NEW

REVO FC 130

OCT | Fundus Camera

REAL TIME
EYE TRACKING

AS SIMPLE AS PRESSING *the start button*

OPTOPOL
technology

NEW OCT STANDARD

Multiple Functions in One Device

Once again REVO goes beyond the limits of standard OCT. With its new software, REVO enables full functionality from the cornea to the retina, combining the potential of several devices. With just a single OCT device you can measure, quantify, calculate and track changes from the cornea to the retina over time.

The REVO FC130 is an All in One device you can use in a number of ways such as, a full color Fundus Camera or as a combo providing simultaneous OCT and fundus images for high quality OCT imaging, including A-OCT.

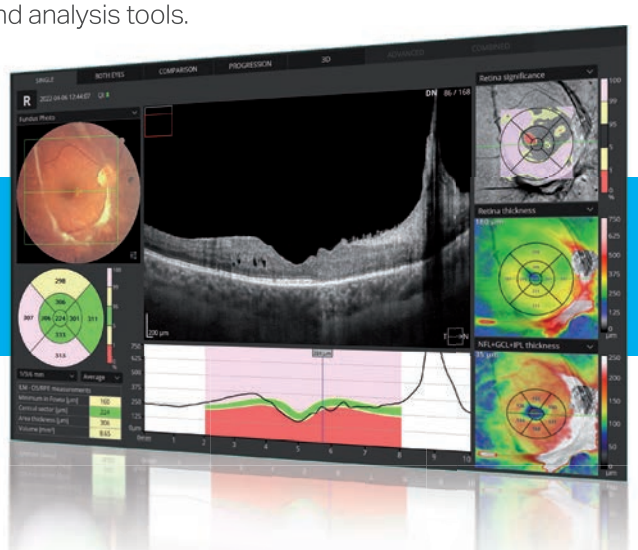
OCT MADE SIMPLE AS NEVER BEFORE

Simply position the patient and press the START button to acquire examinations of both eyes. The REVO FC130 guides the patient through the process with voice commands, which increase comfort and reduce patient chair time.

A PERFECT FIT FOR EVERY PRACTICE

With it's small system footprint and single connection cable, the REVO FC130 can be placed in the smallest of exam rooms. The REVO can easily function as both a screening or an advanced diagnostic device with its variety of examination and analysis tools.

OCT / Fundus Camera Combo

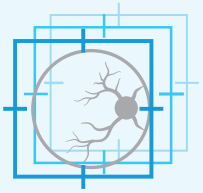


The device offers all proven advantages of past generations of Spectral OCT devices, with the addition of a cutting-edge color fundus camera for a new level of diagnostic certainty. High quality OCT scanning and a comprehensive analysis of the retinal layers combined with a fundus imaging make the examination versatile as never before.

The REVO FC130 offers an integrated non-mydriatic 12.3 MP Fundus Camera capable of capturing ultra-high quality and detailed color images. The REVO FC130 Fundus Camera is fully automated, safe and easy to use.

- The advanced optical system ensures high quality imaging at a viewing angle as wide as 45°.
- New linking function makes it possible to link a single fundus photo to several OCT exams to reduce the number of photos.
- Easy to use image processing tools such as RGB channel, brightness, contrast, gamma and sharpness adjusters used with filters to deliver a stunning retinal image.
- Available view modes present detailed photos of one or both eyes as well as a time comparison of fundus photos.

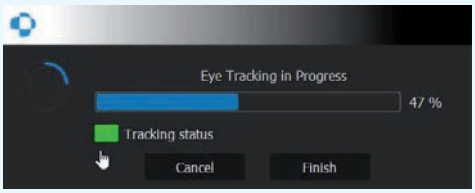
NEW

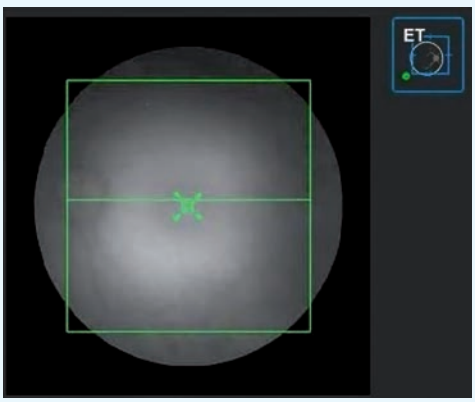


AccuTrack™

Real time hardware eye tracking

The REVO FC130 now comes with a real-time hardware eye tracking function which compensates for blinks, loss of fixation and involuntary eye movements during OCT scanning. The iTracking function is still available and proves useful while examining patients who find it difficult to maintain fixation.

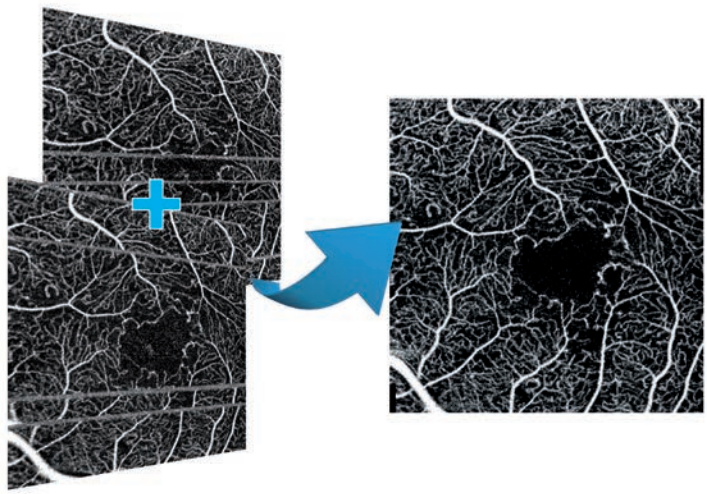




REVOlution continues

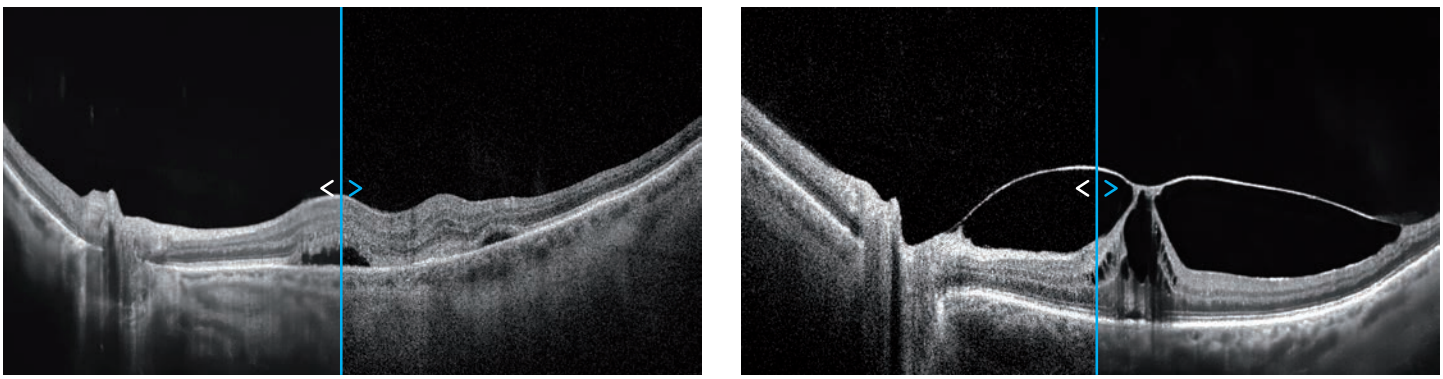
iTracking™

iTracking™ technology scans twice to compensate for any involuntary eye movements and blinks. It can be used for patients who have difficulty keeping their head on the chinrest during scanning with hardware eye tracking. After scanning the system immediately creates an artifact-free MC examination using the Motion Correction TechnologyTM. The elimination of eye movement and blinking artifacts ensures the high quality of Angio OCT images without patient inconvenience. Clear A-OCT data sets make it easier to interpret the condition of the retina vasculature.



AI DENOISE™

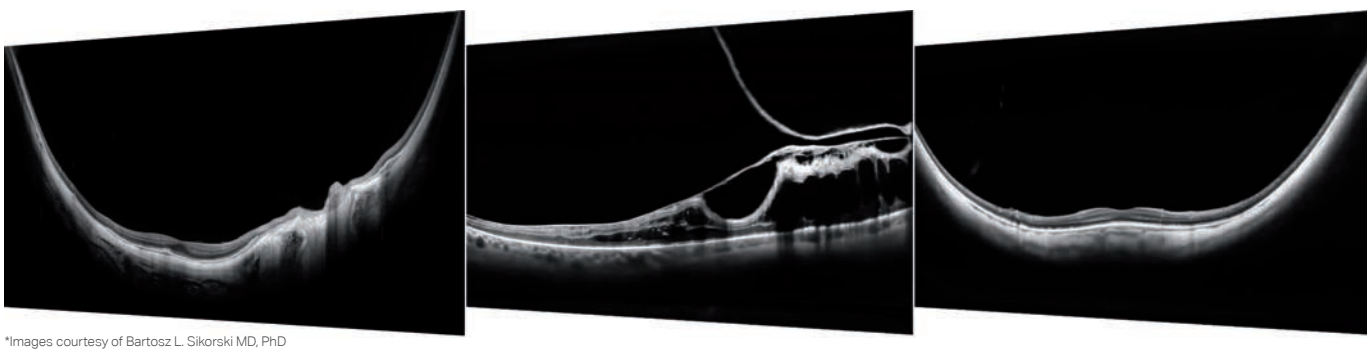
Improved tomogram quality powered by artificial intelligence. Advanced AI algorithms enhance the quality of a single tomogram to the level of an averaged tomogram obtained through multiple scans. The AI DeNoise algorithm filters out noise from the tomogram for the highest and smoothest image quality. The function is available on all tomograms and in every tab featuring them, including the 3D tab. On averaged tomograms the function is on by default. The moment a tomogram is loaded for review the software starts denoising it. After a short moment the original "undenoised" tomogram is replaced with a noise-free image.



Raw Tomogram / AiDenoise Tomogram

FULL RANGE

With scans presenting New Extended Depth™ software, based on our Full Range technology, provides scans of increased depth for reliable and convenient observation of challenging cases. With scans presenting extended depth, this new imaging mode is perfect for diagnosing even highly myopic patients.



