

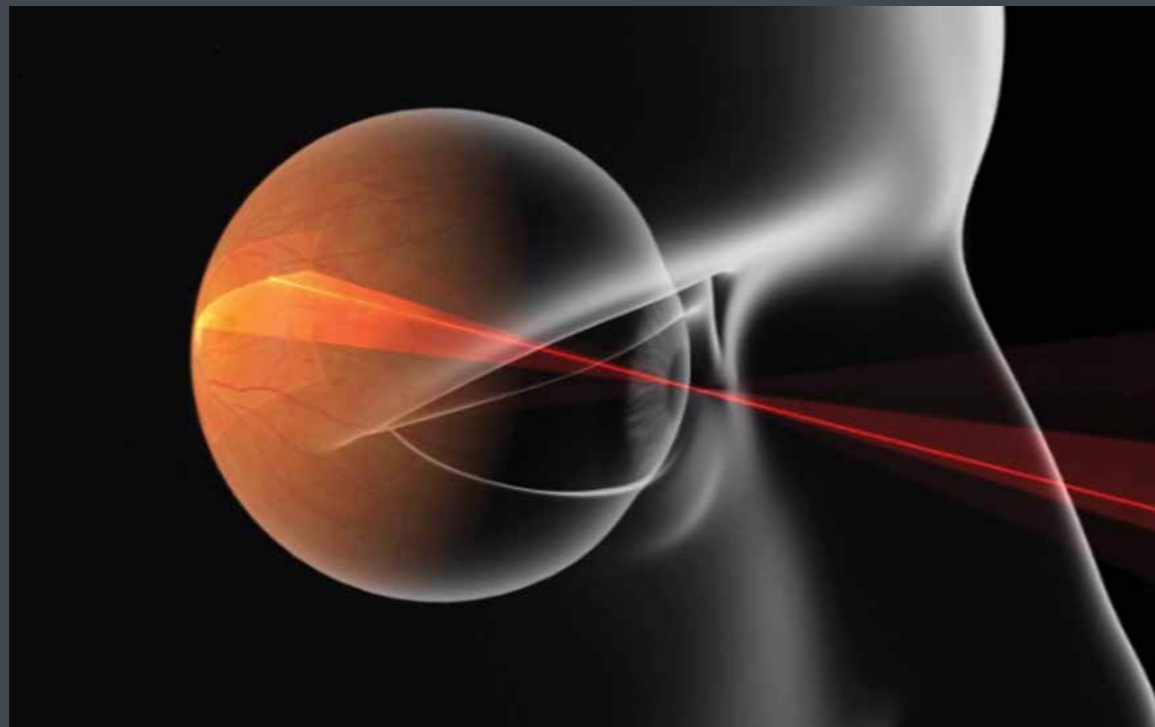
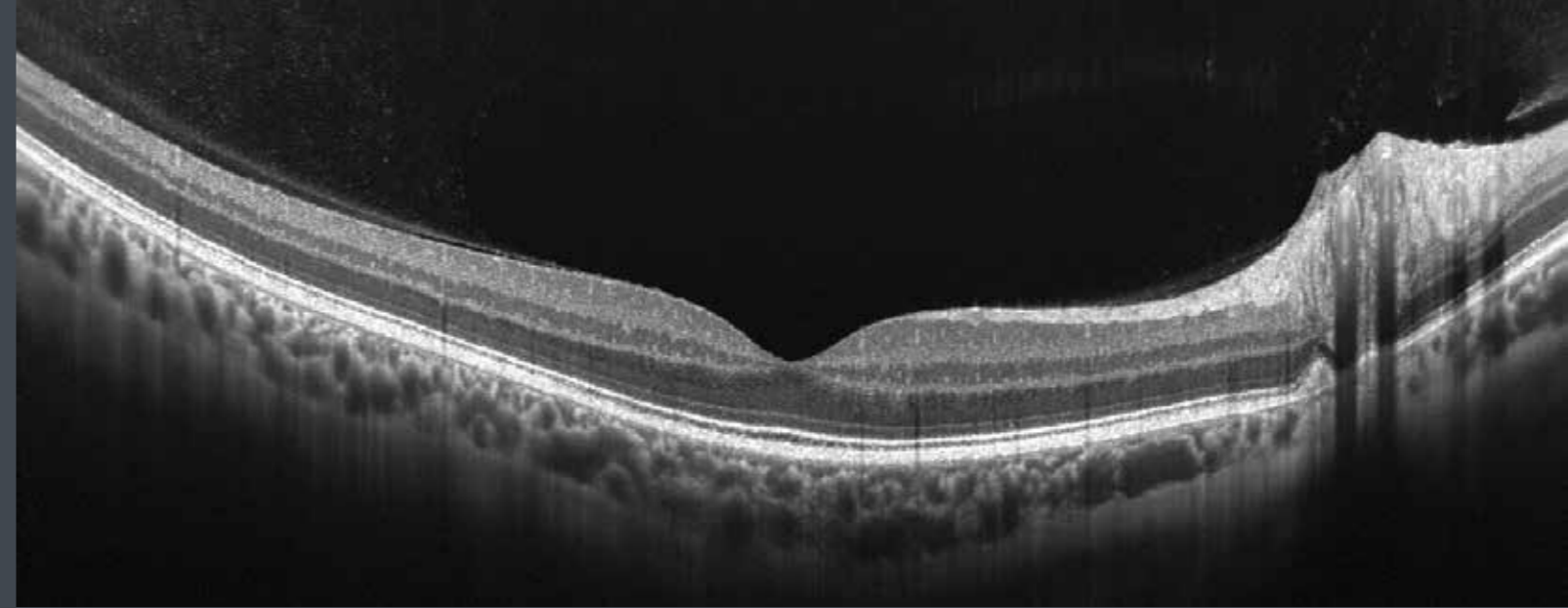
Going beyond the  
surface of your retina



**OCT-HS 100**  
Optical Coherence Tomography

**Canon**

Fast, easy acquisition with incredible detail



### Incredible detail

- 3  $\mu\text{m}$  optical resolution.
- Digital resolution comparable with 1,6  $\mu\text{m}$ .
- Up to 13 mm wide scans with 200\* times averaging.
- 3D representation, with more depth.
- Clear observation with SLO (scanning laser ophthalmoscope) technology.

\* Requires optional OCTA2 license.

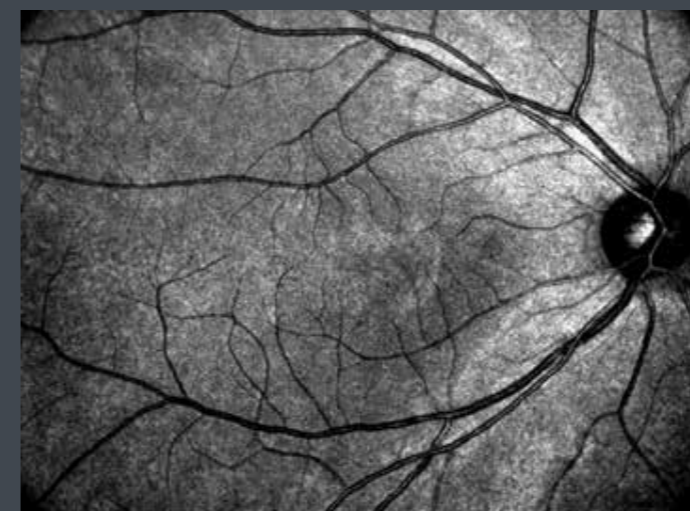
*Clinical image courtesy of Tomohiro Iida, MD, PhD, Professor and Chairman Tokyo Women's Medical University.*

#### Fast

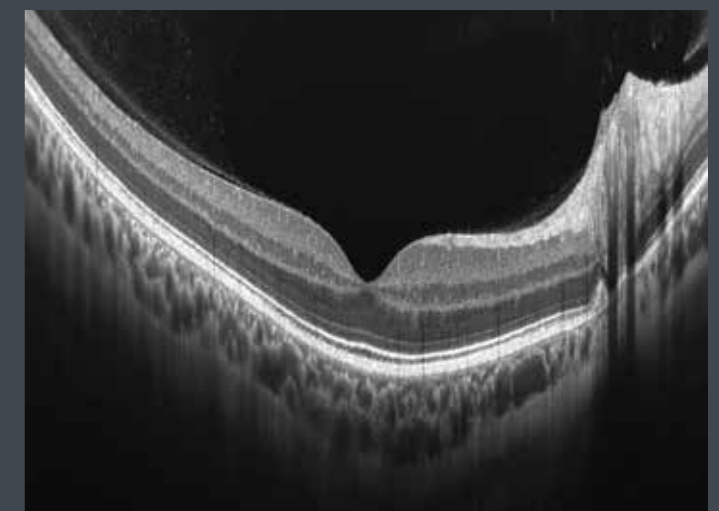
- Full OCT scan in under 2 seconds.
- Full Angio scan in 3 seconds.
- 70,000 A-scans per second.

#### Easy acquisition

- Fully automated 3 click acquisition.
- Easy to learn and delegate with customisable preset scan protocols.
- Convenient automated patient workflow for increased efficiency and less errors.
- Real-time auto retinal tracking.
- Auto Re-Scan in case of eye movement.
- Easy follow up on same scan position with identical scan parameters.

