SOCT Copernicus HR

OPTOPOL
technology

SOCT Copernicus HR
is another step into the future of ophthalmic diagnosis.

Ultrahigh resolution gives doctor comfort of confidence in diagnosis. At the same time sharp details give no chance to make a mistake. Ultrahigh scanning speed shortens data collecting time and essentially improves comfort of examination both for patient and operator. Newly elaborated Doppler analysis module enlarges doctor's capabilities to look into patient's retinal vascular system. World's highest resolution, highest scanning speed combined with advanced analysis algorithm make SOCT Copernicus HR state of the art in SOCT technology.

FEATURES
- Highest scanning speed – more focused details – more reliable diagnosis
- Ergonomic design – easier operation
- Shorter time of examination – less fatigue to patient – easier operation
- Wide number of analysis tools for fovea and disc
- Automatic examination

NEW SOFTWARE
- New user interface - ergonomic software designed in cooperation with graphic studio
- New 3D visualization – new tools, enhanced preview, enlarged degree of freedom
- New algorithms core – improved image recognition mechanisms
- Edition of recognized layers – improved reliability of results
- Shorter calculation timeo Fully automatic examination
- Positioning tomograms on the picture of the surface of retina

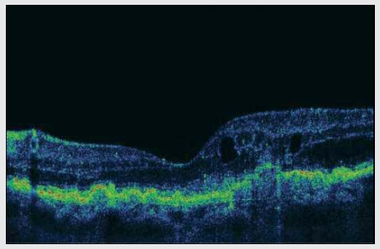
Doppler analysis in SOCT Copernicus HR
- New Flow Velocity Estimation in SOCT
- In vivo measurements of blood flow in retinal vessels
- Maps of velocity distribution

SOFTWARE FEATURES
- Automatic system of calibrating spectrometer – patented
- Retina tracking system
- New modules in software:
- Result comparison module
  - User customized printouts
  - Retina and RNFL volume maps
  - Scan quality index
  - Multi-lingual user interface

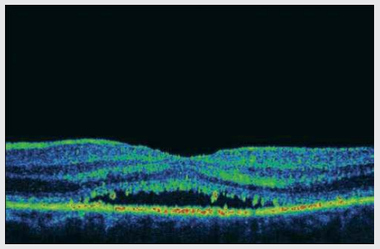
SOCT Copernicus HR Technical Data

Light source:	SLEDC
Central wavelength	850 nm
Axial resolution	3 μm
Transversal resolution	12-18 μm
Scanning speed	52000 A-scan per second
A-scan resolution:	1024 points
B-scan resolution:	16200 A-scans
Max. B-scan width:	10 mm
Scanning density:	1050 A-scans per mm
Dimensions:	640 x 680 x 520 mm H x W x D
Power supply:	100-250V 50/60Hz

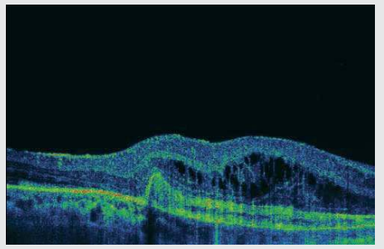
SOCT Copernicus HR image



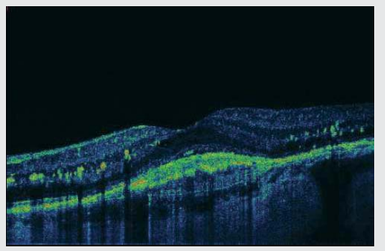
Wet Age Related Macular Degeneration (Wet AMD) with Cysts near the Fovea are easily localized and measured with the high resolution technology of SOCT Copernicus HR.



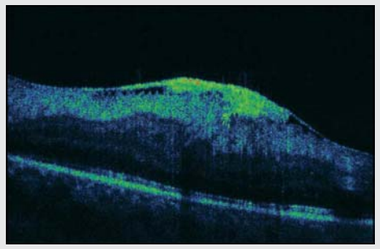
SOCT Copernicus HR can help identify the differences between RPE detachment and Central Serous Chorioretinopathy. In this example, a macular scan is showing neurosensory detachment CSR (CSC).



