



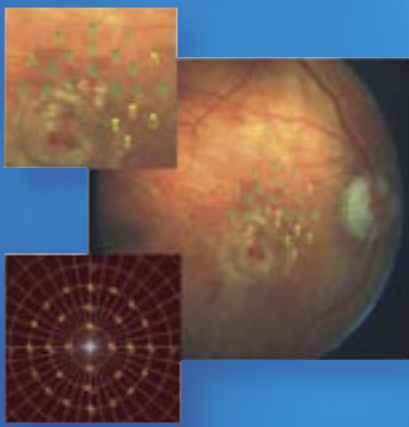
U.S. Patent No. 6,705,726

MP1 - Microperimeter

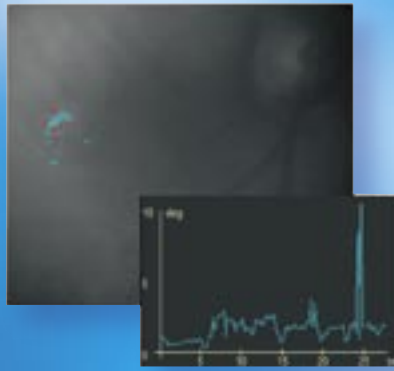
MP1 is the only instrument that combines a Retinographer, a Perimeter, a Fixation Analyser and a Rehabilitating Device in one compact design



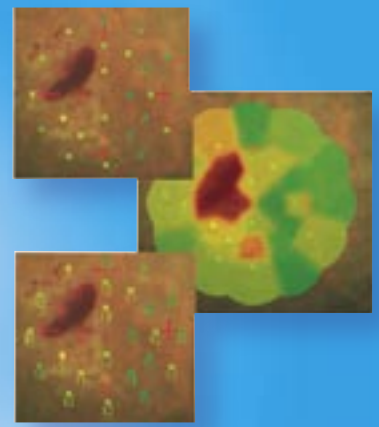
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Retinal - Tracking Perimeter



Real Time Retinal Tracking



Morphological Correlation

The MP-1 is the first perimeter to precisely track retinal movements during an exam.

Microperimetry is, at the moment, the only examination that allows putting into correlation, in an objective way, the morphological aspects of the retina, as observable by using an ophthalmoscope, with the corresponding functional aspects. The sensitivity map is generated by observing a live picture of the examined retina and allows therefore to automatically compensate, during the exam for fixation movements. A 45° digital color photograph, under non-Mydriatic conditions, can be taken and used to present the sensitivity maps directly on the colour picture.

Automated functionalities make testing, registration and evaluation of the results far easier than has ever been possible with past microperimetry instrumentation.

A single button push allows automatic retesting of a patient with exactly the same test variables and highly reproducible and accurate presentation of stimuli.

Differential maps of sensitivity allow evaluation of medical and surgical treatments.

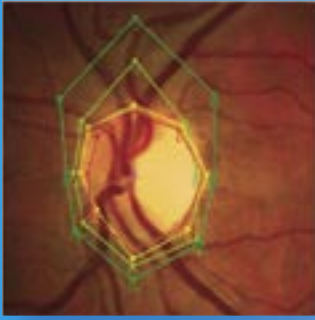
Patients can be trained through a unique biofeedback program to improve the quality or even relocate their subjective area of fixation.

The Real Time Retinal Tracking allows the system to accurately project stimuli, even in patients with poor fixation, mapping even very small relative and dense scotomas.

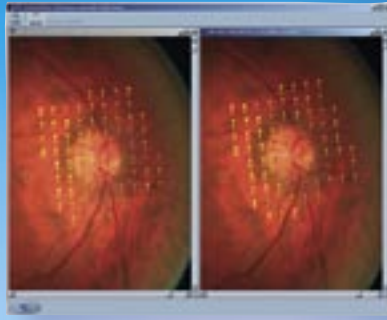
The MP-1 is fully programmable by the physician in stimuli pattern, threshold strategy, and even fixation location.

In addition to Automatic pre-programmed standardized patterns, the operator can also use the MP-1 in Semi-Automatic and Manual modes.

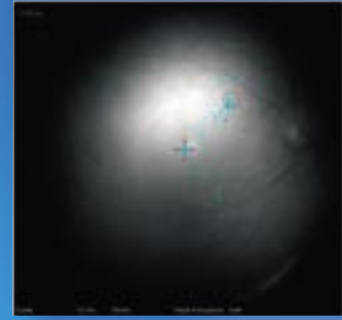




Kinetic Microperimetry



Automatic Follow - Up



Automatic Rehabilitation Programm

Four instruments in one

Color Retinographer

- The color retinographies provide detailed morphological information, that is associated with functional sensitivity maps, for a complete diagnostic evaluation.
- Alignment mires for easy acquisition
- Movable fixation target for peripheral analysis (up to 90°)
- Possibility to choose manually, directly on the colour retinography, where exactly stimuli will be delivered