*Images courtesy of Bartosz L. Sikorski MD, PhD

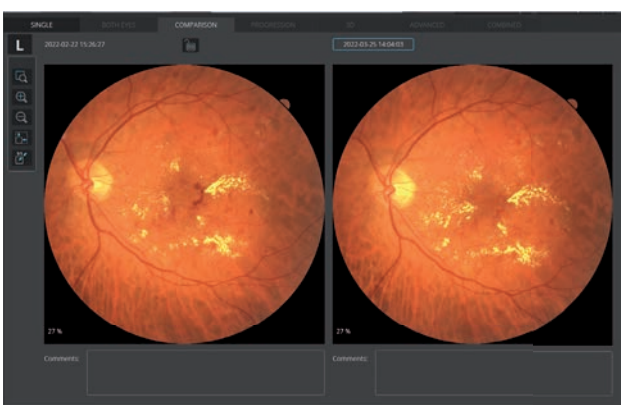
FUNDUS CAMERA

A 12.3 MP Fundus Camera is integrated into our All in One OCT device capable of capturing detailed color images of ultra-high quality. The REVO FC130 is fully automated, safe and easy to use.

- Color fundus image capture is possible with a pupil as small as 3.3 mm.
- Easy to use fundus image processing tools deliver a stunning retinal image.
- Available modes deliver detailed photos of one or both eyes, as well as a chronological comparison of the fundus photos.
- Link a single fundus photo to several OCT scans.
- IR fundus preview and photo capture settings are adjusted automatically based on the IR fundus preview.
- To meet the requirements of screening programs and allow the user to take exams for both eyes in non-mydriatic mode, the device now has three auto flash levels.

Fundus Photo Both Eyes View

Fundus Photo Comparison View



ANTERIOR SEGMENT PHOTO

Anterior segment photograph mode is a new mode which allows the user to take color photos of the anterior segment, presenting the cornea, eyelid, pupil and sclera.

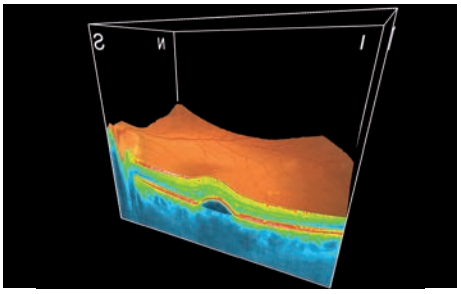
Anterior Photo Eye View

REVOlution continues

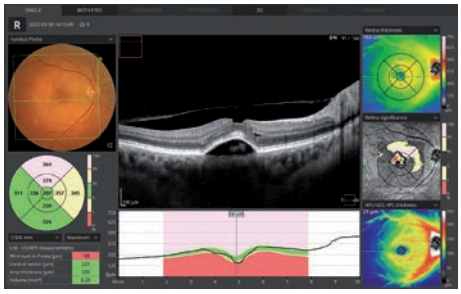
RETINA

A single 3D Retina examination is sufficient to perform both Retina and Glaucoma analysis based on retinal scans. During the analysis, the software automatically recognizes eight retina layers to ensure a more precise diagnosis and mapping of any changes in the patient's retina condition.

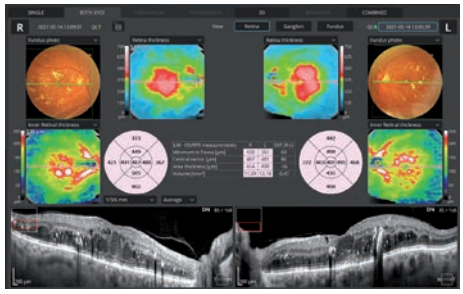
3D



Single View



Both View



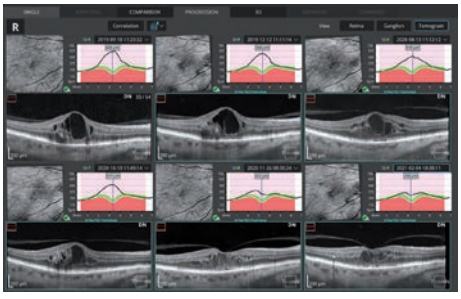
FOLLOW-UP

The high density of standard 3D scans allow the operator to precisely track disease progression. The operator can analyze changes in morphology, quantified progression maps and evaluate the progression trends.

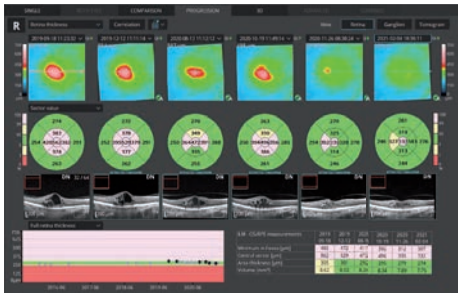
PRECISE REGISTRATION

The software can track 3D scans and register them to the OCT baseline exam by recognizing patterns in the shape of blood vessels. Active tracking and post-processing point-to-point registration allows the user to precisely see and track the changes in retina morphology in Comparison and Progression analysis.

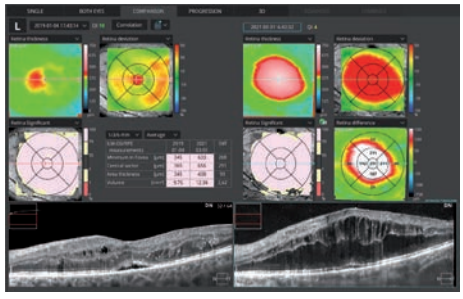
Morphology Progression



Quantification Progression



Comparsion



EXTRACTED TOMOGRAMS

Advanced correlation now enables the creation of extracted tomograms for increased follow-up precision. This compensates for image misalignment occuring between sessions to make cross-sectional images of the same area available during consecutive sessions.

DICOM, EMR, NETWORK INTEGRATION

A proficient networking solution increases productivity and enhances the patient experience. It allows you to view and manage multiple examinations from review stations in your practice. This effortlessly facilitates patient learning by allowing you to interactively show examination results to patients. DICOM connectivity allows the connection of the REVO into large hospital medical systems. It is possible to send worklists (MWL) and reports (C-storage) or the whole examination to viewing stations. CMDL interface enables the integration of the REVO into practice management systems. There is no additional charge for the networking and DICOM functionality.

GLAUCOMA

With the gold standard 14 optic nerve parameters and a new Rim to Disc and Rim Absence, the description of ONH condition is quick and precise.

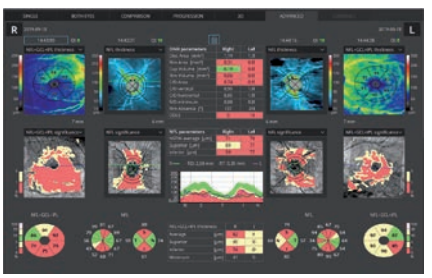
Advanced view provides combined information from Retina and Disc scans to integrate details of the Ganglion cells, RNFL, ONH in a wide field perspective for comprehensive analysis for both eyes.

The REVO DDLS (Disc Damage Likelihood Scale) uses 3 separate classifications for small, average and large discs. It supports the practicioner in a quick and precise evaluation of the patient's glaucomatous disc damage.

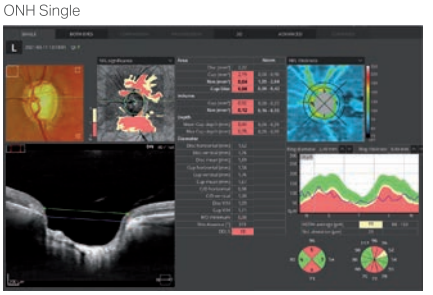
Asymmetry analysis of Ganglion layers between hemispheres and between eyes helps to detect and identify glaucoma in early stages and in non-typical patients.

Precise registration and comprehensive glaucoma analytical tools for quantification of the Nerve Fiber Layer, Ganglion layer and Optic Nerve Head with DDLS provide precise diagnostics and monitoring of glaucoma over time.

