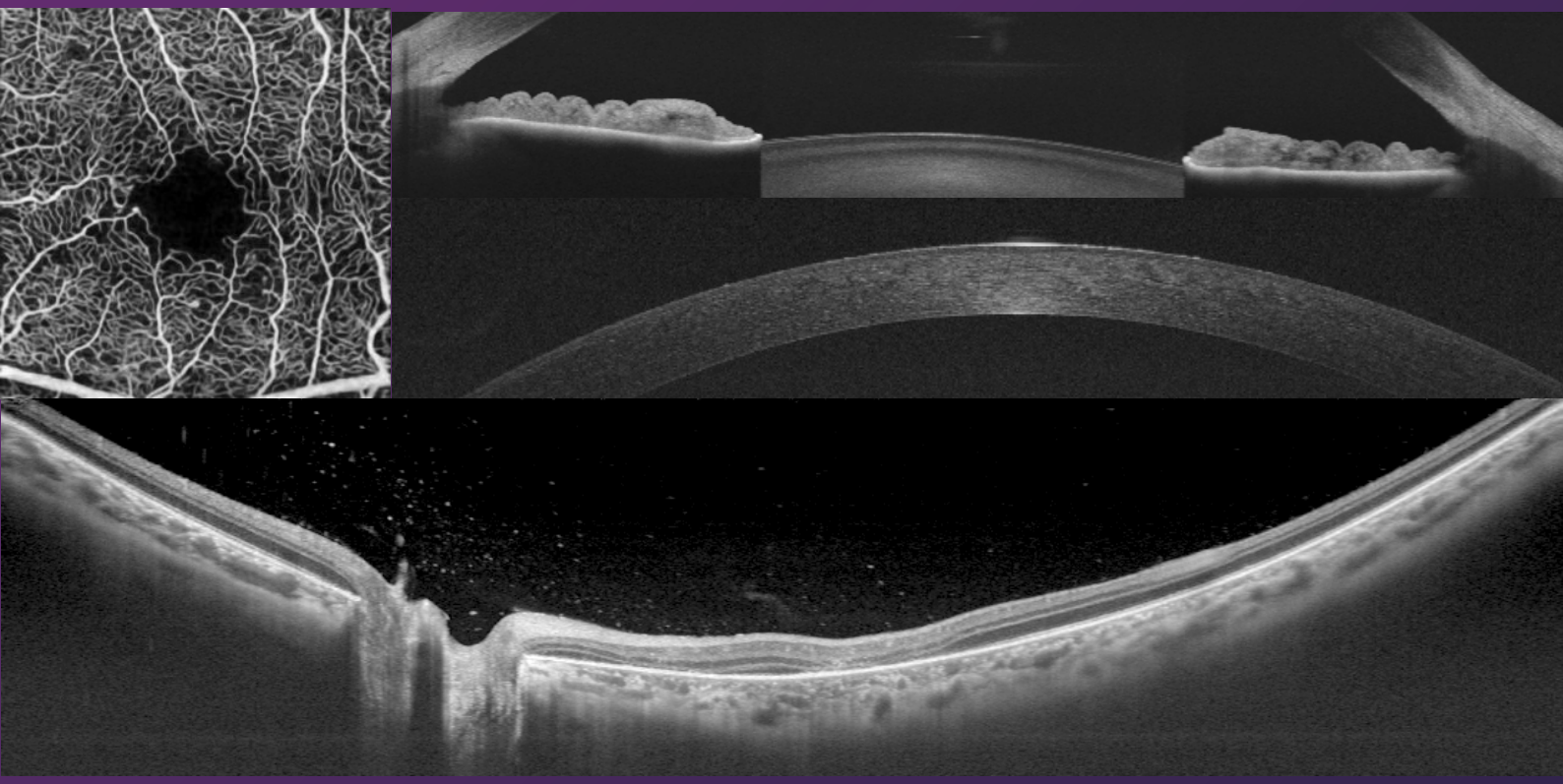
Triton series

Quick Operation Guide

-Optional Functions-



OCT Angiography

Wide-Field OCT and OCT Angiography Capture

Anterior OCT Capture

For further training and cleaning instructions, register for Topcon Healthcare University (THU) and access our comprehensive course.
https://learning.topcon.com/

