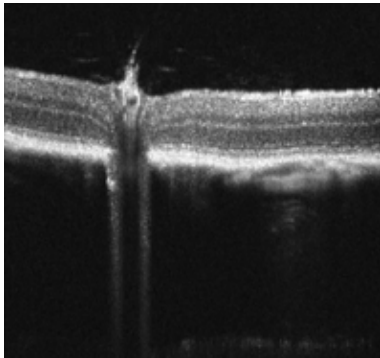
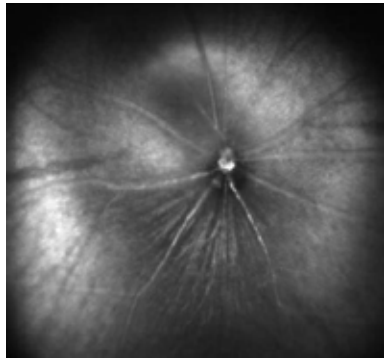


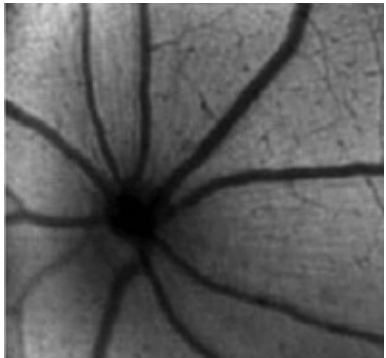
Mouse OCT



Mouse cSLO



Mouse GFP



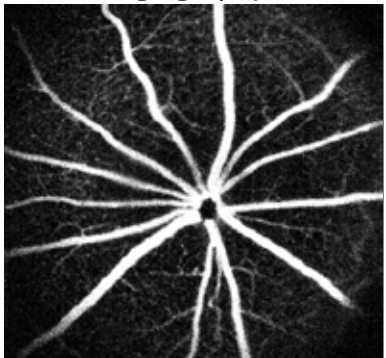
Rat



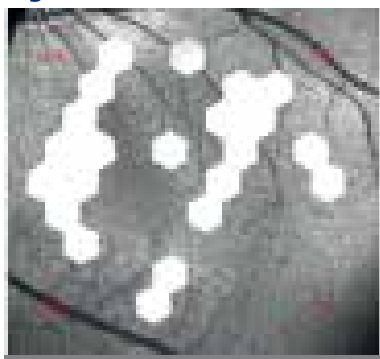
Rat cSLO



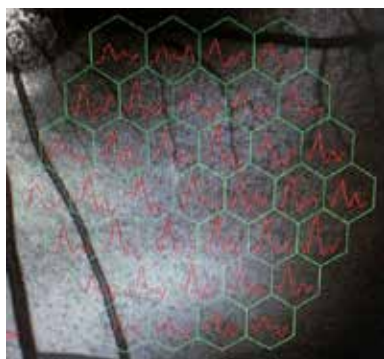
Mouse Angiography



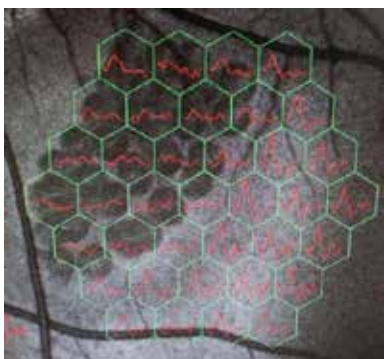
Pig Stimulation



mfERG I



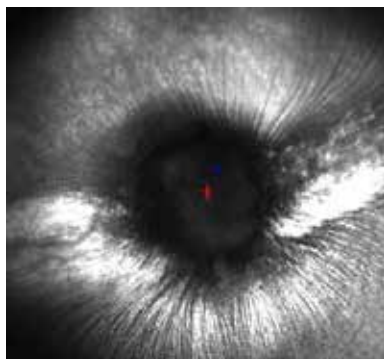
mfERG II



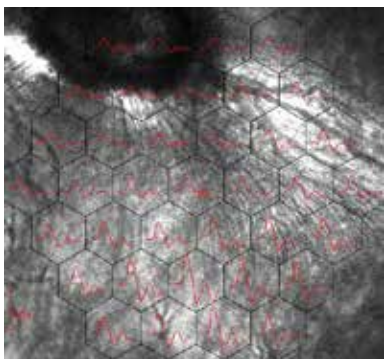
Rabbit



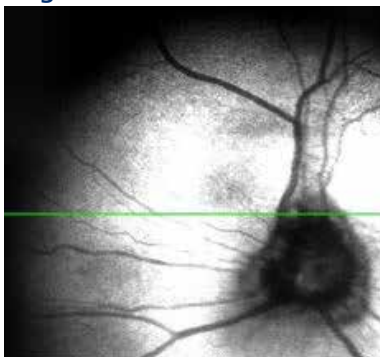
Rabbit cSLO



Rabbit mfERG



Dog cSLO



Dog OCT



In order to prevent the drying out of the eye and to simultaneously flatten the cornea during the examination of animals, special contact lenses are required. RolandConsult performs these lenses as accessories.

Stimulators	
Monitor	<input type="radio"/>
Ganzfeld Q450	<input type="radio"/>
Ganzfeld Q450SC	<input type="radio"/>
Ganzfeld Q450SCX	<input type="radio"/>
BABYflash	<input type="radio"/>
Pattern Handheld	<input type="radio"/>

Programs	RETImap animal
SLO-Module	<input checked="" type="radio"/>
ERG-Module	<input type="radio"/>
OCT-Module	<input type="radio"/>
Angio-Module	<input type="radio"/>
Pattern-VEP	<input type="radio"/>
Pattern-ERG	<input type="radio"/>
Flash-VEP	<input type="radio"/>
Pattern-ERG	<input type="radio"/>
multifocal VEP	<input type="radio"/>
multifocal ERG	<input type="radio"/>
multifocal Science	<input type="radio"/>