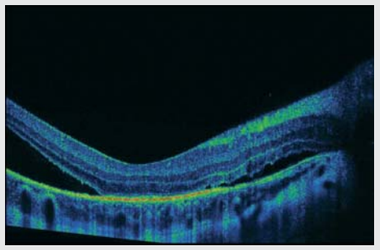
Branch Retinal Vein Occlusion: SOCT Copernicus HR showing Cystoid Macular Oedema with suspected leakage.



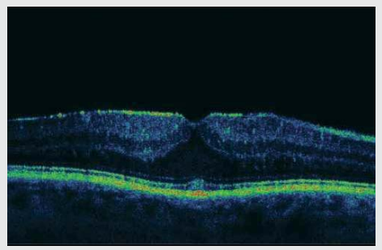
Diabetic retinopathy clearly depicted using exudates and formation of cystic spaces underneath the fovea. The filtration functionality of SOCT Copernicus HR enhances the visualization of exudative particles within the retinal layers.



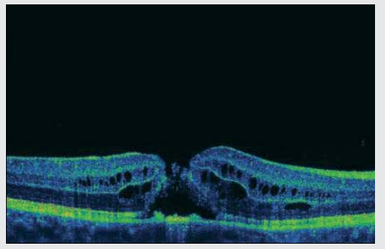
Highly reflective epiretinal membrane and a consequent Macular Oedema are not only easily visible but effortlessly captured using the automatic scanning methodology of SOCT Copernicus HR software.



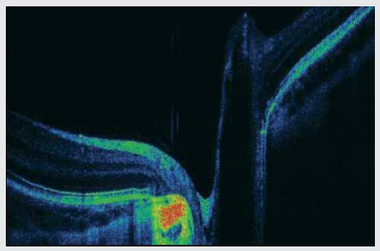
Central Serous Retinopathy (CSR) shown in a wide scan (10mm) with Ultra-high resolution.



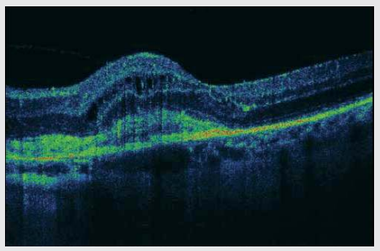
Macular Pucker along with a highly reflective epiretinal membrane formation. The changes in the thickness of the retina can be easily quantified using the automatic thickness measurement functionality of the software.



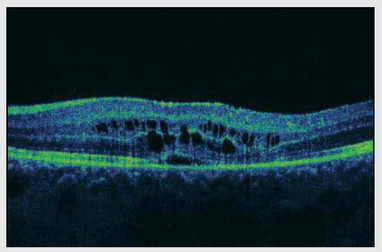
SOCT Copernicus HR images show Full-thickness Macular Hole and its effect on the neurosensory retina. Intraretinal cystoid spaces are also evident on the image.



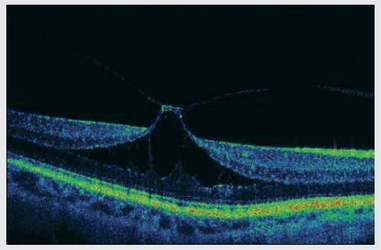
Optic Nerve Head Drusen (Disc Drusen) can be seen in a 3D as well as a 2D view. The 3D view allows location and spread determination, while the 2D view facilitates detailed analysis of the pathological impacts on other parts of retina.



A highly pathological retina showing Vitreo-Macular Traction (VMT), formation of cysts and a possible membrane with suspected leakage.



Cystoid Macular Oedema for easy identification of cystic area and depth.

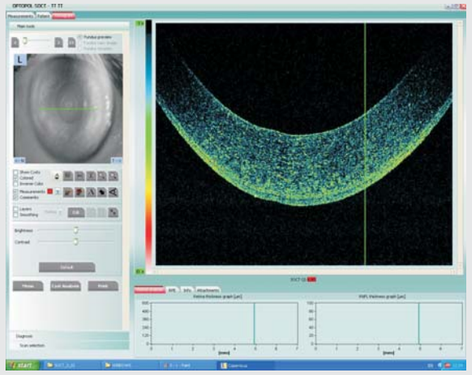


Vitreo-Macular Traction (VMT) can be easily recognized as highly reflective "wings" pulling the retina. VMT can also be seen as the main cause of retinal fluid and detachment.