TOPCON Healthcare

G000212G-1

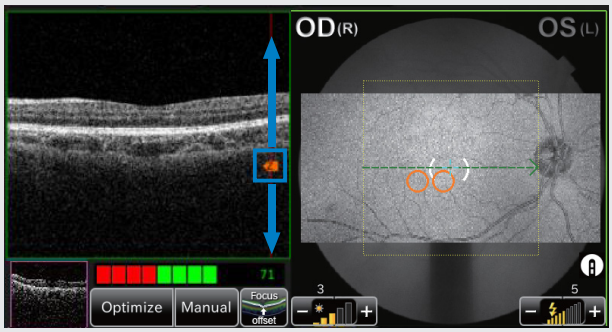
This document provides a high-level overview of how to capture OCT Angiography, Wide-Field OCT and Anterior OCT images. These are all individual, additional options for the Triton. Please refer to the Triton series Quick Operation Guide - standard functions for preparation before capturing. For correct and safe use, please refer to the USER MANUAL before use. Check if the objective lens is clean before using the device. The lens should be cleaned following the instructions in the USER MANUAL or on THU.

OCT-A Capture

Device operation

1. Adjust the capturing position

With the patient looking straight ahead, move device in and use joystick for fine adjustments to centre the eye. The retinal position will be automatically detected and image optimised (do not move lever during optimisation). Move in further until the alignment spots become visible.

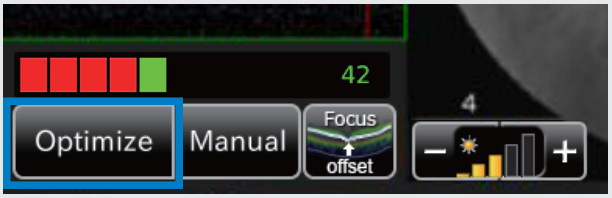


If the edge of tomogram is folded

Move Z-lock bar to adjust the position of live OCT image to remove any clipping.

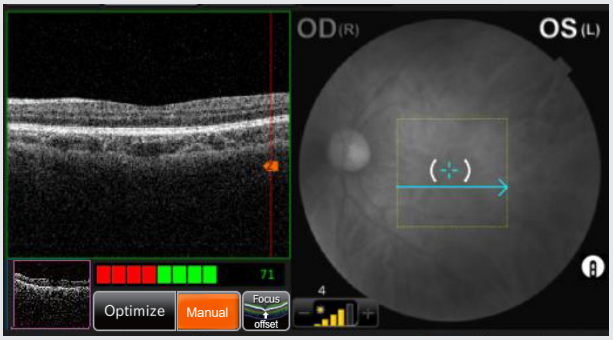
2. Capture the image

Instruct the patient to blink then look at the fixation target. Press Optimize again immediately before pressing the capture button. The patient can blink if required during capture. Do not move the control lever forward/backward during scanning.