Visual Acuity	<input type="radio"/>
Nystagmography	<input type="radio"/>
Pupillometry	<input type="radio"/>
Photopic negative response	<input type="radio"/>
ON-OFF Response	<input type="radio"/>

Amplifiers	
2 Channels	<input type="radio"/>
4 Channels	<input type="radio"/>
6 Channels	<input type="radio"/>
8 Channels	<input type="radio"/>

Animal Table/Thermostate	
S: 120 x 200 mm	<input type="radio"/>
M: 200 x 300 mm	<input type="radio"/>
L: 220 x 550 mm	<input type="radio"/>
Thermostate	<input type="radio"/>

Calibration tool	
Mavo Monitor with Software	<input type="radio"/>
● Standard ○ Option	

Distributor:



pattern hand held



BABYflash



Automatic Ganzfeld and monitor calibration  
Mavo-monitor via USB

## Animal Electrodes

	<b>Animal Goldring Electrodes *)</b> Gold wire 0,5 mm, various ring diameters 3-10 mm Part No 3103RC, 3110RC Gold wire 0,25 mm, various ring diameters 3-10 mm Part No 3225RC, 3230RC		<b>Optical Lens needle</b> For Mouse Part No 1000-100-100 S
	<b>Gold Ground Electrode</b> Gold wire 0,5 mm Part No 3100RC		<b>DTL Electrode ER4</b> 254cm Part No 1000-510-330 Er04
	<b>Concentric Subdermal Needle</b> Steel 0,4 x 13 mm Part No U51-000-G Steel 0,4 x 13 mm Part No U51-003-G Platinum 0,4 x 13 mm Part No U611-000-G Set of 3 x Platinum 0,4 x 13 mm Part No U61-003-G		<b>Connection cable for DTL Electrode</b> 1 Set of connection cables, DIN 1,5 mm Part No 1000-510-302-D  1 Set of connection cables, 2 mm connector Part No 1000-510-302-2

