

*Monaco*



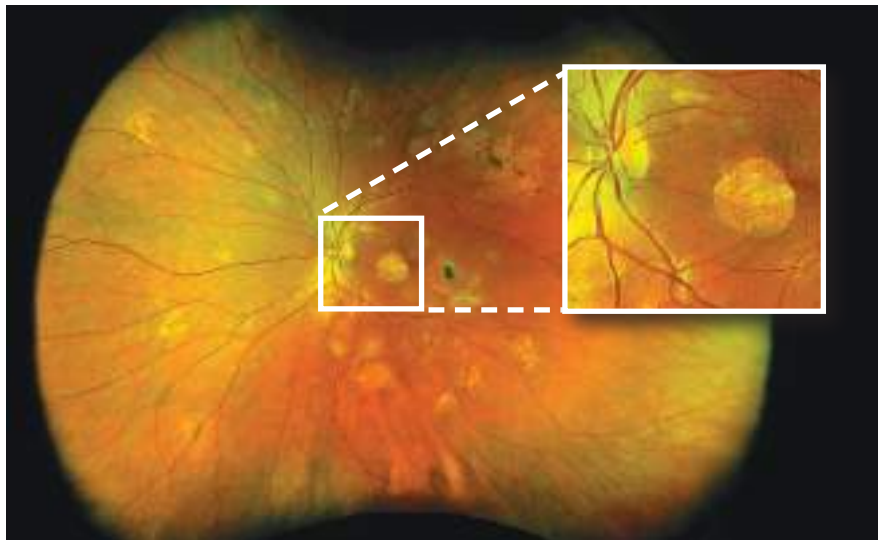
# Optos Ultra-widefield Retinal Imaging with **optomap**<sup>®</sup>-guided SD-OCT

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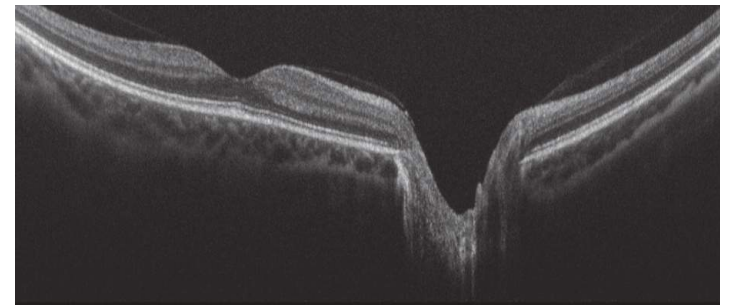
**Monaco** combines **optomap ultra-widefield (UWF™)** technology with **SD-OCT** creating a **fast, convenient, multi-modal imaging tool**. *Monaco* can produce a 200°, single-capture retinal image of unrivaled clarity and can display a six-image overview including color, FAF, and OCT of both eyes in as little as 90 seconds.

**optomap** has been shown to enhance pathology detection and disease management, and to improve clinic flow.<sup>2</sup> The integrated OCT further contributes to this capability.

OCT scans are precisely registered to corresponding **optomap** images facilitating detailed examinations, follow up scanning, and visit to visit comparisons.



1-click **optomap** imaging provides image resolution equivalent to ETDRS<sup>3</sup> and eliminates the need for multiple image sweeps or montaging

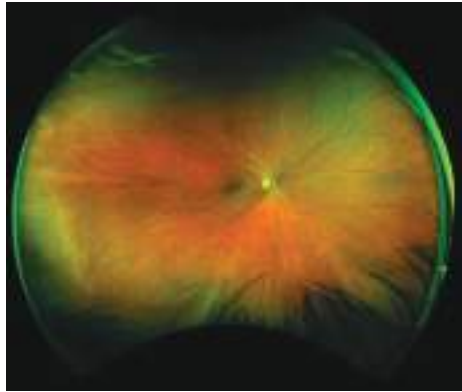


12mm OCT scan across macula and ONH

# Fast, Comprehensive Imaging

Monaco can capture a 6-image, multimodal overview of both eyes in as little as 90 seconds. Visualizing multiple image modalities at the same time enables a practitioner to detect pathology in the various views.