SOCT Copernicus HR

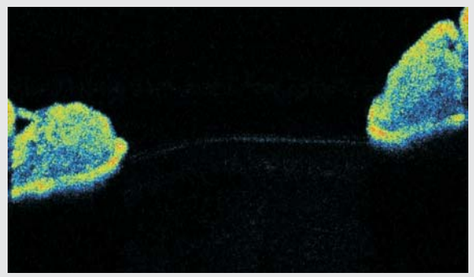
Anterior Segment module

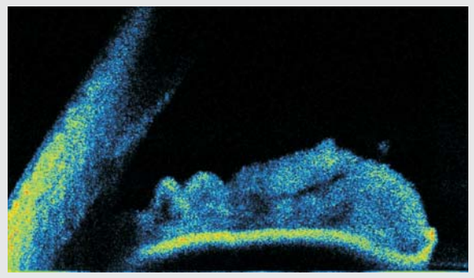
The anterior segment module allows cornea and anterior segment imaging with a resolution of 5 micron.



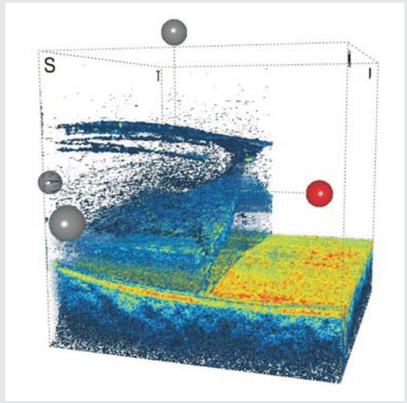
Version 4.0 of the SOCT Copernicus software allows:

1. Pachymetry map.
2. Comparison of pachymetry map.
3. Epithelium thickness measurement.
4. LASIK flap thickness measurement.
5. Anterior lens measurement.
6. Foreign body visualization and measurement.

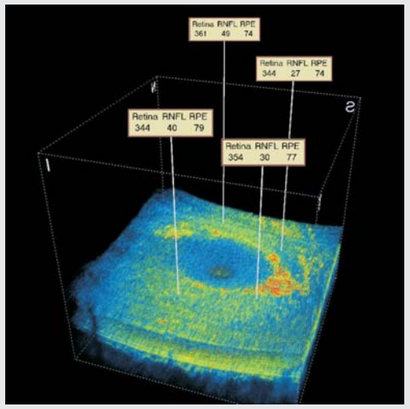




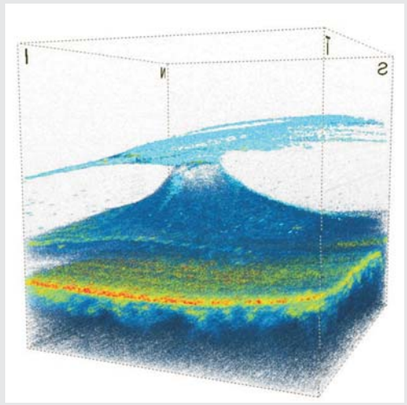
3D and Fovea



The new advanced 3D module allows visualization of the 3D reconstruction. Peeling facilitates localization and review of the pathology for a detailed analysis.



Thickness of the retina, RNFL and RPE can highlighted for any spot on the 3D picture – enabling quick and easy study of the structures.



Vitreomacular tractions can be vislualized, highlighted and removed for easy patient understanding.