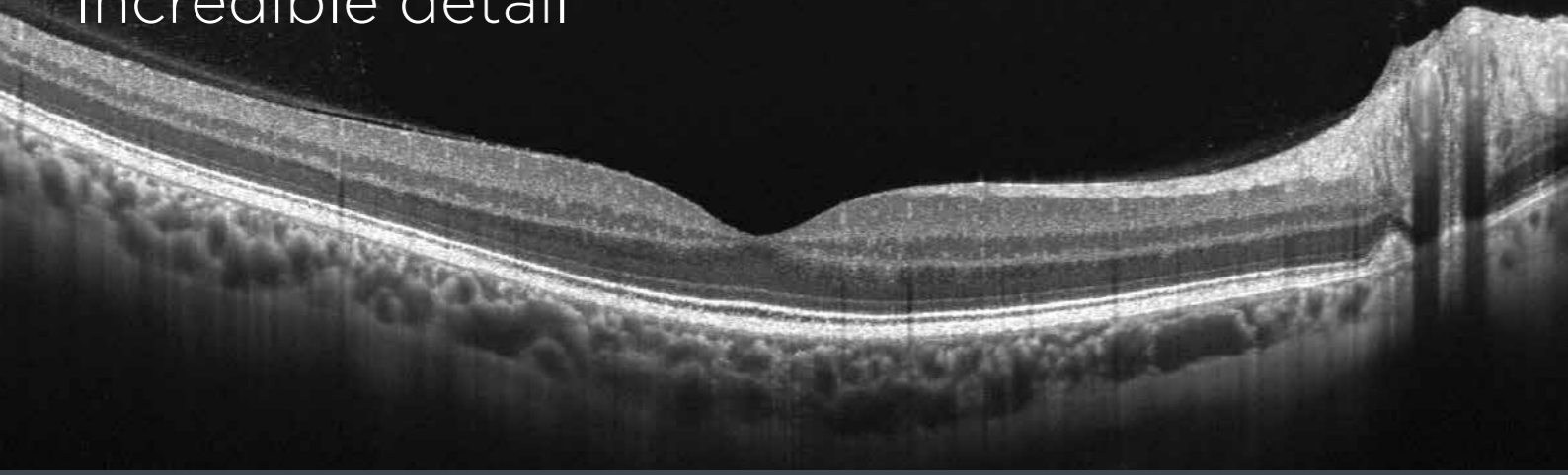


Clear retinal observation with SLO.



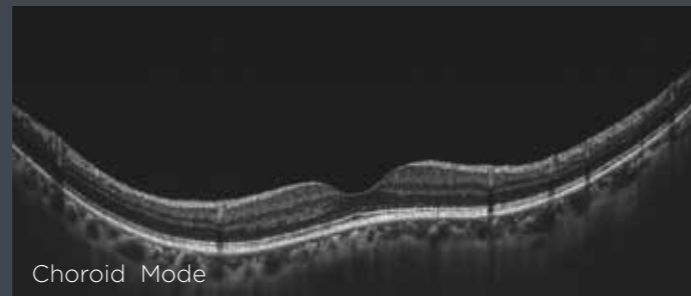
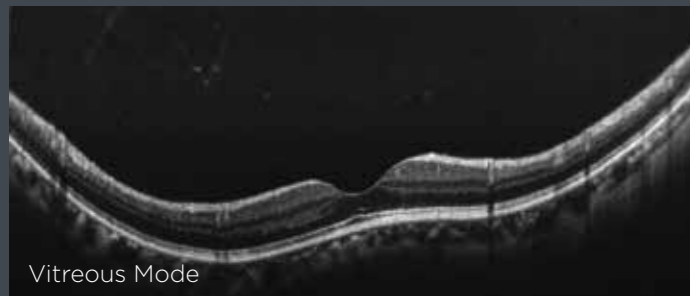
Great level of detail, even the vitreous pleated structure clearly visible.

# Incredible detail



## High definition OCT images

Up to 200 scans\* can be averaged to provide the best possible OCT image quality. Layer structure of the retina can be observed in even more detail.

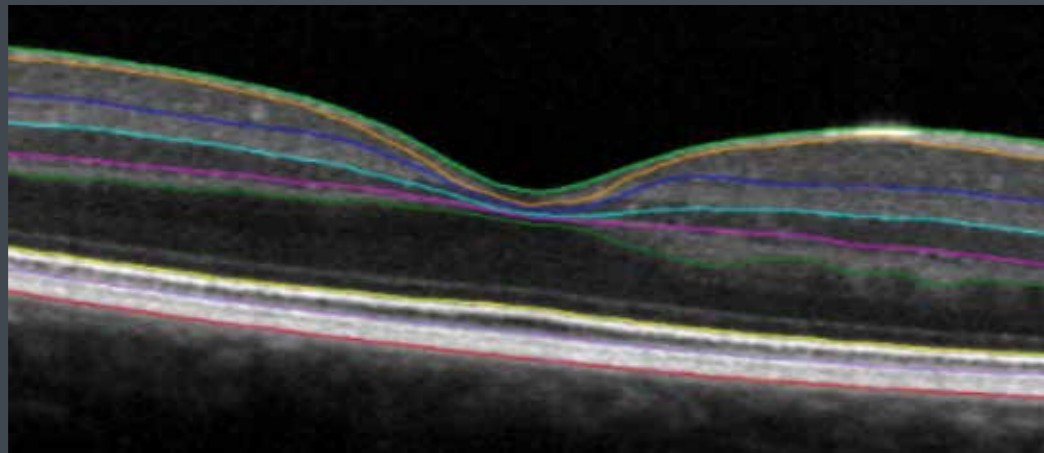


## Enhanced Depth Imaging

Optimised scanning modes, to create optimal imaging of the vitreous or choroid modes.

## 10 layer recognition

The OCT-HS100 can determine 10 boundaries of the retina.

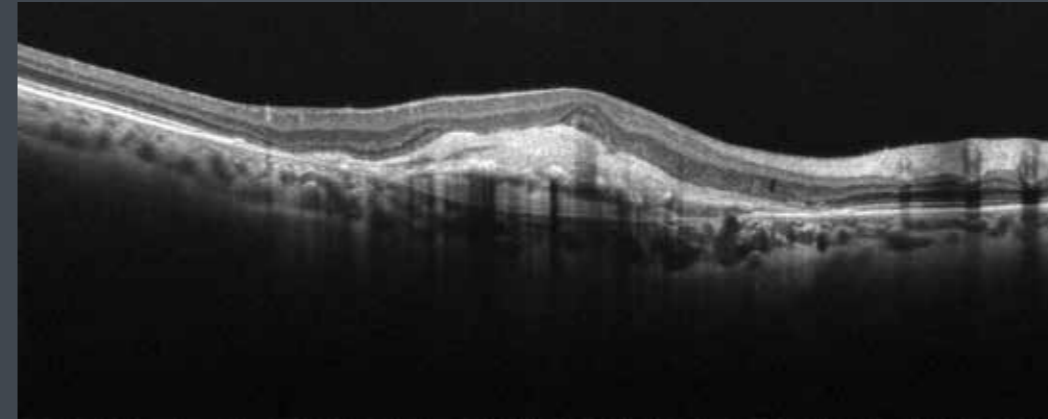


## Wide Field

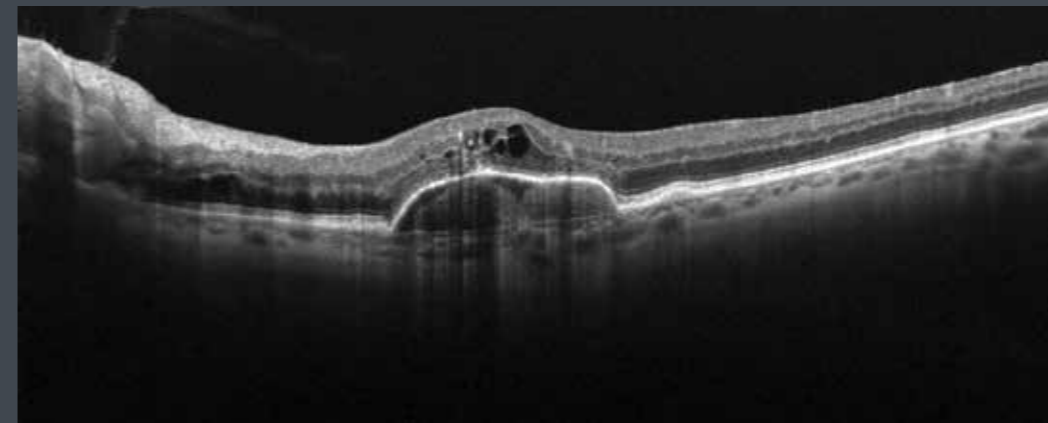
Scan width up to 13 mm.



