



2WIN



Binocular Mobile Vision Analyzer

Introduction



2WIN is a **binocular vision analyzer** that measures both eyes at the same time, in real-life vision conditions

2WIN Main Benefits



- ✓ Binocular measurement
- ✓ No need of cycloplegic drops
- ✓ Fast
- ✓ Portable and sturdy
- ✓ Contactless measurement
- ✓ Safe working distance (1 meter)
- ✓ Attraction features for kids and non-cooperative patients

Binocular vision analyzer

A **digital camera** optimized for infrared, equipped with a suitable optic and designed to work at a **distance of 1 meter** in **dim light** condition. It performs a series of high-speed "shots" (frames) of both eyes



Adequate **software** that governs the system and that interacts with the operator through the graphical interface of the instrument.

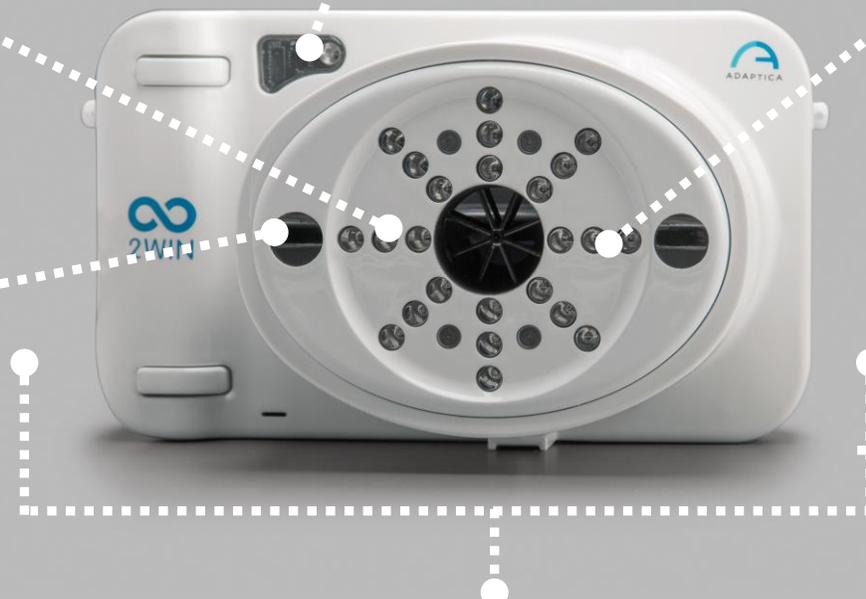
Binocular vision analyzer

A second optional series of **visible LEDs**, to attract patients' attention

An external **LED-IR**, which is enabled in case of high ametropias

A series of **LED-IR** (Infra Red Light Emitting Diodes) controlled both in **intensity** and in **duration** of the ignition phase

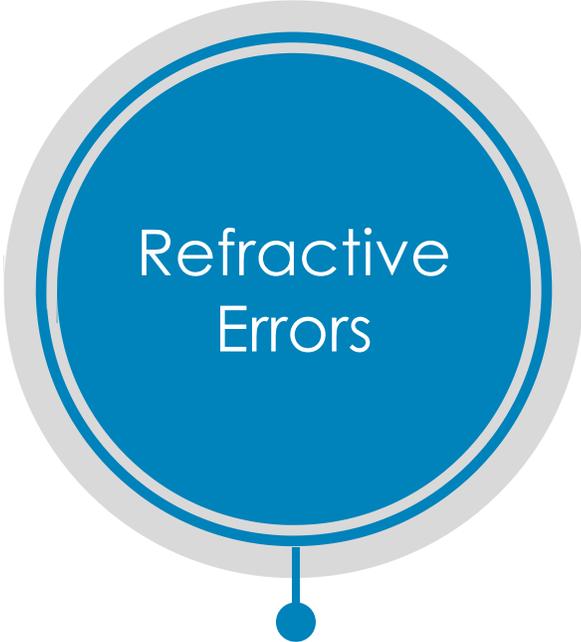
Distance **calibration LEDs**, for Distance Meter function



A data processing unit (**CPU**) and adequate storage electronics, LED control, camera and system power supply