NOTE：

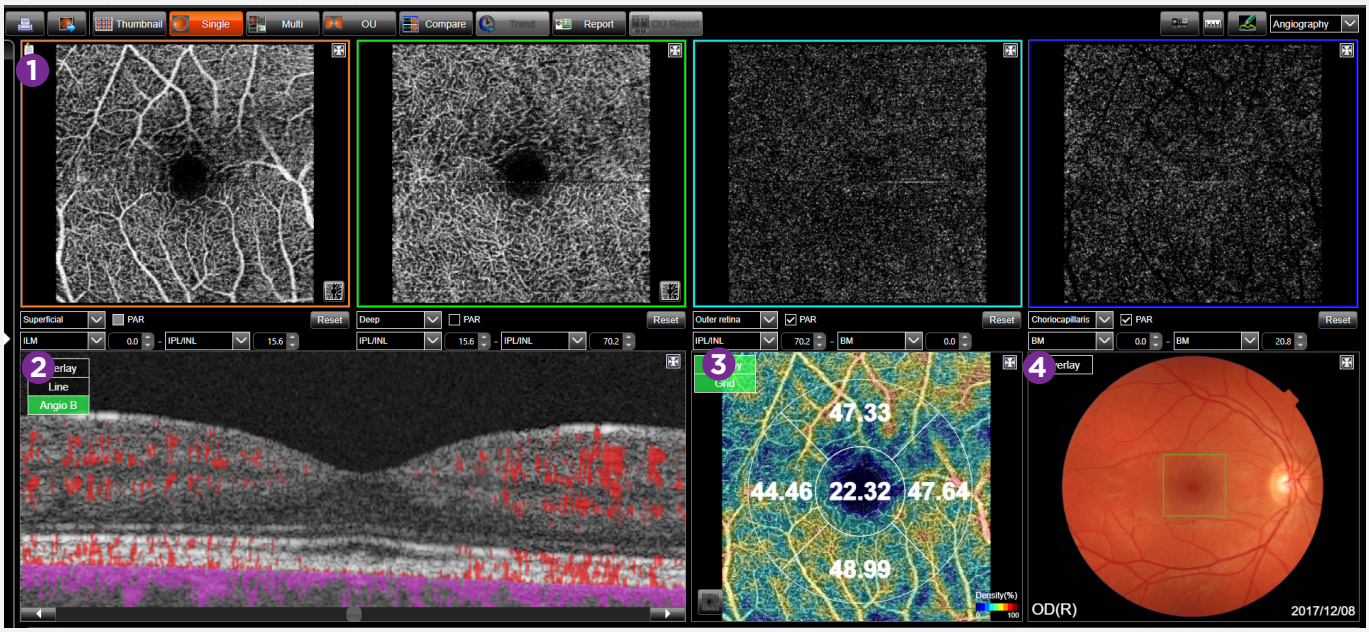
Align the instrument while capturing to prevent flare in the IR image. If the scan is not proceeding smoothly, perhaps due to patient cooperation, press the capture button again to stop tracking and repeat capture with the tracking set to Low.



3. Review and Save the image

Check the preview image to ensure it covers the area of interest and is free from artefacts. The scan data is automatically exported to and saved on the PC.

OCT Angiography Analysis View in IMAGEnet6



Standard view*

1 OCT Angiography view (FIxation: Macula)

(Default slabs from left to right)

Superficial Plexus** ILM + 0.0 µm - IPL/INL + 15.6 µm

Deep Plexus IPL/INL + 15.6 µm - IPL/INL + 70.2 µm

Outer Retina IPL/INL + 70.2 µm - BM + 0.0 µm

Choriocapillaris BM + 0.0 µm - BM + 20.8 µm

2 B-scan area with Angio B overlay

3 Variable images area

Use the display button to select from a choice of images to display in this area.

4 Fundus image area

Use the Overlay button to select different options to overlay the fundus image.

OCT Angiography View (Fixation: Disc)

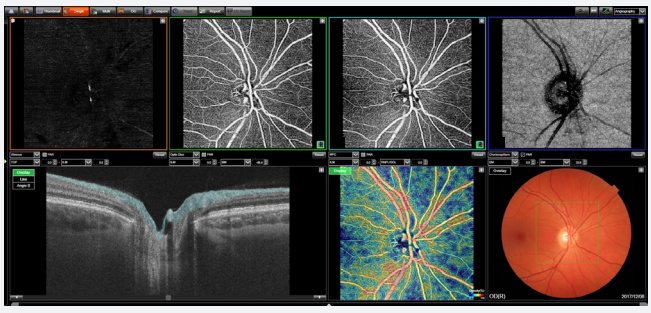
(Default slabs from left to right)

