



ECT1 Anterior Segment Analyzer

The Third Pole, From The East

Anterior Segment Analyzer

ECT1 provides a professional solution for anterior segment diagnosis. It applies Scheimpflug camera which can collect 107520/230400 data points and generates 28/60 cornea tomography images in high resolution. ECT1 can provide a series of topography maps including cornea curvature maps, cornea thickness maps, cornea elevation maps, etc.

Clinical Application

Keratoconus Diagnosis ●

ECT1 can provide the prevalence of Keratoconus by using the AI algorithm., Further checking the topographic maps to accurately analyze and diagnose the keratoconus.

Refractive surgery

Total cornea aberration guides surgeons to evaluate preoperative and postoperative visual quality to ensure patients of best surgery effect.

IOL Optimization ●

Specially designed for cataract surgery. It supports clinicians to choose suitable Toric IOL、Aspheric IOL or Multifocal IOL for patients.

ICL Surgery Examination

ECT1 supports in different angles to collect a high- resolution picture, It also provides White to White, AC depth for ICL surgery.

Functions:

Basic

Collection Mode

28 Cornea Tomography Images 2D/3D Data Collection

Maps

Keratometric Power Deviation	Anterior Chamber Depth
True Net Refractive Power	Cornea Thickness Maps
Total Cornea Power	Cornea Curvature Maps
Refractive Power (Front)	Cornea Elevation Maps

Functions

Refractive 4 Maps	AI Keratoconus Diagnosis
Chamber Angle Analysis	Aberration Analysis
Pachymetric Distribution	Lens Density Analysis
Refractive Power Distribution	Lens Fitting
Form Factor	

Professional

Collection Mode

60 Cornea Tomography Images 2D/3D Data Collection

Maps

(Including basic maps)

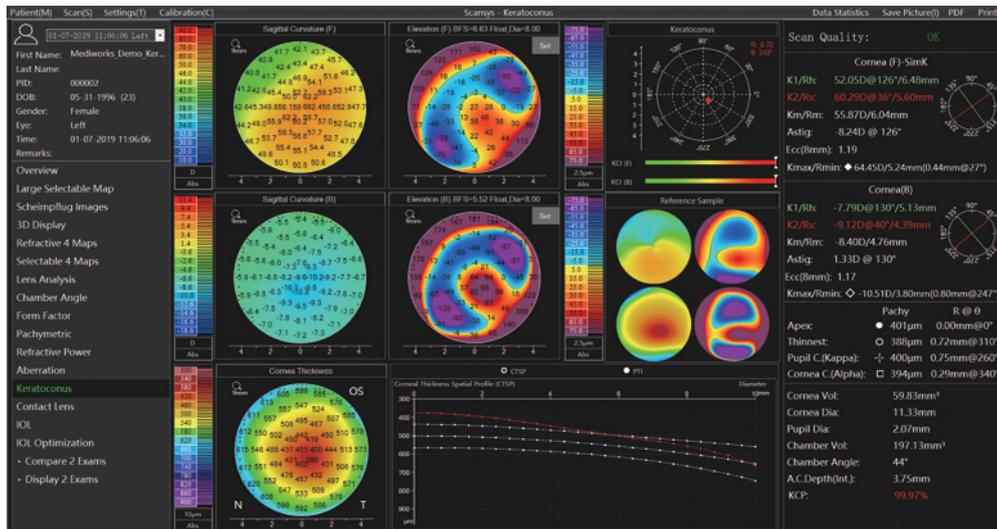
Functions

[IOL Calculation](#)
[IOL Optimization](#)
(Including basic functions)



