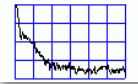




# Vision Monitor

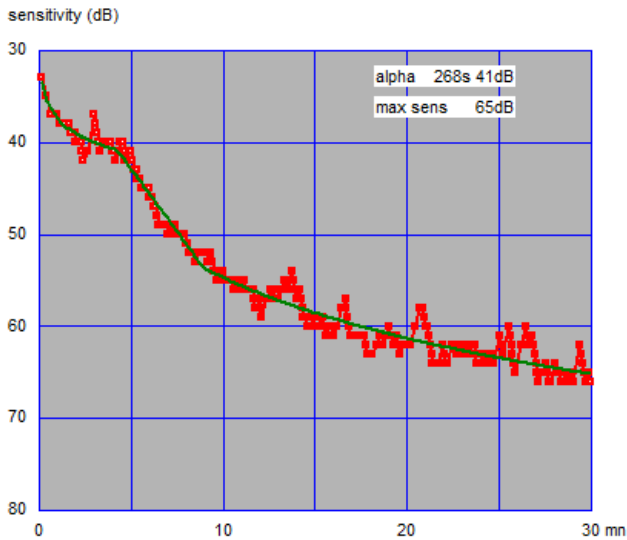
## Dark adaptation

Dark adaptation



### Description

This program is designed for the dark adaptation exams and FST (Full Field Stimulus Threshold) tests).



The **dark adaptation exam** starts with a **light bleaching phase** with a duration of 5 minutes that is performed under ganzfeld conditions. After this starts the patient is placed under complete darkness and stimuli of low luminance are presented while the patient is asked to press a button when he/she can perceive them. If the patient responds, then the stimulus intensity is decreased. If not, it is increased. This way, the threshold of light sensitivity is measured during the recovery of cone and rod sensitivity. During the exam, the **patient's reliability** is checked by presenting false stimuli that cannot be seen.

For the **FST test**, the sensitivity threshold is measured after dark adaptation. The use of light stimulations presented under ganzfeld conditions allows measurements on subjects with poor fixation (nystagmus).

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### Specifications of the test parameters

The program is compatible with several models of the Vision Monitor system. Each model has specific characteristics:



For the **MonCV3** and **MonColor** models, dark adaptation goggles are used during the dark adaptation phase to reduce the stimulus intensity, typically by a factor of 1000 (30 dB).

These goggles are **not needed** for the **MonPack One** and for the **MonCV One** models

The models differ also by their level of light adaptation, stimulation size, color and duration.

In the default test procedures supplied with the equipment, these parameters have been optimized for each configuration to achieve optimal performance.

## Configurations of the Vision Monitor

The characteristics of the different configurations are summarized in the following table:

	<b>MonCV3</b>	<b>MonPack<sub>One</sub></b>	<b>MonColor</b>	<b>MonCV<sub>One</sub></b>
Light adaptation duration	Programmable (default=5 min)	Programmable (default=5 min)	Programmable (default=5 min)	Programmable (default=5 min)
Light adaptation color	White	Green (525 nm) (note 1)	Programmable (note 2)	White
Light adaptation luminance	100 cd/m <sup>2</sup>	300 cd/m <sup>2</sup>	Up to 1000 cd/m <sup>2</sup>	Up to 600 cd/m <sup>2</sup>
Stimulus size	10 degrees	10 degrees	Ganzfeld	I to V and ganzfeld
Stimulus color	White	Green (525 nm)	Programmable (note 2)	White and user defined (note 3)
Stimulus duration	500 ms	50 ms	Programmable (default=500 ms)	Programmable (default=500 ms)
Dark adaptation goggles	Yes	Not needed	Yes	Not needed
Stimulus position	Fixed	Fixed	Fixed	Programmable
Control of patient's attention	Yes	Yes	Yes	Yes
FST test	No	No	No	Yes

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\* **Note 1:** on **MonPack<sub>One</sub>**, green color is used for light adaptation and for stimulation.

This is done on purpose: higher levels of luminance can be achieved and dazzling effects are reduced, making the test easier for patients with photophobia

Note 2: On **MonColor**: violet (414 nm), blue (465 nm), green (523 nm), red (632 nm), deep red (660 nm) and their combination are available for light adaptation as well as for stimulation

Note 3: on **MonCV<sub>One</sub>**: the default stimulus is white. As an option, 4 color filters can be added with user's specifications. **MonCV<sub>One</sub>** allows also the realization of the FST test (Full field stimulus test) with ganzfeld stimulations used to measure the terminal sensitivity threshold after dark adaptation.

## References

- HACHE J.C. Dark adaptation. In Inherited chorioretinal dystrophies. PUECH B., DELAEY J.J., HOLDER G.E. editors. Springer, 2014, 19-20