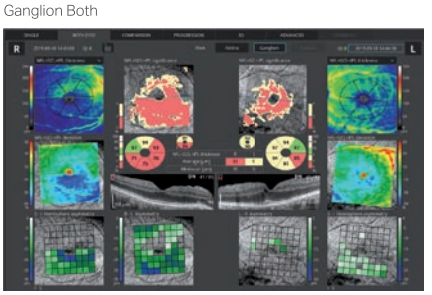
Advance Retina & ONH



ONH Single

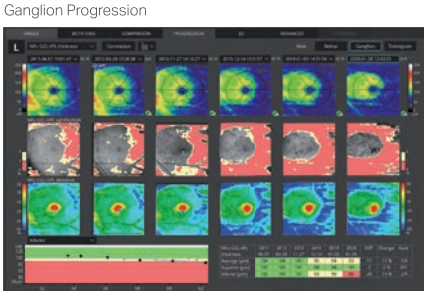


Ganglion Both

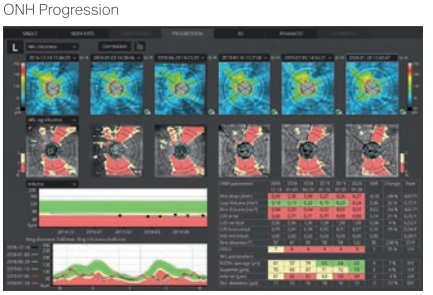


ONH Both

Ganglion Progression



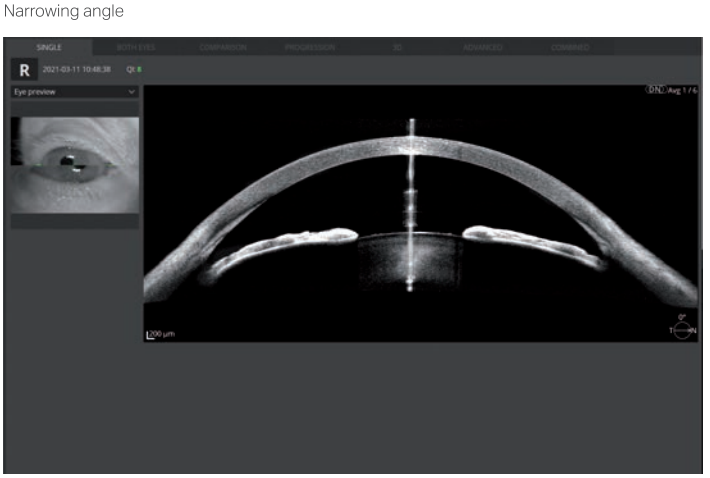
ONH Progression



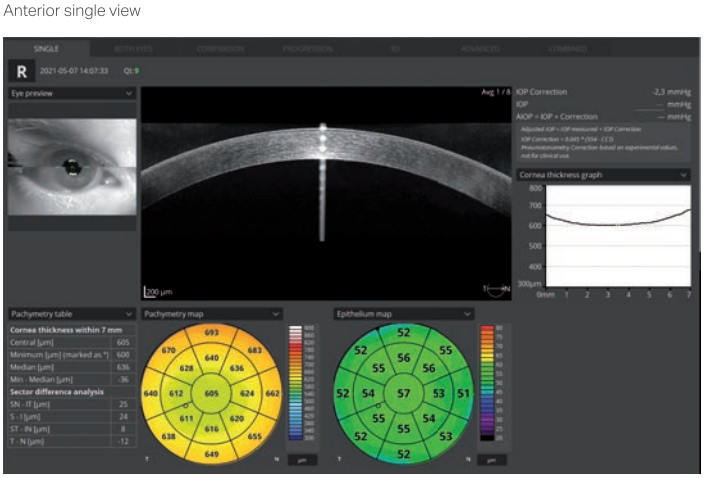
COMPLETE YOUR GLAUCOMA REPORT

To eliminate the common problem of understanding the patient's IOP, the pachymetry module provides IOP Correction value. With the implemented Adjusted IOP formula, you can quickly and precisely understand the measured IOP value. The Pachymetry and Anterior Chamber Angle Verification require no additional attachments. The predefined Glaucoma protocol, which consists of Retina, Disc and Anterior scans, can be done automatically to reduce patient chair time.

Narrowing angle



Anterior single view



REVOlution continues

COMPREHENSIVE GLAUCOMA SOLUTION[1]

Structure & Function - Combined OCT and VF results analysis

Comprehensive glaucoma analytical tools for quantification of the Nerve Fiber Layer, Ganglion layer and Optic Nerve Head with DDLS provide precise diagnostics and monitoring of glaucoma over time.

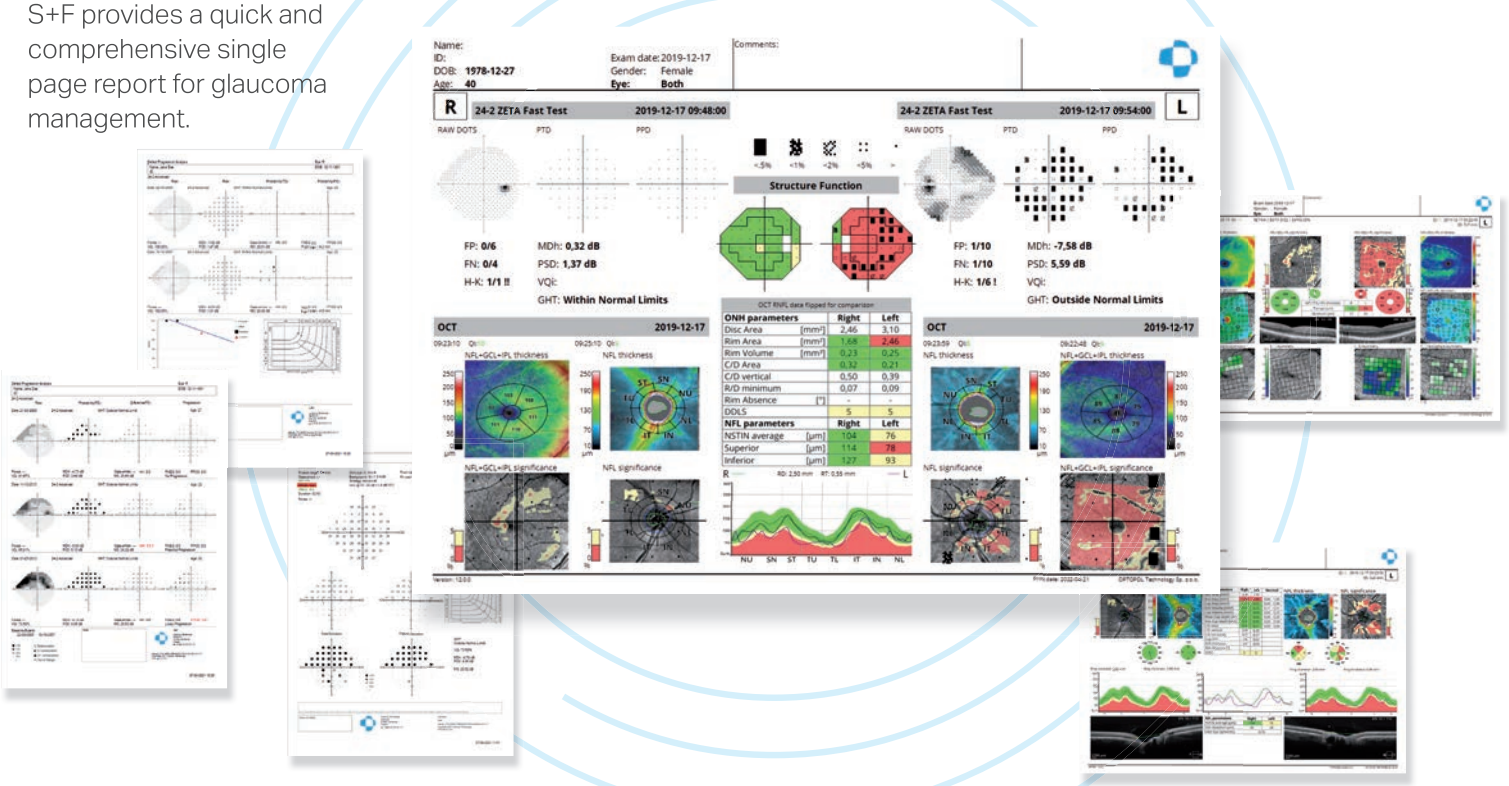
With the gold standard 14 optic nerve parameters and a new Rim to Disc and Rim Absence the description of ONH condition is quick and precise.

COMPRHENSIVE STRUCTURE AND FUNCTION REPORT INCLUDES THE FOLLOWING:

- VF sensitivity results (24-2/30-2 or 10-2)
- Total and Pattern Deviation probability graphs for VF results
- Reliability and Global indices for VF results
- Combined map of Structure & Function
- Ganglion cells analysis (GCL+IPL or NFL+GCL+IPL)
- ONH and NFL analysis including charts and comparison tables
- NFL Asymmetry Plot
- Nasal and Temporal sectors have been spilt to present structural changes better
- Compare exact numerical sensitivity values

SINGLE PAGE REPORT[1]

S+F provides a quick and comprehensive single page report for glaucoma management.



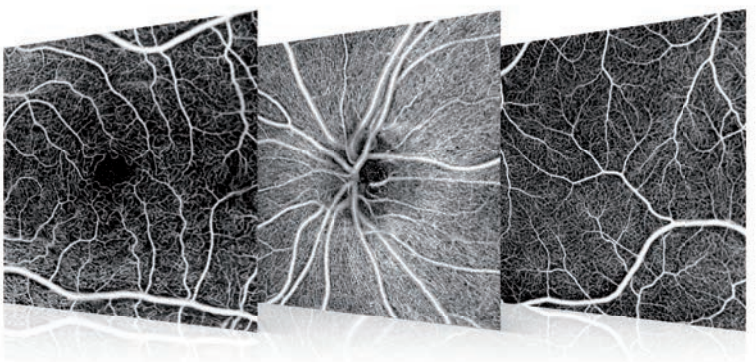
[1] *Integrates with Optopol PTS perimeters running software version 3.4 or above.*

ANGIOGRAPHY A-OCT[2]

This non-invasive dye free technique allows the visualization of the microvasculature of the retina. Both blood flow and structural visualization give additional diagnostic information about many retinal diseases.

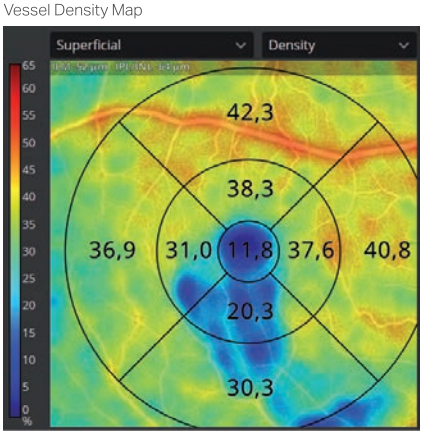
Angiography scan allows assessment of the structural vasculature of the macula, the periphery or the optic disc.

Extremely short scanning times of 1.6 seconds in standard resolution or 3 seconds in high resolution. Now, Angiography OCT can become routine in your diagnostic practice.

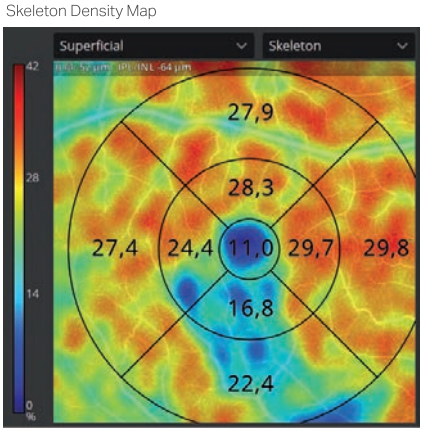


ANGIO ANALYSIS METHODS

Vessel Density Map



Skeleton Density Map



QUANTIFICATION

The quantification tool provides quantification of the vasculature in the entire analyzed area along with values in specific zones and sectors.

The heat map of the analyzed vasculature allows faster evaluation of vascular structure conditions.

Multiple quantification methods increase the sensitivity of analyses for specific diseases.

Available quantification methods:

- Vessel Area Density - defined as the total area of perfused vasculature per unit area in a region of measurement.
- Skeleton Area Density - defined as the total area of skeletonized vasculature per unit area in a region of measurement.

