

RETI-port/scan 21

Protocols	Models	basic	alpha	alpha plus	beta	beta plus	gamma	gamma plus	gamma plus ²	delta plus	delta plus ²
Pattern-VEP		●	●	●	●	●	●	●	●	○	○
Pattern-ERG		●	●	●	●	●	●	●	●	○	○
Flash-VEP		○	●	●	●	●	●	●	●	○	○
Albino VEP 1 Channel		○	○	○	○	○	●	●	●	○	○
Flash ERG 1 Channel		-	●	●	-	-	-	-	-	-	-
Flash ERG 2 Channel		-	-	-	●	●	●	●	●	-	-
Photopic Negative Resp.		-	-	-	●	●	●	●	●	-	-
ON-OFF Resp.		-	-	-	-	-	●	●	●	-	-
S-Cone ERG		-	-	-	-	-	●	●	●	-	-
EOG		-	-	-	●	●	●	●	●	-	-
Multifocal ERG P		-	○	●	○	●	-	-	-	●	-
Multifocal ERG S		-	-	○	○	○	-	●	●	○	●
Multifocal VEP		-	-	-	-	-	-	-	●	○	●
Visual Acuity		○	○	○	○	○	●	●	●	○	○
Glaucoma Screening		○	○	○	○	○	●	●	●	○	○
Nystagmography		○	○	○	○	○	○	○	●	○	○
Pupulography		-	-	-	○	○	○	○	●	-	-
Scientific Tool Port		○	○	○	○	○	●	●	●	-	-
Scientific Tool Scan		-	-	○	-	○	-	●	●	●	●
Stimulators											
Monitor		●	●	●	●	●	●	●	●	●	●
Ganzfeld Q450 C		-	-	-	●	●	-	-	-	-	-
Ganzfeld Q450 SC		-	-	-	-	-	●	●	●	-	-
MINI-ganzfeld I8		-	●	●	○	○	○	○	●	○	○
BABYflash E130		-	○	○	○	○	○	○	●	○	○
Amplifier											
2 Channels		●	●	●	●	●	-	-	-	●	-
4 Channels		○	○	○	○	○	●	●	●	○	●

● Standards ○ Option configuration, can not be retrofitted - not applicable

RETI-port/scan 21

Features:

- All programs: ERG, VEP, EOG, mfERG according ISCEV standards
- Possibility to create own programs
- Delivered with normal values and there is an easy way to integrate your own values
- Automated measurement of pupil size in ERG, EOG and mfERG
- Special fixation targets are available on the Stimulator Monitor for children
- Optimized screening ERG/VEP protocols for children
- objective Visual Acuity Test with VEP
- S-Cone ERG, Photopic negative response ERG, ON-OFF ERG
- Early Glaucoma Screening Test with P-ERG
- advanced Glaucoma follow-up with Contrast Flicker Test
- multifocal VEP
- The impedance test with shown image of the electrode position
- Automated artefact rejection in all protocols
- Artefact adjustment as absolute or relative values
- Automated analysis by placing the markers already during the examination
- Digital filter for signal processing
- Possibility to integrate a typical curve in the analysis and on the printout
- PVEP and PERG can also be tested simultaneously
- Display of even and odd average results with calculation of the correlation factor
- Delivered with EYE-Fixation Camera for patient monitoring
- Printout also in pdf format
- Work in the LAN, all data are available at the reading stations
- Export all data to EXCEL
- DICOM interface
- Service via Team Viewer

Operating Unit:

- DELL Mini PC „State of the art“
- Software: Windows 10, Team Viewer

Biosignal amplifier:

- 2 or 4 channel
- Impedance 2 x 100 MΩ
- Common mode rejection >110 dB
- Sensitivity 10 μV/Div to 2 mV/Div
- Low pass: 0,02 Hz to 1 kHz, High pass: 30 Hz to 3 kHz

Monitor Stimulator unit:

- High Quality Brand industrial PC-System
- 19" color-monitor, luminance max. 220 cd/m²; high contrast
- Checkerboards, bars fields: full, half or quarter
- Pattern reversal / appearance / disappearance
- Software controlled contrast settings (3 % - 99 %)
- black and white or different color settings
- variable fixation points, special pictures for children

Distributor:



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Ganzfeld Q450

The Ganzfeld consists of the 400 mm 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 Q450 C and Q450 SC.