\*) this product is not certified as MDD-Class IIa medical product



**ROLAND CONSULT**  
Electrophysiology and Imaging



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# RETImap animal

Scanning laser ophthalmoscope and modules:

SLO

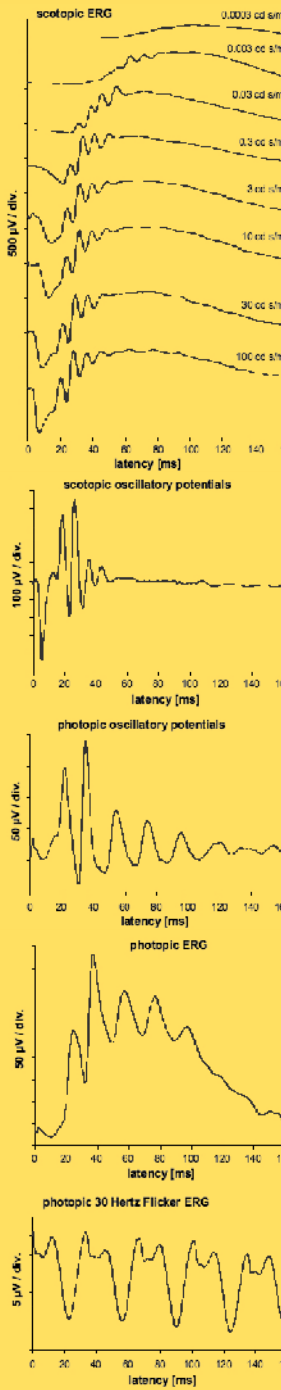
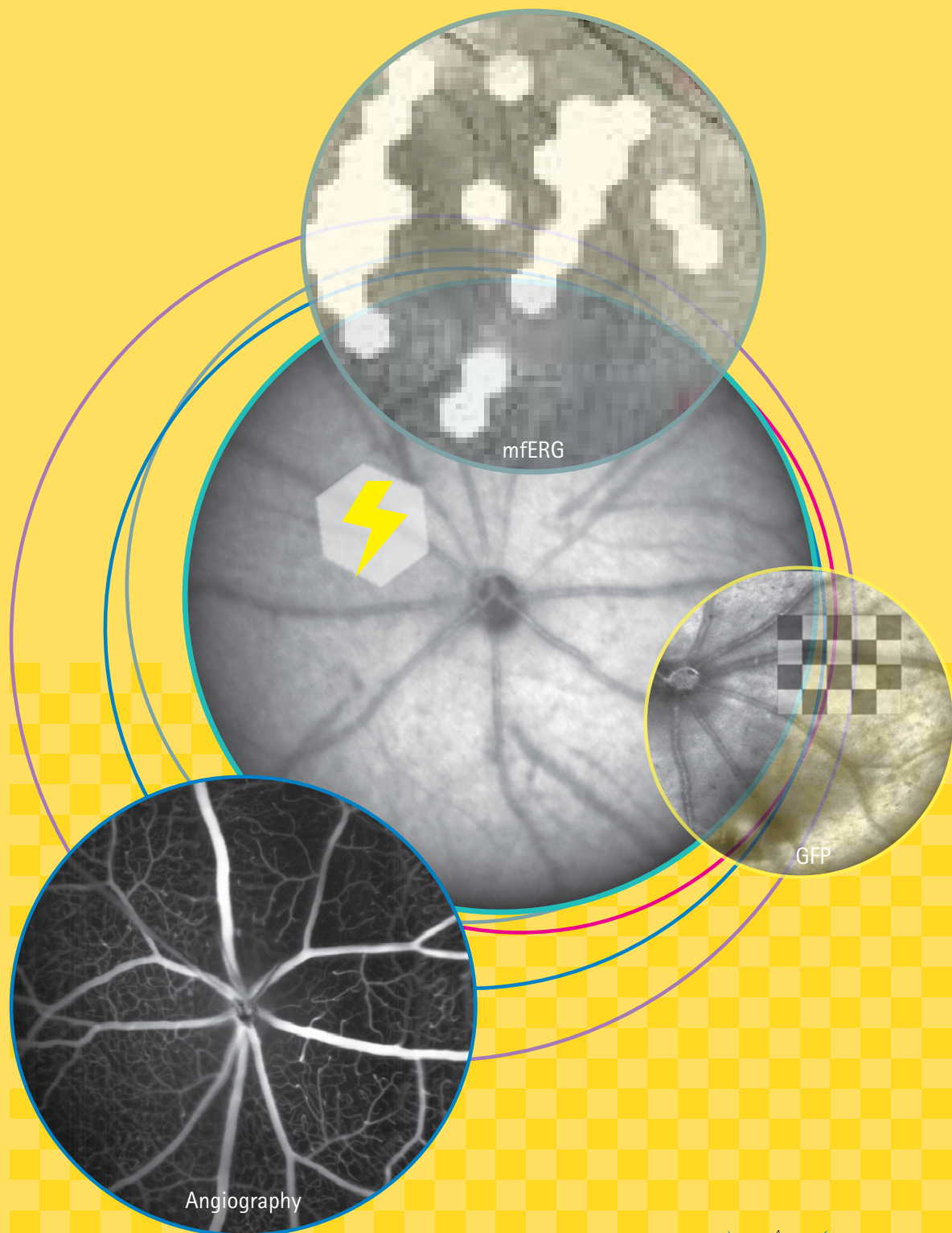
ERG