Quantification is available for a specific layer in Angio OCT exam:

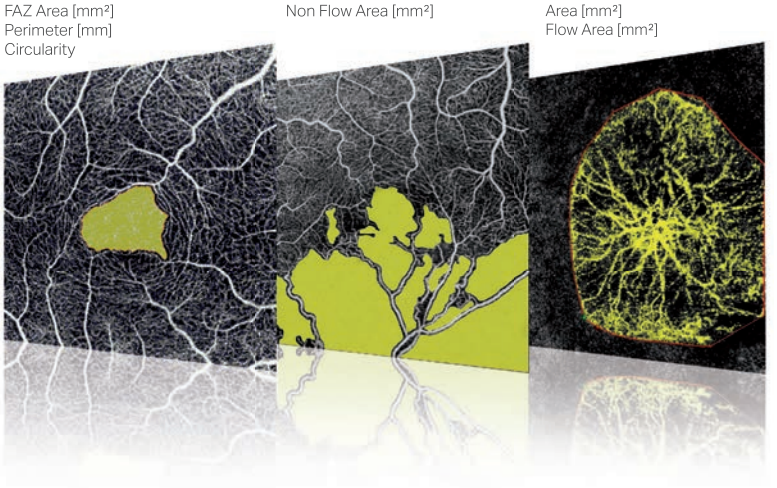
- Retina: Superficial Plexus and Deep Plexus
- Disc: RPC - Radial Peripapillary Capillary

ANGIO-ANALYTICAL TOOLS

FAZ – Foveal Avascular Zone measurements enable quantification and monitoring of changes in superficial and deep vascular layers. FAZ tool is also available for narrow and wide scans.

VFA – Vascular Flow Area allows examination of pathologically affected areas and precisely measures the area covered by vascularization. The user can easily measure area on a predefined or selected vascular layer.

NFA – Non Flow Area measurement makes it possible to quantify the Non Flow Area on the OCT Angio examination. It provides the sum of all marked areas.



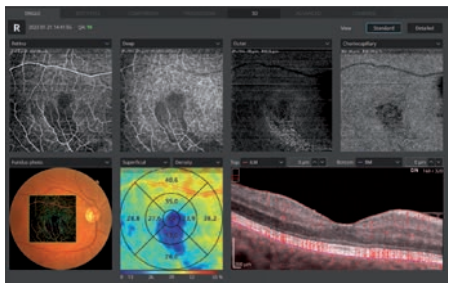
[2] *an optional software module*

REVOlution continues

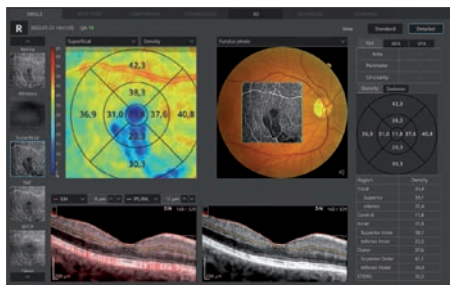
A COMPLETE SET OF ANGIO OCT ANALYSIS VIEWS

The software allows the user to observe, track and compare changes in the microvasculature of the retina in both eyes.

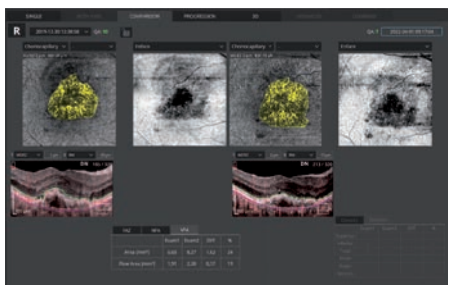
Standard Single View



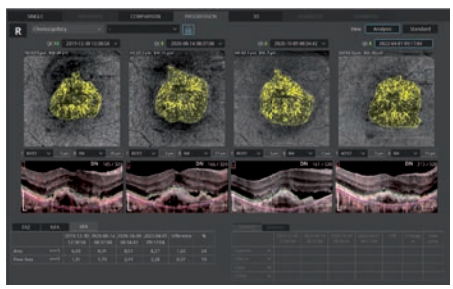
Detailed Single View



Comparison



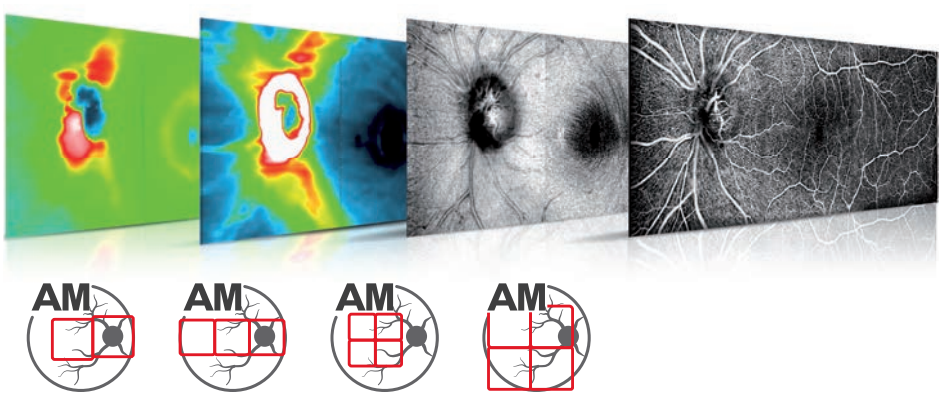
Progression



ANGIOGRAPHY MOSAIC

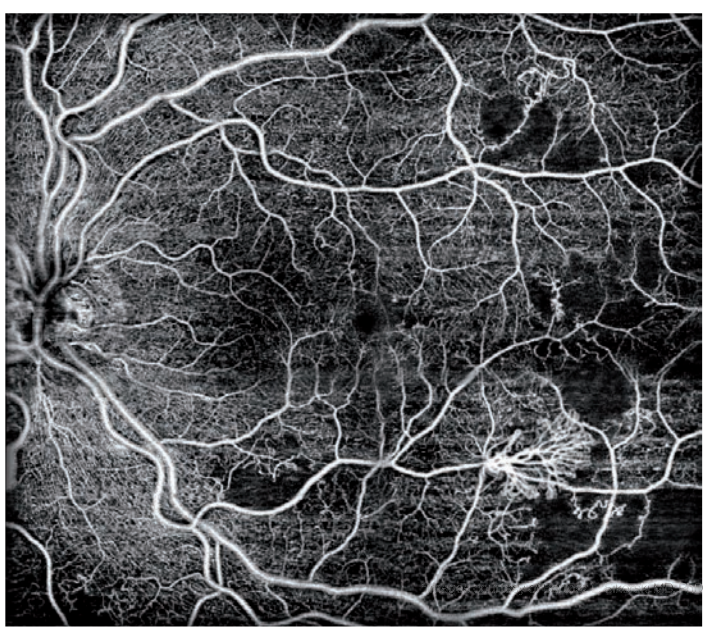
The Angiography mosaic delivers high-detail images over a large field of the retina. Available modes present a predefined region of the retina in a convenient way.

In manual mode it is possible to scan the desired region. Built-in analytics allow the user to see vascular layers, enface or thickness maps.



Healthy patient, Angio Mosaic mode: 7×7 mm

PDR, Angio Mosaic mode: 10x10 mm



TOPOGRAPHY OCT[2]

T-OCT™ is a pioneering way to provide detailed corneal curvature maps by using posterior dedicated OCT. Anterior, Posterior surfaces and Corneal Thickness provide the True Net Curvature information. With the Net power, a precise understanding of the patient's corneal condition comes easily and is free of errors associated with modeling of posterior surface of the cornea. The REVO T-OCT module provides Axial maps, Tangential maps, Total Power map, Height maps, Epithelium and Corneal thickness maps.

The corneal topography module shows the changes in the cornea on the difference map view. Customize favored view by selecting from a variety of available maps and display options. Fully Automatic Capture with examination time of up to 0.2 sec makes testing quick and easy.

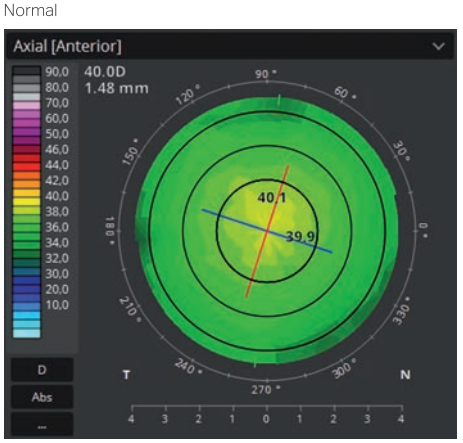
TOPOGRAPHY MODULE PROVIDES:

Full featured Corneal mapping of Anterior, Posterior and real curvatures. Presentation of K's values of Anterior, Posterior and real power as Sim-K, Meridian and semi Meridian.

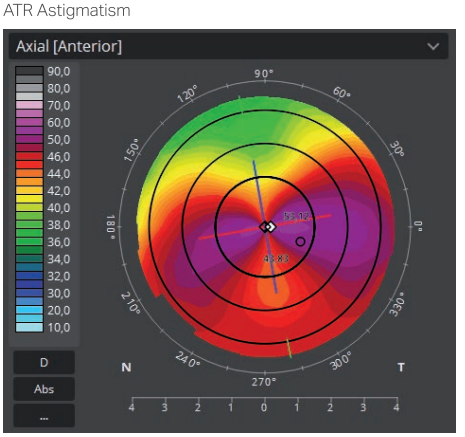
KERATOCONUS SCREENING

Easily detect and classify keratoconus with the Keratoconus Classifier. The classification is based on KPI, SAI, DSI, OSI and CSI. In the early stages of keratoconus, the results can be complemented by Epithelium and Pachymetry maps.