Model Q450 C: white, blue, red

Model Q450 SC: white, blue, red, royal blue, green, amber

Flash Luminance white: standard flash 3,0 cds/m²

- Range -40 dB to +5 dB in steps of 5 dB
- Flash Luminance color: standard flash 3,0 cds/m²**
- royal blue (455 nm) range -50 dB to -5 dB in steps of 5 dB
- blue (470 nm) range -45 dB to 0 dB in steps of 5 dB
- green (525 nm) range -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 all LED's to generate different flash/background intensities and colors

Option Flimmer Check according Prof. Kremers:

For each color:

- Selectable waveform type: sine 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: Pupilometer

- 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

Optional stimulators

● BABYflash E130

- Flash Luminance: standard flash 3,0 cds/m² for white, blue, red
- Range: -40 dB to +10 dB in steps of 5 dB for white, blue, red
- Background: 30, 100 and 450 cd/m² for white, 10,15, 20, 30 and 50 cd/m² for blue (470nm), red (625 nm)

● MINI-ganzfeld I8

- Flash Luminance: standard flash 3,0 cds/m² for white
- Range: -25 dB to +10 dB in steps of 5 dB for white

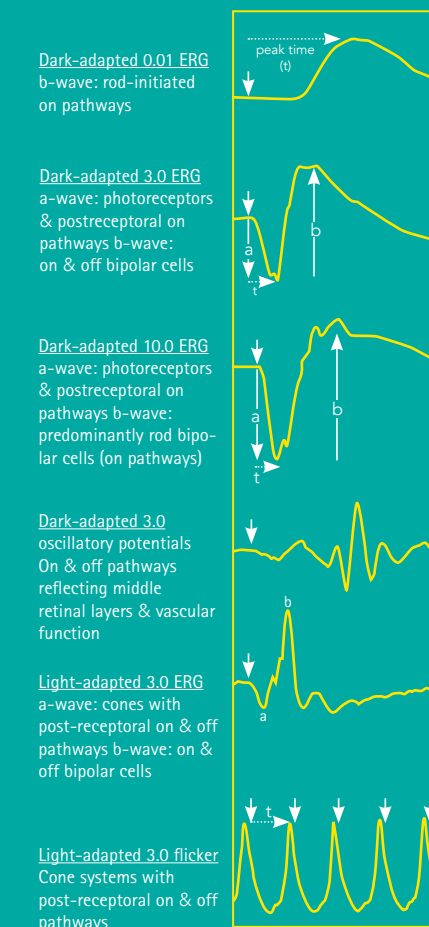
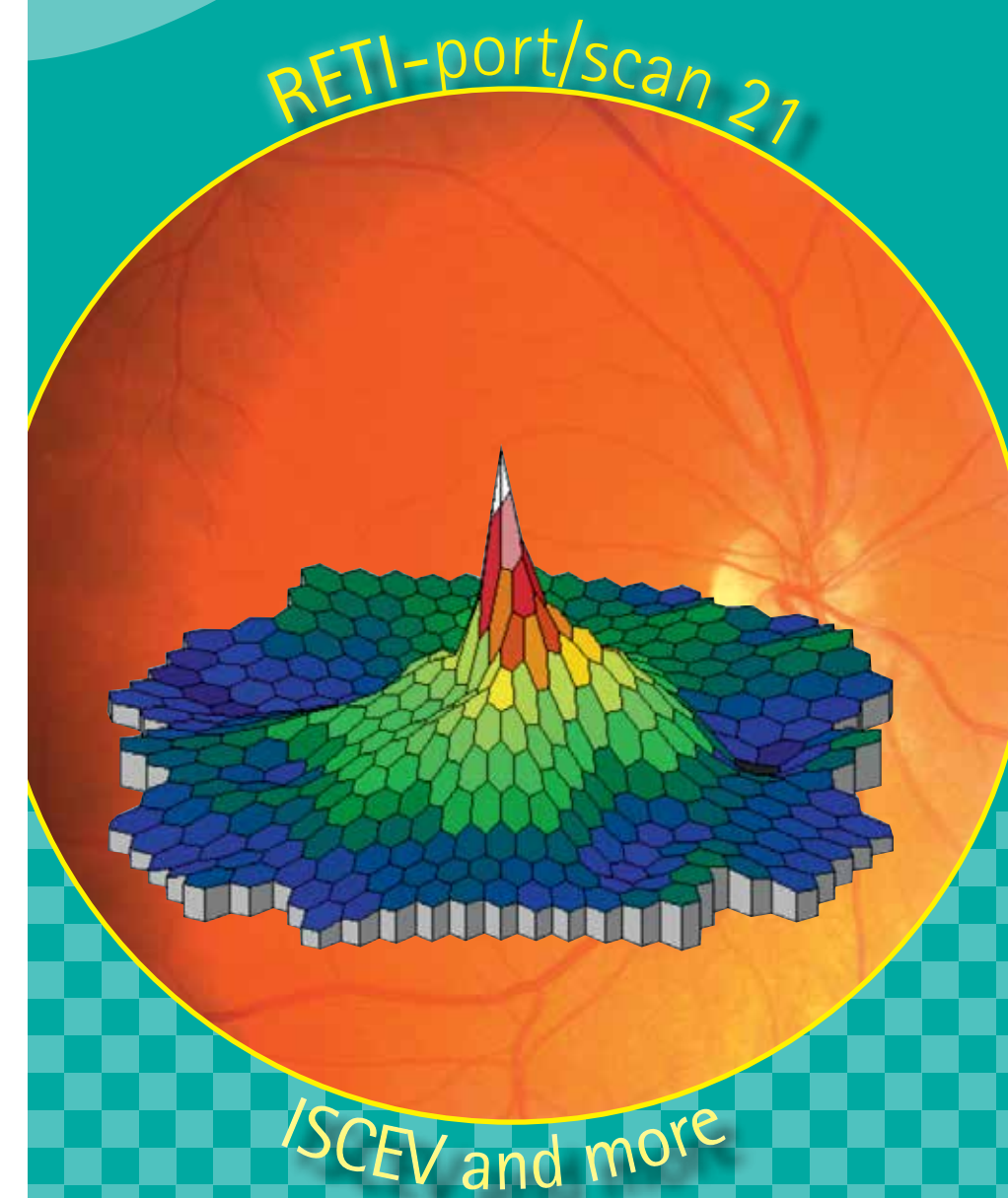
● Calibration Tool

