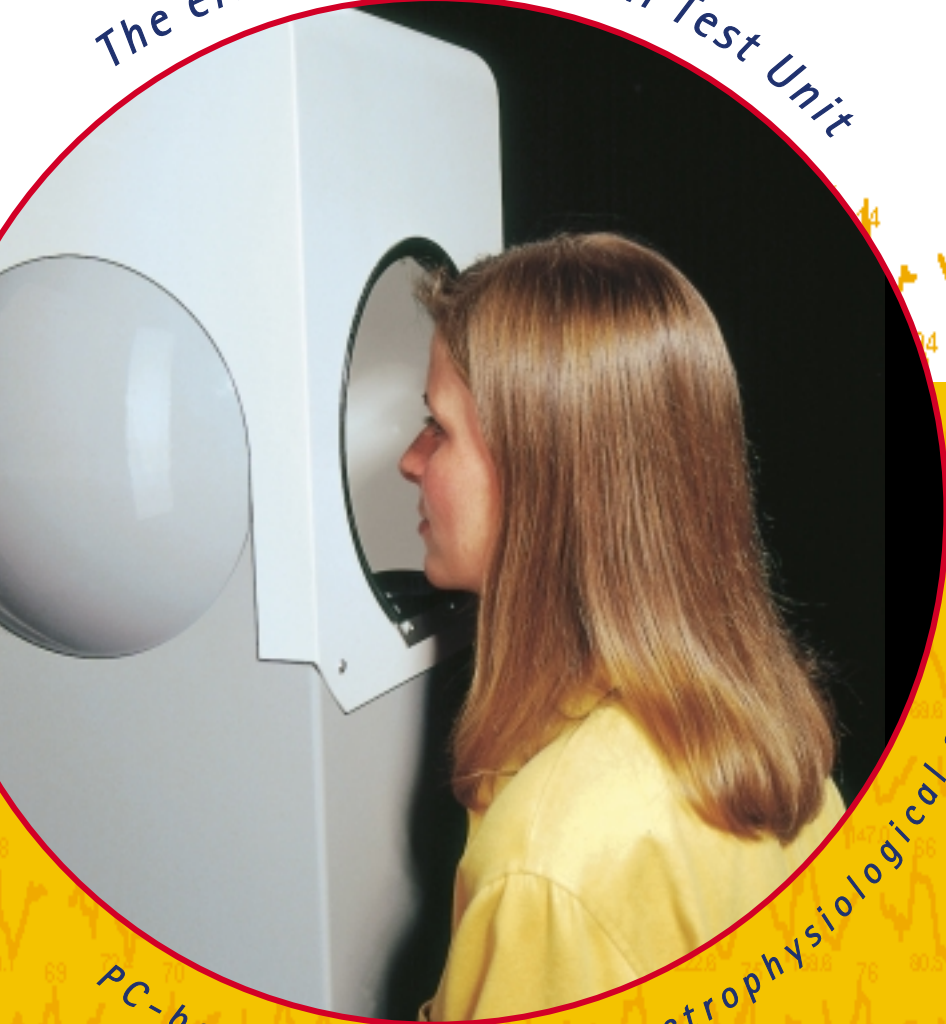


# Retiport

VER • ERG • EOG • Pattern ERG

The electrophysiological Test Unit



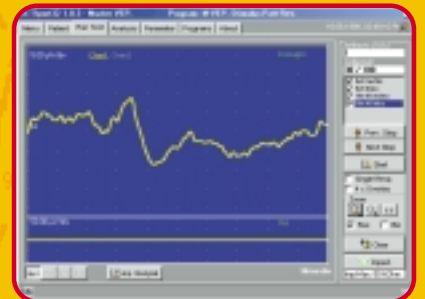
PC-based, 2-8 channel electrophysiological system ISCEV



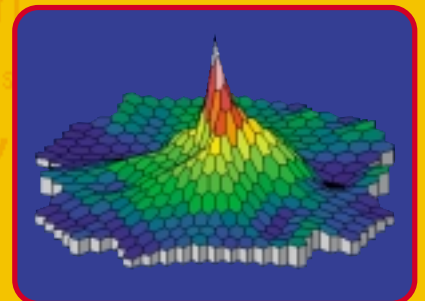
LED-Ganzfeld



LED-Mini-Ganzfeld



Pattern VER



Upgradeable to multifocal ERG RETIsan



**ROLAND**  
INSTRUMENTS

Electrophysiological diagnostic systems

# Retiport

## DESCRIPTION

**Retiport** is a low-price PC-based, 2-8-channel system for measuring bioelectrical signals generated both from the retina and the optic nerve. The basic set comprises: computer device, operator monitor, printer, keyboard, mouse, bioelectrical amplifier, electrodes and checkerboard monitor. All electrical connections are easily to install.

The recorded curves are displayed on a operator monitor. By setting markers the system allows computing latencies and amplitudes automatically. Data may be printed out or transmitted by an interface to another PC. The plain basic equipment already provides - in compliance with the ISCEV (International Society for Clinical Electrophysiology and Vision) - simple and rapid determination of VER, ERG and pattern ERG without strain for the patient.

## Retiport

allows the following examinations:

Basic version

- Electro-retinography (ERG) (scotopic/photopic)
- 30Hz Flicker Response
- Pattern ERG (detection of early Glaucoma)
- Visual Evoked Cortical Potentials (VECP)

Optional

- Visual Acuity (sequential, according to Hajek und Zrenner)
- Oculography (EOG)
- Nystagmography

- Central Fixation LED and EOG LED +/- 30 grd - brightness computer control

Optional:

- High Flash Xenon Strobe from 3,5 cds / m<sup>2</sup> to 100 cds / m<sup>2</sup>
- Color filter for both: flash and background light

## TECHNICAL DATA

### ■ Power:

- 115 / 230 V AC 50/60 Hz 450 VA

### ■ Computer / Monitor / Printer:

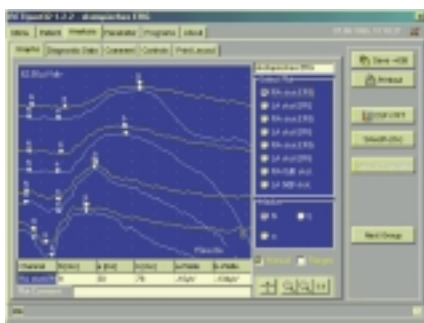
- IBM compatible Pentium III, 450 MHz
- 64 MB RAM / 4,3 GB HD / 3,5" FDD
- Windows 98 or NT
- Monitor: 15" / 17" operator monitor
- Printer: HP Desk Jet

### ■ Amplifier / ADU / Interface:

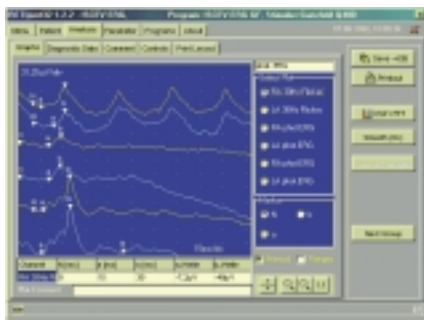
- Common Mode Rejection > 110 dB
- Noise < 4 uV (RMS)
- Gain settings: steps 10 uV - 10 mV / DIV
- Low Cut Filter: 0,02-0,05-0,1-0,2-0,5-1-2-5-10-20-50-100-200-500-1000 Hz
- High Cut Filter: 30-50-100-200-300-500-1K-2K-3K-5K-10k Hz
- Time Base: steps 50 ms to 2000 ms
- Trigger intern / extern
- 12 Bit ADU
- 2/4/8 channel System computer controlled



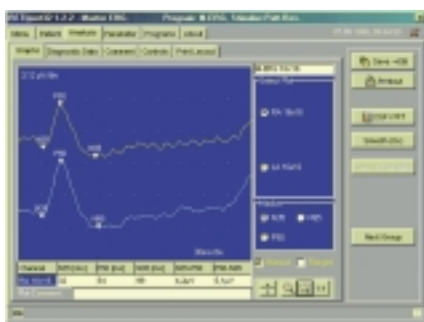
Visual Evoked Cortical Potentials (VECP)



Scotopic ERG



Photopic ERG



Pattern ERG

## FUNCTIONS

### VER Stimulator

- 15" VGA Monitor
- Checkerboard: 4x4 - 128x128 squares in powers of 2
- Pattern position: full, half or quarter screen
- Pattern reversal
- Appearance / Disappearance
- Screen luminance: 80 cd/m<sup>2</sup>
- Contrast adjustable under computer control from 1 to 99 %

### Ganzfeld Stimulator Q 400

- ISCEV Standard
- full field globe 400 mm
- all functions full computer controlled
- with LED-Flash: Standard intensity = 3,5 cds / m<sup>2</sup>
- intensity steps: -30 dB to 0 dB in steps of 5 dB
- Background intensity: 30 cd / m<sup>2</sup>, 250 cd / m<sup>2</sup>, 500 cd / m<sup>2</sup>

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Electrophysiological diagnostic systems

Dipl. Ing. M. Stasche  
Willy-Borngässer-Str. 11 • D - 65197 Wiesbaden, Germany  
Tel +49 (0) 6 11 - 9 46 72 74 • Fax +49 (0) 6 11 - 9 46 73 29  
e-mail: stasche.zyganow@wiesbaden.netsurf.de

Dipl. Ing. J. Finger  
Friedrich-Franz-Str. 19 • D- 14770 Brandenburg, Germany  
Tel / Fax +49 (0) 33 81 - 38 26 21

Distributor