Rodenstock Perimeter

★Kinetic and static testing
★Digital eye-tracking
★RGB bowl illumination
★Goldmann size stimuli
★Standardised driver test
★Electronic chin rest
★Embedded PC

Rodenstock Instrumente
Am Weichselgarten 19a
91058 Erlangen, Germany
www.rodenstock-instrumente.com

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Perimeter PERISTAT und PERIMAT

	PERIMAT	PERISTAT
Bowl type	closed	closed
Chinrest/ headrest	Electric	Electric
PC embedded	Yes	No
Projection type	Front projection	Back projection
Background color	White / Yellow	White / Yellow
Stimulus color	Green, White, Blue, RED	Green, Blue
Goldmann stimulus size	I, II, III, IV, V	III, IV
BLUE ON YELLOW strategy	YES	YES
Zeiss-Humphrey test fields (rectangular grid)	YES	NO
Kinetic tests	YES	NO

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Updates .. PERISTAT und PERIMAT

1) Version 6.1 „the final solution“

2) Hardware upgrades

3) New ISO conform applications

4) Faster exams

The final solution 6.0

- complete ISO conform
  - industrie standards like Esterman included
- One update for all systems
- Automated Hardware detection
- One Operator Manual for all
- QG (Quick guides) for basic operation
- Translation Application and QG will stay.

Hardware changes:

- silent engines
- new magnetic head and chinrest
  - Monocular (R/L position)
  - Binocular (middle position)
- new trail lens holder
  - even for high power lenses
  - As spare part available for older units.
- New video camera binocular
  - for Binocular test 160° but automated fixation control
  - centered, right and left fixation

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ISO conform applications:

- Driving test EU requirements
  - (6.1) private requirements 120°
  - (6.4) comercial drivers 160°
- German driving = Bi driving full
  - Bi driving test full = Driving
  - additional for germany: Kinetik driving standard 45
- Esterman test is only available in PERIMAT

PERIMAT vs. Humphrey HFA:

	Tomey AP-3000 / PERIMAT	Zeiss Humphrey HFA
Age related testing	Yes	Yes
Binocular strategy	Yes	Yes
Fluctuation measurement	Yes	Yes
Bebie curve	Yes	No
Global indexes	Yes	Yes
Automatic pupil measurement	Yes	Yes
Eye and head tracking	Yes	720i: No 740i: Eye tracking 745i, 750i: Eye and head tracking
Video monitoring	Yes	Yes
Heijl-Krakau fixation monitoring	Yes	Yes
Rectangular field grids	Yes, same as in HFA	Yes
Radial field grids	Yes	No
User tests	Yes	Yes
Statistical analysis, regression	Yes	Yes
Printouts	Single, Combo, Multi, 7 on 1 HFA standard	HFA standard
Data export / import	Yes	Yes
Networking	Yes	Yes
User management	Yes	No
National language support	Fully supported	English, German
Custom settings	Yes	No

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PERIMAT vs. Humphrey HFA:

The notes marked blue describe the PERIMAT features in comparison to HFA perimeter.

Test specifications
Maximum temporal range (degrees): 89
Maximum temporal range (degrees): 80 with moving fixating point. HFA has a bullet-shaped bowl which allows testing peripheral fields without changing fixation points.
Stimulus duration: 200 ms
Stimulus duration: adjustable from 100ms to 9.9s with 100ms step.
Visual field testing distance: 30 cm
Visual field testing distance: 30 cm
Background illumination: 31.5 ASB
Background illumination: 31.5 ASB

Threshold test library
24-2, 30-2, 10-2, Macula
60-4, Nasal step
Same (24-2, 30-2, 10-2, Macula) or equivalent (different names) test fields. More default patterns than in HFA.

Threshold test strategies
SITA Standard, SITA Fast, Full Threshold, FastPac
SITA-SWAP
Same or equivalent (similar) threshold strategies (Threshold, Fast Threshold, Smart Threshold etc.). SITA term is copyrighted by Zeiss, so it cannot be used by other manufacturers, but idea of testing is the same (predicting the possible test course to decrease test duration).

Screening test library
C40, C64, C76, C80, C-Armaly
Peripheral test patterns
Equivalent test fields (more default patterns than in HFA).
Screening test modes
Age corrected
Threshold related, Single intensity
Same as mentioned.

PERIMAT vs. Humphrey HFA:

The notes marked blue describe the PERIMAT features in comparison to HFA perimeter.

Specialty test library
Social Security Disability, monocular, binocular
Superior 36, 64
Kinetic testing
Custom testing
Same as mentioned (except Superior fields which are available by editing one of default test patterns, if needed can be added as default fields for regular distribution).