# Example images



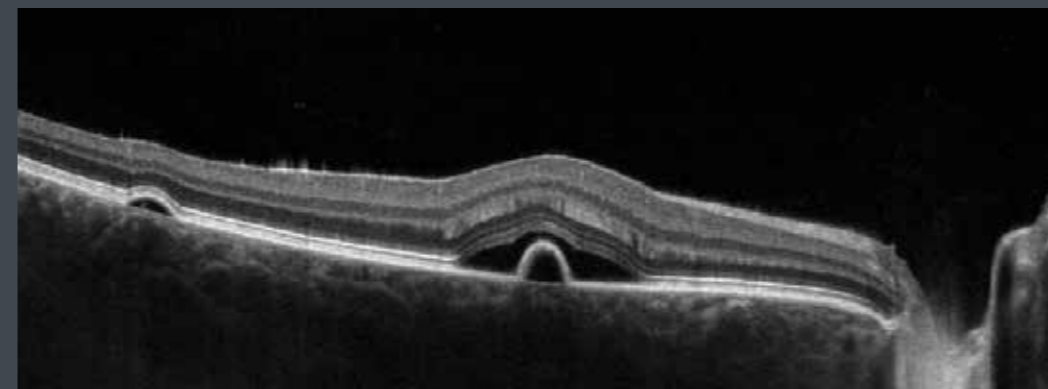
• End stage choroidal neovascularization.



• Branch retinal vein occlusion.



• Full thickness macular hole.



• Central serous chorioretinopathy.

\*requires optional OCTA2 license

Images courtesy Skanderborg Eye Clinic, Denmark.

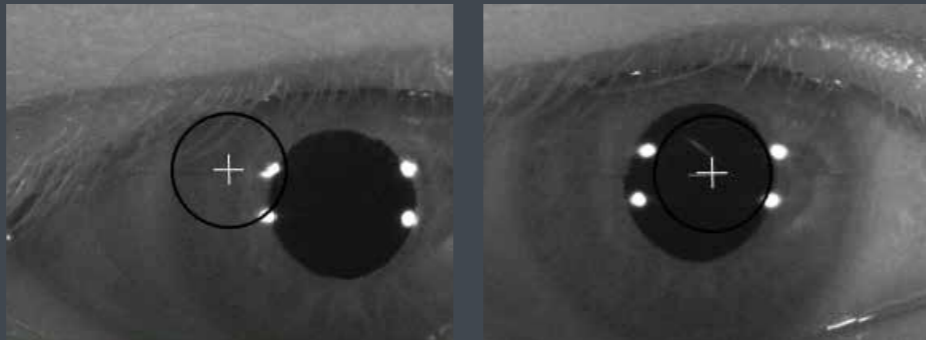


## Easy acquisition

### Fully automated 3 click acquisition

1. Anterior Eye Alignment  
Just click on the centre of the pupil for initial alignment.

Centre of the pupil is detected and then automatically held as centre.



2. Click on **start** - this will initiate the automatic process of alignment and optimisation, including auto focus and auto C-gate.

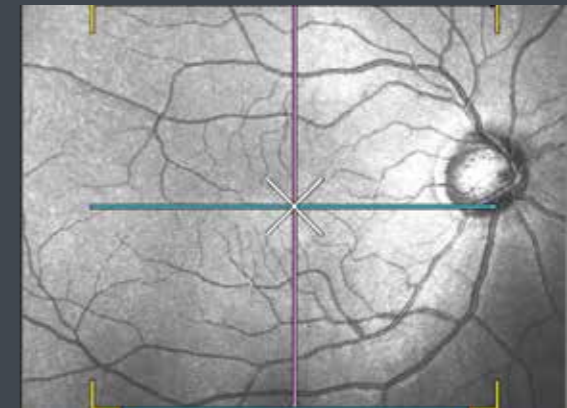


3. Simply click on **capture** when you are satisfied with the preview image. The OCT-HS100 will then automatically complete the scanning sequence.

During scanning, real-time retinal tracking will compensate for involuntary eye movements. Sections that are missing scan data caused by larger eye movements will be re-scanned automatically.

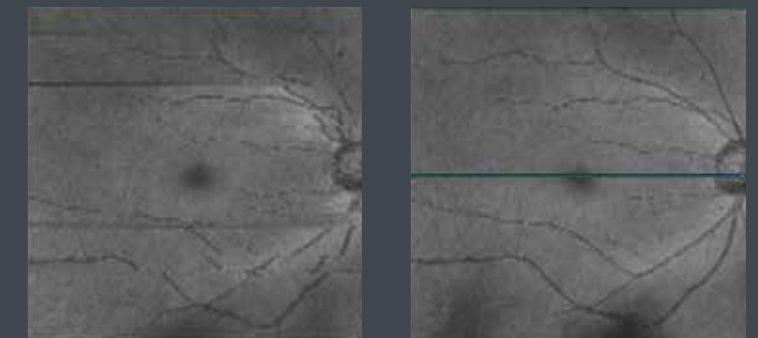
### Real-time Auto Retinal tracking

Involuntary eye movements during examinations are unfortunately unavoidable. Canon's retinal tracking uses the built-in SLO to track the retina in real-time to maintain the exact scanning position automatically. This retinal tracking greatly reduces movement artefacts and increases image quality greatly.



### Auto Re-Scan

Additionally, when the eye movement during capture is too great to be compensated by retinal tracking, re-scanning is done automatically from the shifted position and the final image will be corrected.



### 5 default examination sets

To make operation easier, the enormous diversity in scan modes (scan direction, size, orientation and more) have been combined in 5 default sets: Macula disease, Glaucoma, Choroid, General and Anterior.\*

### Customisable preset scan protocols

Besides the default examination sets, custom scan protocols can be created, according to specific requirements.

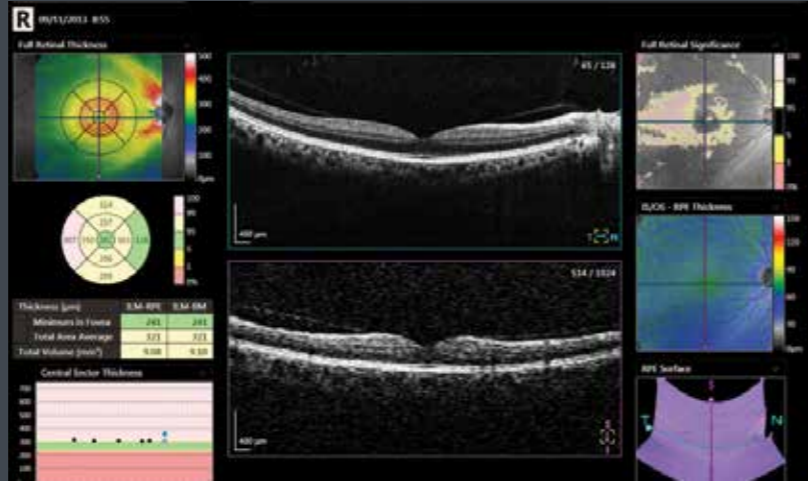
\*With optional adapter

# Extensive Normative Database

Comparison references available for full retinal thickness, NFL+GCL+IPL / GCL+IPL thickness and significance; RNFL thickness and significance

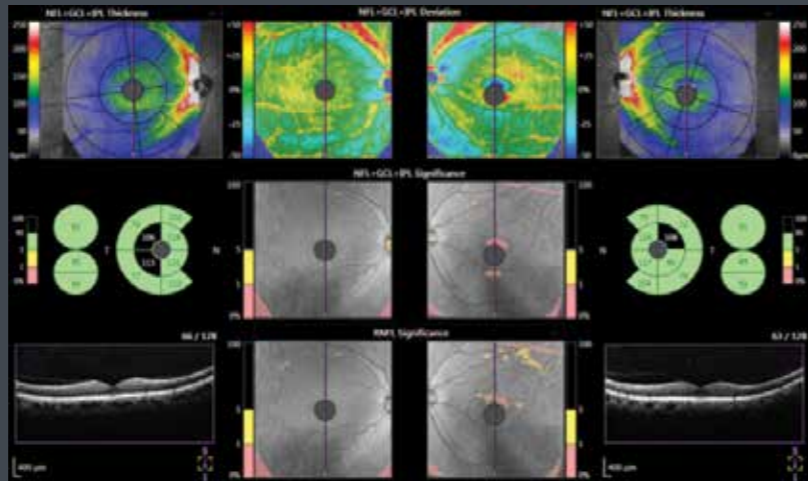
## Macula Thickness Analysis

This shows the tomogram image of the macula and analysis results of retinal thickness. The primary scanning direction is horizontal and priority is given to resolution in the horizontal direction.



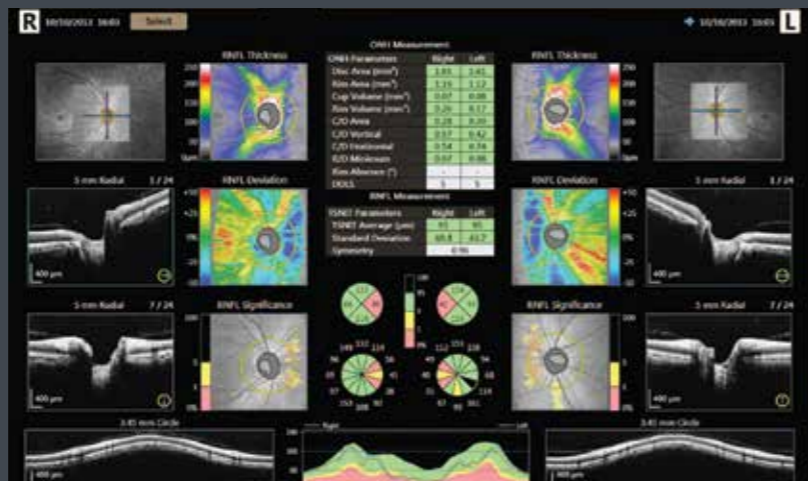
## NFL+GCL+IPL / GCL+IPL Analysis

This shows the tomogram image from the macula up to the optic disc and analysis results of retinal thickness. The primary scanning direction is vertical, and priority is given to resolution in the vertical direction.