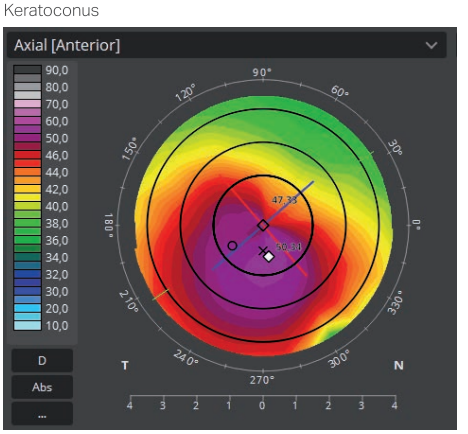
Normal



ATR Astigmatism



Keratoconus



COMPARE THE EXAMS

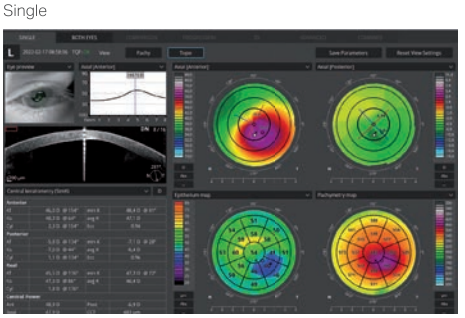
Comprehensive software features a range of selectable views: one or both eyes, comparison and progression.

See details on standard single view and easily see corneal asymmetry on the both eyes view.

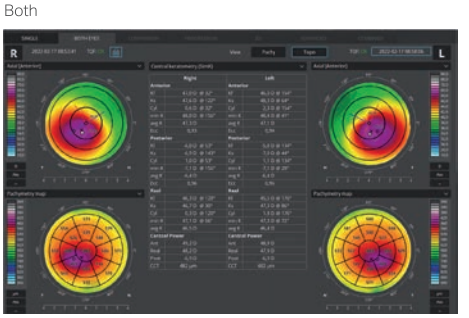
The follow-up feature in the T-OCT™ module allows you to fully compare the changes in the corneal topography over time for:

- LASIK patients
- Keratoconus patients
- The contact lens wearers

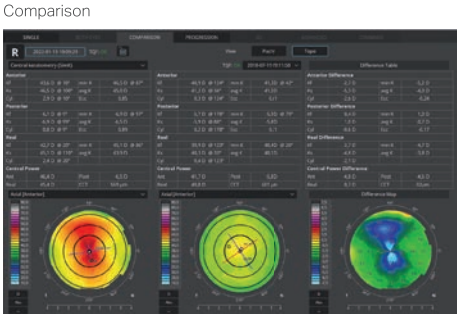
Single



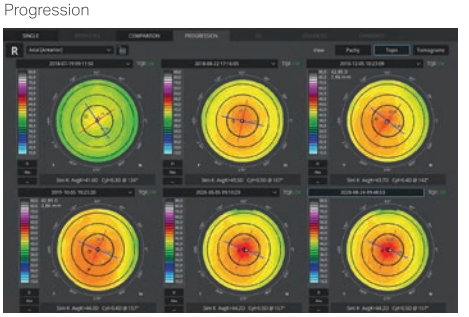
Both



Comparison



Progression



* Image courtesy of Prof. Edward Wylegała MD, PhD

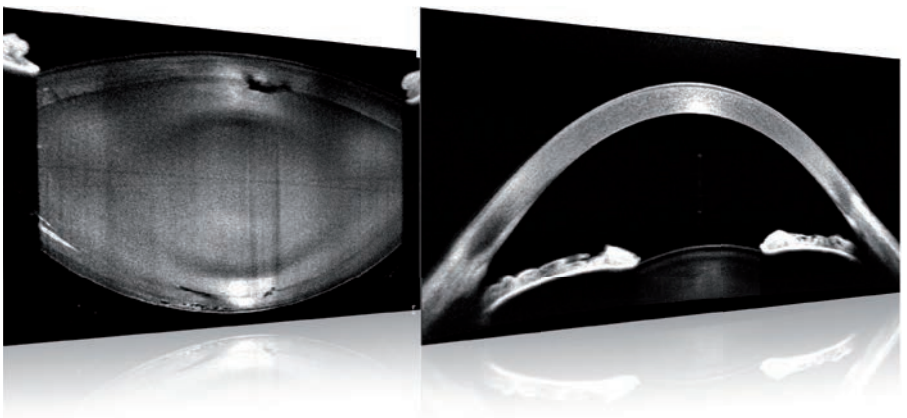
[2] *an optional software module*

REVOlution continues

AC

ANTERIOR CHAMBER

The built-in anterior lens allows the user to perform imaging of the anterior segment without installing additional lenses or a forehead adapter. Now you can display the entire anterior segment or focus on a small area to bring out the details of the image.



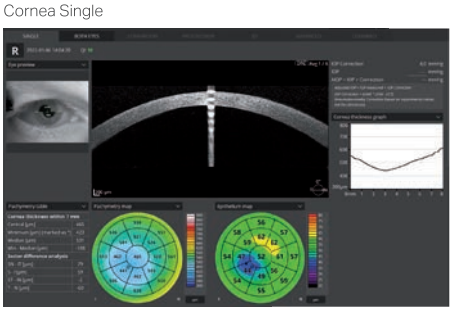
FULL RANGE TECHNIQUE

Anterior Chamber exam with a fast view of the entire Anterior Chamber makes the evaluation of gonioscopy and the verification of cataract lens easier and faster.

Presentation of the results for both eyes allows quick and precise evaluation of the condition of the patient's anterior segment.

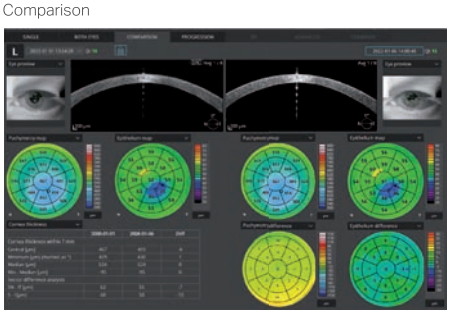
Epithelium and Pachymetry maps are included in the standard package.

Cornea Single

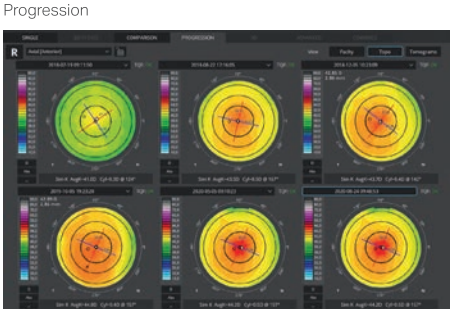


Both

Comparison

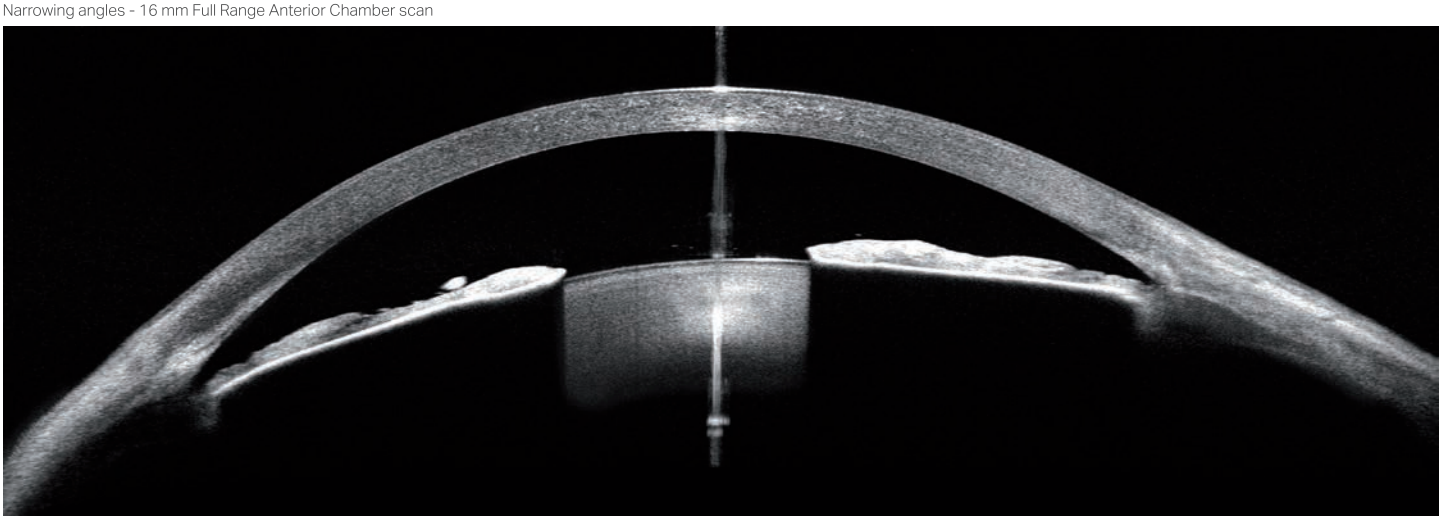


Progression



OCT gonioscopy provides the visualization of both iridocorneal angles together with information on iris configuration on a single, high-resolution scan for glaucoma evaluation.

Narrowing angles - 16 mm Full Range Anterior Chamber scan

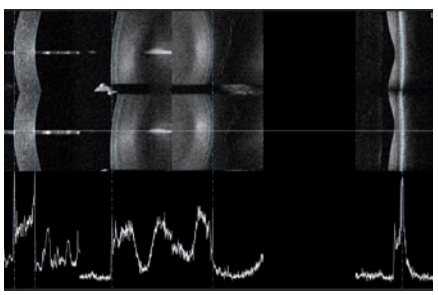


* Images courtesy of Prof. Edward Wylegała MD, PhD

BIOMETRY OCT[2]

B-OCT™ is an innovative method of using the posterior OCT device to measure ocular structure along eye axis. OCT Biometry provides a complete set of Biometry parameters: Axial Length (AL), Central Cornea Thickness (CCT), Anterior Chamber Depth (ACD), Lens Thickness (LT), Pupil size (P) and White to White (WTW.)

Single View



Result view

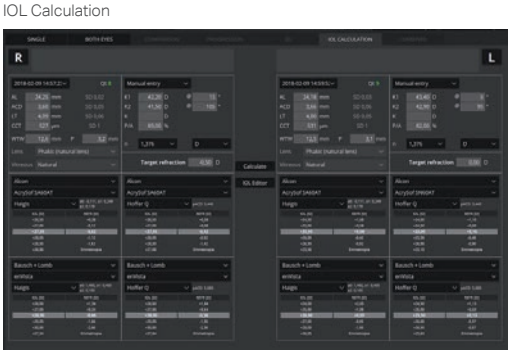
B-OCT™ module is available in two options:

- Standard: featuring IOL calculator
- Basic: for high myopia managment

IOL CALCULATOR[3,4]

IOL formulas allow the user to calculate IOL implant parameters. Our systems now support the latest IOL data base standard IOLCon.org so that you can always keep your library up-to-date.

