



Imaging Instructions

Get the best images for your patients

1. Setup

Always begin by making sure the image server is switched on. If turned off, switch on the server.

Key passwords:

- PC User name: optosadmin
- PC Password: optomap

Your **Monaco** device can be switched on as long as the Server PC is on.

Monaco Log in:

- Username: _____
- Password: _____

You are responsible for the security of user accounts and the maintenance of password security. Please ensure these are kept in a secure location.

2. Creating New Users

Once logged in:

- Select To admin
- Select Users
- Select New user
- Enter the details for the new user and select if they will be an Administrator or Operator

3. Between patients – best practice

Always use an alcohol wipe to clean chin pad, forehead pad and face pad. Let the alcohol air dry. Do not use tissues as it will increase lint on the camera mirror.

4. Preparing to image

It is preferable that imaging is performed in a dimly lit room. However, images can be captured in any illumination.

Key points to communicate – only if you feel the patient needs reassurance.

- It is non-invasive and painless, the multi-mode **optomap** ultra-widefield (UWF™) image and OCT scan take less than 90 seconds
- **optomap**® UWF imaging is world leading digital technology
- The OCT uses eye-safe scanning light.

Search to see if the patient has been imaged in the past, using a variation of patient name, date of birth and/or patient ID. If patient is not found, select New patient and provide the name, date of birth, and patient ID.

If on Modality Worklist, search patient name, patient ID or accession number.

5. Correct positioning / capturing optomap images

Click **To Capture** at the top right of the tablet screen to proceed to image capture.

Select appropriate mode; **optomap**, multimode, or OCT. An **optomap** image will be taken first regardless of the mode selected.

The patient should be sitting straight ahead (about 2 inches away) with feet flat on the floor facing the device.

The table should be positioned to align the patient's canthus with the canthus markers on the device. Adjust the chin rest to ½ inch below the patient's chin.

Have the patient turn their head slightly towards their shoulder. The pupil should be to the right of the crosshair. Ask the patient if they see the blue light. Have them guide themselves in keeping the blue light at the center of their vision. The patient should be positioned as if they were looking through a key hole of a door, turning their head so that their nose is outside the hole and their forehead rests on the headrest. As the patient moves in, their pupil will begin to center and align with the crosshair.



Before using this system:

The system should be used by trained professionals. Before using the system, please read the operating instructions and safety recommendations in the user guide.

Failure to follow the instructions for use and safety recommendations provided in the user guide can cause injury to the patient, to the operator, or to other persons.

Adjust the chinrest up/down to support the patient's chin. Check that the patient's chin does not go beyond the edge of the chin rest.

The patient should be comfortable, resting their head against the head pad and chin on top of the chin pad.

The hand controller is used to make changes to patient alignment and to capture images. See section 6 for full functionality of the hand controller.

Ask the patient to remain still to allow you to adjust the scan head to the correct alignment position. Use the fine adjustment alignment on the hand controller to finish aligning the crosshair to the center of the patient's pupil.



The alignment target should be GREEN when the scanhead is in correct position. Use the "+" and "-" to adjust between the red and blue target.



BLUE =
too far out.



GREEN =
correct position.



RED =
too close

Let the patient know that there will be a bright green sweep of light as the device captures the image. Ask patient to blink and then to open both eyes wide and capture the image.

Ask the patient to remain in the position in order to capture all required scans.

Additional tips to get the best image

- Use little finger to hold top lid open when taking image.
- Ask them to blink and open eyes wide just before you take an image.
- Slow gentle movements are key.
- If pupils are small – cover other eye with either your hand, or using their own hand.

6. List of Hand Control Buttons for Monaco

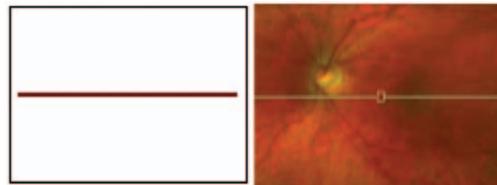


UWF MODES	CONTROL	DESCRIPTION OCT MODE
Press the top button on the hand control to capture an image		Press the top button on the hand control to capture a scan
Lower chin rest		Move the position of the OCT scan lower*
Raise chin rest		Move the position of the OCT scan higher*
Fine adjustment left, right, up and down		Move the scan within the frame and center the scan on the desired area
Fine adjustment to move the alignment system closer to the patient		Move the focus within the OCT scan to improve the signal to noise ratio
Fine adjustment to move the alignment system further from the patient		Move the focus within the OCT scan to improve the signal to noise ratio
Toggle between XYZ and OCT adjustment modes when capturing OCT Scans		Toggle between XYZ and OCT adjustment modes when capturing OCT Scans

* If Oct scan is inverted lower the OCT position by clicking the down arrow on the hand controller

7. Types of OCT Scans

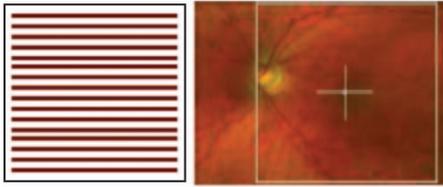
Widefield Line Scan lets you capture cross sectional B-scan of a selected location on the retina that is 12 mm in length (an average of 25 B-scans). The line scan can be moved by sliding the horizontal line up and down on the screen. Movement is limited to the wide-field box.



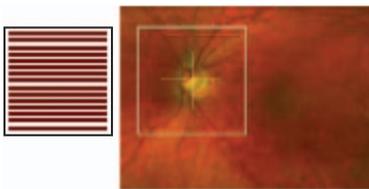
Widefield Raster Scan covers a 12 mm x 9 mm central field of view. It is comprised of 65 horizontal scans. It captures the macula and the optic nerve head within a single OCT volume scan. Adjustment of the crosshair and wide-field box can be moved to various locations by moving the box around the macula. Once captured you can review the scan by tapping on the infrared image and see if blinks or movement did not affect the overall OCT. If blinks and/or movement occurred in the desired location save and recapture.



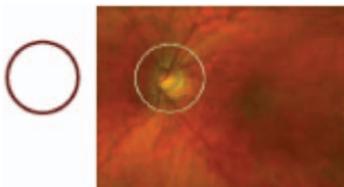
Retinal Topography Scan covers a 8.8 mm × 8.8 mm field of view and centered around the macula. It comprises 97 horizontal line scans. Adjustment of the crosshair and wide-field box can be moved to various locations by moving the box around the macula.



Optic Nerve Head Topography Scan covers a 5.28 mm × 5.28 mm field of view centered around the optic nerve head. It comprises of 97 horizontal lines scans. Adjustment of the box is required prior to optimization and must be centered around the optic nerve.



RNFL Circle Scan captures a 3.4 diameter ring scan (an average of 4 B-scans) centered around the optic nerve head. Adjustment of the RNFL circle is required prior to optimization.



8. Capturing OCT images

Select **optomap** at the bottom of the screen and select OCT to display OCT scan types (Line, Raster, Retinal Topography, ONH Topography and RNFL). **optomap** images will be captured first unless already captured.

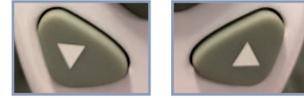
Positioning and alignment is the same for OCT as **optomap** imaging. To reduce the possibility of movement artifacts, the patient should maintain their focus on the center X of the green alignment target and ignore the red lines. During the OCT set up, the patient will see the alignment target, tracking scan and scan pattern. Target should also be green during OCT imaging.



Click the **Capture** button on the hand controller to begin optimization. The patient can blink normally throughout the 18 second optimization process. During optimization, the patient should maintain their focus on the middle of the green X target while ignoring the red lines or circles. Once optimization is complete, the OCT scan, scan-location, and Signal to Noise (SNR) should be displayed along with tablet

controls. Make any adjustments of the location using the middle directional controls on the hand controller. RNFL scans assure appropriate center position of the red circle around the optic nerve.

The up/down buttons can adjust the OCT scan position.



SNR is related to the quality of the OCT scan. A high SNR will display a full and dense scan, while a low SNR will display a pixelated and faint scan. If the SNR is lower than 6, have the patient blink a few times to improve the visual pathway. Use the “+” or “-“ for SNR improvement.