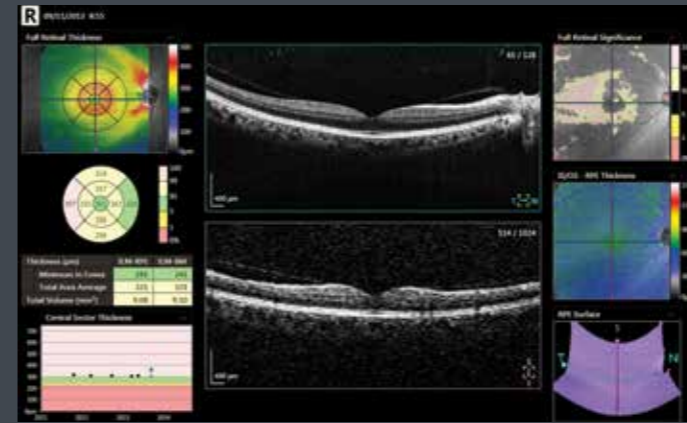


## Optic Disc Analysis

This shows the thickness of RNFL (Retinal Nerve Fiber Layer) and analysis results of the optic disc shape.

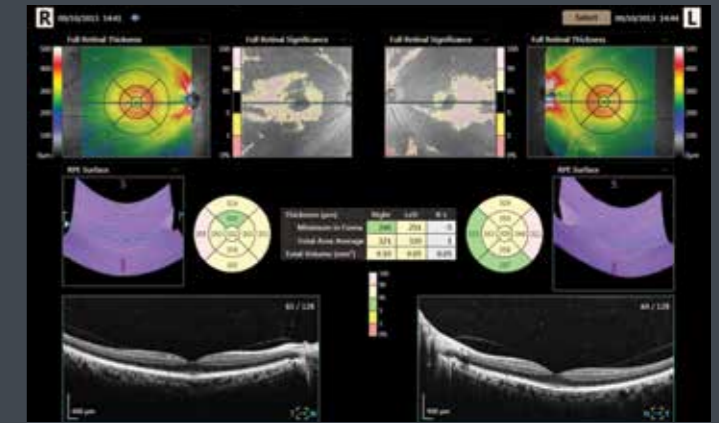


# Versatile reporting possibilities



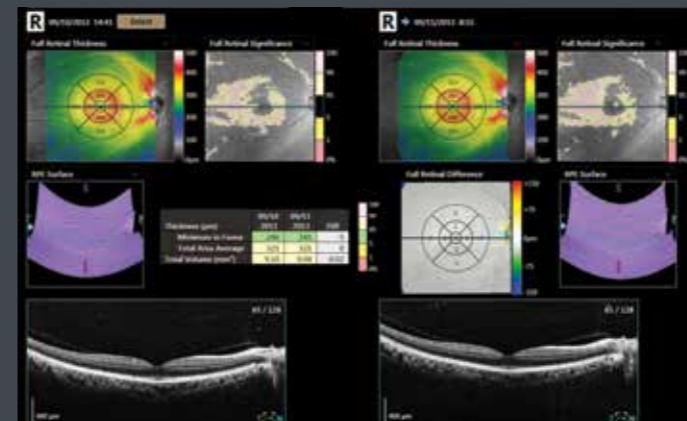
## Single

Analysis results of one eye.



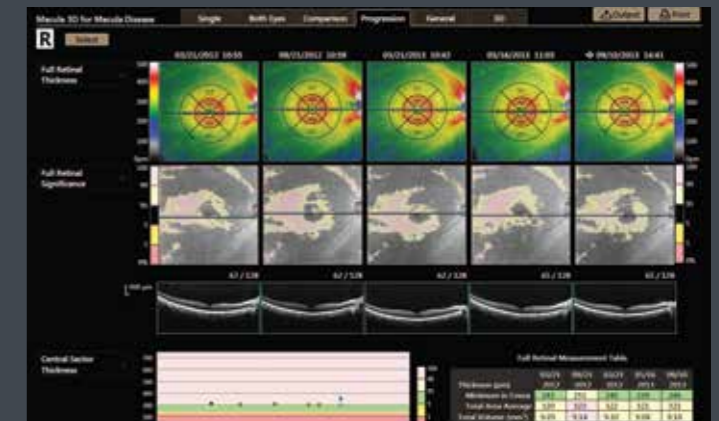
## Both

Analysis results comparing examinations of both eyes in the same scan mode and same size of scanning area, on the same date.



## Comparison

Analysis results comparing two examinations of eyes on the same side in the same scan mode, same size of scanning area, from different dates.

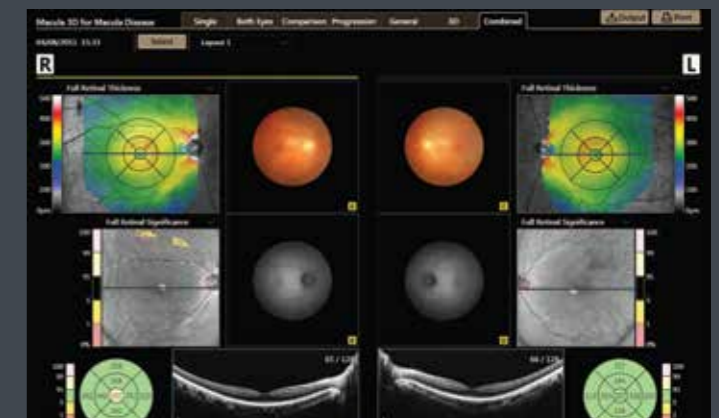


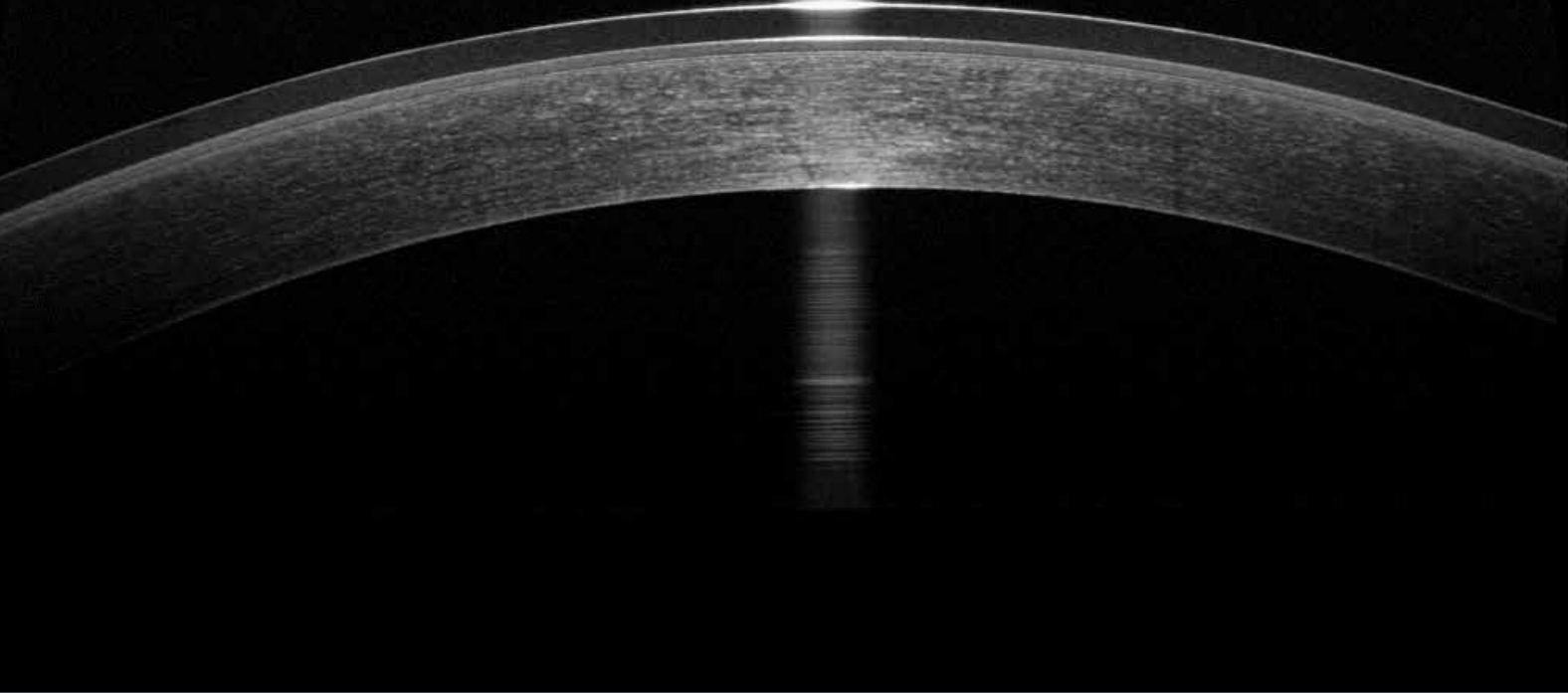
## Progression

Analysis results comparing five examinations arranged in time sequence of eyes on the same side in the same scan mode, and same size of scanning area.