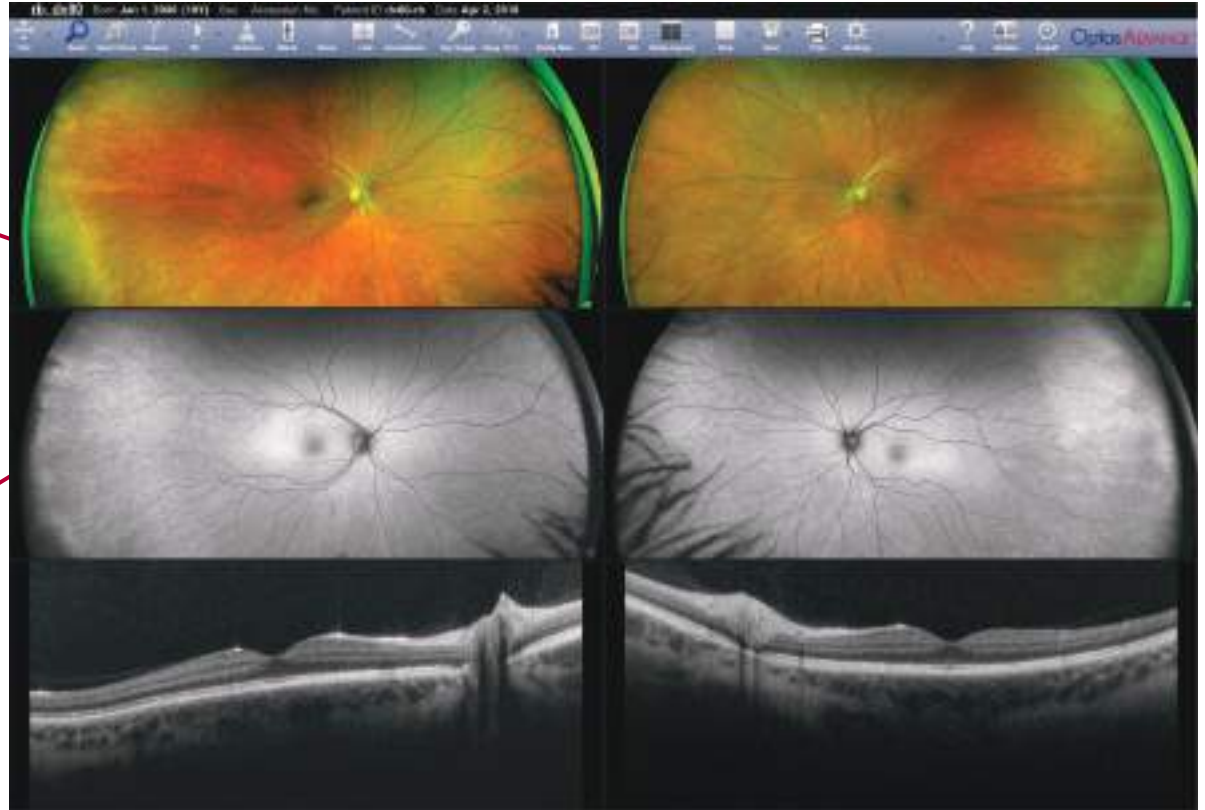
View the entire, 200° optomap® image with a click



optomap *color*

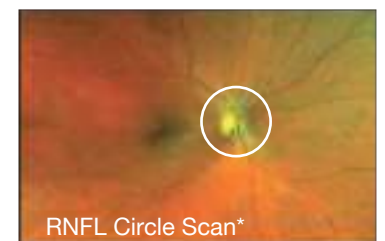
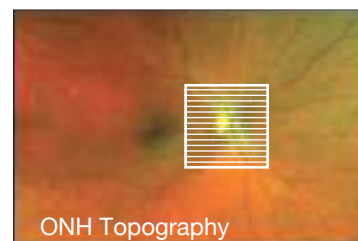
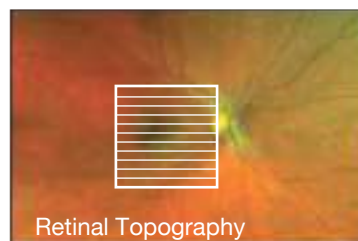
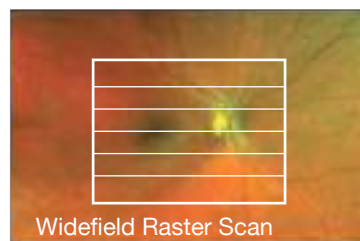
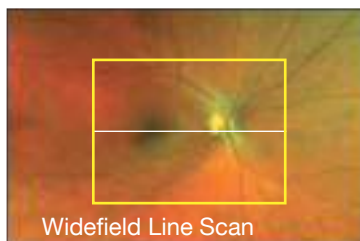


optomap *af*



Scroll through OCT raster scans to look for fluid or pathology

## OCT SCAN TYPES



\*The RNFL peripapillary scan is automatically extracted from the ONH Topography

# Fast, Comprehensive Imaging

The *Monaco* analysis tools automatically segment, measure, and display key parameters.

## RETINAL THICKNESS

ILM and RPE are automatically detected and marked. Retinal thickness is measured and displayed in a color map, and numeric values are provided in an ETDRS grid overlay.



## GANGLION CELL COMPLEX

GCC is automatically segmented and measured from the ILM to the IPL. Thickness measurements are displayed in a color map and grid overlay.