- Automatic Stimulator calibration via USB

ERG · VEP · EOG · mfERG · mfVEP

ALL IN ONE

Made in Germany



ROLAND CONSULT
Electrophysiology and Imaging



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ROLAND CONSULT
Electrophysiology and Imaging

RETI-port/scan 21 product overview

The RETI-port/scan 21 is an electrodiagnostic device used to generate stimulus signals and to display the electrical signals generated by the retina and the visual nerve system.

The system is able to display digitized:

- Electroretinograms (ERG),
- Visually Evoked Potentials (VEP),
- Electrooculograms (EOG),
- Electronystagmography (ENG), and the
- measurement of pupillary reactions.

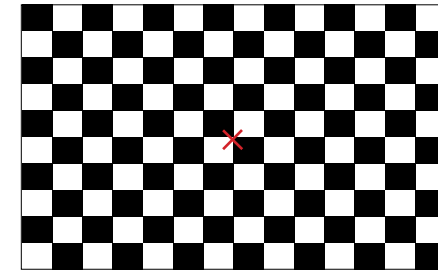
The data can be shown as measurement curves as well as spectral and topographical maps. The various examinations are performed by trained medical staff.



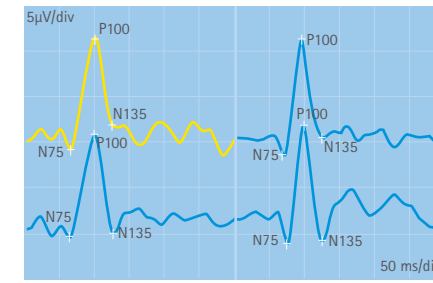
Model gamma plus²

Summary of Indications for Specific Tests								
Diagnosis	EOG	mf ERG	Bright Flash ERG	Pattern ERG	Flash VEP	Pattern VEP	Special VEP	mf VEP
Inherited retinal dystrophies	+	+		+		+		
Vascular diseases including diabetes		+		+		+		
Opaque media or trauma		+	+		+			
Retrolubar neuritis				+	+	+		
Unexplained visual loss		+		+	+	+		
Infant with questionable vision		+		+	+	+	+	
Albinism		+					+	
Toxic and nutritional eye disease	+	+		+	+	+		
Glaucoma				+				+
Suspected intracranial lesion				+		+	+	