Fixation control
Heijl/Krakau blind spot monitor
Heijl/Krakau blind spot monitor
Video eye monitor
Gaze tracking
Head tracking
Vertex monitoring
Remote video eye monitor capability

Operator interface
Touch-screen CRT with keyboard
Possible combinations dependent on user needs:
*LCD external monitor + mouse + keyboard
*LCD monitor attached to Perimat using attachement module + mouse + keyboard
External LCD touch-screen
*LCD touch-screen attached to Perimat using attachment module

Stimulus
White-on-white
Red- or blue-on-white
Blue-on-yellow (SWAP)
All available plus Green on White.

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PERIMAT vs. Humphrey HFA:

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General testing features
Stimulus sizes : Goldman I-V
Foveal threshold testing
Automatic Pupil measurement
All available.

User-defined test storage
Available.

Software features
Visual Field Index
Available (Regression Analysis tool).

EasyConnect RCT
HFA-NET Pro
These are network and import/export options. PERIMAT has full network support and operates on transactional database server (Firebird SQL) which can be run remotely. Network printing, backup etc. also available.

Glaucoma Hemifield Test (GHT)
Available.

DICOM Gateway: option
Under development, not implemented yet.

Guided Progression Analysis (GPA)
STATPAC 2–single field analysis
Equivalent Regression Analysis tool.

Serial field overview
Available (combo mode, multi mode etc.)
Networking
Full network support.

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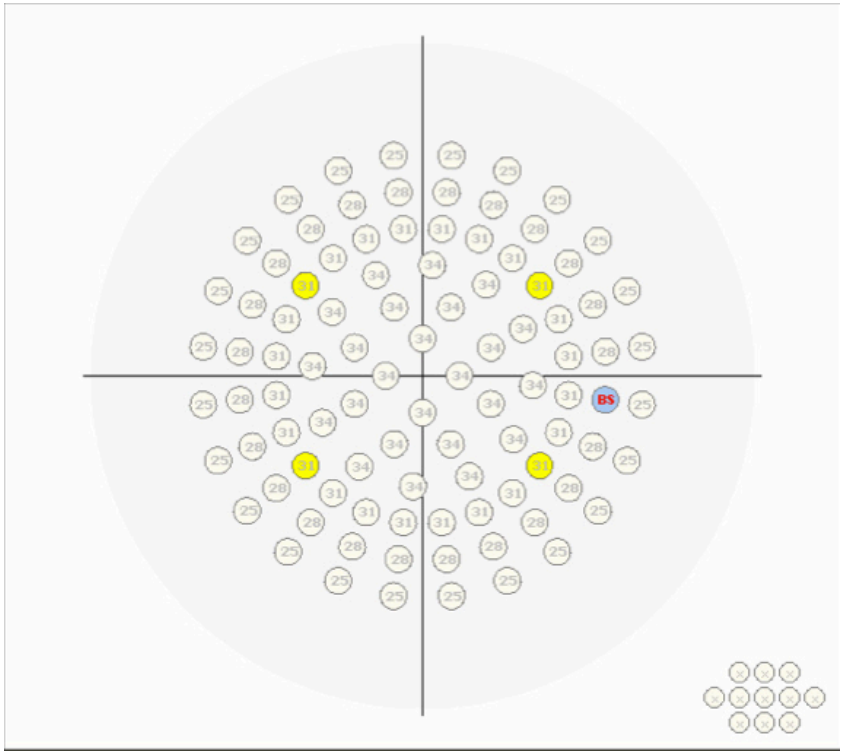
Strategies

The fastest strategies but with less clinical information

CONSTANT – testing a whole field with a constant value. May be used for almost blind patients when we want to determine where is area of remaining sensitivity. The 2 ZONE and 3 ZONE described below can be used for similar cases.

2 ZONE – simple strategy to determine if the patient can see points within the Age Norm for his age. Two possible answers: seen / not seen.

3 ZONE – similar to 2 ZONE but if patient cannot see the point, it is tested again with 0dB value. So we have three possible answers: seen / not seen / seen at 0dB.



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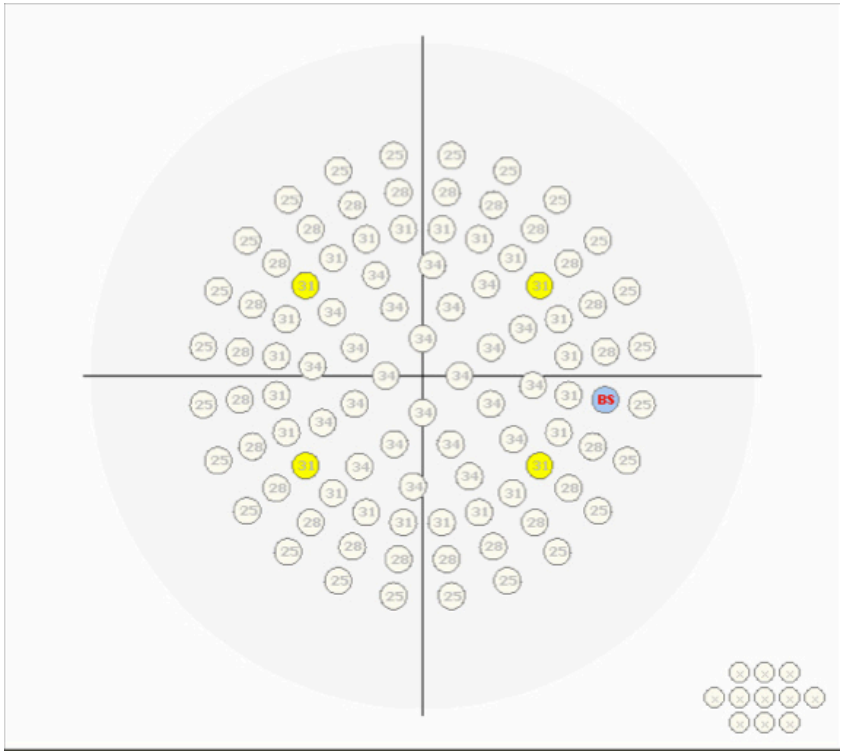
Strategies