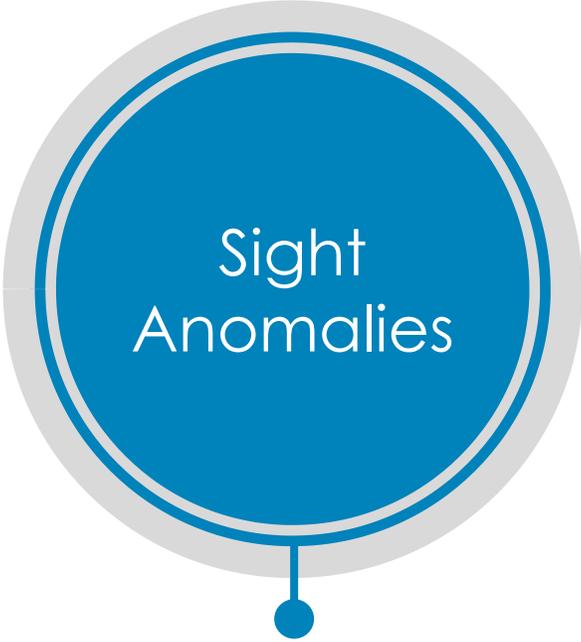
Programmable sound and visual **attention features**

2WIN Measurements



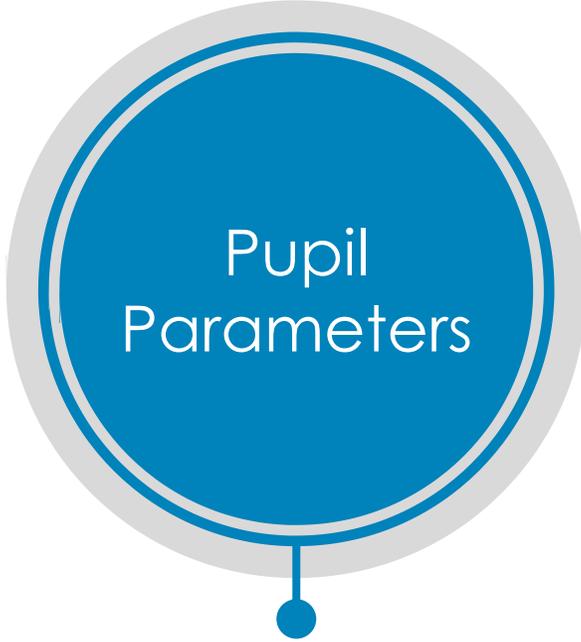
Refractive
Errors

Myopia, hyperopia, astigmatism
and other amblyogenic factors.



Sight
Anomalies

That may be related to anisometropia,
anisocoria, phorias, tropias.



