



NETRA

EasyRef

Aberro

E-see

HAR 800

PlenOptika

PlusOptix

SVOne

WA Spot

2Win

Retinomax

Handy Ref

List Price (USD)	\$1,290	\$3,100 + tablet	\$3,200	\$3,600	\$4,300	\$5,900	\$6,225	\$7,000 + base	\$7,600	\$9,000	\$12,000	\$14,500	
No Yearly License	✓	✓	✓	✓	✓	✓	Varies	✗	Varies	Varies	✓	✓	
Online & Free Updates	✓	✗	✗	Via External App	✗	Via External App	Varies	✗	✗	✗	✗	✗	
No Periodic Recalibration	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✗	✗	
FDA Compliant	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	
CE Mark	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	
Right to Resell	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	
CPU Reparability	Any Phone Shop	None	Dealer Services	Dealer Services	None	Dealer Services	Dealer Services	Dealer Services	Dealer Services	None	Dealer Services	Dealer Services	
Technology	NETRA / MIT	Shack-Hartmann	Shack-Hartmann	Shack-Hartmann	Shack-Hartmann	Shack-Hartmann	Photoretinoscopy	Shack-Hartmann	Photoretinoscopy	Photoretinoscopy	AutoRef Kerat	AutoRef Kerat	
Outputs	Sph, Cyl, Axis PD Add	Sph, Cyl, Axis	Sph, Cyl, Axis	Sph, Cyl, Axis	Sph, Cyl, Axis	Sph, Cyl, Axis	Sph, Cyl, Axis PD	Sph, Cyl, Axis	Sph, Cyl, Axis PD	Sph, Cyl, Axis PD	Sph, Cyl, Axis	Sph, Cyl, Axis	
							Forias, Anisocoria		Forias, Anisocoria	Forias, Anisocoria	K Readings	K Readings	
Range	SPH CYL PD	+5.5D to -12D -10.0D to +10.0D 0.0D to -7D 52-72mm	-10.0D to +10.0D 0D to -5D	+14D to -14D 0D to -7D	+10D to -10D 0D to -6D 47-78mm	+8D to -6D 0D to -3D	+10D to -10D 0D to -6D 47-78mm	+5D to -7D 0D to -5D 25-85mm	+14D to -14D 0D to -7D	+7.5D to -7.5D 0D to -3D 35-80mm	+15D to -15D 0D to -5D 30-120mm	+18D to -23D 0D to -12D	+20D to -20D 0D to -12D
Accuracy (StdDev, our tests)		+/-0.38D	+/-0.75D	+/-0.44D	+/-0.47D	+/-0.65D	+/-0.47D	+/-0.75D	+/-0.47D	+/-0.75D	+/-0.75D	+/-0.39D	+/-0.36D
Accuracy drops with	Poor patient training	Poor alignment Crossed eyes	Poor alignment Crossed eyes	Poor alignment, Smaller Pupil Size	Smaller pupil sizes	Poor alignment, Smaller Pupil Size	Smaller pupil sizes	Poor alignment Crossed eyes	Smaller pupil sizes	Smaller pupil sizes	Smaller pupil sizes	Angular alignment	Angular alignment
Measuring Wavelength	Visible (550nm)	Infrared (870nm)	Infrared (870nm)	Infrared (785nm)	Infrared (850nm)	Infrared (785 nm)	Infrared (870nm)	Infrared (870nm)	Infrared (785nm)	Infrared (790nm)	Infrared (785nm)	Infrared (785nm)	
Eye/IPD Alignment	Patient aligns	Tech aligns	Tech aligns	Tech adjusts knob	Point and shoot	Tech adjusts knob	Point and shoot	Patient self-aligns	Point and shoot	Point and shoot	Touches Patient	Touches Patient	
Fogging Procedure	+6D Enclosed	✗	✗	✗	-1D: 1m Target	✗	-1D: 1m Target	✗	-1D: 1m Target	-1D: 1m Target	✗	✗	
Binocular Balance	✓	✗	✗	✗	✓	✓	✗	✗	✓	✗	✗	✗	
No Space Requirements	✓	10 feet	10 feet	10 feet	3 feet	10 feet	3 feet	10 feet	3 feet	3 feet	10 feet	10 feet	
No Prox. Accommodation	✓	✓	✗	✗	✓	✗	✓	✗	✓	✓	✗	✗	
No Melanin Inaccuracies	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	
Age (for best results, our tests)	10-65 yrs	12-55 yrs	5-50 yrs	12-55 yrs	5-85 yrs	12-55 yrs	0-8 yrs	8-50 yrs	0-12 yrs	0-12 yrs	8-50 yrs	8-50 yrs	
Min Pupil Size	1.2mm	4mm	2.5mm	2mm	4mm	2mm	4mm	4mm	4mm	4mm	2.4mm	2mm	
Operated by	Patient	Technician	Technician	Patient & Tech	Technician	Patient & Tech	Technician	Patient & Tech	Technician	Technician	Technician	Technician	
Cleaning after Patient	Forehead, hand pads	Forehead pad	Eyecups	Eyecups, hand pads	None	Eyecups, hand pads	None	Yes, eyecups	None	None	Forehead pad	Forehead pad	
Time (2eyes + prep/clean)	2-4 minutes	1-3 minutes	1-3 minutes	2-3 minutes	<1 minute	2 minutes	1 minute	1-3 minutes	1 minute	1 minute	1-2 minutes	1-2 minutes	
Portability / Transport	Handheld	Handheld	Handheld	Handheld w/ case	Handheld	Handheld w/ case	Handheld	Stand required	Handheld	Handheld	Base + Case	Base + Case	
Water Resistance	✓	✗	✗	"Don't submerge"	✗	"Don't submerge"	✗	✗	✗	✗	✗	✗	
Shock Resistance	1-meter Drop	Vibration Fragile	Vibration Fragile	Vibration Fragile	Shock Sensitive	Vibration Fragile	Shock Sensitive	Vibration Fragile	Shock Sensitive	Shock Sensitive	Vibration Fragile	Vibration Fragile	
Dust/Humid Resistance	✓	Sensitive	Sensitive	Sensitive	✓	Sensitive	✓	✗	✓	✓	✓	✓	
Connectivity	WIFI, Server API	Cable	Bluetooth	Bluetooth	✗	Bluetooth	WIFI	✗	WIFI	WIFI	No	WIFI	
Tag/Name Results	✓	✓	✓	✗	✗	✗	✓	✓	✗	✗	✗	✗	
Export Data to Excel	✓	✗	✗	Via External App	✗	Via External App	✗	✗	✗	✗	✗	✗	
SMS from Device	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	
Telemedicine Portal	✓	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	
Voice Assistant inputs	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	
Printing	✓	Via Tablet	Via Base/Stand	Via External App	✗	Via External App	✓	✓	✗	✗	✓	✓	
Weight	550g	560g w/ Tablet	650g	1300g	900g	1500g	1000g	5200g w/ stand	1150g	850g	3000g w/ Base	3500g w/ Base	
Battery (const use, our tests)	10 hours	3 hours	3 hours	4 hours	6 hours	4 hours	4 hours	3 hours	5 hours	4 hours	1.2 hours	2.3 hours	