## Combined Report

This screen shows the analysis results comparing examinations of both eyes, accompanied with retinal images taken with a Canon retinal camera (optional) sharing the same database.





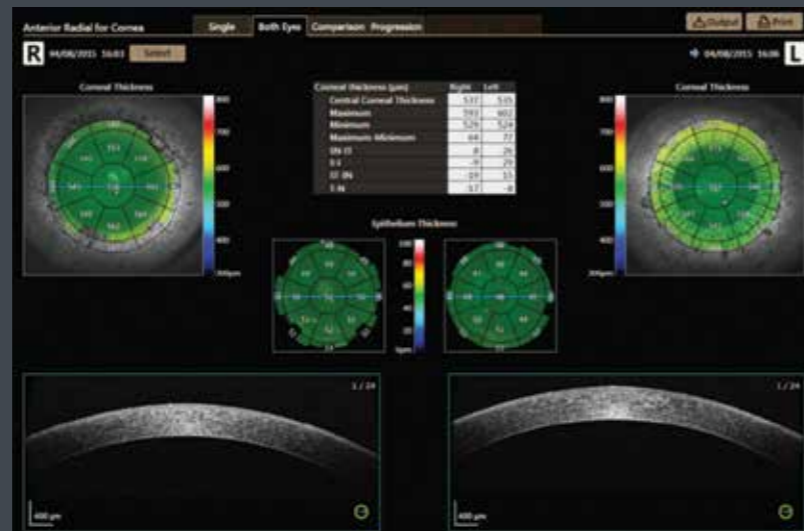
Healthy cornea with contact lens.



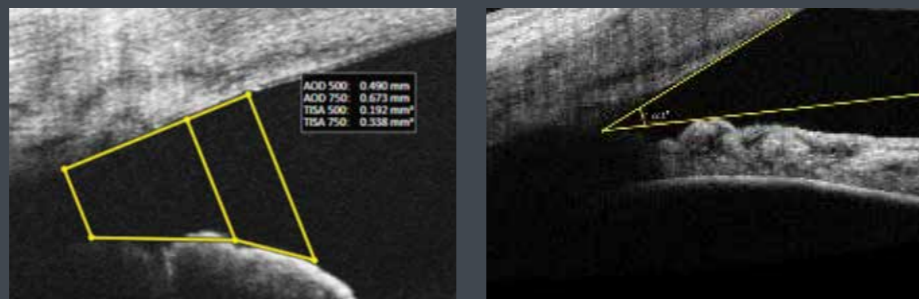
## Anterior Segment Analysis\*



The corneal thickness analysis is shown as maps of corneal thickness, corneal grids, and tables.



The distance between two points, angles, and AOD (Angle Opening Distance) / TISA (Trabecular Iris Space Area) can be measured.



\*with optional Anterior Segment Adaptor ASA-1

## OCT-Angiography with Canon Angio Expert

OCT Angiography is image processing to depict blood vessels from OCT images. Blood vessels can be observed without using fluorescein dye.



### Angio Expert

Angio Expert is Canon's angiography upgrade for the OCT-HS100.

### High Definition

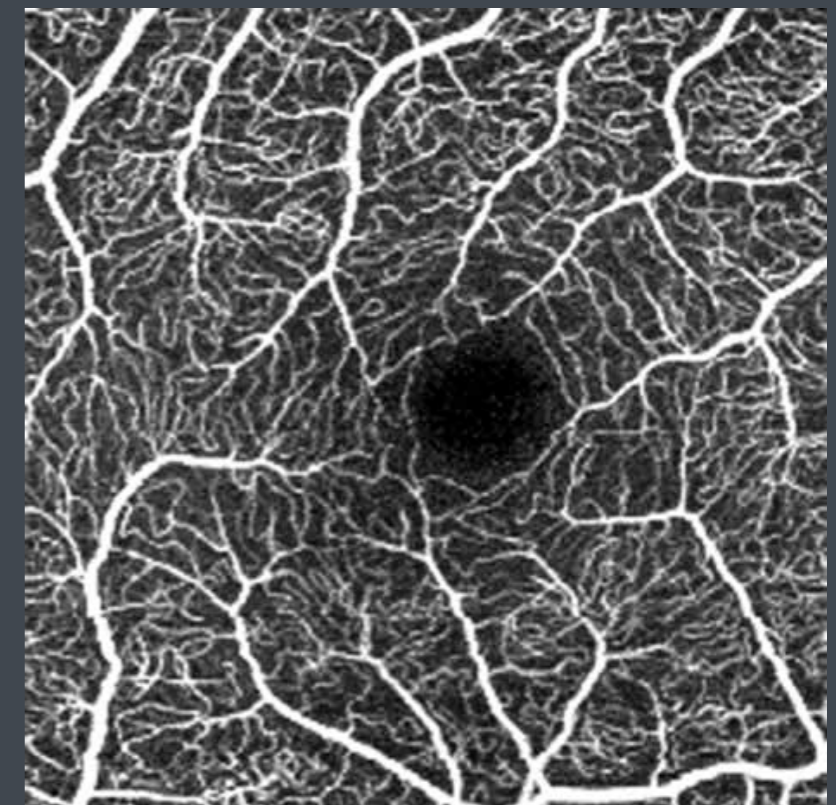
The Angio Expert is also available in a high definition version, by simply adding the OCTA2 module to the standard OCT-A. This upgrade will provide even higher definition images and wider scans.

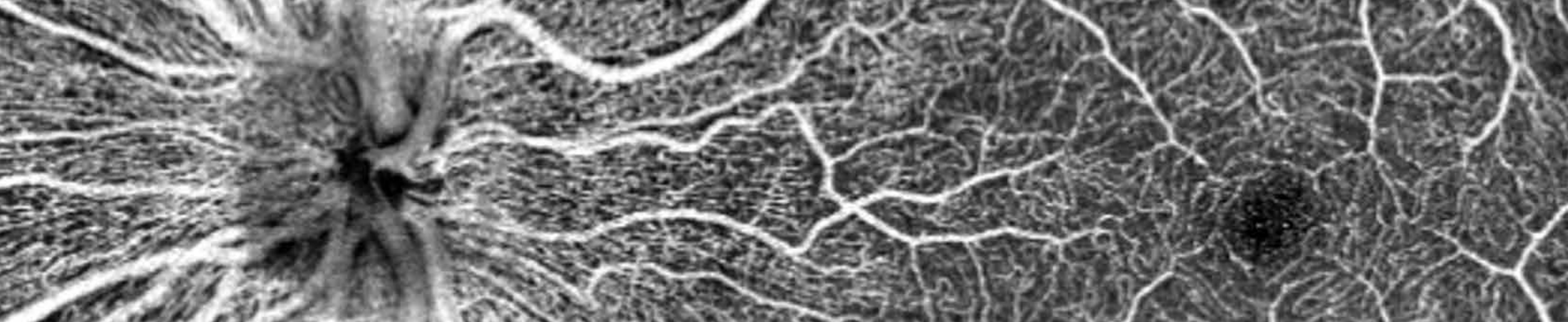
### Easy upgrade

Existing systems can be upgraded very easily without the need for hardware modification.

### Detailed visualisation

Detailed visualisation of the retinal blood vessels and high quality 3D display thanks to unsurpassed 3 µm optical resolution.





## AX OCT-Angiography

### Fast

Extremely short scan times: standard scans can be done in less than 3 seconds.

### Real-time tracking

The OCT-HS100 has SLO based real-time retinal tracking with added rotational tracking; it will minimise artefacts. Combined with sophisticated image post processing, it results in excellent image quality.

### Freely selectable layers

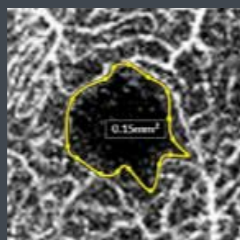
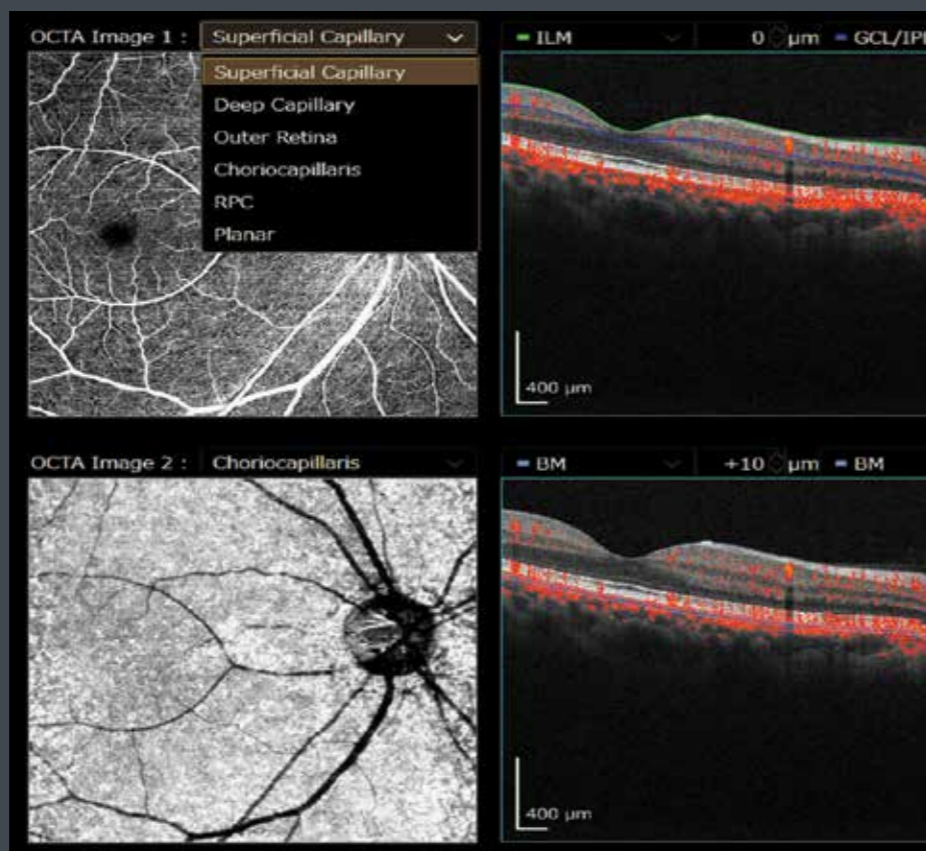
The OCTA software allows you to freely select layers to create the preferred OCTA image. Layers can be defined based on the initial auto segmentation of the retinal layers and a user defined offset.

