Ophthalmic ultrasound

PIROP A+B+CCT

Biometry, ultrasound and pachymetry in one ophthalmic scanner.

Ophthalmic ultrasound instrument for biometry. Ocular imaging and pachymetry. A-scan + B-scan + CCT pachymeter.



PIROP A+B+CCT · Equipment view

Sources and documentation

Request a quote | View product

Generated on 2026-11-29

> This product sheet is prepared by ASEM. It does not replace the manufacturer’s official documentation or instructions for use.

Key advantages

A-mode biometry

Axial length and intraocular lens power calculation.

Sources and documentation · Source checked on 2026-10-17

B-mode ultrasound

Ultrasound imaging of structures within the eyeball.

Sources and documentation · Source checked on 2026-10-17

CCT pachymetry

Ultrasound measurement of corneal thickness.

Sources and documentation · Source checked on 2026-10-17

Biometric A-Scan

Ocular measurements and intraocular-lens power calculation.

B-Scan

Ultrasound imaging of the inside of the eye.

CCT pachymeter

Corneal-thickness measurement with the dedicated module.

Capabilities in practice

A-scan biometry

Sources and documentation

B-scan ultrasound

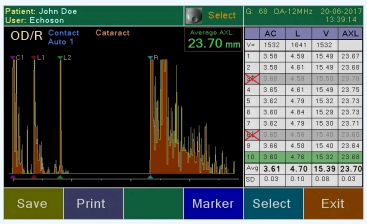
Sources and documentation

Central corneal pachymetry

Sources and documentation

Three examinations combined

A-Scan, B-Scan and CCT share one ophthalmic platform.



PIROP A+B+CCT · Manufacturer report

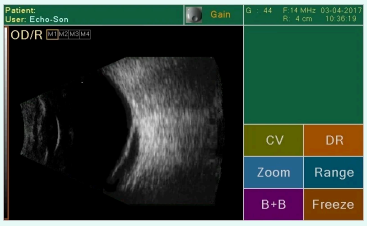
Manufacturer illustration: the configuration shown may differ from the delivered configuration.

Sources and documentation

Sources and documentation

Touch interface

The 7-inch touch screen organises functions and the patient database.



PIROP A+B+CCT · Manufacturer capture

Manufacturer illustration: the configuration shown may differ from the delivered configuration.

Sources and documentation

Sources and documentation

Measure and document

Keep measurements, images and user profiles in the system.



PIROP A+B+CCT · Manufacturer report

Manufacturer illustration: the configuration shown may differ from the delivered configuration.

Sources and documentation

Sources and documentation

Display and functions

1. Imaging modes: B, B+A, B+B.

2. A-mode: available on a selected line in Run and Freeze modes.

3. Cineloop: approximately 6 seconds of independent playback for each eye.

4. Image memory: 4 memories (M1 to M4) for each eye.

B-SCAN

1. Technical features

• Probe frequency: 12 to 15 MHz.
• Scan angle: 55°.
• Scan range: 20 to 60 mm.

2. Image quality and adjustments

• Gain/dynamic range: up to 110 dB / 90 dB.
• TGC: gain adjustment by zone in the selected eye.
• Grey levels: 256.
• Dynamic range correction.
• Digital gain correction in Freeze mode.

3. Resolution

• Clinical axial resolution: 0.12 mm.
• Clinical lateral resolution: 0.3 mm.

B-scan probe

Frequency: 12/15 MHz.
Application: imaging inside the eye, including the retina and optic nerve.

Other B-SCAN features

1. Display modes

• Display modes: B, B+A, B+B.
• A-mode on a selected CV line in Run and Freeze modes.
• Zoom (x2) in Run and Freeze modes.
• Independent right- and left-eye cineloop, approximately 6 seconds.

2. Memory and storage

• Image cache: M1..M4, independent for right and left eyes.

3. Measurements and annotations

• Distance measurements with ultrasound velocity correction.
• Area and angle measurements.
• User-entered cursors and comments.

4. Output

• Composite video output for a video printer.

A-SCAN

Fast, comprehensive biometry:
– Axial length (AXL).
– Anterior chamber depth (AC).
– Lens thickness (LENS).
– Vitreous length (VITR).

Measurement for different eye types: normal, cataract, dense cataract, aphakia, silicone oil-filled vitreous and pseudophakia (PMMA, ACRYLATE, SILICONE).

A-scan probe

Frequency: 12 MHz.

Application: biometry and intraocular lens power calculation.

Six A-SCAN IOL formulas

SRK II, SRK T, Holladay, Hoffer-Q, Binkhorst II, Haggis.