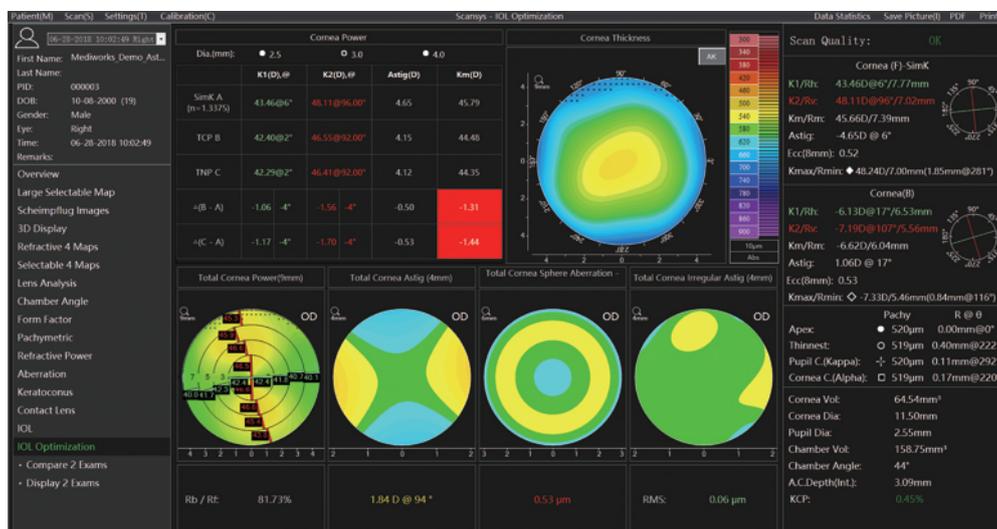
Functions

AI Keratoconus Diagnosis



ECT1 introduces AI algorithms to more intelligently give the possibility of Keratoconus (KCP) (Reference value: KCP, range 1% -100%) The above figures contain the topographic maps of Refractive 4 Maps, and the axial curvature map of the back surface, and the trend distribution of the thickness map is also given. These are the key references for judging the keratoconus.

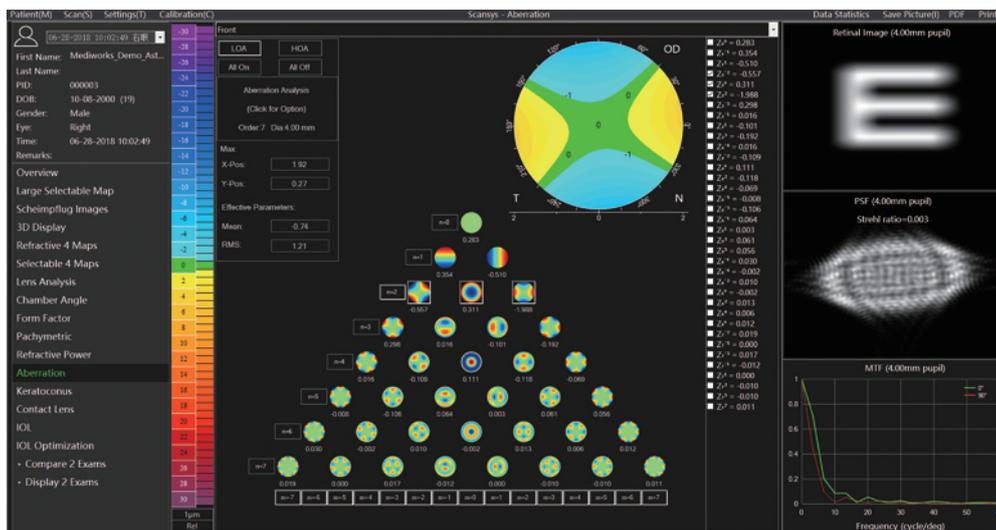
IOL Optimization



Specially designed for the "IOL Optimization" of refractive cataract surgery. Given the K1, K2, Km, and Astig values of the three types of corneal refractive power (Simk, total corneal power, true net refractive power), and Kappa&Alpha angle, respectively. It also provides professional data of the total corneal astigmatism aberration, total corneal spherical aberration and the total corneal irregular astigmatism, and analysis support for solving spherical refractive errors, astigmatism, spherical aberration, and presbyopia in cataract surgery.