### Available preset layers

Superficial capillary, choriocapillaris, deep capillary, outer retina, RPC and Planar.

### Measurement tool for OCTA

Manual measurement for area and distance.

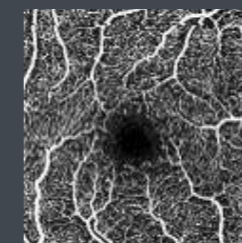


## AX OCT-Angiography

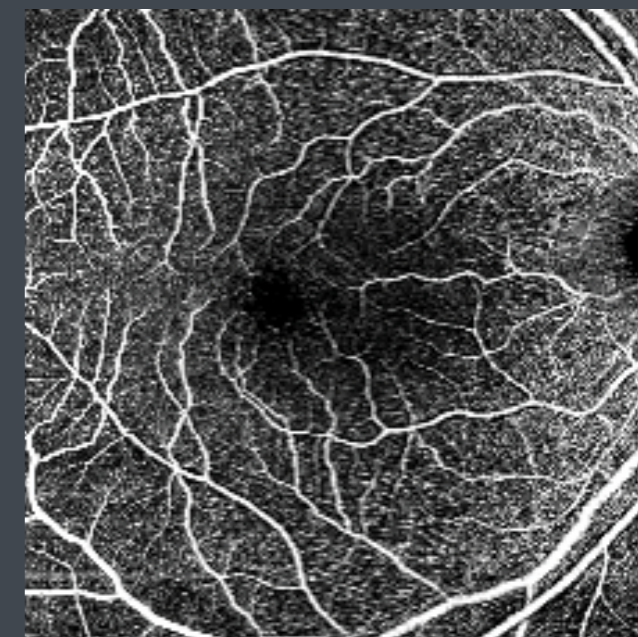
### Scan Windows

Sequential OCT B-scans are taken at precisely the same cross-section in order to visualise blood flow. Scan window is from 3x3 to 8x8 mm. Scan size 232x 232 scans NoR (Number of repeats) : 3.

3x3 mm

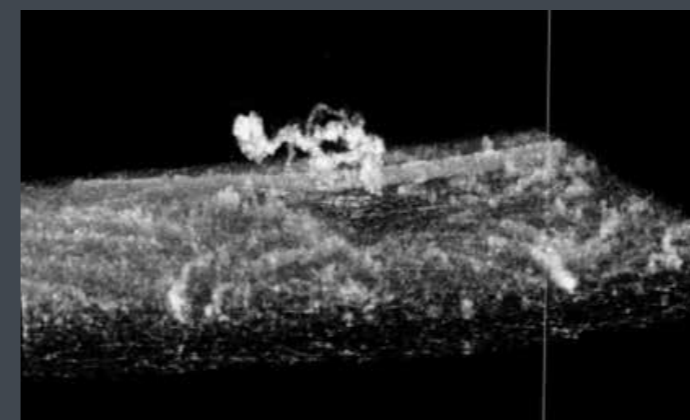


8x8 mm

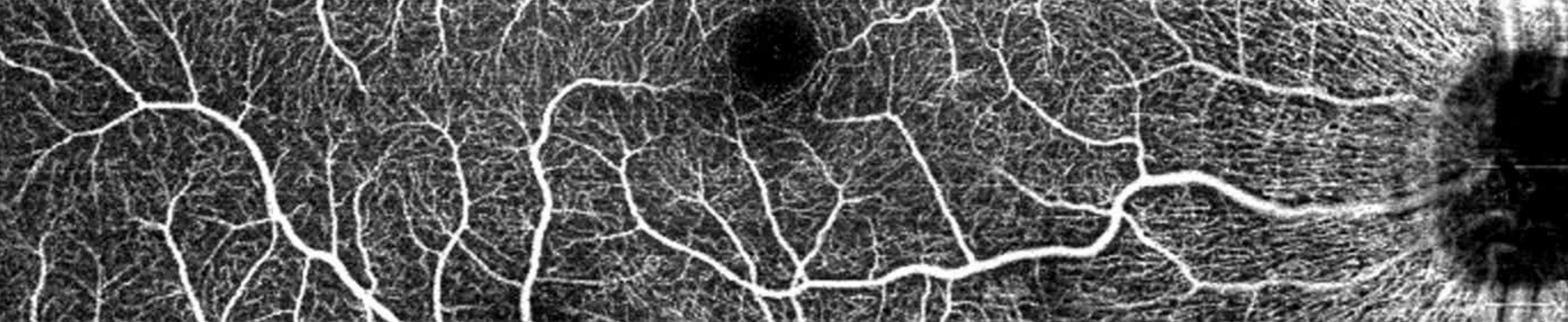


### 3D OCT-A

Detailed positioning of artery/vein and capillary. 3D representation with more depth.



Clinical image courtesy of Dr. Joshua Torrent Despouy, Ostholstein, Germany.



HD : OCTA + OCTA2

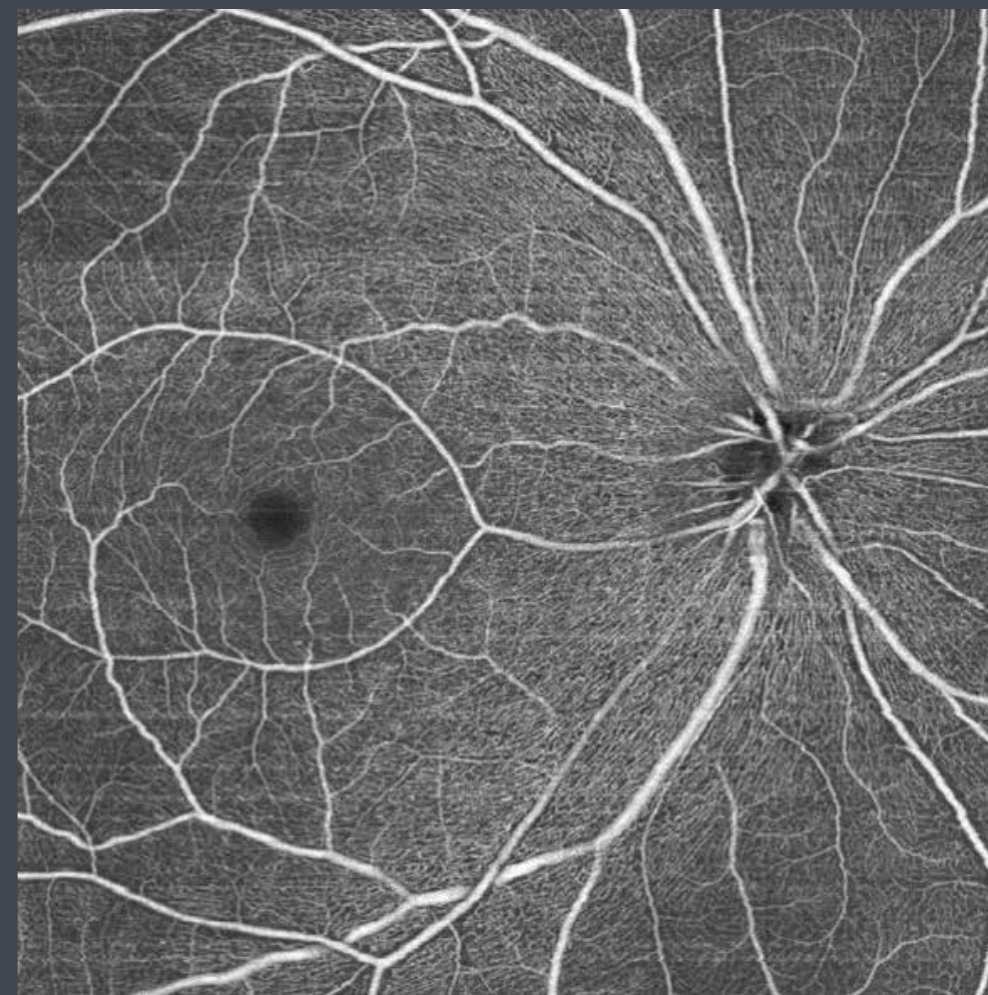
# Unlock the full potential of the OCT-HS100

OCTA2 software module for Angio Expert - Wide field and high definition images.