Vitreous TOP + 0.0 µm - ILM + 0.0 µm

Optic Disc ILM + 0.0 µm - BM - 49.4. µm

RPC Plexus ILM + 0.0 µm - RNFL/GCL + 0.0 µm

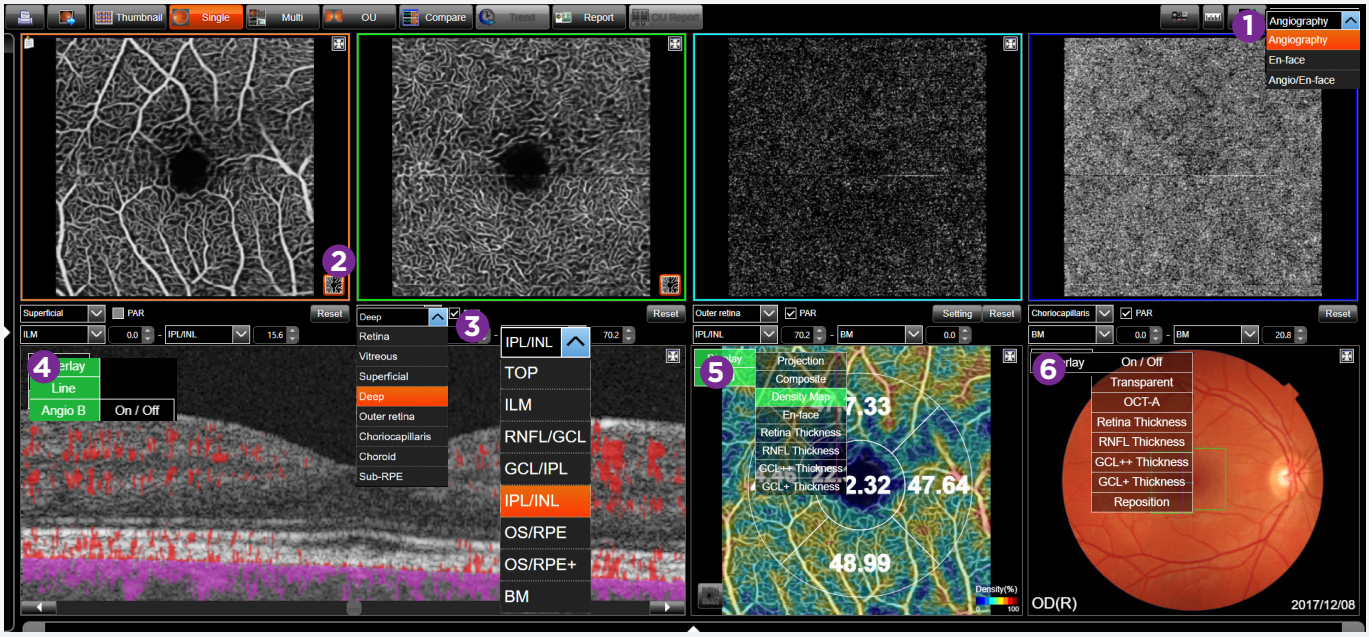
Choriocapillaris BM + 0.0 µm - BM + 20.8 µm



Disc view

*The wide view screen is selected by default when OCT-A data with a scan size over 9 mm is selected.
**An alternative full retina plexus is shown as the default setting for the larger scans: 9mm, 12mm or 21mm.

OCT Angiography Analysis Tools



1 Switch Display button

Switch between Angiography, En-Face and Angio/En-Face display modes.

2 Smart Denoise button*

Apply algorithm to increase signal to noise ratio of the Angiography image. The slabs where Smart Denoise can be applied vary depending on the scan size and area.

3 Boundary range selection button

Customise the boundaries of the selected Angiography slabs or layer boundaries. Select Reset to return to default slab boundaries.

4 Overlay, Line, Angio B button

Overlay: Highlight the selected slab on the B-scan image.

Line: Display location marker on B-scan and Angiography slabs.

Angio B: Display vascular structures over B-scan.

5 Display button

Select the data to be displayed in the variable image area (See page 2), such as projection image, En-Face image, OCT-A Density or thickness maps.

6 Overlay button

When the Overlay function is on, the Angiography image or Thickness Map image can be overlaid on the fundus image, with the option to make overlays semi-transparent and to reposition them.

*Smart Denoise is an optional software for OCT-A and 3D OCT structural scans.

Wide-Field OCT Capture

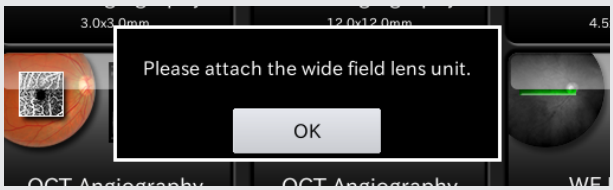
Device operation

1. Attach the WA-1 lens

Align the three protrusions of the lens with the three grooves on the main unit and gently rotate clockwise to lock the lens in place.