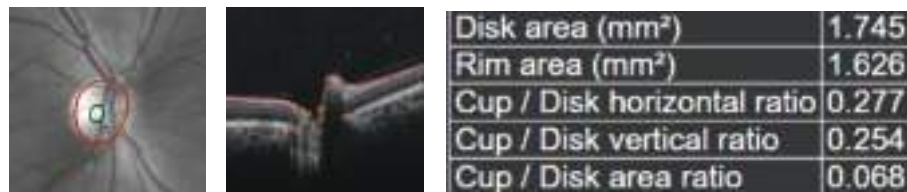
## ONH RNFL THICKNESS

Retina nerve fibre layer (RNFL) is automatically segmented from the ONH topography cube scan and is displayed in a color map.



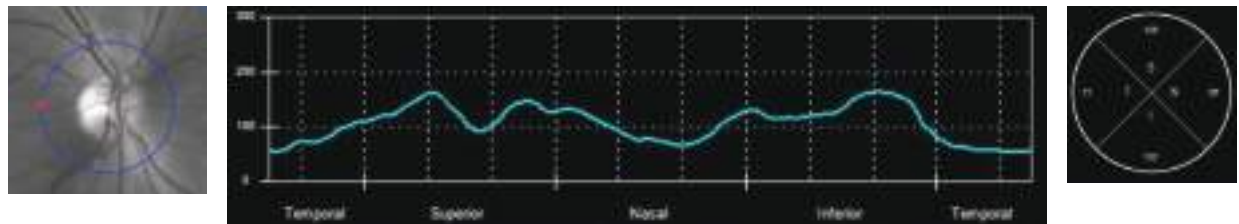
## ONH CUP & DISC ANALYSIS

Bruch's Membrane Opening (BMO) and ILM are automatically detected and used to calculate optic nerve head parameters. Disk and Cup outlines and calculated ONH parameters are displayed.



## RNFL THICKNESS

Peripapillary RNFL is automatically segmented from the ONH topography scan data. Thickness measurements are displayed graphically and in TSNIT charts.



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# Multimodal Imaging

Multimodal imaging with ultra-widefield (UWF™) technology + OCT can provide additional insights especially in cases of peripheral pathology.

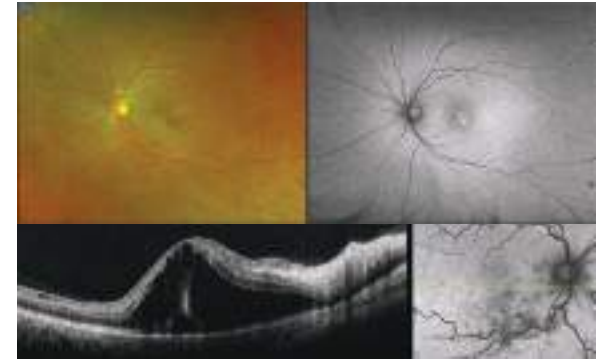
## WET AMD

In this AMD case, a choroidal neovascular lesion directly below the fovea is visible in the color image. The lesion is unmistakable in the AF image which shows an area of hyper-fluorescence with spots of dark hypo-fluorescence. The OCT scan clearly shows RPE disruption within the lesion and a PVD in the vitreous.



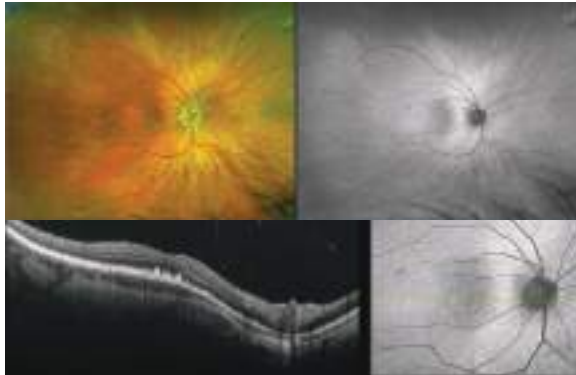
## RVO

The color image of this hemi-retinal vein occlusion shows haemorrhages and exudates in the inferior retina extending into the far peripheral retina. The OCT scan through the fovea shows significant edema.



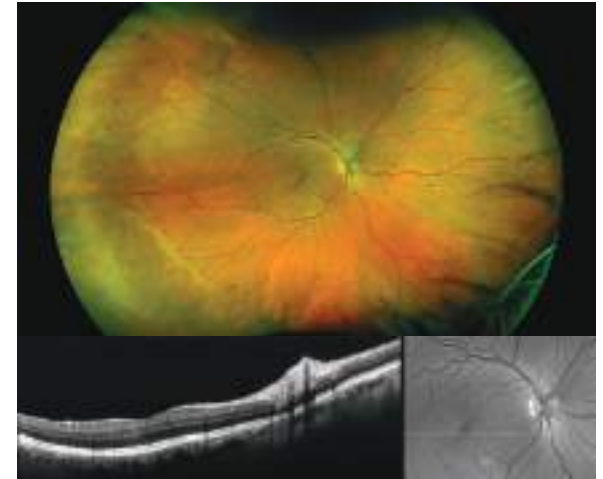
## DRY AMD

This AMD patient has large drusen in the macula region. The drusen appear as pale white spots in the color **optomap** and as hyper-fluorescent spots on the AF image. The OCT scan across the macula reveals structural detail of the drusen under the fovea.