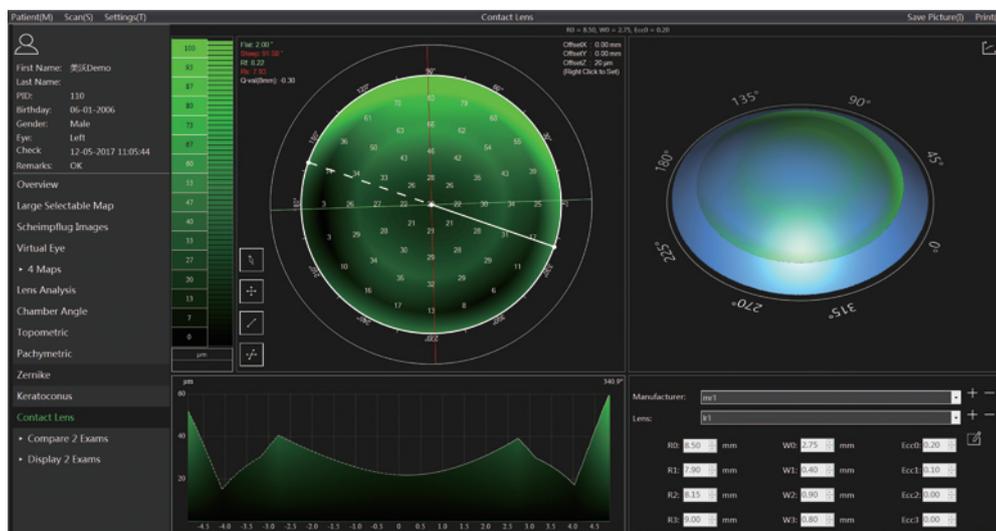
Functions

Aberration Analysis



This view is a Zernike analysis of the measured corneal front, back and all surface height data, which calculates a factor for each Zernike polynomial term that describes the contribution of this polynomial to the height data. To guide the visual quality analysis of refractive surgery.

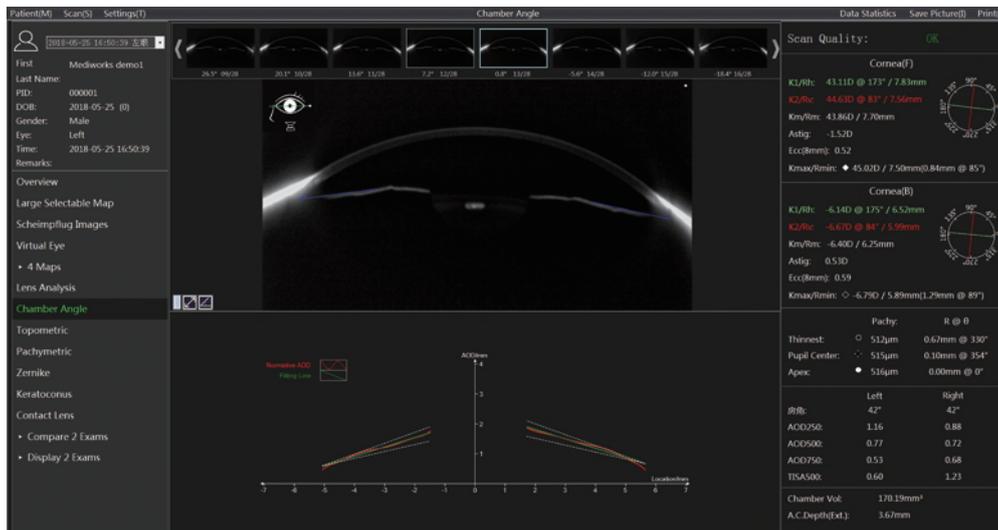
Lens Fitting Analysis



Based on the topography maps generated by ECT1, the system can recommend several lenses suitable for patient's cornea and simulate the images of patient's wearing lenses with fluorescein observed by slit lamps. This will accelerate the work flow of lens fitting and save the trouble for patient to accept real fluorescein during lens fitting.