SOCT Copernicus Glaucoma Module

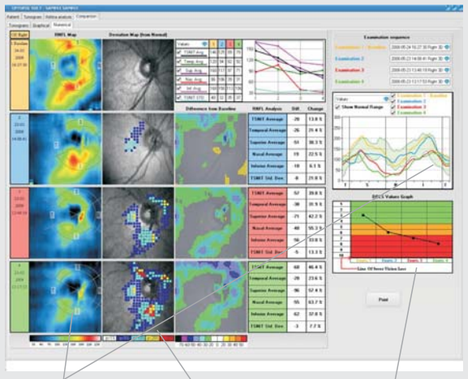
A Powerful Predictor of Change

- Validated by Ophthalmologists to predict structural change
- Progression analysis validated with 10 year's of patient data
- Optic disc analysis outperforms expert interpretation
- Large normative database
- Asymmetry analysis
- Network ready
- DICOM connectivity.

The SOCT Copernicus Glaucoma Module is an essential tool for the detection and management of Glaucoma. Essentially, the tool allows detection on pupillary defect and tracks progression with time. The essential components of the Glaucoma Module are:

1. Disk Damage Likelihood Scale (DDLS): The DDLS is a new way to analyze the optic nerve. Instead of a cup/disc (c/d) ratio, a rim/disc (r/d) ratio and the nerve size is measured. This methodology is superior than any other reporting measure for two reasons:
   a. DDLS eliminates the effects of disc size, which is so variable in people.
   b. DDLS measure provides more weightage to the rim, which is the actual part that is damaged in Glaucoma.
2. Asymmetry analysis: Asymmetry analysis correctly identifies patients with glaucomatous field loss and shows abnormalities in many patients considered at high risk for glaucoma who still have normal fields. Asymmetry analysis is also able to identify objectively the extent of glaucomatous damage and detects changes before subjective field loss occurs.
3. Symmetrical progressions analysis: Glaucoma module allows complete and detailed progression analysis of the RNFL thickness, comparison to the normal population, DDLS scale and difference from baseline plots to highlight progression and/or comparison of disc scans at various stages of time.

Symmetrical Analysis

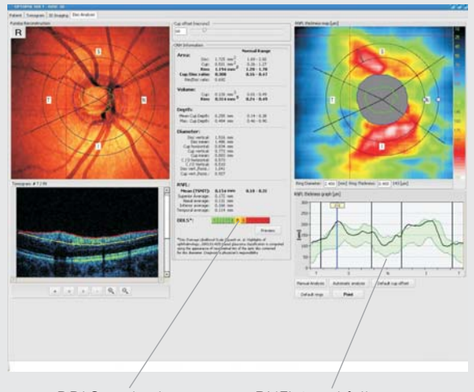


RNFL thickness map shows significant differences with time.

Deviation from normal is seen to increase with time.

DDLS graph showing damage progression.

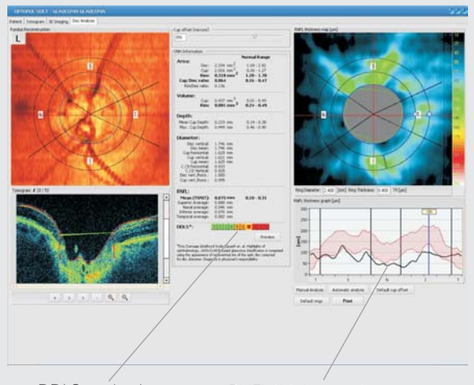
Healthy Disc



DDLS scale shows "caution" rating.

RNFL trend follows normative curve.

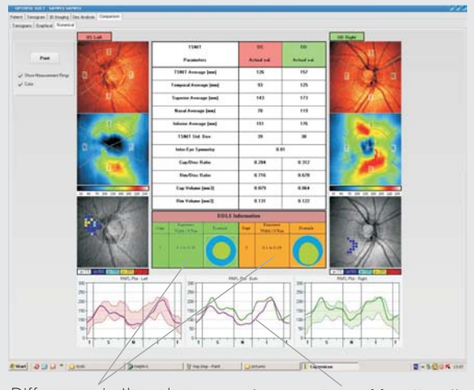
Glaucomatous Disc



DDLS scale shows high damage.

RNFL thickness at the rim is below normal.

Asymmetrical Analysis



Differences in the value of DDLS reconfirm the early stages of defect.

A comparison of functionally and visually healthy left and right eye showing early signs of papillary defect.

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