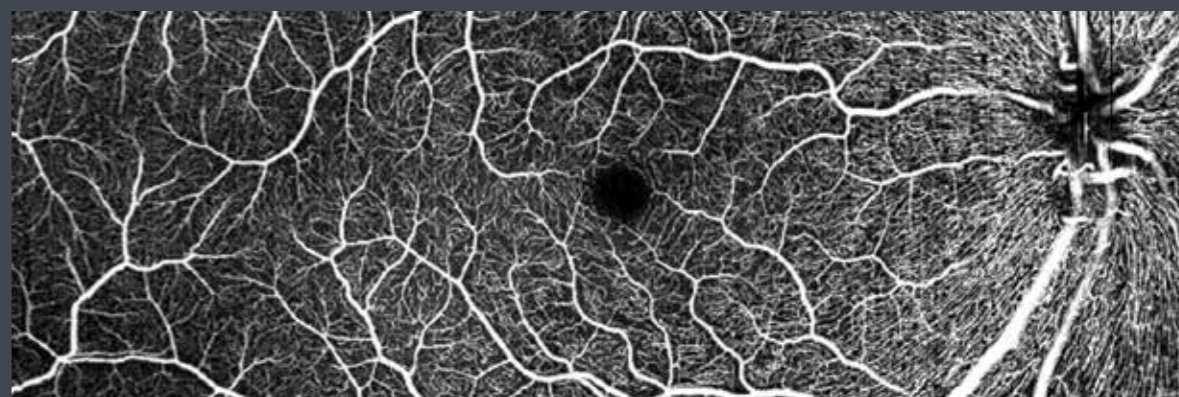


### Wide field OCT-A scans

Wide field high quality images in a single scan: 12 x 4, 10 x 10 mm.

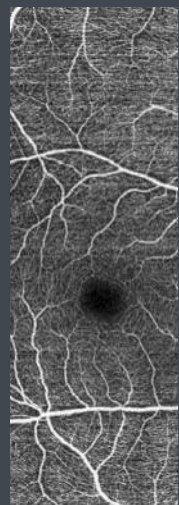


10 x 10 mm

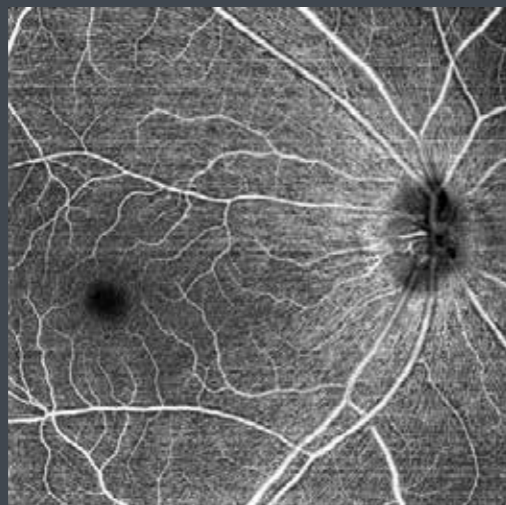


12 x 4 mm

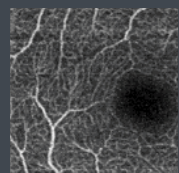
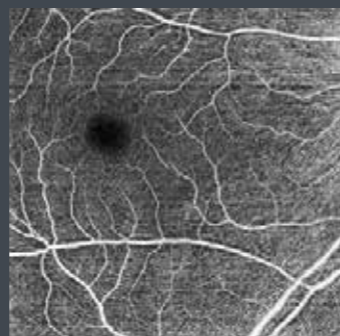
Vertical Wide  
(232 x 696)



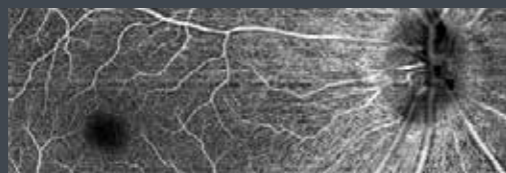
Large Square  
(696 x 696)



Medium Square  
(464 x 464)



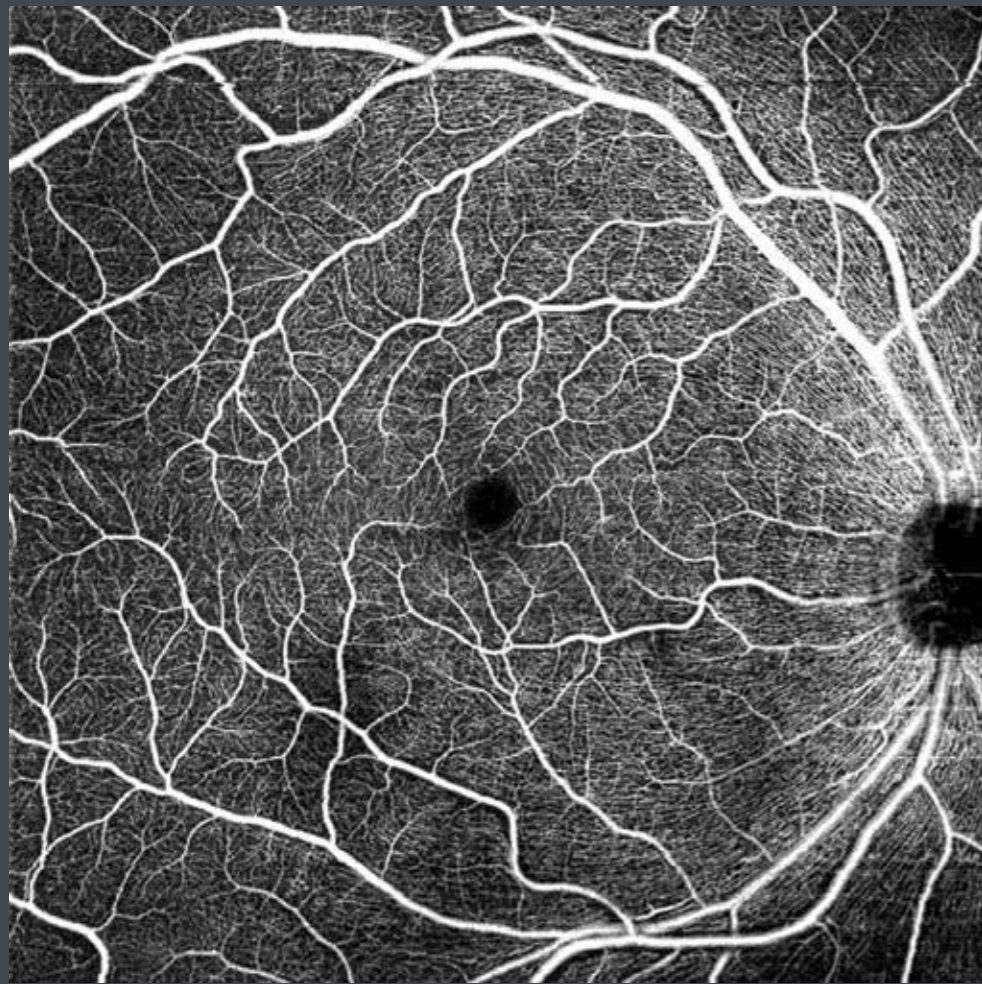
OCT-A  
Standard scan  
(232 x 232)



Horizontal Wide  
(696 x 232)

Clinical image courtesy of Tomohiro Iida, MD, PhD,  
Professor and Chairman, Tokyo Women's Medical University.