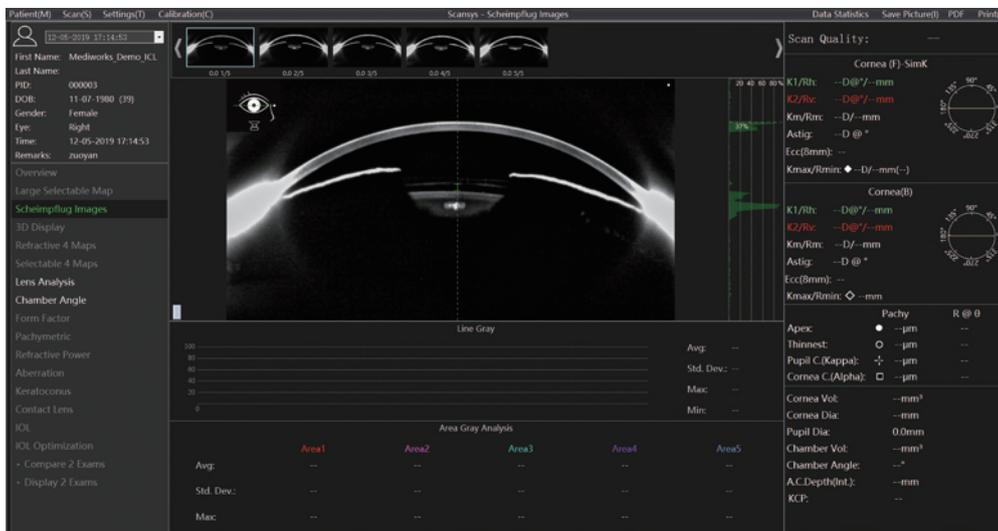
Functions

Chamber Angle Analysis



ect1 can calculate a chamber angle value based on the tomography images and its exclusive AOD graph gives a trend analysis for the distance between cornea back surface to iris. It also provides cornea volume, anterior chamber volume and anterior chamber depth calculation. These analyses is helpful to glaucoma diagnosis.

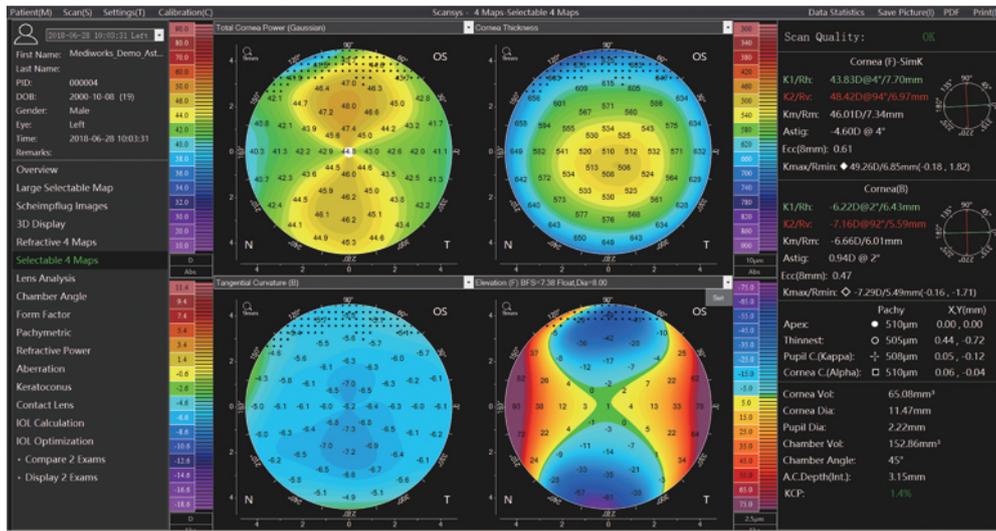
ICL Surgery Examination



ECT1 supports in any Angle to collect a high- definition picture, to provide effective data support for ICL surgery.