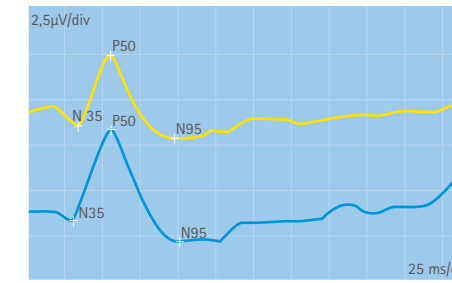
Pattern stimulus ERG/VEP



Pattern VEP



Pattern ERG



Tilting stand



Ganzfeld Q450 C / SC



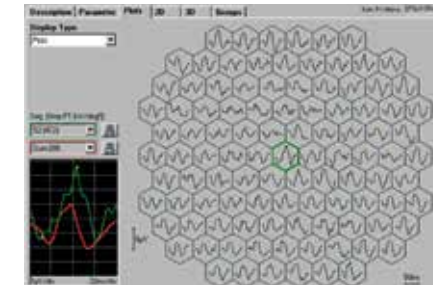
Calibration Tool



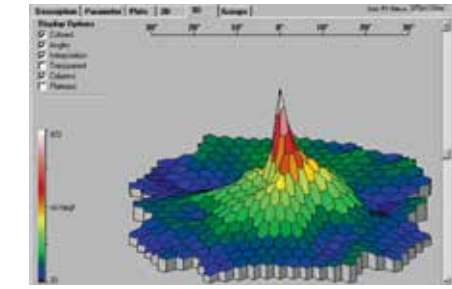
mfERG



Normal mfERG plots



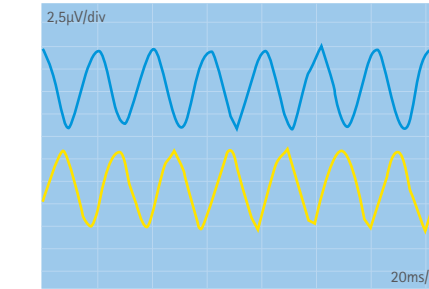
3D plot normal patient



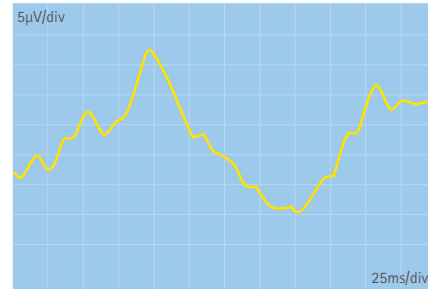
BABYflash E130 flash ERG/VEP



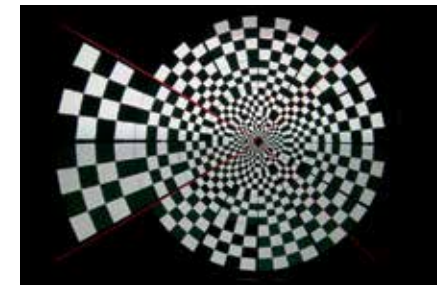
Steady state photopic 30 Hz ERG



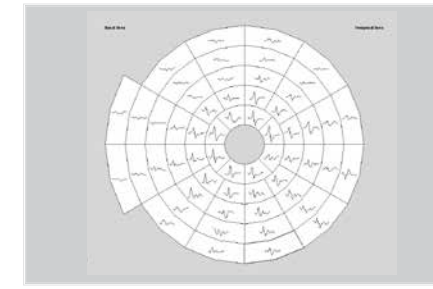
Transient VEP



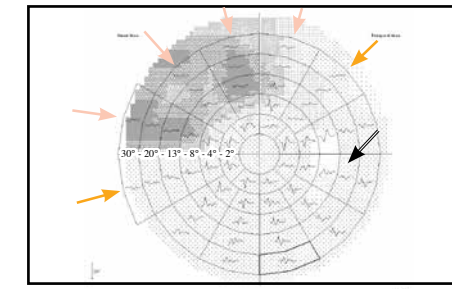
mfVEP



mfVEP plots



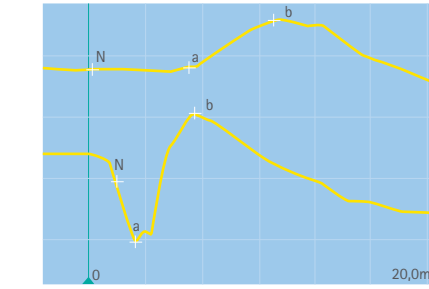
Overlapping with visualfield



