




Every Plusoptix Vision Screener shares the very same measurement technology and algorithm, and therefore accuracy of measurements is the same across all available device models. The differences are in mobility and documentation options, which are specified below.

	STATIONARY	MOBILE	
	IN ONE EXAM ROOM	BETWEEN MULTIPLE EXAM ROOMS OR LOCATIONS	
			
	Vision Screener plusoptix S16	Mobile Vision Screener plusoptix S12C	Mobile Vision Screener plusoptix S12R
EMR interface & Patient database	yes	yes	no
Letter-size report & self-adhesive label	yes	yes	yes
plusoptixconnect compatibility	yes	yes	no
LAN / WLAN interface	yes / yes	no / yes	no / no
External monitor interface	yes	no	no
Power supply	Medical power adapter	6x rechargeable AA batteries	6x rechargeable AA batteries
HARDWARE FEATURES			
Touchscreen operation	4.3 Inch (resistive)	5.7 Inch (capacitive)	4.3 Inch (resistive)
Weight	26.5 oz (0.75 kg)	35.3 oz (1.0 kg)	28.2 oz (0.8 kg)
Interfaces	4 x USB, IR, DVI, LAN (RJ-45), WLAN	2 x USB, IR, SD, WLAN	2 x USB, IR, SD
IDENTICAL FEATURES			
Measurement Technology	Binocular infrared photo retinoscopy with unique 54 LED illumination		
Measurement Range	-7.00 to +5.00 dpt in 0.25 dpt increments		
Pupil Size	3.0 to 8.0 mm in 0.1 mm increments		
Certifications	FDA (USA), Health Canada (Canada), CE (Europe)		
SERVICE FEATURES			
Warranty	1 year hassle-free warranty (only USA and EU; extensions are available for purchase)		
Software Updates	Free of charge (can be downloaded from our website)		
Operating Cost	No need for calibration and maintenance		

HOTV Critical Line Testing

Introduction of the HOTV critical line testing feature:

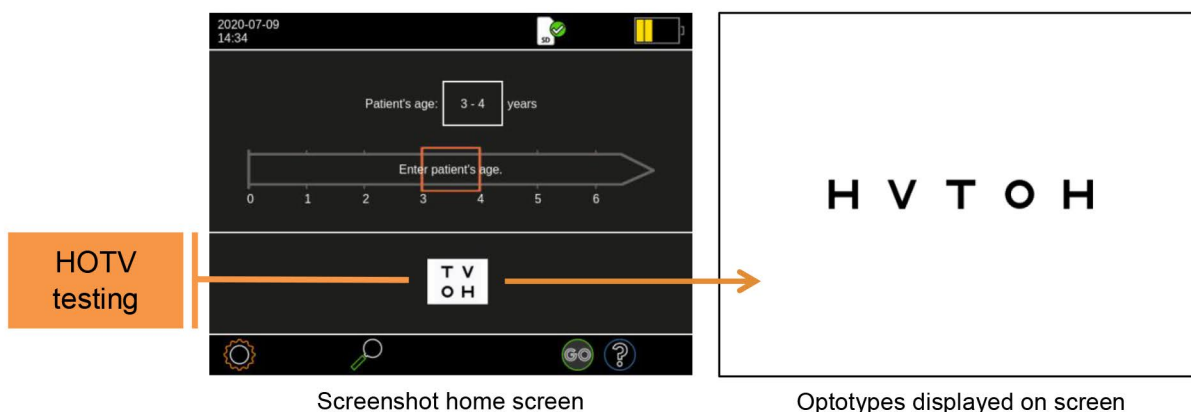
Starting with software version 7.2.5 Plusoptix will offer an HOTV critical line testing feature as an add-on for every plusoptix S12C, S12R and S16 model. Current Plusoptix customers with software versions lower than 7.2.5 can download the latest software update online and then add the HOTV critical line testing feature free of charge.

Distance visual acuity testing - following recommended protocols:

Distance visual acuity testing using HOTV optotypes is part of typical vision screening guidelines. HOTV optotypes are easily recognizable and, if needed, can be taught to the child prior to testing. HOTV optotypes follow recommended protocols by both the American Academy of Pediatrics (AAP)¹ and Prevent Blindness America (PBA)². Supporting best practices, Plusoptix now provides comprehensive vision screening that complies with these recommendations.

Adding HOTV critical line testing to your vision screening procedure:

For children from the age of 5 years, instrument-based vision screening in combination with HOTV critical line testing (10/16 / 20/32) can help improve findings by increasing sensitivity and thus reducing false-negative results. Children who pass instrument-based vision screening are to perform an HOTV critical line test to meet the requirements of typical state guidelines. The “critical line” is the age dependent line a child is expected to see normally and pass. Incorporating this concept into screening procedures offers a quick and reliable assessment of visual acuity in young children.¹ The feature can be started by simply tapping the icon on the home screen.