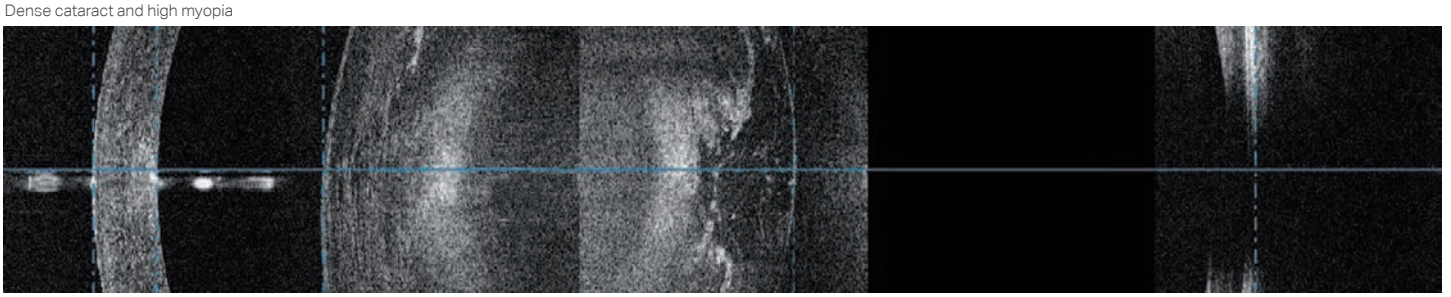
IOL Calculation



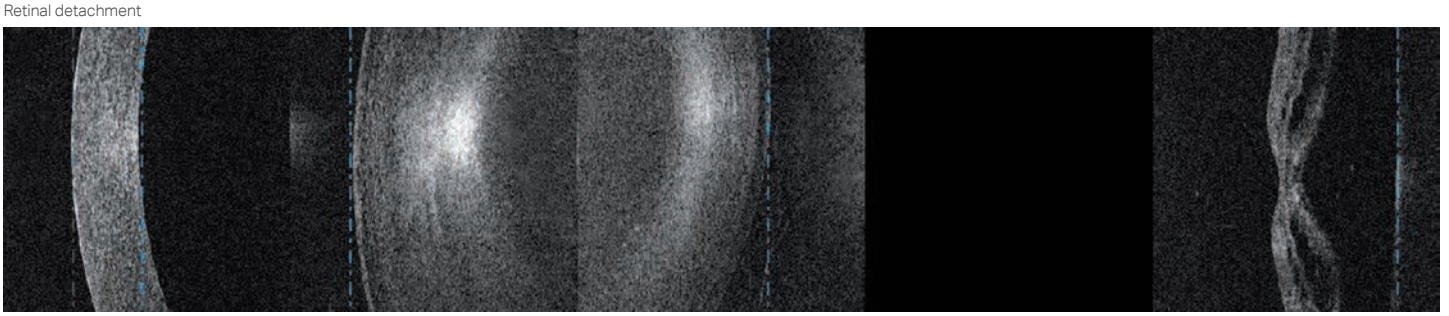
VERIFY YOUR MEASUREMENT VISUALLY

All measurement calipers are shown on all boundaries of the REVO OCT image. Now, you can visually verify, identify and make corrections to any eye structures that have been measured. With a simple cursor shift, it is possible to precisely set boundaries for every difficult patient with 5 µm axial resolution. From now on you can eliminate the common uncertainty of how the optical biometer classifies the boundaries in non-typical patients.

Dense cataract and high myopia



Retinal detachment



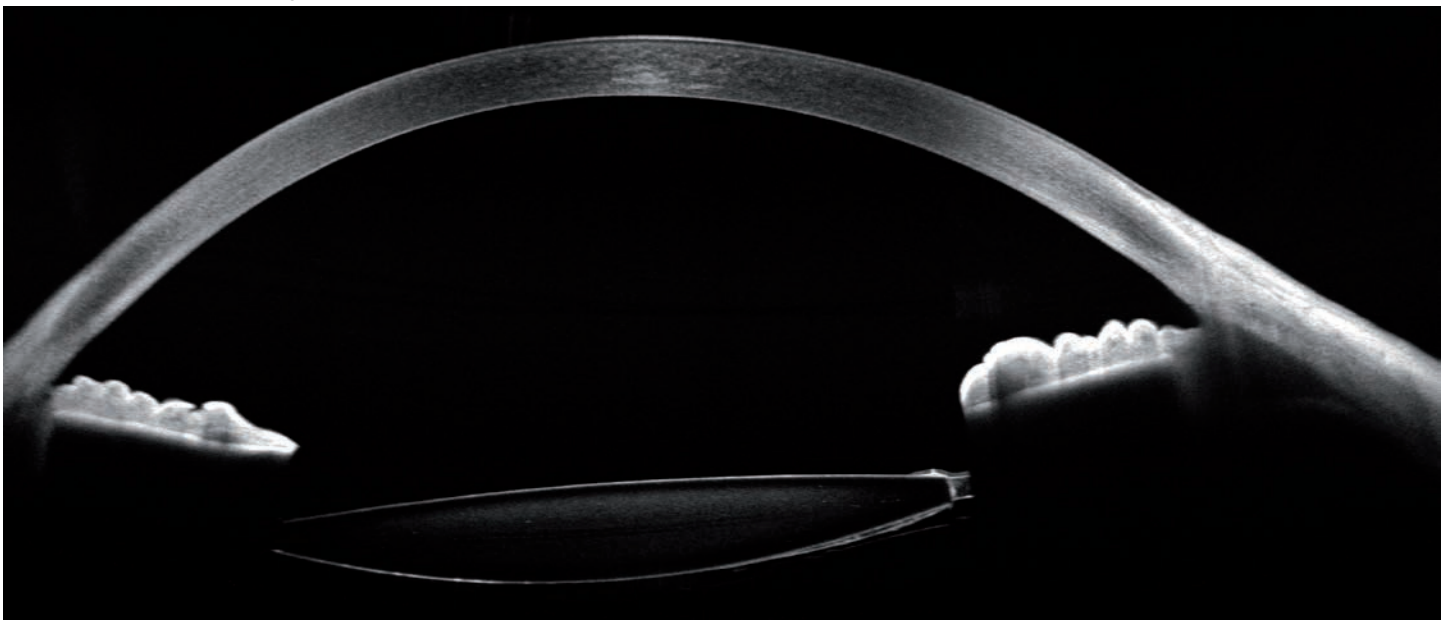
*Images courtesy of Bartosz L. Sikorski MD, PhD

[2] *an optional software module*
[3] *Biometry module required*
[4] *IOL Calculator required seperate licence*

REVOlution continues

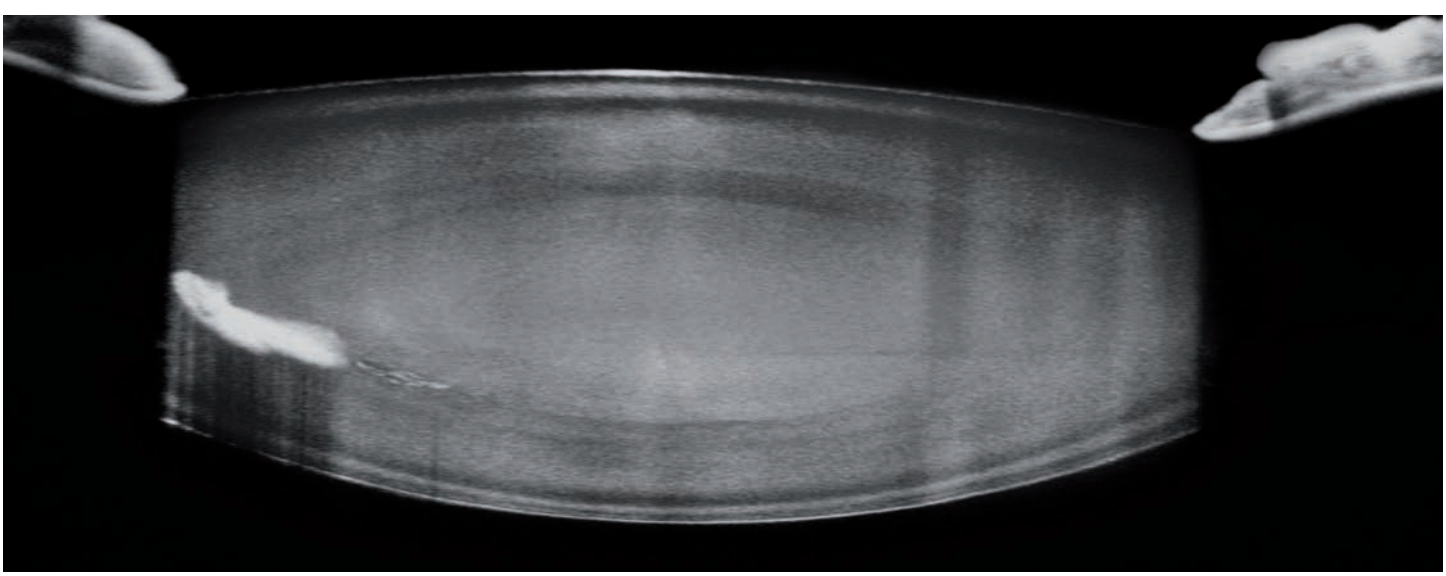
OCT gonioscopy provides the visualization of both iridocorneal angles together with information on iris configuration on a single, high-resolution scan for glaucoma evaluation.