Automatic Microperimeter

- Highest reliability, resolution (up to 10 Stimuli/degree) and repeatability
- Time saving as Perimetry, Fixation analysis and Retinography are performed simultaneously
- Quantification of retinal sensitivity exactly related to fundus characteristics
- Automatic follow-Up exam on the same retinal points to monitor the evolution of sensitivity upon time
- Flexibility with a New approach and new results in the study of any retinal pathology
- Possibility to measure the evolution of even very small scotomatous areas in time
- New standardization in retinal diagnostics
- Short exam time
- Increased patient comfort: automatic stimuli projection stand-by when the patient blinks
- Easy to use for the operator thanks to an innovative graphical interface
- Exam Customizable



Automatic Fixation Analyzer

- Fast data collection (30 sec) resulting in higher comfort for the patient
- Exam reliability even with poor and unstable fixation
- Automatic classification of stability and location of fixation
- Follow-up exams and differential maps allow to precisely monitor the evolution of fixation in time

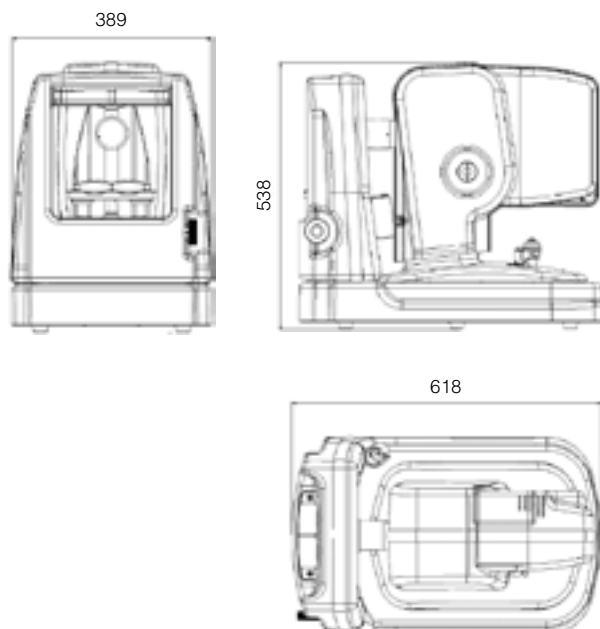
Rehabilitation device

- MP1 is equipped with a Biofeedback function that allows performing rehabilitating sessions to train the patient relocating the fixation. An audio feedback helps the patient to aim at the right retinal location.



Configuration	Table-top instrument
Exam	Automatic/Semi-Auto/Manual - Static or Kinetic Microperimetry - Automatic Rehabilitation Function
Projection system	Internal LCD display
Weight	26 kg / 57 lbs
Internal fixation	Single cross, four crosses, circle. Customizable
Visual field	22.5 deg
Background luminance	1.27 cd/m ² (= 4 asb)
Stimulus dimension	Goldmann I, II, III, IV e V
Stimulus duration	From 100 ms to 2000 ms
Threshold strategies	4-2-1, 4-2, Fast, Raw, Manual
Stimulus pattern	User Customizable
Joystick	3-axes motion control
PC	Pentium 4 at 2.4 GHz - OS: Windows 2000 - HD: 80 GB RAM: 256 MB
Storage	HD/Compact Disc
Display	17" * 15" S-VGA LCD display
Light source	Quartz halogen lamp 12V/100W
Class	1BF (according to IEC 601-1)
Power	100 to 120 & 200 to 230 VAC 50/60 Hz
IR camera resolution	768x576 Pixels
Color Camera Resolution	1392x1040*/780x582 Pixels
Operating temperature	15/30° C – 59/86° F
Relative humidity	Not condensing 30÷75 %

* MP1 Professional



Software features

- Automatic kinectic/static projection of stimuli customizable in color and size (Goldmann stimuli).
- Fully customizable perimetry test: number and location of stimuli, threshold strategy, test mode (automatic, semi-automatic or manual) type, size and colour of fixation target.
- Real time analysis of the patients' fixation during the exam: retinal movements are tracked, memorized and compared with the fixation target position.
- Extra accurate scotoma detection: dense and relative scotomatous areas are identified and delimited with highest resolution.
- Fully automatic follow-up exam repeats the same test upon time, for an accurate monitoring of the progress of any pathologie or effect of a treatment.
- Biofeedback function allows specialists to perform visual rehabilitation trainings.
- Possibility to manually refine an automatic exam at the end of the pattern. Kinetic scotometry. Peri-papillary test. Differential map for both fixation and microperimetry exams.

Medical Device Directive 93/42/EEC - Manufactured by Nidek Technologies Srl – Vigonza (PD) Italy
Design and specifications are subjected to change without notice for improvement



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