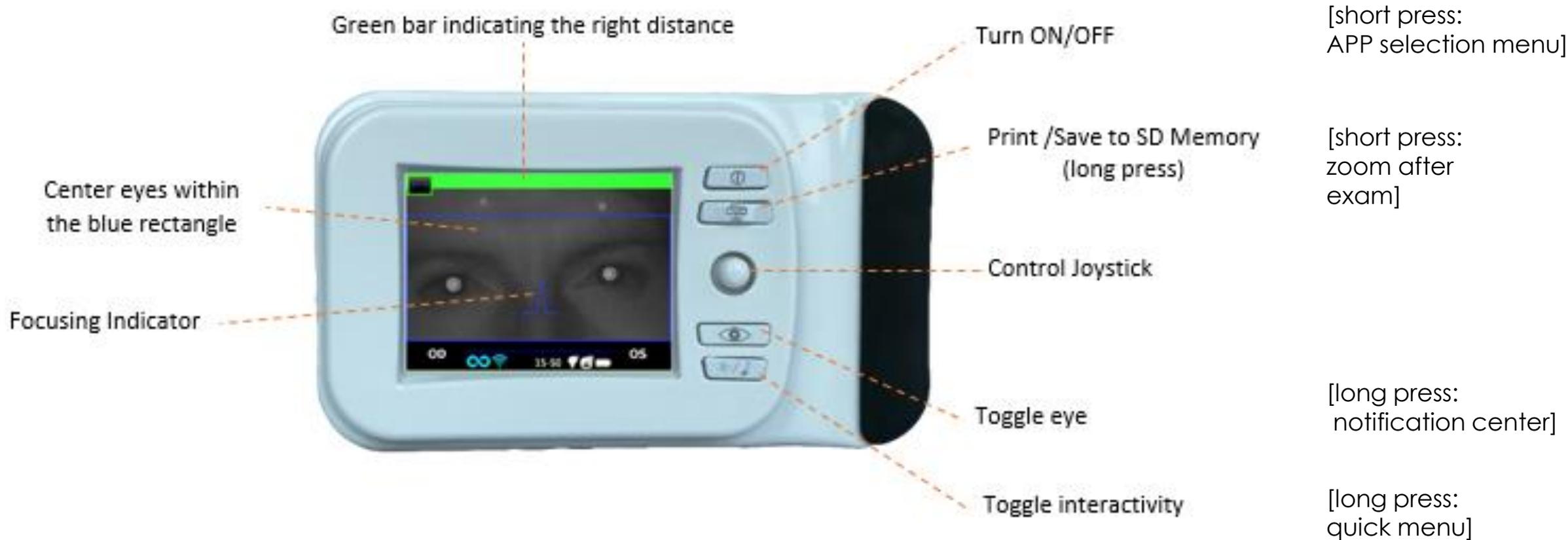
Pupil
Parameters

Pupil Parameters (pupil size,
pupil distance) & head tilt.

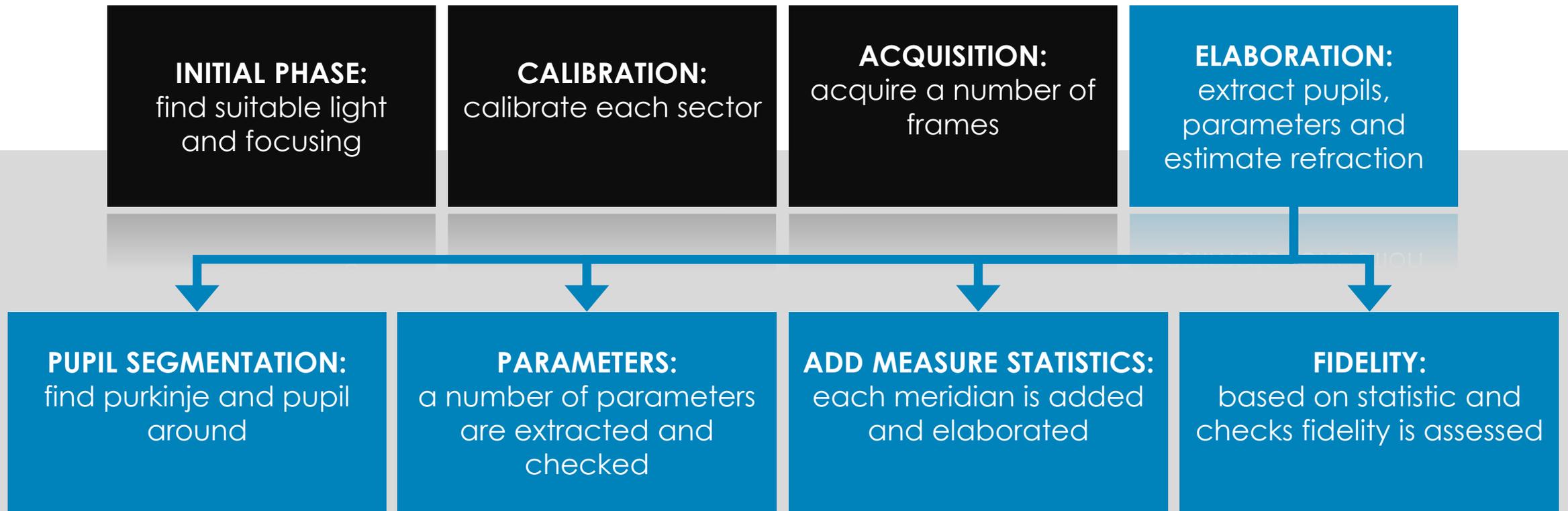
Buttons Functionalities



Buttons Functionalities



Measurement Process

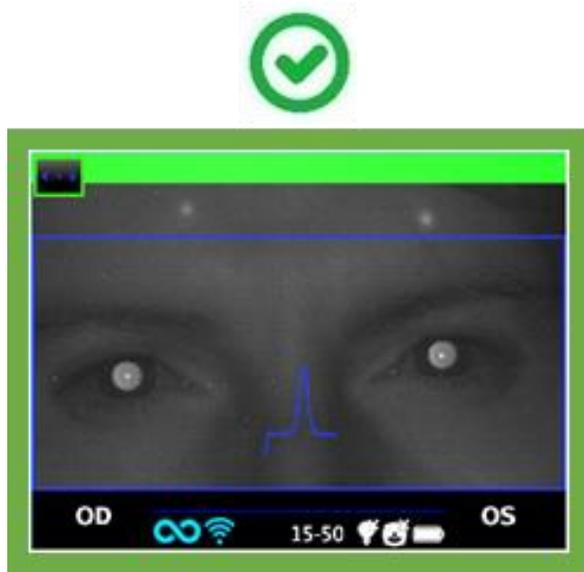


Starting a new measure



- ✓ Select patient's age range with a long press on the right of the joystick
- ✓ Hold 2WIN with both hands and point 2WIN towards the patient's eyes, at about 1-meter distance
- ✓ Instruct the patient to keep his/her eyes wide open, clear of eyelids or eyelashes, and to fixate the centre of the camera
- ✓ Press and keep pressed the START button to enter the focusing phase