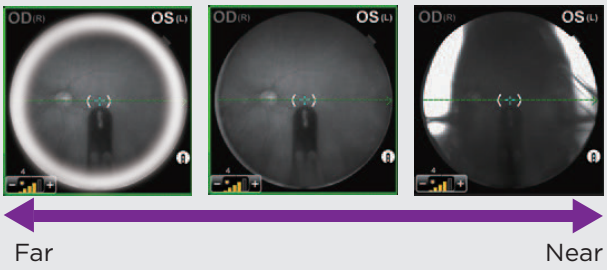
Note:

If the lens is not attached before starting the wide-field OCT capturing, the device will not switch to capture mode.



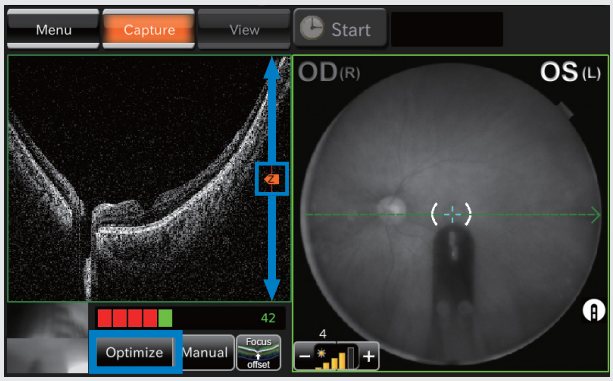
3. Alignment for capturing

Slowly move the device towards the patient and adjust the alignment position using the control lever and observing the IR image. Alignment spots are not displayed during wide-field OCT capturing, so align the position by eliminating the flare in the IR image.



If the edge of the tomogram is folded

Move Z-lock bar to adjust the position of live OCT image to remove any clipping.

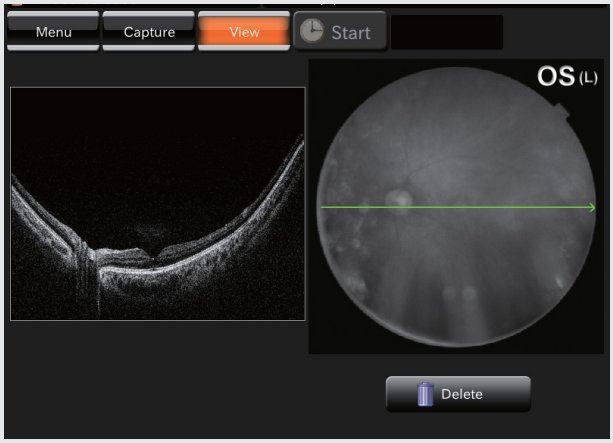


4. Optimize

Select the Optimize button to optimise the output sensitivity of the tomogram.

5. Capture and save

Ask the patient to blink and keep looking at the fixation target. Press the button on the joystick to capture.* Check the preview image to ensure it covers the area of interest and is free from artefacts.