HOTV matching cards can be used by children unable to identify their letters to help them perform the test. A set of HOTV matching cards is attached to the “HOTV Critical Line Testing” short manual (<https://plusoptix.com/en-us/support>).

Reimbursement for pediatricians:

Visual acuity screening is eligible for reimbursement under CPT code 99173. Instrument-based vision screening with a Plusoptix device remains reimbursable under CPT code 99177.



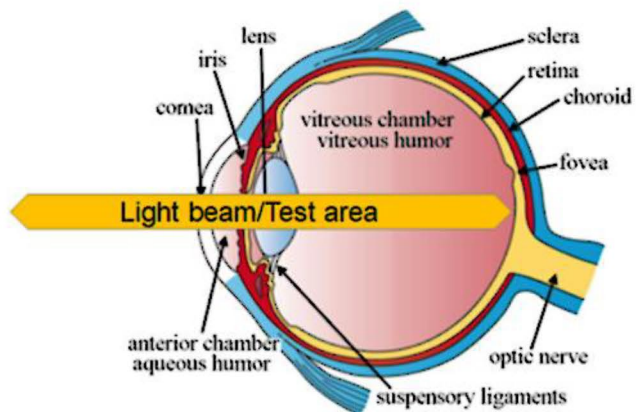
¹ PEDIATRICS Volume 137, Number 1, January 2016

² Prevent Blindness Position Statement on School Aged Vision Screening and Eye-Health Problems, August 2015

Working principle of a transillumination test


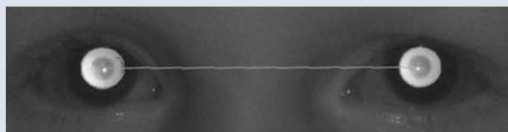
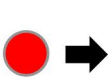

All Plusoptix devices use the measuring principle of the transillumination test. In a transillumination test, a beam of light is projected into the eye and reflected by the retina. The light beam illuminates the central part of the cornea, the lens, the vitreous humor and the retina. This measuring principle is used in many eye examinations. Depending on the task, a direct ophthalmoscope (red reflex test), an indirect ophthalmoscope (fundus exam) or a retinoscope (retinoscopy) are used.




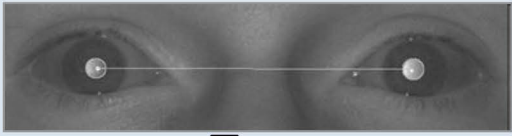








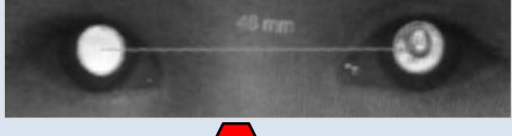




A transillumination test observes only those areas of a subject's eye that are illuminated!



Unlike other transillumination tests, Plusoptix devices avoid glare of the patient, by using infrared light. The pupils remain large even without dilation. The device records camera images of the illuminated pupils, which can be stored or printed for further analysis and documentation. The camera images are therefore particularly suitable for checking whether abnormal retinal reflexes or media opacities are present (Red Reflex or Bruckner test).

Since Plusoptix devices additionally measure the refraction and the measuring principle of the transillumination test is also used for the retinoscopy, measurements with Plusoptix devices were initially often referred to as video or photo retinoscopy.

	Test area with...	
	...Ophthalmoscope	...Plusoptix
<p>Without cycloplegia (non-invasive)</p>	 <p>www.heine.com</p> <p>Light emitted by ophthalmoscope reduces pupil size and limits test area.</p>	 <p>Infrared light has no effect on pupil size. Binocular, central media opacities (above) and peripheral abnormal reflexes or media opacities can be identified.</p>
	 <p>Test area is quadrupled if pupil size is doubled.</p> 	

	Transillumination test with...	
	...Ophthalmoscope (Red reflex or Bruckner test)	...Plusoptix
Regular image	 www.webeye.ophth.uiowa.edu	
Hyperopia, Myopia, Astigmatism and Anisometropia	 www.webeye.ophth.uiowa.edu	 Auto  detection
Anisocoria	 www.jim.fr	 Auto  detection
Hirschberg test (Gaze asymmetry)	 www.mrcophth.com	 Auto  detection
Abnormal reflex	 www.abcd-vision.org	 manual  evaluation
Media opacity	 www.webeye.ophth.uiowa.edu	 manual  evaluation

auto  detection:

Plusoptix analyzes image and provides readings for sphere, cylinder, axis, pupil sizes, gaze asymmetry and pupil distance, automatically.

manual  evaluation:

In order to detect an abnormal reflex or a media opacity, an eye care professional needs to review the image provided by Plusoptix, and document his observation, manually.