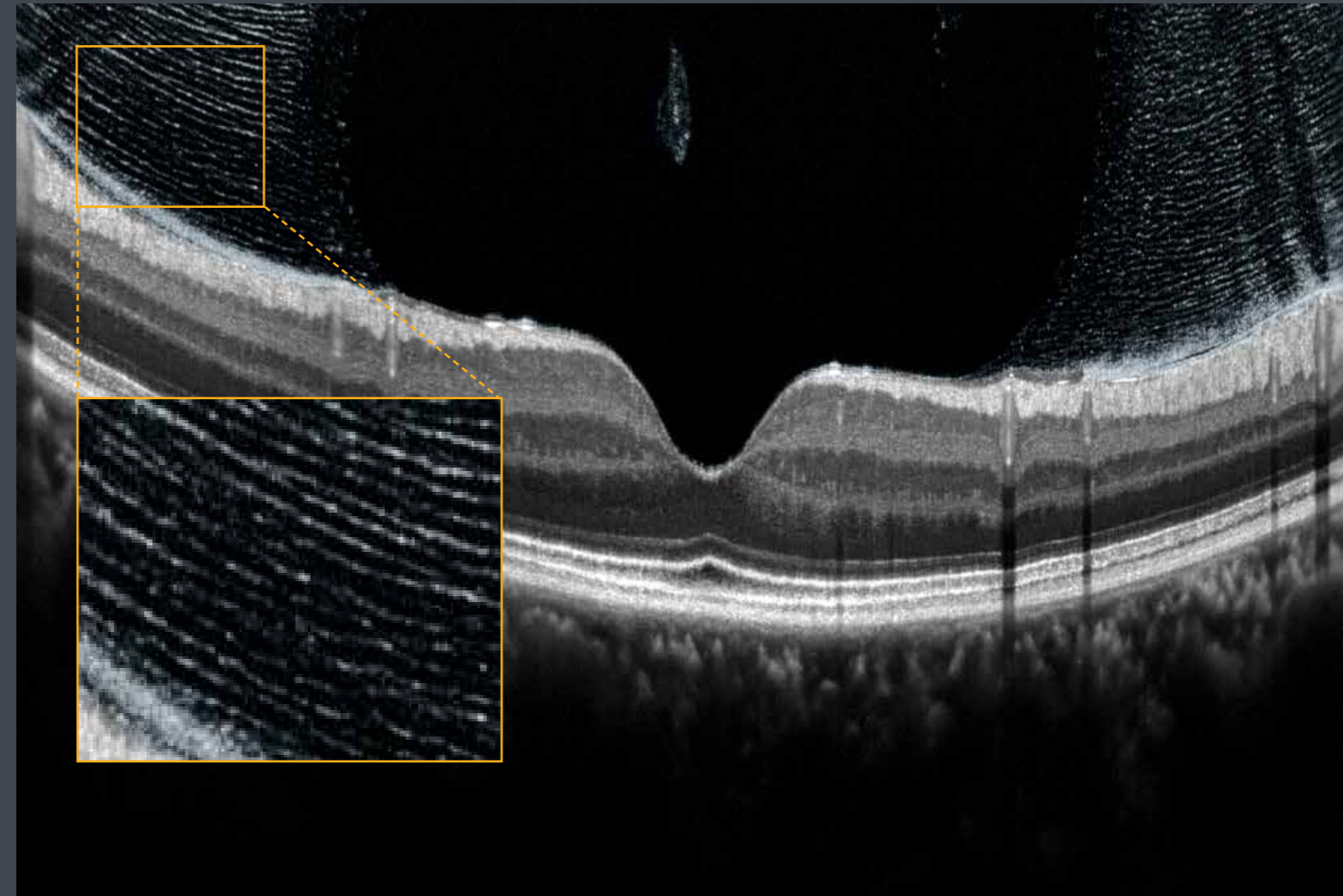




10 x 10 mm

## High definition scans

Up to 200 scans can be averaged, resulting in fantastic image quality. The layer structure as well as the vitreous pleated structure can now be observed in even greater detail than ever before.



## High definition OCT-A image

By increasing the Number of Repeat scans from 3 to up to 10 times, the image quality will significantly improve, but with longer scan duration.

### Overview scan windows

Scan Size	OCTA	OCTA2				
	232 x 232	232 x 232	464 x 464	696 x 696	696 x 232	232 x 696
3 x 3	●	●				
4 x 4	●	●	●			
5 x 5	●	●				
6 x 6	●	●	●	●		
8 x 8	●	●	●	●		
9 x 9			●	●		
10 x 10			●	●		
9 x 3					●	
12 x 4					●	
3 x 9						●
<b>NoR</b>	3	3, 4, 6, 10	3, 4, 6	3, 4	3, 4, 6	3, 4, 6

### Number of averaging

	Standard					HD (OCTA2)		
	1	5	10	20	50	100	150	200
Cross scan	1	5	10	20	50	100	150	200
Multi Cross scan	1	5	10			20	30	50
Radial Scan	1	5	10			20	30	50

Courtesy of Kyoto University.

# Canon Ophthalmic Software Platform Retinal Expert RX

The new multi modality platform for Canon retinal cameras and OCTs  
Designed for seamless integration with Electronic Medical Record Systems  
and third party software



RX CAPTURE



RX VIEWER



RX SERVER



### Stand alone

- Capturing.
- Reviewing and reporting.
- Database and archive.



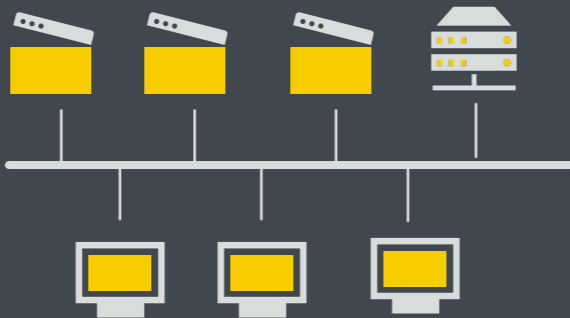
### With viewing stations

- Access the device database from other rooms.  
Review reports or access the study for full information.
- 2 Concurrent Licenses, Install RX Viewer on as many PCs as you like! Only the actual concurrent use of the software is limited.



### Server solution

- Multiple modalities and viewers, storing all images on a central server.



### OCT with camera

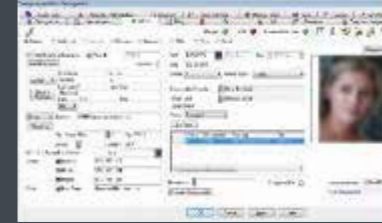
- A Canon retinal Camera could be added to the system, sharing the same database.



*RX server and RX viewers have to be purchased separately.*

Seamless integration with patient management systems:

EMR can call RX directly via the command line interface.



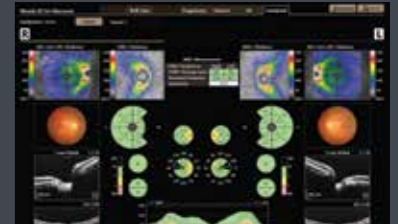
Command Line Interface



Launcher function



RX opens on selected level: Patient, Capture or Report. Studies can be reviewed easily.



RX can call the data such as EMR and past exam data of the patient.

RX can call the other vendor's software directly to review patient record.

## Extensive patient data input options

- Input data manually.
- Import a list from the practice management system (CSV file).
- Uses a modality worklist in a DICOM environment.

Patient ID	IC Capture	Report	Settings	Soft 1
101124	10/12/2010	10/12/2010		
101125	10/12/2010	10/12/2010		
101126	10/12/2010	10/12/2010		
101127	10/12/2010	10/12/2010		
101128	10/12/2010	10/12/2010		
101129	10/12/2010	10/12/2010		
101130	10/12/2010	10/12/2010		
101131	10/12/2010	10/12/2010		
101132	10/12/2010	10/12/2010		
101133	10/12/2010	10/12/2010		
101134	10/12/2010	10/12/2010		
101135	10/12/2010	10/12/2010		
101136	10/12/2010	10/12/2010		
101137	10/12/2010	10/12/2010		
101138	10/12/2010	10/12/2010		
101139	10/12/2010	10/12/2010		
101140	10/12/2010	10/12/2010		
101141	10/12/2010	10/12/2010		
101142	10/12/2010	10/12/2010		
101143	10/12/2010	10/12/2010		
101144	10/12/2010	10/12/2010		
101145	10/12/2010	10/12/2010		
101146	10/12/2010	10/12/2010		
101147	10/12/2010	10/12/2010		
101148	10/12/2010	10/12/2010		
101149	10/12/2010	10/12/2010		
101150	10/12/2010	10/12/2010		

## Virtual Server

RX can be installed in a hospital's virtual server environment (such as VMware, Citrix and Microsoft servers) without relying on the client PC environment.

## Very little floorspace

The OCT-HS100 takes up very little floor space and is flexible for use in most situations, even against a wall or in a corner.



Scan mode	A-scan	B-scan	Scanning area (mm)
Macula 3D	1024 (H)	128	10 x 10
Glaucoma 3D	1024 (H)	128	10 x 10
Disc 3D	512 (H)	256	6 x 6
Custom 3D	1024 (H/V)	128	3 - 10
Multi Cross	1024 (H) / 1024 (V)	5/5	3 - 13 (H) / 3 - 10 (V)
Cross	1024 (H) / 1024 (V)	1/1	3 - 13 (H) / 3 - 10 (V)
Radial	1024	12	3 - 10
Anterior 3D	512 (H)	256	6 x 6
Anterior Cross	1024 (H) / 1024 (V)	1/1	3 - 6
Anterior Radial	1024	12	6

Scan mode	NoR	A-scan	B-scan	Scanning area
OCTA	3	232	232	3 x 3 -8 x 8
OCTA2	3, 4, 6, 10	232	232	3 x 3 -8 x 8
	3, 4, 6	464	464	4 x 4 -10 x 10
	3, 4	696	696	6 x 6 -10 x 10
	3, 4, 6	696	232	9 x 3, 12 x 4
	3, 4, 6	232	696	3 x 9

Specifications			
A-scans/sec	Max 70,000	Fundus Preview	Confocal scanning laser
Axial resolution	3 µm	Observation light source	780 ± 5 nm
Transversal resolution	20 µm	Internal Eye Fixation	2 mm or 6 mm, 590 nm (orange)
Pupil size requirement	Min 3.0 mm	Field of view	10 x 10 mm, OCT 33°x33°, SLO 44° x 33°
Scanning width	2 - 13 mm	Dimensions (WxDxH)	387 x 499 x 474 (mm)
Scan depth	2 mm	Weight	29 (kg)
OCT light source	855 nm ± 5 nm	Optional Accessory	Anterior segment adapter (ASA-1)
Working distance	35 mm		

The OCT HS100 can be used in trials evaluated by the VRC



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