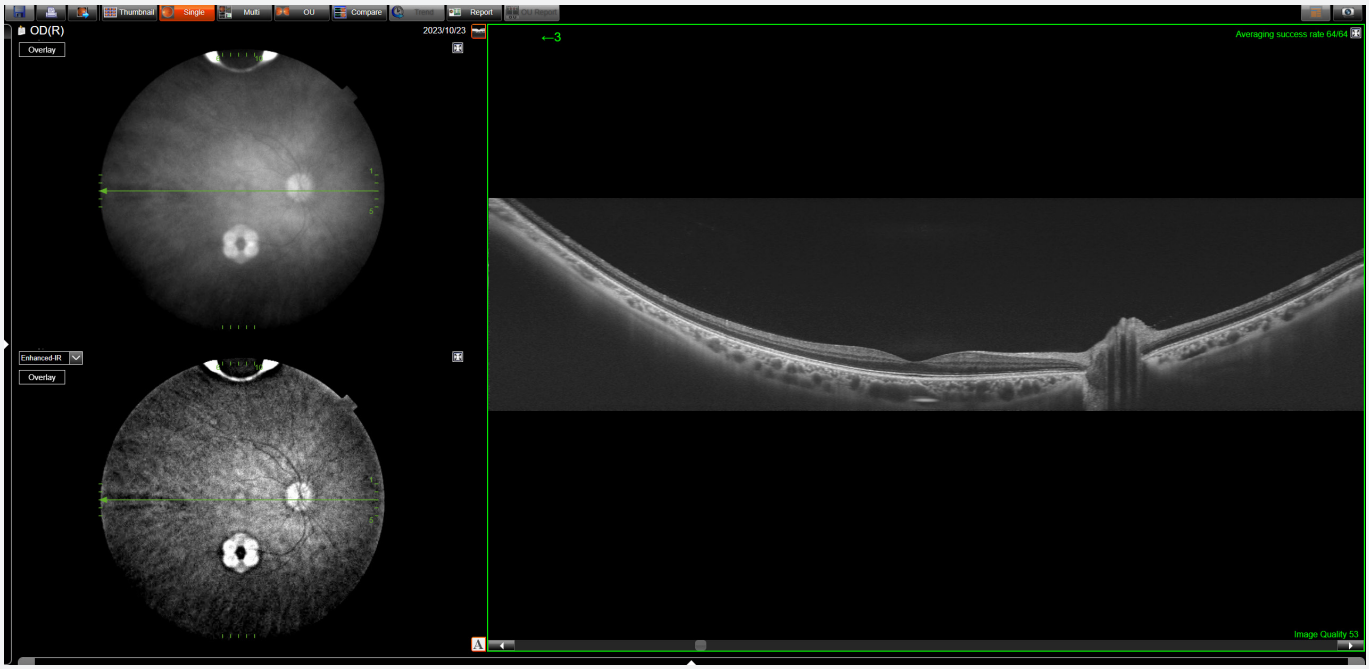


NOTE：

Wide-field OCT Angiography capture for IOL patients is difficult because tracking tends to fail due to the flare inherent in IOL eyes.

*Please refer to the OCT-A capture section.

Wide-field OCT and OCT Angiography Analysis View



5Line Cross scan

Wide-field OCT Angiography

Note:

Wide-field OCT and OCT Angiography capture do not produce colour fundus images.

The reflected image of the attachment lens appears in the IR image.

OCT-A 21mm is prone to line noise at the top and bottom of the captured image.

Anterior OCT Capture

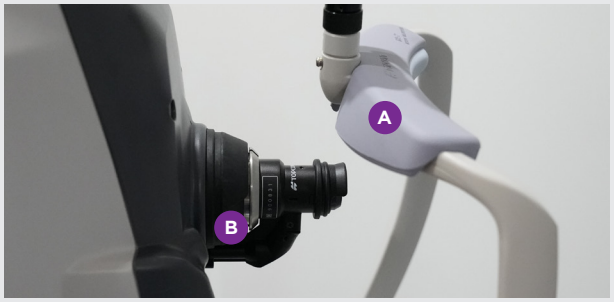
Device operation

1. Attach the AA-1 lens and headrest attachment

Align the three protrusions of the lens with the three grooves on the main unit and gently rotate clockwise to lock the lens in place.

Note:

If the lens is not attached before starting the anterior OCT capturing, the device will not switch to capture mode.



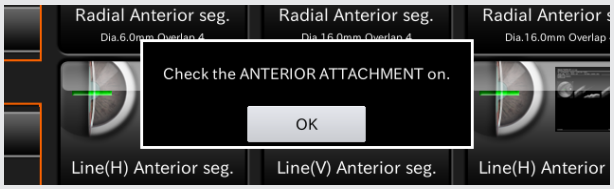
A Headrest attachment

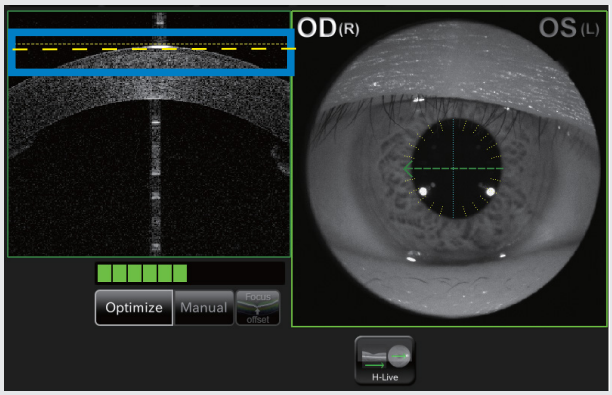
B Lens unit

2. Align the device

Capturing the cornea

Select the 9mm anterior segment radial scan. Slowly move the device towards the patient, making fine adjustments with the control lever to align the top of the corneal tomogram image with the yellow, dotted line. A strong vertical line through the centre of the tomogram indicates the scan is optimally aligned with the corneal apex.