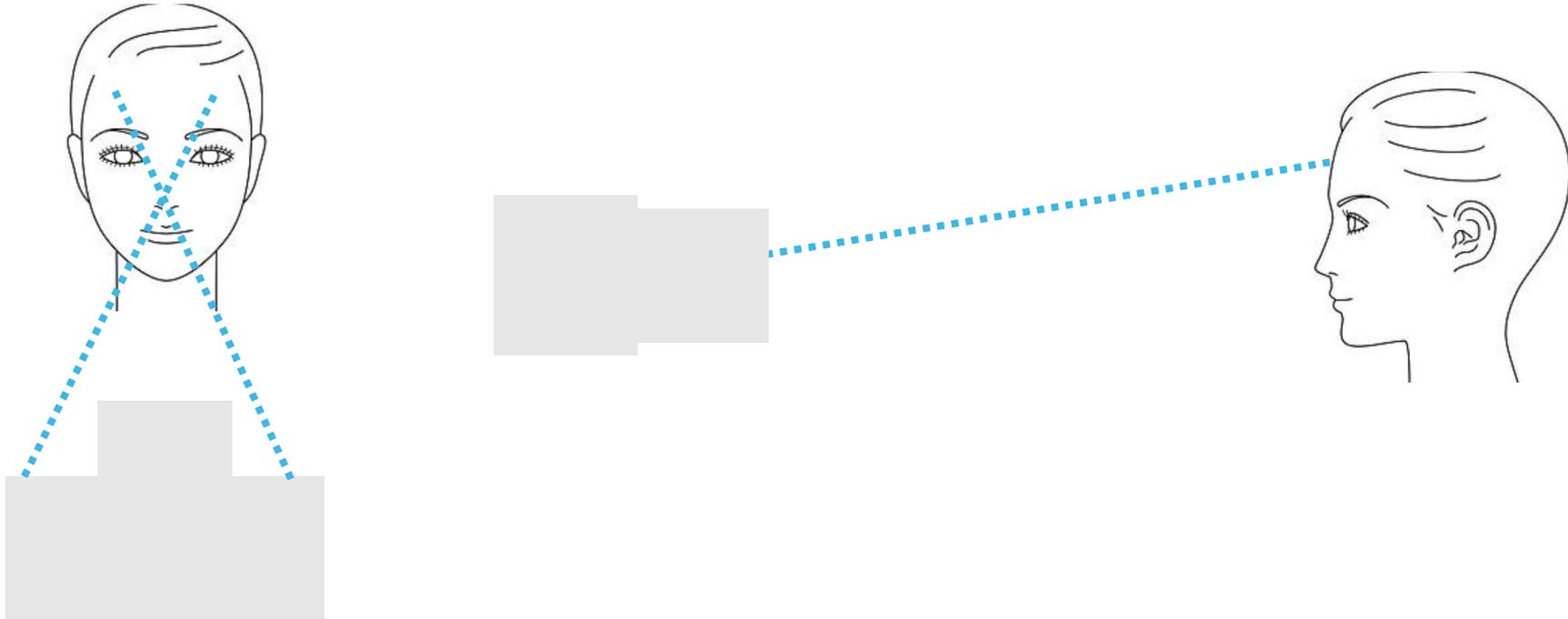
Distance and Focus



- ✓ Centre the eyes of the patient in the measurement area
- ✓ Adjust the distance to focus the image until the top bar is green
- ✓ Check that Purkinje reflexes are small and bright and that the focus indicator is sharp
- ✓ Release the START button to start the acquisition

Distance Meter

2WIN has an **optical distance meter**, calibrated for each machine.
Pupil Distance is only given when the Distance Meter confirms the distance
in at least 2 consecutive acquisitions