IOL positon verification - 16 mm Full Range Anterior Chamber scan

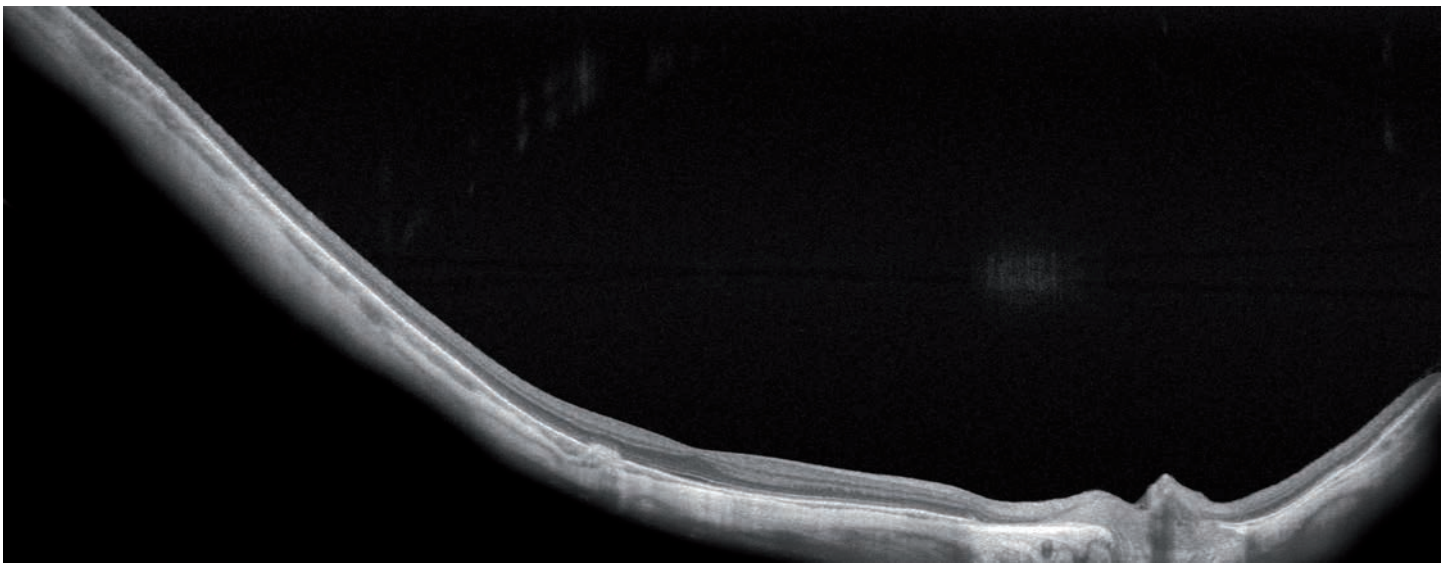


Anterior Angle - 18 mm Full Range Anterior scan

Opacity in ocular lens - 9mm

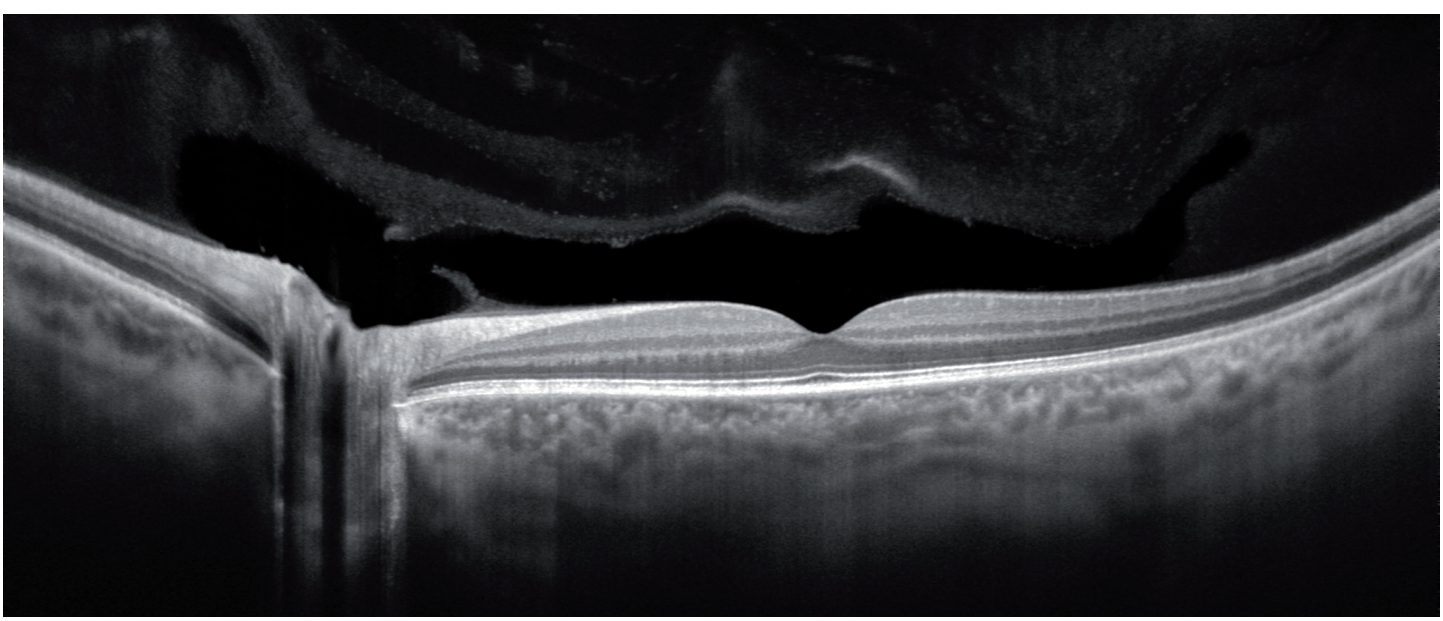


High myopia, 14 mm Full Range Retina scan



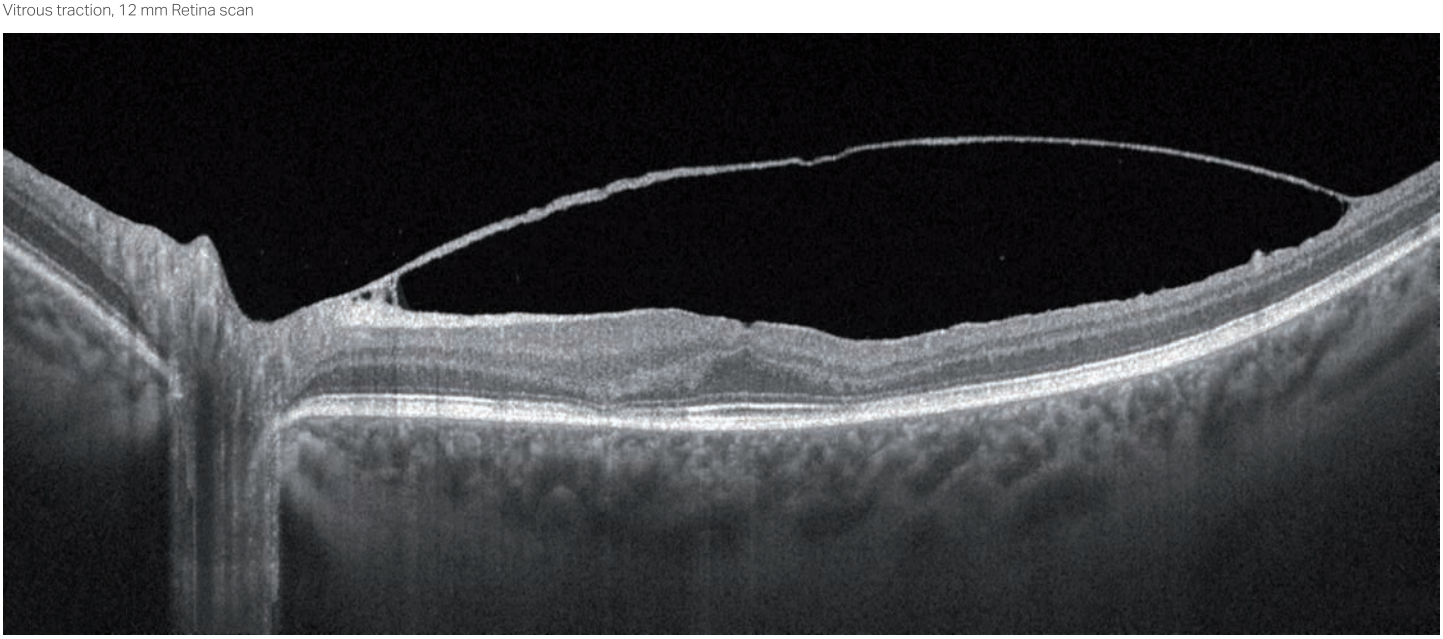
*Images courtesy of Bartosz L. Sikorski MD, PhD