Corneal capturing screen

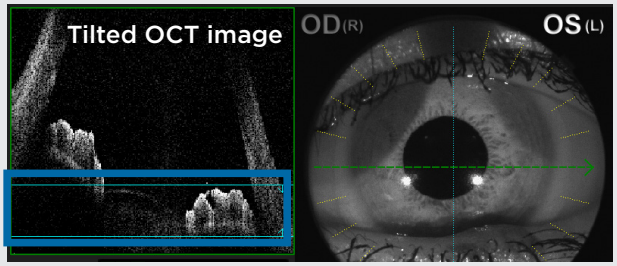
Capturing the angle

Select the 16mm anterior segment line scan. Slowly move the device towards the patient, making fine adjustments with the control lever so that the anterior chamber angle on each side is located between the two blue lines. If the angle tomogram is too low, causing the tomogram to fold over, adjust the control lever to move the angle up slightly.

Note:

If the live OCT image is tilted and only one angle is within the blue frame, the angle analysis results may not be displayed correctly. Adjust the fixation location and the capture position so that both angles are within the blue frame.

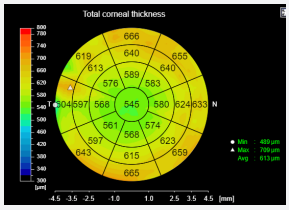
Angle Capturing screen



Corneal analysis in IMAGEnet6 View (9mm radial corneal scan)

Corneal Thickness map

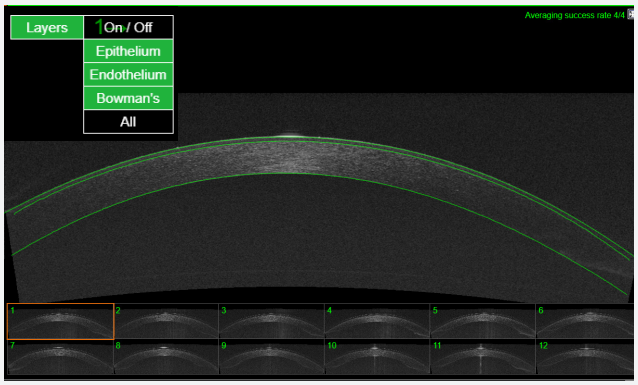
The layer of interest (total, epithelium, stroma) is selected from the layer combination menu.



Layer combination menu

B-scan images and layers selection

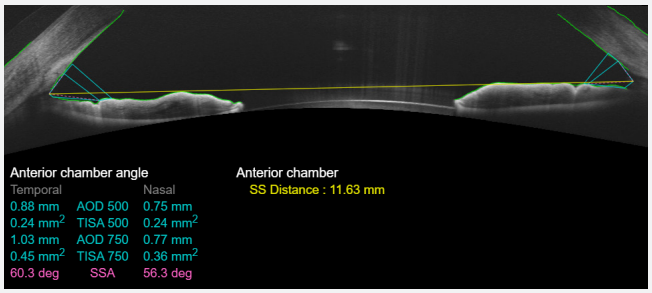
A different B-scan can be selected by clicking the thumbnail images below or dragging the scroll bar. The segmented layer is displayed from the Layers menu.

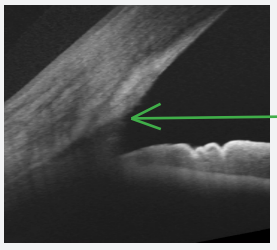


Angle analysis in IMAGEnet6 View (16mm anterior line scan)

Anterior chamber angle measurement procedure

1. Select the angle measurement button. 
2. Double-click on the left and/or right scleral spur location on the B-scan. The measured data is shown on the screen.
3. Select the [Save] button. 





Scleral spur

NOTE：

If the angle image is too small to select correctly identify the location of the scleral spur, zoom in on the image using the mouse wheel and gently drag the mouse for precise editing.