The fast strategies with gradient clinical information (3dB

NEUROLOGICAL – the same as SCREENING with one exception. If five points in one quart (1⁄4 of field) are not seen, then a whole quart is marked as not seen (X). Recommended for patients with big neurological defects.

FASTSCAN – faster version of SCREENING. Half of the points is tested. Therefore recommended with Full field to save time and avoid patient fatigue.

SCREENING – basic and fast strategy for all patients. Recommended as a first exam when we do not know nothing about the patients. Test is conducted with 3dB step. Test is finished when Age Norm Level is reached. All fields can be used.



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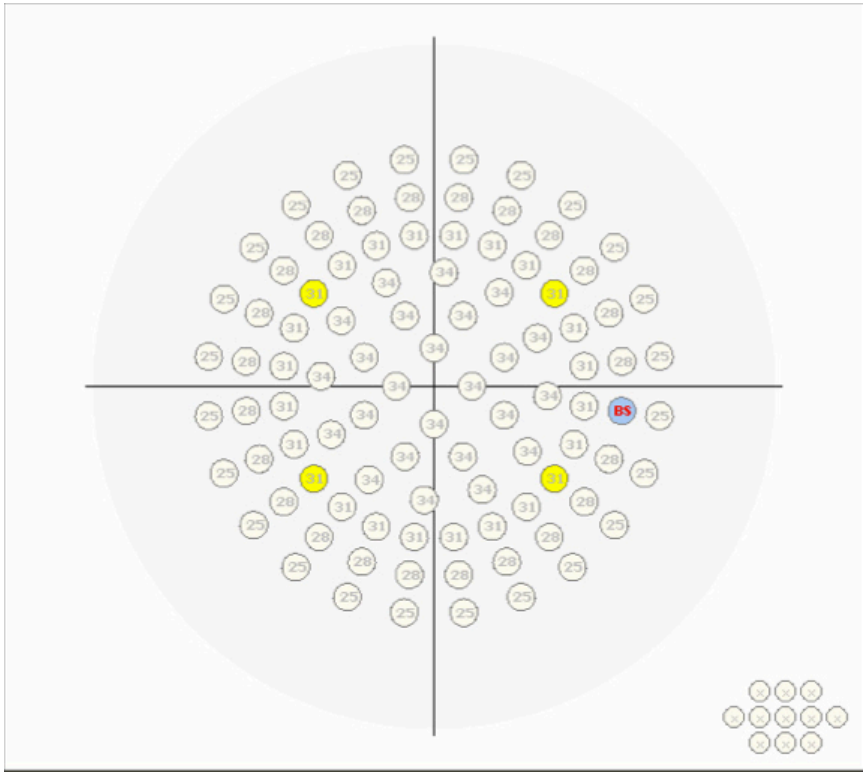
Strategies

The standard strategies with gradient clinical information (1dB steps)

SMART THRESHOLD – a faster version of FAST THRESHOLD. Initially only half of the points (every second point) is tested. If the difference between results in two adjacent points are higher than 6dB, the point between them is additionally tested (so the test in this area becomes simple FAST THRESHOLD).
Recommended for older patients and patients who have problems with fixation. Also the best strategy to use with large fields like Full or Wide.

FAST THRESHOLD – a version of THRESHOLD but the testing is finished when Age Norm Level is reached. Therefore bigger fields can be used if needed (for example Central 30, Central 30-2, Glaucoma, Wide). Recommended for most glaucomic patients.

THRESHOLD – most accurate strategy but also most time consuming. Test is conducted with 1dB step and finished when real sensitivity is reached. Recommended for glaucomic patients, but ONLY with small fields like Central 20, Macula, Central 24-2, Central 10-2.



THRESHOLD BY, FAST THRESHOLD BY and **SMART THRESHOLD BY** –
the same as the THRESHOLD strategies described above but for BLUE ON YELLOW testing. Recommended for early glaucoma detection.