

# ROLAND DARK*adaptometer*

developed by Neuroophthalmology  
and Pathophysiology of Vision  
Univ. Eye Hospital Tübingen  
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Hereditary retinopathies . Immune & Inflammatory eye diseases

DARK  
*adaptation*

Metabolic disorders . Vitamin A-Deficiency . Exposure to retinotoxic agents



ROLAND DARK*adaptometer*

Certification:  
Quality Management System  
EN ISO 9001:2000  
EN ISO 13485:2003  
TÜV Rheinland CE0197

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*Electrophysiological diagnostic systems*

# ROLAND DARK *adaptometer*

- Subjective measurement with patient button (Standard)
- Objective measurement in combination with pupillometry (Optional)
- Two colors to separate cones (red) and rods (green)
- Bleaching lamp for rod-cone break (7000 cd/m<sup>2</sup>)
- Fixation camera with pupil detection
- 10log stimulation range: 250 cd/m<sup>2</sup> down to 2.5\*10<sup>-8</sup> cd/m<sup>2</sup>
- Monitoring of the whole dark adaptation process

## Examination conditions

- Absolute dark room!
- Patient is not dark adapted
- Patient's eye is dilated
- One eye is covered
- Bleaching lamp warm up 5min
- Bleaching about 5min
- Measurement 30-40 min

## Specifications

- PC dependent equipment
- Maximum bleaching luminance between 6500 - 7000 cd/m<sup>2</sup>
- Stimulus spot colors: red (625nm) and green (527nm)
- Maximum spot brightness 251 cd/m<sup>2</sup>
- Minimum spot brightness 2.5 \* 10<sup>-8</sup> cd/m<sup>2</sup>
- Fixation target brightness: 50
- Stimulus impulse with a PWM of 225Hz
- Stimulus spot size: 2°
- Fixations: Center (5°), 10°, 20°(default), 30°, 40°

## Requirements

- Operating System: Windows 2000, XP, Vista, 7
- Computer Processor: 800 Mhz Pentium III or better
- Computer Memory: 512 MB or more
- Screen Resolution: 1024x768 pixels
- One free USB 2.0 port

## Device

- Dimensions: 555x430x325 mm (H x L x W)
- Weight: 18 kg
- Power Supply: 110-240V DC 50-60 Hz

## First Flash Intensity

Sets the initial stimulus luminance to a value between an intensity of 0,0063 cd/m<sup>2</sup> and 251 cd/m<sup>2</sup>.

## Bleaching Time Control

needs a cool down time of 15 minutes before it could be turned on again

COOL DOWN

14:47



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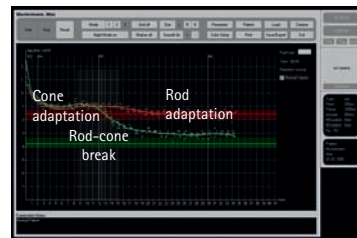
Friedrich-Franz-Str.19

D-14770 Brandenburg/Germany

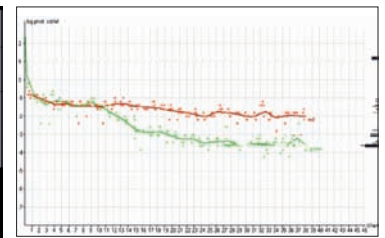
Phone: +49 (0) 33 81 - 38 26 20, Fax: -49 (0) 33 81 - 38 26 21

www.roland-consult.de, e-mail: info@roland-consult.de

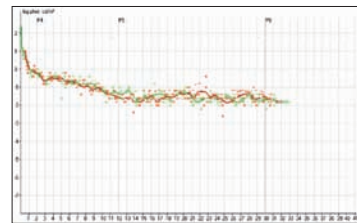
## Characteristic dark adaptation curves



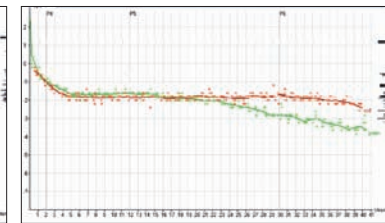
Application



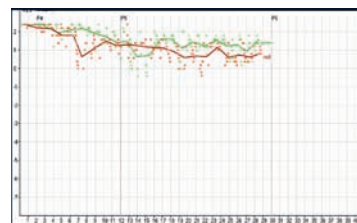
Normal patient



CSNB patient

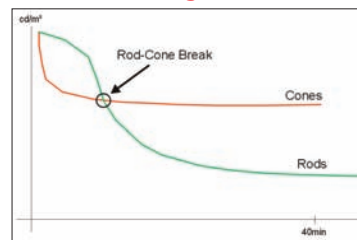


Vitamin-A deficiency

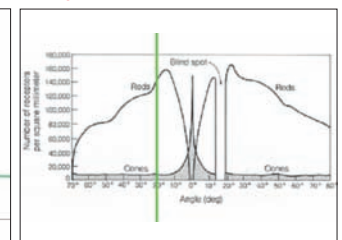


Choroideremia patient

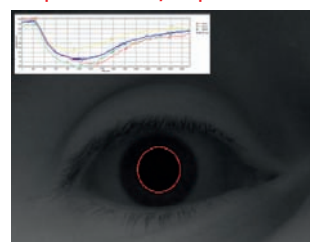
## With bleaching



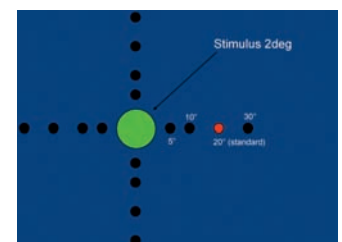
## Why 20° fixation



## Pupillometry Option



## Patients view



Distributor: