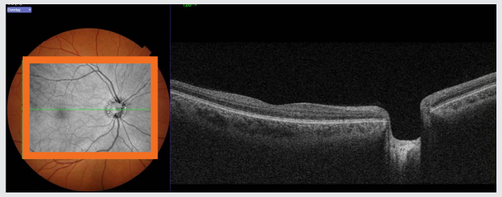
SMARTTrack™

SMARTTrack™ enables the ability to capture an image of a designated location with automated tracking of the eye.



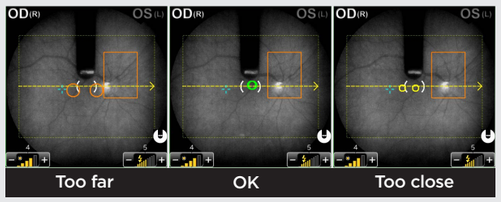
Projection Image

The projection image provides an easy means of confirming scan location when the OCT image capture is not accompanied by a colour fundus image. It's mostly used to check scan quality.



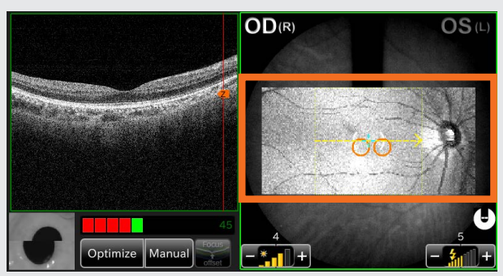
Alignment Navigation

Alignment navigation guides simplify operation of the device, directing the operator to achieve optimal positioning, reducing acquisition errors and supporting rapid capture.



Live Fundus View

The fast scanning speed allows the Triton2 to create a live En Face fundus image, an ideal tool for precisely visualizing the scan position. This enables the operator to be sure they are capturing the correct area, even in patients with small pupils.





1

Triton2 Acquisition Control

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

2

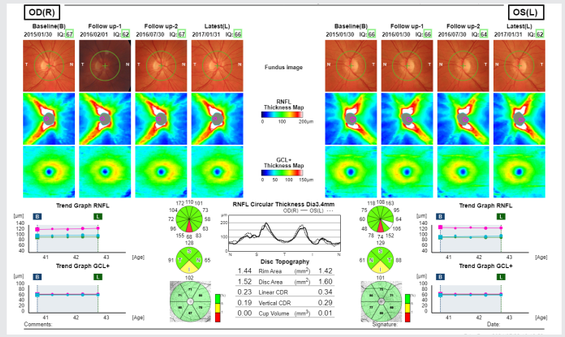
Flexible Rotating Control Panel

The flexible, 180° rotating control panel enables the operator to control the device from various positions, and support the patient easily even if the eyelid needs to be lifted.

COMPREHENSIVE REPORTS

Trend Analysis Reports

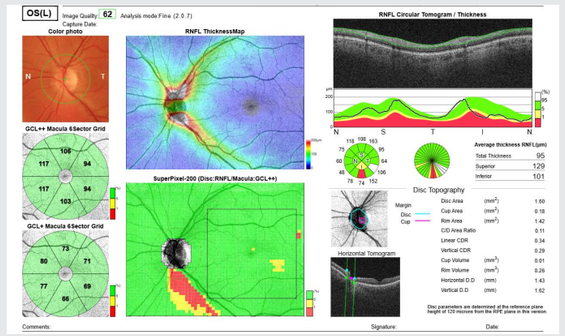
Trend reports show the change in thickness measurements over time. The layers displayed (RNFL/GCL+/ GCL++) can be selected as required depending on the area scanned. Poor scans can be excluded and new baselines added when management changes.



The report is generated by IMAGEnet7

3D Wide Glaucoma Report

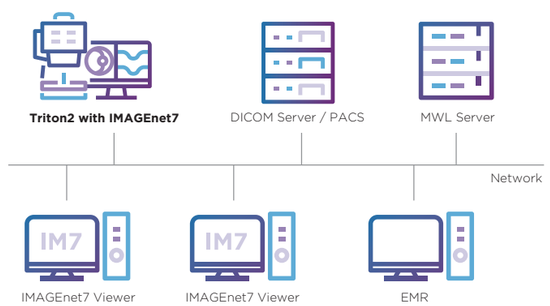
The 12x9mm Wide scan covers the optic nerve and macula and can be captured in one acquisiton, to provide a comprehensive assessment of the posterior pole with reference database comparison.