In cases which the location, OCT scan and/or SNR need readjustment, select OCT setup above the right side of the OCT scan. You have the option of re-optimizing the location, focus, or OCT individually or re-optimizing all.

When capturing the OCT, patient should not blink.

Capture the scan by pressing the **Capture** button on the top of the controller.

Raster scan, Retinal Topography and ONH Topography can be checked by selecting Press to check OCT quality to replay the scan.

Review the OCT scan for any blinks, missing areas of information, centration and quality.

After reviewing the scan, you can save and complete the current scan, save and recapture or delete and recapture the Patient Session.

Before finishing the patient session, you should check the required images and scans have been captured. Summary is displayed when you select Finished Patient.

9. How to optimize OCT scan quality

- Ensure the live OCT feed is centered and level. Use the center control to adjust the scan position.
- OCT scans strongest when positioned at the highest area of the screen without cutting off any visible area of the retina.
- Adjust the focus control to increase the signal strength
- The live OCT feed should fill the width of the touch screen. If there is signal loss on the edges, it could be that the patient’s pupil is no longer aligned. Assure the patient’s forehead is still in contact with the forehead rest and that they are centered and fixating on the middle of the “x” of the green-alignment target. Selection of Cancel and repeating of the alignment process may be necessary.
- Ensure that the patient blinks before capturing the image so that the cornea is lubricated.
- Adjust the patient’s head to ensure the scan is not tilted. Myopic eyes may slant the OCT scan.

10. OCT Messages

Averages: Where image averaging is applied (Line Scan and RNFL scans) the scan result shows the number of scans included. Scan averages between 3-6 should be deferred to the quality of the image.

Movement: Movement detection indicates the extent of eye movement during capture. You should replay the frames and assess if the movement is significant.

Blink: Blink detection indicates the number of frames where the tracking system could not detect retinal content. Replay the frames and assess if this is significant.

Check ONH center: This is only a note to recheck the center of the ONH. The red ring should be centered around the optic nerve head to ensure appropriate mapping of the RNFL layer.

Scan Position Error: Misalignment of the patient's positioning in which the original UWF scan is not in alignment of the live OCT scan. Recapture of the OCT scan and re-optimization of location to remove this message. In some cases, recapturing the UWF image may be necessary.

11. OCT Screen Definitions

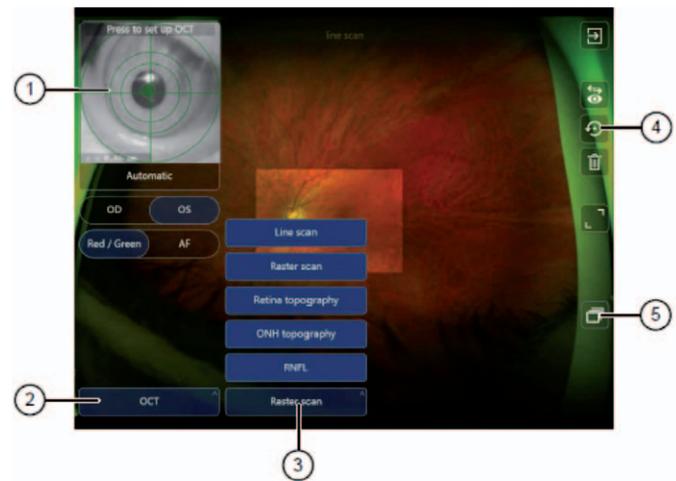


FIGURE 11: List of OCT scan types

No.	Description
1	Live external view.
2	Primary scan type selector.
3	OCT scan type options.
4	Save and recapture.
5	Image Browser displays all the captured images and scans.

12. Capturing Multi-mode

Multi-mode allows the operator to perform a defined sequence of **optomap** and OCT captures, by stepping through the desired mode settings.

- Select Multi-mode and the required laterality
- Position the patient
- Capture the following by clicking on the hand controller
 - **Multi-mode** image 1 – **optomap color**
 - **Multi-mode** image 2 – **optomap af**
 - **Multi-mode** image 3 – OCT raster scan
- Select **Finished multi-mode**

KEY CONTACTS

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