VEP

FA

GFP

Made in Germany



**ROLAND CONSULT**  
Electrophysiology and Imaging



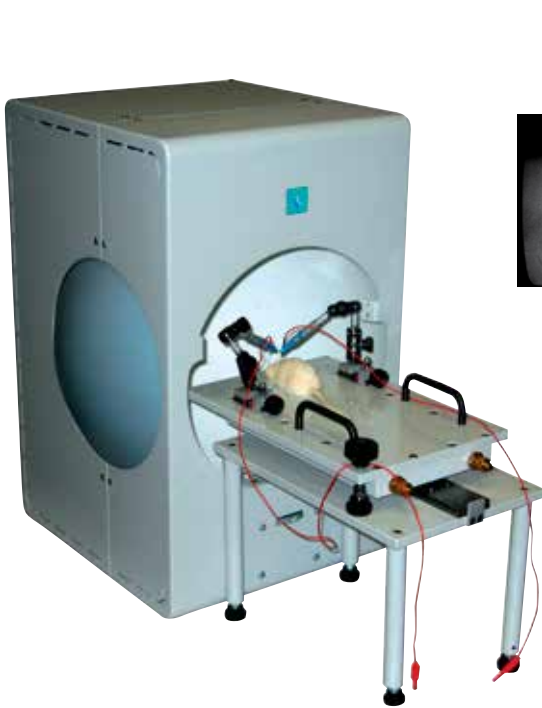
RETI*map animal* product overview

Operator unit

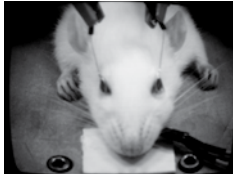


Laser unit

Ganzfeld with animaltable



Infrared monitoring

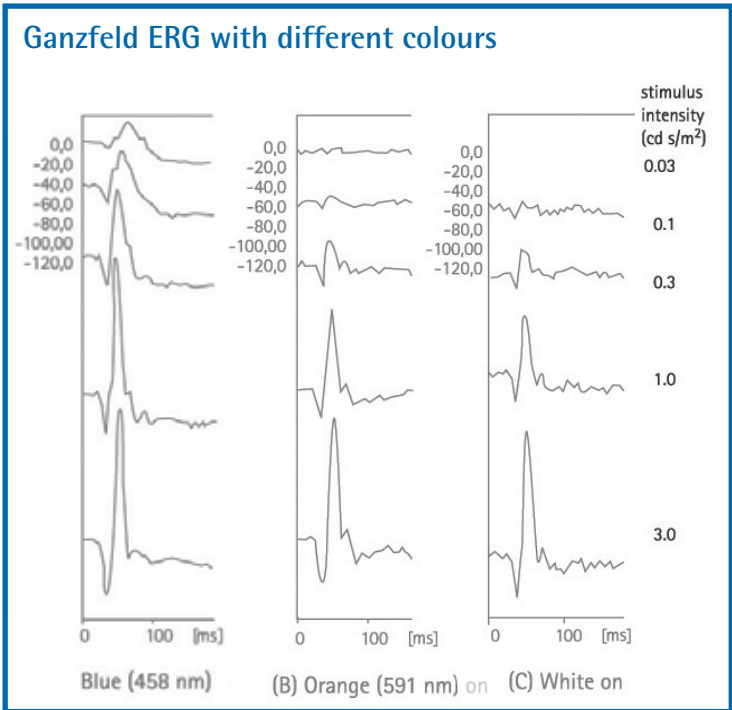
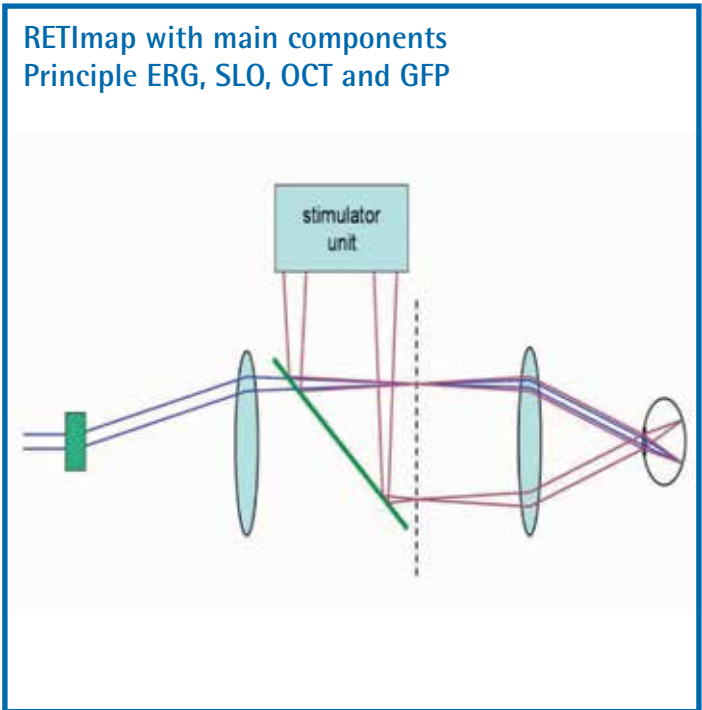


Electrophysiological Test Unit is usable for Pattern VEP + Pattern ERG + Flash VEP, for scotopic and photopic ERG, EOG fast and slow, mf ERG Flash stimulation and mf VEP Pattern stimulation.

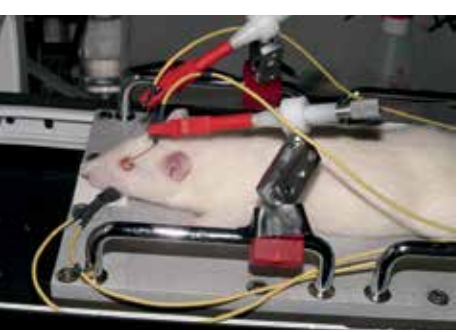
The Roland **RETI*map animal*** unit consists of the stimulator units and data recording and analyzing system. The biosignal amplifier includes a preamplifier near the patient. All patient data and the results are storage in a database. The biosignal and averaged curves from all channels can display on the monitor. In the analyze mode the system set all markers and computes all defined parameters automatically. The software includes a lot of advanced features like FFT analyse,

OFF-line averaging and PreTrigger.