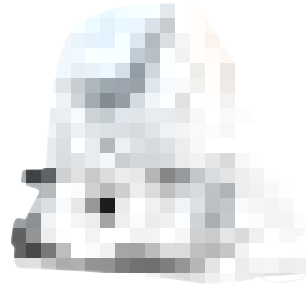
## NPDR

At first glance, the eye of this diabetic patient might be seen as normal. The OCT through the fovea is unremarkable. However, the **optomap** shows haemorrhages in the mid and far periphery both nasally and temporally. Recent studies suggest this patient is at greater risk of progression to proliferative disease.<sup>1</sup>



## Unique Features

- Distance (mm) and area (mm<sup>2</sup>) measurements provide objective assessment of change over time
- optomap** with integrated OCT saves time, space and minimizes patient movement
- High resolution 200° single-capture **optomap** images improve pathology detection and management from macula through the far periphery
- Non-mydratric, cSLO imaging through most cataracts<sup>4</sup> and small pupils (2 mm)<sup>5</sup>
- 3-in-1 Color Depth Imaging™ provides important clinical data from the retinal surface through the choroid
- Green laser autofluorescence shows macula and optic nerve head detail
- Central pole OCT provides structural detail of pathology seen in fundus images
- Fast, comfortable image acquisition is easier on patients and improves clinic flow
- Optos*Advance*™ Image Management software streamlines image review and consultations
- Color, AF, and OCT images are shown in a single, comprehensive view
- DICOM compatible software supports compliance with the Code of Federal Regulations<sup>6</sup>



- Silva. Peripheral Lesions Identified on Ultrawide Field Imaging Predict Increased Risk of Diabetic Retinopathy Progression over 4 Years. Ophthalmology 2015.
- Tornambe, The Impact of Ultra-widefield Retinal Imaging on Practice Efficiency, US Ophthalmic Review 2017.
- Silva et al, Nonmydratric Ultrawide Field Retinal Imaging Compared with Dilated Standard 7-Field 35-mm Photography and Retinal Specialist Examination for Evaluation of Diabetic Retinopathy, AJO 2012.
- Friberg. Advances in retinal imaging of eyes with hazy media: Further Studies. ARVO 2011.
- Legarreta. Imaging of Peripheral Retina with Optos Ultra-Widefield Imaging: Evaluation of Aperture Size on Image Quality. ARVO 2012.
- All Covered Entities must securely backup 'retrievable exact copies of ePHI' (CFR 164.308 (7)(ii)(A)).

## Technical specifications

TRADE NAME	Monaco
MODEL NAME	P200TE
MODEL NUMBER	A10700
optomap UWF Imaging	
IMAGING MODALITIES	Color Red-free (Sensory) Choroidal Autofluorescence (AF)
RESOLUTION	optomap <i>plus</i> : 14 µm optomap: 20 µm,
LASER WAVELENGTHS	Red laser: 635 nm Green laser: 532 nm (for AF)
EXPOSURE TIME	Less than 0.4 seconds
OCT Imaging	
SIGNAL TYPE	Optical scattering from tissue
SIGNAL SOURCE	Spectral domain OCT, Wavelength 840 nm
AXIAL RESOLUTION*	< 7 micron (in tissue) < 5 micron (digital)
TRANSVERSE RESOLUTION*	< 20 micron (in tissue) < 15 micron (digital)
SCANNERS	Galvanometric X, Y mirrors
SCAN DEPTH	2.3 mm (in tissue)
A-SCAN RATE	Up to 70k cycles/sec
SCAN TYPES	Line Scans Width: 12 mm Raster Scan Retina Topography Scan Optic Nerve Head (ONH) Topography Scan Retinal Nerve Fiber Layer (RNFL) Scan
System	
OPTICAL POWER	Laser safety Class-1 following IEC/EN60825-1
FOOT PRINT	Width: 550 mm / 22 in, Depth: 570 mm / 23 in Height: 608 - 632 mm / 24 - 25 in
WEIGHT	Max 40 kg
TABLE SPACE REQUIREMENTS	Width: 887 mm / 35 in, Depth: 600 mm / 24 in Height: 725 to 1205 mm / 29 - 48 in
SYSTEM VOLTAGE	100-240V, 50/60Hz
POWER CONSUMPTION	300 VA

NOTE: Specifications are subject to change without notice.



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