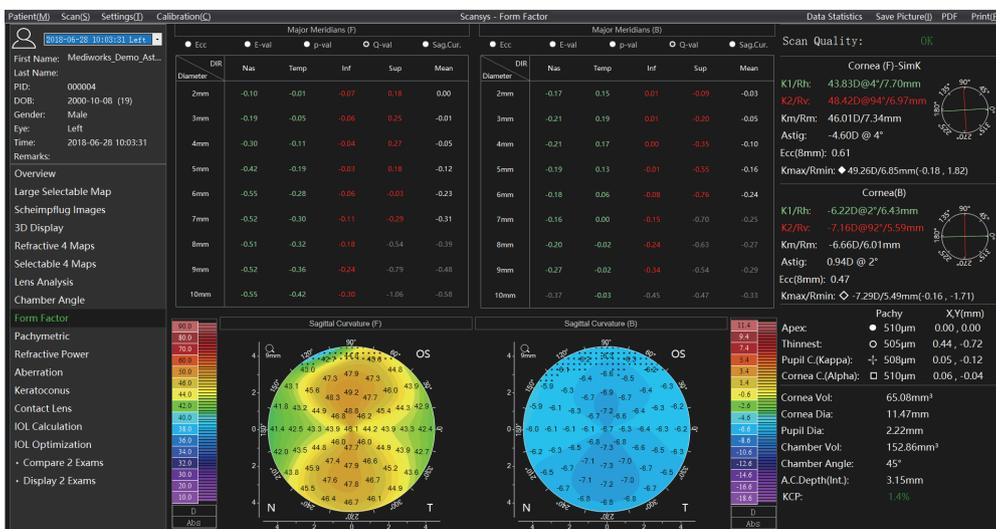
Functions

Selectable 4 Maps



Click on the “Selectable 4 Maps” to open a window contains 4 optional color maps. Corneal thickness and elevation, etc. can be loaded into one of any 4 fields. With this option, the user can view and print out important topographic maps needed for daily work in one interface.

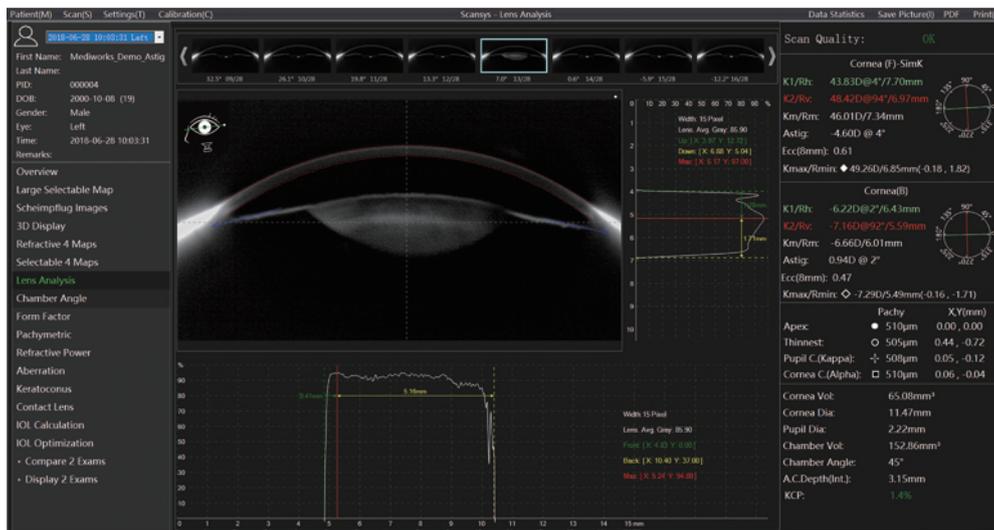
Form Factor



The chart upper depicts the corneal form factor and the curvature of the anterior and posterior surface of the cornea at the intersection of the radial axis and the four radial directions. Corneal shape factors include Ecc, E, Q, and P, which can be changed in the “Map and Data Settings” -> “Form Factor Presentation” in the menu bar “Settings” options.