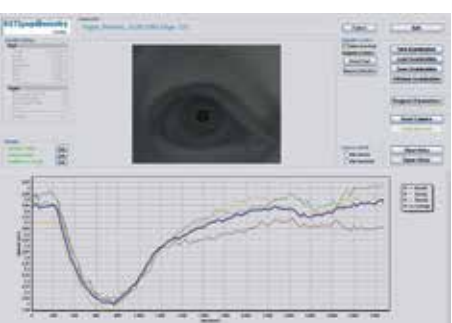
The new Macula tool for better and accurate to understand function and structure of the Retina and specially of the macula and foveola. It is possible to do in 30deg SLO picture, ERG for 7 and 19 areas. Fluorescein Angiography and vertical and horizontal spectral domain OCT slices.



Application



pupillometry measurement



Features:

- Mouse table: Size: 20 x 30 cm, other sizes are possible!
- Heating platform with warm water connection to keep the animal warm
- User can customize programs
- Bio signal and average result can displayed on the screen
- Automatic artefact rejection
- All amplifier parameters are software-controlled
- Automated electrode impedance test can be started any time
- Offline averaging of single responses
- Multifocal analyse each signal with N1, P1 marker, 2D, 3D groups and user groups
- Many special mathematical features to calculate many different parameters
- FFT-Fast Fourier Transformation to analyse steady state results
- DSP-Digital Signal Processing Filter
- Database with backup on DVDRW
- All data can be exported to EXCEL for statistic analyse
- Allow to analyse in local area network
- Motorized operator table

Operating unit:

- taking account of the existing technological level
- 24" TFT Control Monitor
- Keyboard, Mouse
- Colour printer
- Software: MS Windows, Nero, Antivirus, Team-Viewer

Biosignal Amplifier:

- 2, 4, 6 or 8 channel
- Type BF check voltage 1,5 kV
- Impedance 2 x 100 M , Noise < 4µV(SS)
- Common mode rejection >100 dB
- Gain up to 150.000
- Sensitivity 10µV/Div to 2 mV/Div
- High pass: 20 Hz to 10 kHz
- Low pass : 0,02 Hz to 1 kHz

Monitor Stimulator unit:

- High Quality Brand industrial PC-System
- 19" color-monitor, luminance 220 cd/m²; high contrast
- Pattern or stripes positions: full, half or quarter
- Pattern reversal, appearance/disappearance
- Software controlled contrast settings (3 % - 99 %)
- black and white or different color settings

• Ganzfeld Q450

The Ganzfeld consists of the 400mm full field globe, with the central fixation LED and two EOG fixation LEDs. The brightness of these LEDs are computer controlled and an infrared camera is integrated. There are two models Q450C and Q450SC. The Xenon tube module (x) for high intensity flash is an option for both models.

■ Model Q450 C (X): white, blue, red

■ Model Q450 SC(X): white, blue, red, royal blue, green, amber

Stimulus: white flash - standard intensity 3,0 cds/m²

- Interval -40 dB to +5 dB in steps of 5 dB Stimulus: colour flash, standard flash 3,0 cds/m²
- royal blue (455 nm) interval -50 dB to -5 dB in steps of 5 dB
- blue (470 nm) interval -45 dB to 0 dB in steps of 5 dB
- green (525 nm) interval -45 dB to 0 dB in steps of 5 dB
- amber (590 nm) interval -45 dB to 0 dB in steps of 5 dB
- red (625 nm) interval -45 dB to 0 dB in steps of 5 dB

Stimulus: ON-OFF

- all colours: 1 ms to 1000 ms adjustable in steps of 1 ms

Background luminance: adjustable in 1,0 cd/m² steps

- white: 1000 cd/m²

- royal blue (455 nm): 100 cd/m²
- blue (470 nm): 200 cd/m²
- red (625 nm): 200 cd/m²
- green (525 nm): 500 cd/m²
- amber (590 nm): 750 cd/m²

simultaneous use of LED to generate different flash/background colour

Option X: (Q450SCX)

- Xenon tube for white high flash
- Intensities: 9,5 cds/m² (+5 dB), 30 cds/m² (+10 dB), 95 cds/m² (+15 dB)

For the Model Ganzfeld Q450 SC (x) are more additional flexible settings possible.