14mm, Full Range Retina scan



* Image courtesy of Prof. Edward Wylegała MD, PhD

Vitrous traction, 12 mm Retina scan



REVOlution continues

Sample of angio Manual mode

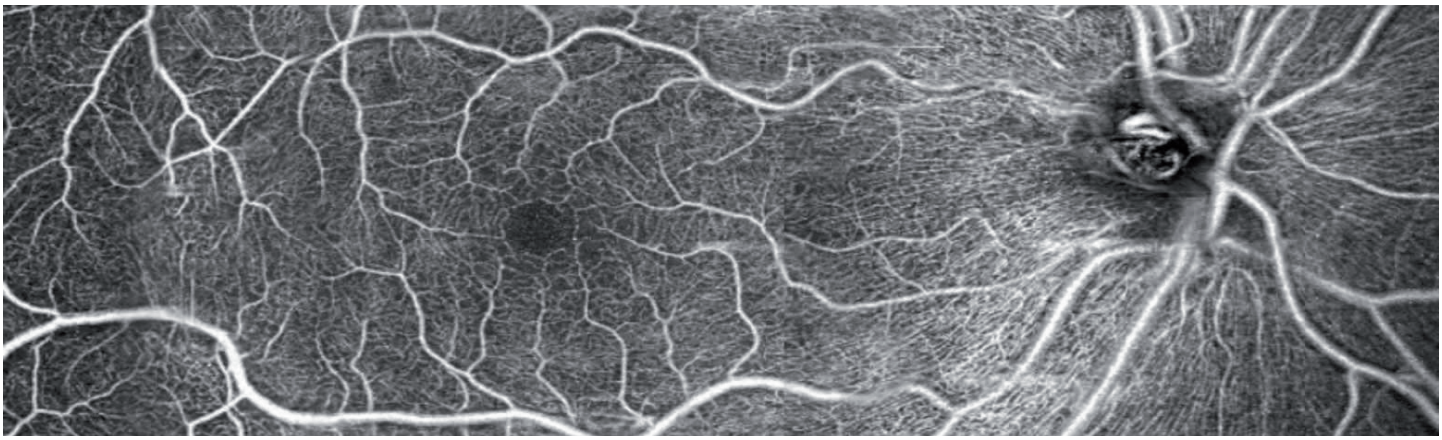
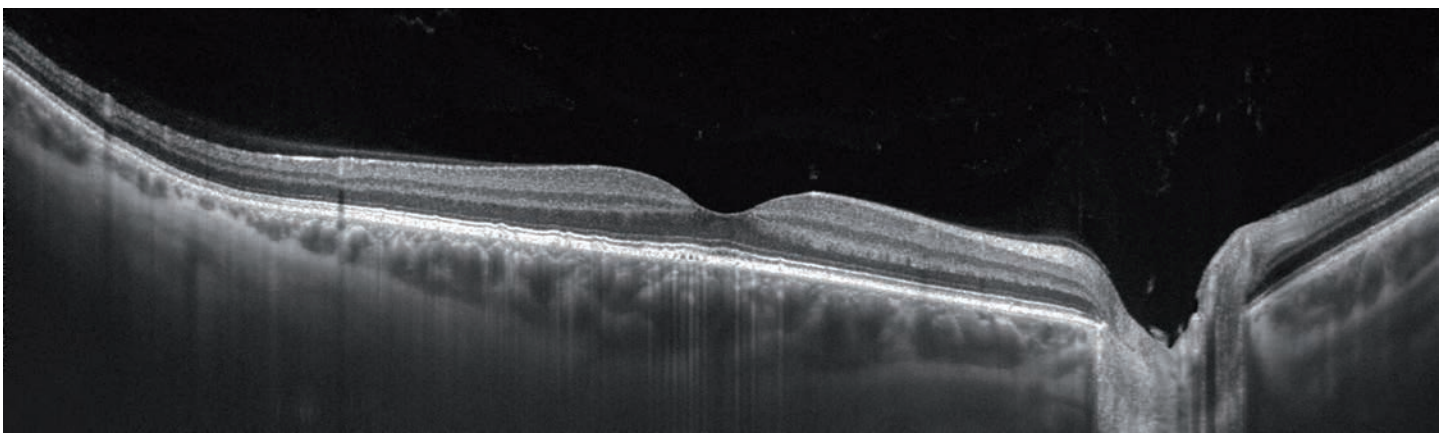
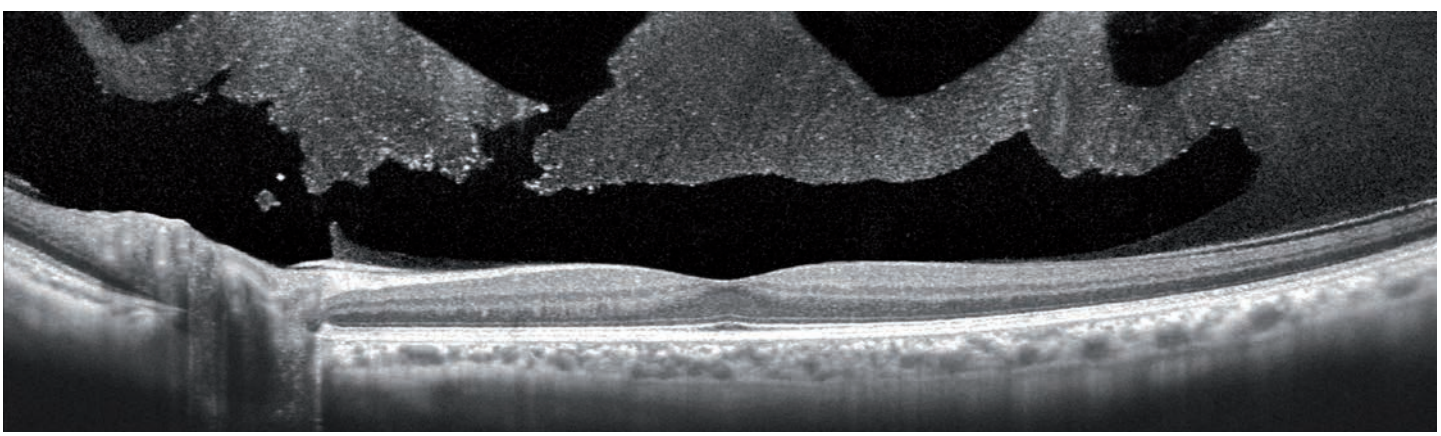


*Image courtesy of Bartosz L. Sikorski MD, PhD

Small hard drusen, 15 mm Retina B-scan



Central 12 mm scan, Enhance Mode to provide vitreous and choroid details



Cornea scan, Posterior graft (DSAEK) detachment

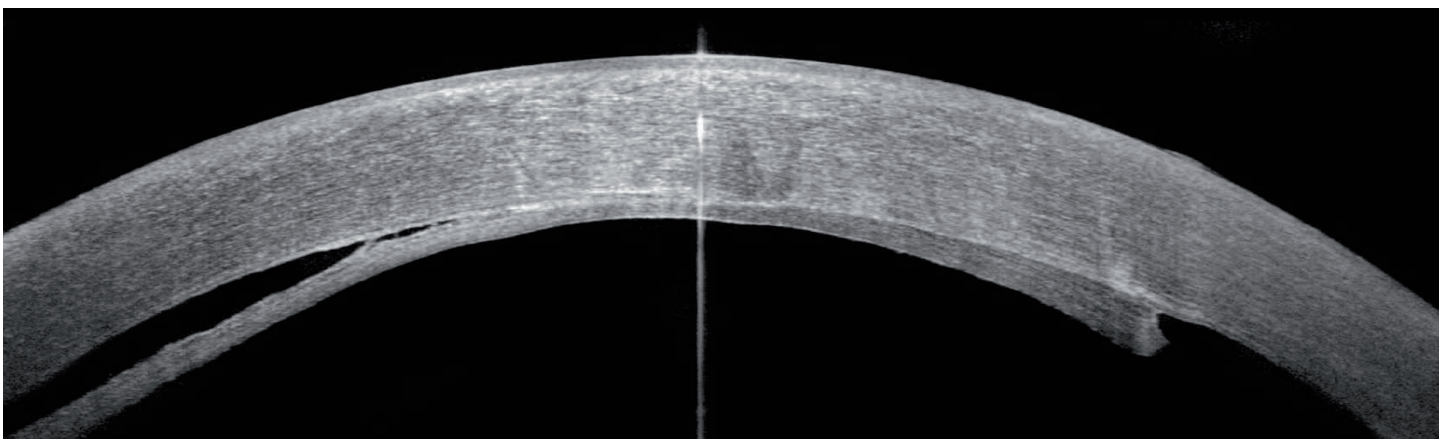


*Image courtesy of Bartosz L. Sikorski MD, PhD

REVO FC130 OCT | FUNDUS CAMERA

FUNDUS CAMERA

Type	Non-mydriatic fundus camera
Photograph type	Color
Angle of view	45° ± 5% or less
Min. pupil size for fundus	3.3 mm
Camera	12.3 Megapixel CCD camera
Flash adjustment, Gain, Exposure	Auto, Manual
Intensity levels	High, Normal, Low

OPTICAL COHERENCE TOMOGRAPHY

Technology	Spectral Domain OCT
Light source	SLED 850 Wavelenght
Bandwidth	50 nm half bandwidth
Scanning speed	130,000 measurements per second
Min. pupil size for OCT	2.4 mm
Axial resolution	2.8 µm digital, 5 µm in tissue
Transverse resolution	12 µm, typical 18 µm
Overall scan depth	2.8 mm / ~6 mm in Full Range mode
Focus adjustment range	-25 D to +25 D
Scan range	Posterior 5 mm to 15 mm, Angio 3 mm to 12 mm, Anterior 3 mm to 18 mm
Scan types	3D, Angio[2], Full Range Radial, Full Range B-scan, Radial (HD), B-scan (HD), Raster (HD), Cross (HD), TOPO[2], AL[2]
Fundus alignment	Live Fundus Reconstruction
Alignment method	IR, Fully automatic, Automatic, Manual
Fundus Tracking	Accutrack - Active real time, iTracking - Postprocessing tracking
Retina analysis	Retina thickness, Inner Retinal thickness, Outer Retinal thickness, RNFL+GCL+IPL thickness, GCL+IPL thickness, RNFL thickness, RPE deformation, MZ/EZ-RPE thickness
Angiography OCT[2]	Vitreous, Retina, Choroid, Superficial Plexus, RPCP, Deep Plexus, Outer Retina, Choriocapilaries, Depth Coded, SVC, DVC, ICP, DCP, Custom, Enface, Quantifcation: FAZ, VFA, NFA, Vessel Area Density, Skeleton Area Density, Thickness maps
Glaucoma analysis	RNFL, ONH morphology, DDLS, OU and Hemisphere asymmetry, Ganglion analysis as RNFL+GCL+IP and GCL+IPL, Structure + Function[1]
Angiography mosaic	Acquisition method: Auto, Manual Mosaic modes: 10x10, 10x6, 12x5, 7x7, Manual up to 12 images
Biometry OCT[2] IOL Calculator[3,4]	AL, CCT, ACD, LT, P, WTW IOL Formulas: Hoffer Q, Holladay I, Haigis, Theoretical T, Regression II
Corneal Topography Map[2]	Axial [Anterior, Posterior], Refractive Power [Kerato, Anterior, Posterior, Total], Net Map, Axial True Net, Equivalent Keratometer, Elevation [Anterior, Posterior], Height, KPI (Keratoconus Prediction Index)
Anterior (no lens/adapter required)	Anterior Chamber Radial, Anterior Chamber B-scan, Pachymetry, Epithelium map, Stroma map, Angle Assessment, AIOP, AOD 500/750, TISA 500/750, Angle to Angle view
Connectivity	DICOM Storage SCU, DICOM MWL SCU, CMDL, Networking
Fixation target	OLED display (the target shape and position can be changed), External fixation arm
Dimensions (L×W×H) / Weight	479 mm × 367 mm × 493 mm / 30 kg
Power supply / consumption	100 V to 240 V, 50/ 60 Hz / 90 VA to 110 VA

[1] via connection with PTS software version 3.4 or higher
[2] an optional software module
[3] Biometry module required
[4] IOL Calculator required seperate license

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