The report is generated by IMAGEnet7

CONNECTIVITY

IMAGEnet7 is DICOM compliant, making it easy to integrate with PACS and EMR programs.



SPECIFICATIONS

Observation and Photography of Fundus Image	
Photography type	Colour Infrared light (IR)
Angular Field of View	50°±5%
Operating distance	35.5mm±0.1mm
Photographable diameter of pupil	ϕ2.0mm or more
Fundus image resolution (on fundus) [Optical resolution]	Colour Centre: 60 lines/mm or more Middle (r/2): 40 lines/mm or more Periphery (r): 25 lines/mm or more Infrared light (IR) Centre: 5 lines/mm or more * * Infrared (IR) photography is for adjusting the position of the area to be photographed, not for generating a fundus image. The resolution required for adjusting the position of the area to be photographed has been set as our own in-house standard.
Measurable range of dioptric power	-33D to +40D Without the dioptre compensation lens : -13D to +12D When the concave compensation lens is used *1: -33D to -12D When the convex compensation lens is used *1: +11D to +40D
Observation and Capture of Fundus Tomographic Image	
Scan range (on fundus)	Horizontal: 3 to 12mm ±5% Vertical: 3 to 12mm ±5%
Scan pattern	3D scan Linear scan (Line-scan/Cross-scan/Radial-scan)
Scan speed	100,000±5,000 A-Scans per second
Lateral resolution	20μm
In-depth resolution	Optical function: 8μm, Digital: 2.6μm±3%
Photographable diameter of pupil	ϕ2.5mm or more
Observation and Photography of Fundus Image / Observation and Capture of Fundus Tomographic Image	
Internal fixation target	Internal fixation target : Dot matrix type organic ELD display The display position can be changed and adjusted. The displaying method can be changed. Peripheral fixation target : This is displayed according to the internal fixation target displayed position. External fixation target
Measurable range of dioptric power for the patient's eye *2	Without the dioptre compensation lens : -13D to +12D When the concave compensation lens is used *1: -33D to -12D When the convex compensation lens is used *1: +11D to +40D
Observation and Photography of Anterior Segment Image *3	
Photography type	Infrared light (IR)
Operating distance	17 ±0.3mm
Observation and Capture of Anterior Segment Tomographic Image *3	
Operating distance	17 ±0.3mm
Scan range (on cornea)	Horizontal: 3 to 16mm ±5%, Vertical: 3 to 16mm ±5%
Scan pattern	3D scan Linear scan (Line-scan/Radial-scan)
Scan speed	100,000±5,000 A-Scans per second
Fixation target	External fixation target
Observation and Capture of Wide field Fundus Tomographic Image *4	
Operating distance	10.5 ±0.5mm
Scan range (on fundus)	Horizontal: 21mm ±10% (63.4°±8%) Vertical: 21mm ±10% (63.4°±8%)
Scan pattern	3D scan Linear scan (Line-scan/Cross-scan/Radial-scan)
Scan speed	100,000±5,000 A-Scans per second
Lateral resolution	30μm
In-depth resolution	8μm
Observation of Wide field Fundus Image / Observation and Capture of Wide field Fundus Tomographic Image*4	
Measurable range of dioptric power for the patient's eye	Without the dioptre compensation lens : -7D to +40D When the concave compensation lens is used *1: -33D to -5D
Electric Rating	
	Source voltage: 100-240V AC
	Frequency: 50-60Hz
	Power input: 130VA
Dimensions and Weight	
	Dimensions: 321-454mm (W) × 523-664mm (D) × 573-657mm (H)
	Weight: 24.3kg±10%

*1 Split autofocus and manual focus with split lines cannot be used when using concave compensation lens or convex compensation lens.
*2 Fundus tomography observation and capturing only
*3 Observation and Photography of Anterior segment image and tomogram are available only when using ANTERIOR SEGMENT ATTACHMENT KIT AA-1.
*4 Observation and Photography of Wide field fundus tomogram are available only when using Wide field OCT attachment lens WA-1.

Some features in this brochure are only available with the IMAGEnet7.

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

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PRODUIT LASER DE CLASSE 1 (CEI60825-1:2014)

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