Option: Flimmer Check according Prof. Kremers

Only for the Model Ganzfeld Q450 SC (x)

For each colour:

- Selectable waveform type: siene wave, rectangular wave,
- Triangular wave, ramp up or ramp down
- Phase shift: 0°- 359° in steps of 1°
- Contrast: 0,1% - 100 % in steps of 0,1 %
- Stimulation frequency: 1 Hz - 150 Hz

Option: Pupillometry

- Full field Ganzfeld stimulation
- Resolution time 33 ms (30 images per second)
- Resolution pupil size 0.1 mm
- Examination settings Number of cycles, cycle time, record time, flash time, flash intensity, averaging of the cycles

OPTIONS:

- BABYflash
- Pattern Hand Held
- Monitor calibration Tool
- Mavo Monitor

RETI*map animal*

SLO

cSLO Macula Basic Unit

RETI*map animal* is a new high technology modular system in ophthalmology. It comes always with the basic unit:

- a non-mydriatric infrared confocal Scanning Laser Ophthalmoscope (cSLO) and can be combined with the following 2 modules:

- Electroretinogram (ERG) + Visual Evoked Potentials (VEP)

- Fluorescein Angiography (FA) + Autofluorescence (AF)

The basic unit delivers a very well detailed image of the fundus. The integrated Roland Consult Fundus Eye Tracker (RCFET) helps to find the exact same position of past examinations. A high resolution DLP Projector is built-in to present the fixation target. The type of the target can be customized in different colors (cross, arrow).

Specification:

- Field of view: 35° x 35°
- Laser source: SLD 920 nm (IR Image)
- Optical resolution: ca. 30 µm
- Focus adjustment: -15 to +15 dpt
- Digital image: 12 bit
- Image Resolution: 512 x 512
- Pupil size requirement: ≥ 2mm

ERG

Module ERG+VEP

The combination cSLO + ERG/VEP is a worldwide unique technology. It allows simultaneous infrared laser monitoring during electrophysiological diagnostic. With the built-in stimulator, the high resolution DLP projector, it is possible to stimulate a large number of retinal locations and extract their responses. The final result is a function map superimposed onto the fundus cSLO image. Regionally confined areas of dysfunction can be detected. The Roland Consult Fundus EyeTracker (RCFET) software helps to detect all eye movement artefacts during the test. The various electrophysiological functions are:

- multifocal ERG,
- focal flash ERG, focal pattern ERG,
- Pattern VEP,
- focal Pattern VEP and focal Flash VEP.

This device can also be upgraded with the classical electrophysiological stimulators and programs.

Specification:

- Monitor stimulator: DLP projector
- Stimulation Area: 25° x 25°,
- Brightness: max. 200 cd/m2
- Vertical frequency: 60 Hz
- Resolution: 800 x 600 Pixel
- Color Stimulator RGB: 636nm/520nm/452nm
- Stimulator Protocols: focal ERG, multifocal ERG, Flash VEP and Pattern VEP
- Bio Signal-Amplifier: Software controlled amplifier
- Impedance: 2 x 100 M
- Noise: < 4 µV (SS)
- CMR: > 120 dB

FA

The Angiography Module runs with a blue laser source (488 nm). It generates higher quality fundus images in comparison to alternative white light illumination photo systems and since no flashes are involved, the system is more patient friendly.

At the beginning of an injection the laser source automatically switch to Angiography mode and a video will be recorded with an exact timestamp on every image. This helps the user to concentrate more on the patient during the examination and review the angiography images later. The advantage of the laser system is also the high speed of image acquisition. Instead of watching static images from early, mid or late phase it is easy to observe the dye in the vessels to localize narrowings and partial blockades.

Specification

- Laser source Blue: 488 nm
- Digital image: 512 x 512
- Record Mode: 15 pictures / second

GFP

Module GFP

Laser source: 488 nm

- Superposition of the reflected images, real time averaging

Online support

- Team viewer