Light conditions

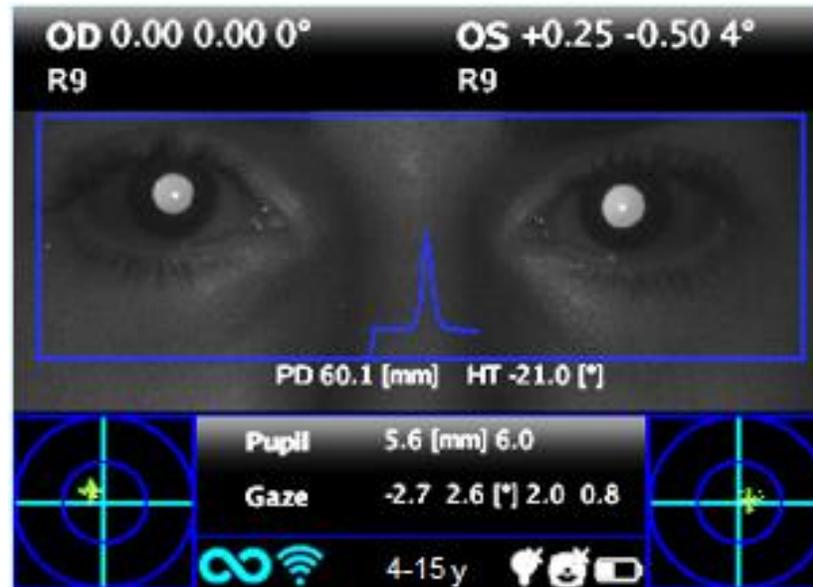


2WIN works in dim light conditions.

If the environment is too bright, the measurement could result in a low Reliability warning.

For the proper working of the device, remove any visible and IR light disturbances.

Exam Results



Exam results are automatically displayed at the end of the measurement.

A Reliability Index (R1-R9) is always given.

If Reliability Index is 6 or lower repeat the measurement, if possible.

Screening Table



Move right with the joystick to visualize Amblyopia risk factors Screening Table.
 Default Screening Table is based on AAPOS guidelines.

Exam Report

Exam Report 

Patient name: Exam Date: Thu Mar 28, 2019 04:27 pm
 Date of birth: Exam N: 30

OD



OS

Sph	Cyl	Ax	Sph	Cyl	Ax
+1.75	-0.25	91°	+1.50	-0.25	34°
SE: +1.62		Reliability: 8	SE: +1.38		Reliability: 8
Info: RGZ: 1.65			Info: LGZ: 1.66		
Pupil Size: 5.7 mm			Pupil Size: 5.6 mm		
Gaze: 6.9° ← 0.9° ↓			Gaze: 4.2° → 0.6° ↑		
Pupil Distance: 61 mm			Head Tilt: -0.1° ↘		

Criteria for:	15-50yrs	OK NOT OK	Outcome
Hyperopia	Sph < 3.5D		✓
Myopia	Sph < 1.5D		✓
Astigmatism	Cyl < 1.5D		✓
Anisometropia	DIF < 1.5D		✓
Anisocoria	DIF < 1mm		✓
Gaze	< 4.6°		✗
Dr's signature:		Screening Result: Refer	

2WIN Dos and Don'ts

Dos:

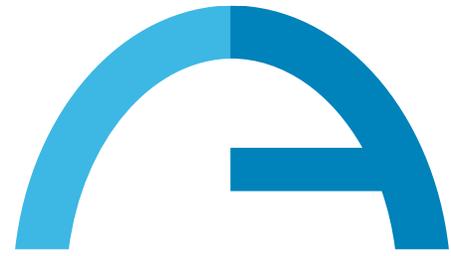
- ✓ Always select the correct age range
- ✓ Check that the patient is looking at 2WIN and keeping his/her eyes wide open
- ✓ In case of fixation problems, enable the central fixation target, the attention features or select monocular mode
- ✓ Always check the Reliability Index. If needed, repeat the measurement
- ✓ Always keep 2WIN software updated to the last version, available here: <https://www.adaptica.com/products/2win/>

Don'ts:

- ✓ Do not recharge 2WIN battery through the USB cable
- ✓ Do not cover the external LED during the measurement. Mind your fingers!
- ✓ Try to not use cycloplegic drops

Technical Specifications

Sphere range	± 7 D, step 0.25 D Up to ± 15 D for SE, step 0.50 D
Cylinder range	± 5 D, step 0.25 D
Axis range	0-180°, step 1°
Pupil Size	4-7 mm (3.5-11 mm), step 0.1 mm
Pupils Distance	30 mm to 120 mm, step 1 mm
Working distance	1 meter \pm 5 cm
Fixation and acoustic target	Built-in
Measurement mode	Binocular or Monocular
Optional Packages	Corneal Reflexes, Dynamic Pupillometry, Lens Centering, Intermediate Vision, 2WINNY KIT (for fixation)



ADAPTICA



Thank you!