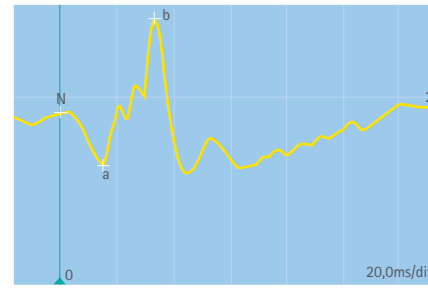
MINIganzfeld I8 flash ERG/VEP



Dark adapted ERG



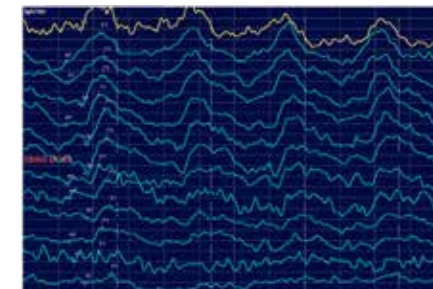
Light adapted ERG



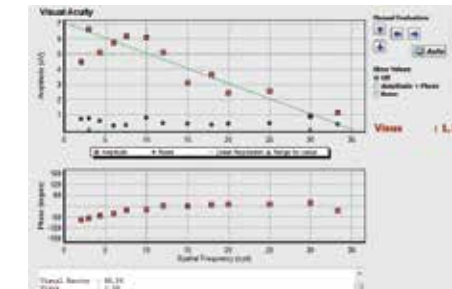
Visual acuity



Analyse curves



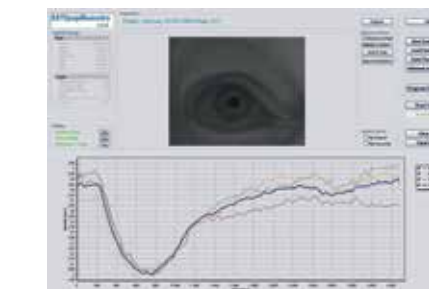
Analyse regression curve



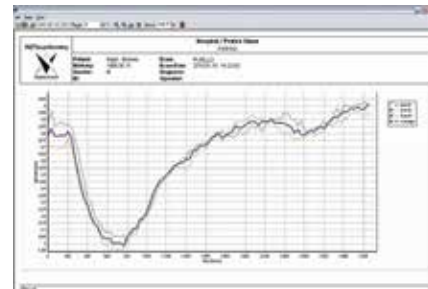
Pupillometer measurement



Pupillometer result



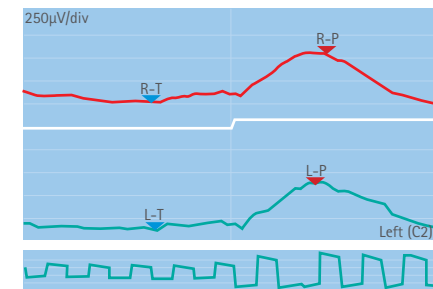
Pupillometer report



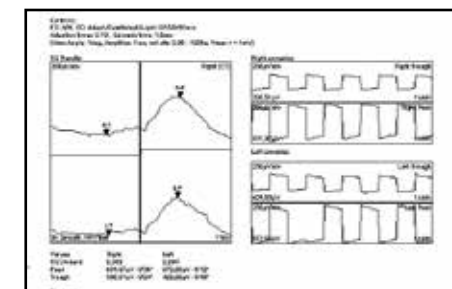
Ganzfeld Q450 EOG stimulus



EOG result



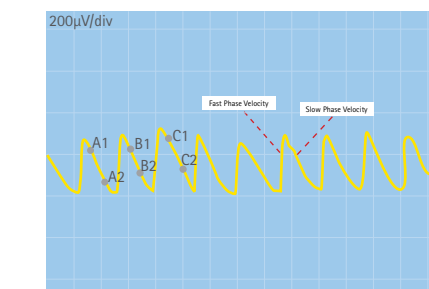
EOG print report



Nystagmography stimulus



Nystagmography measurement



Nystagmography report