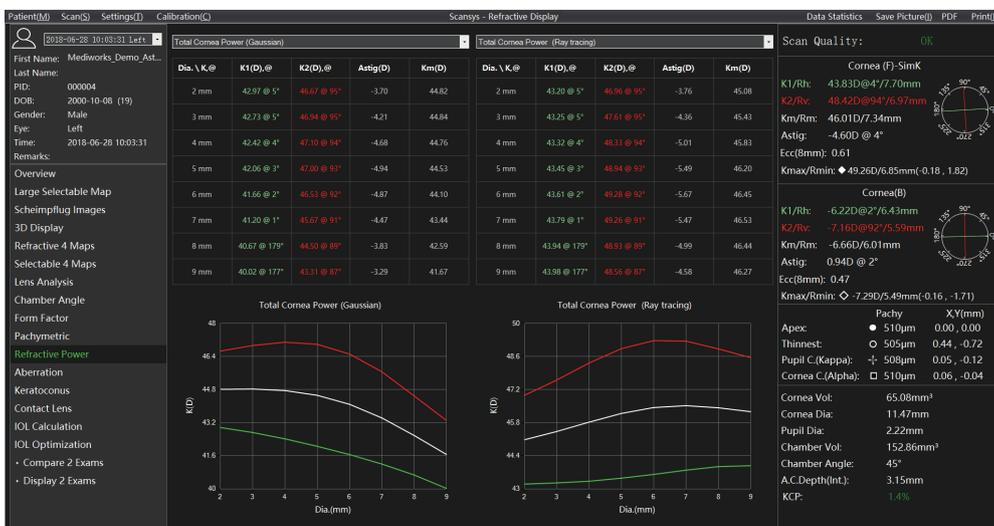
Functions

Lens Analysis



ECT1 calculates the lens density value for cross section and longitudinal section which is helpful in cataract diagnosis.

Refractive Power



In the key parameter column on the right, we give K1, K2, Km, Astig. These values are obtained in the range of 3mm in diameter of the membrane. In order to describe in more detail the difference of these values in each diameter range, We give K1, K2, Km, Astig of the axial curvature of the anterior and posterior corneal, anterior surface refractive power, true net refractive power, full corneal refractive power topographic map, the distribution table of various areas from 2mm to 9mm in diameter, and the distribution curve .The changes of these values in different topographic maps and different diameter ranges are described more intuitively and in detail.

Technical Specification

Camera	Digital infrared camera + Scheimpflug digital CCD camera
Light Source	LED slit
Scanning Speed	28 images within 1 second/ 60 images within 2 second/ single image
Data Points	107520/230400
Work distance	80 mm
Corneal topography	9mm/12mm
Corneal thickness	300–900 μ m
Anterior chamber depth	0.8–6 mm
Diopter	12–72 D
White to white	6–14 mm
Pupil diameter	1–10 mm
Anterior chamber volume	15–300 mm ³
Chamber angle	16–60 °
Kappa/Alpha	R(0–3mm) θ (0–360°)

Work Range

Front and back	115 mm
Left and right	100 mm
Up and down	30 mm

Power Supply

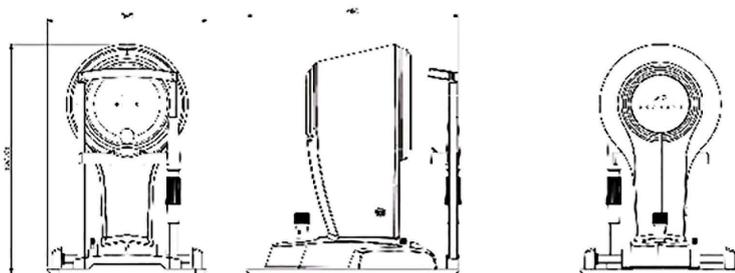
Input voltage	220v/110v \pm 10%
Input frequency	50Hz/60Hz
Power consumption	2.4 W

Weight and Size

Device dimension	505*345*460 mm
Device weight	12 KG
Package dimension	660*570*700 mm
Package weigh	25 KG

System Specifications

PC configuration	i5–8500T 8G 1T+128G 2Gdiscrete graphics
Display	1920 \times 1080 23.8inch
PC system	Windows 10



Eyevis Mediworks Pvt. Ltd.

Address: 811-812, Sakar - 5, Near Mithakhali Railway Crossing,
Off Ashram Road, Ahmedabad - 380009 Gujarat, India
Email: info@eyevis.biz Web: www.eyevis.biz
Telephone: +91 79 3522 0044