Post-refractive formulas:

Double-K SRKT, Latkany /Flat-K SRKT/, Latkany /avg-K SRKT/, Masket.

A-SCAN features

1. Methods and functions

• Comparison of IOL power calculations for different lenses and calculation methods.
• Contact and immersion methods (immersion tube included).
• Probe with a central light beam for correct eye positioning.

2. Image quality and adjustments

• Automatic TGC adjustment.
• GAIN adjustment up to 110 dB.

3. Measurements and analysis

• Memory for 20 scans with measurements for later analysis.
• Mean and standard deviation calculations.
• Automatic measurement dispersion control, with manual correction.

4. Customisation and maintenance

• Configurable for 10 users, with 10 profiles per user.
• Adjustment and testing using the included calibrator.

5. Technical features

• Probe frequency: 12 MHz.
• Scan range: 45 mm / 2500 points per line.
• Clinical resolution: 0.1 mm.
• Electronic resolution: ±0.01 mm.

CCT pachymeter

1. Fast corneal thickness measurements

• High measurement frequency: 400 MHz.

• 512 automatic measurement cycles.

• Thickness measurements for different corneal types.

• Central corneal thickness (CCT) measurement.

• Thickness measurement at freely selected points.

• Automatic and manual measurements.

• Mean measurement calculation.

• Standard deviation calculation for measured thickness.

• Inaccurate measurements can be rejected.

2. Precision and repeatability

• Algorithms to improve precision.

• High sampling rate.

Pachymetry probe

1. Probe operating frequency: 20 MHz.

2. Default ultrasound velocity: 1640 m/s (range 1400 to 2000 m/s).

Technical parameters:

• Measurement range: 220 µm to 1100 µm.

• Measurement accuracy: ≤2 µm.

• Resolution: 1 µm.

Intraocular pressure (IOP) calculations

• Automatic and/or manual calculation of corrected IOP.

• 10 IOP correction formulas available:

Kohlhas/Shah,
Argus et al.,
Whitarce et al.,
Doughty,
Ehlers, Dresden,
Stodmeister,
custom user-defined calculation formula.

Predefined corneal thickness maps

• Nine predefined thickness profile maps, with point counts:

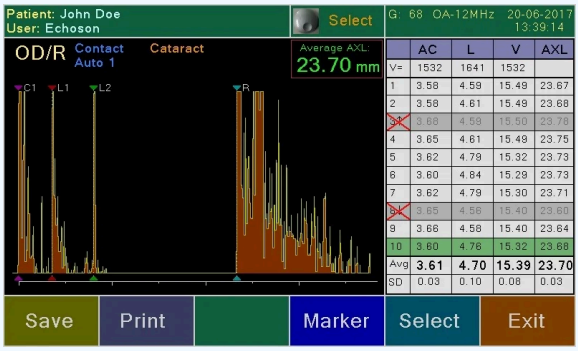
1, 5, 9, 13, 21, 25, 1 MULTI, 5 MULTI, 9 MULTI.

• Examination of central, paracentral, peripheral, parietal or mixed areas.

Designed for a smoother workflow

Contact or immersion biometry

A mode measures axial length, anterior chamber depth, lens thickness and vitreous length. The A probe operates at 12 MHz.



PIROP A+B+CCT · Manufacturer report

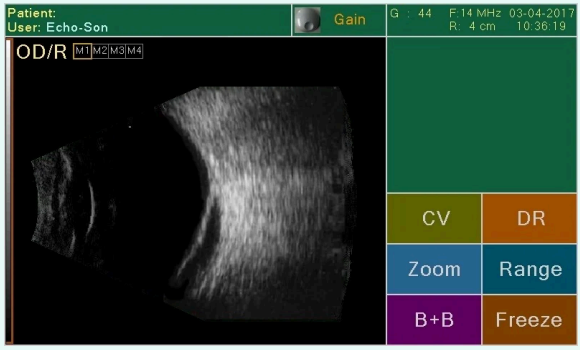
Manufacturer illustration: the configuration shown may differ from the delivered configuration.

Sources and documentation

Sources and documentation

Several B-mode views

Ultrasound offers B, B+A and B+B views, separate memories for each eye and an approximately 6-second cine loop.



PIROP A+B+CCT · Manufacturer capture

Manufacturer illustration: the configuration shown may differ from the delivered configuration.

Sources and documentation

Sources and documentation

Designed for daily practice

Pachymetry and maps

The pachymetry probe operates at 20 MHz. The published range is 220–1100 µm, with nine predefined maps and measurement averaging.



PIROP A+B+CCT · Manufacturer report

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Sources and documentation

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Storage and reports

The scanner provides an internal patient database and USB storage. Its internal thermal printer produces A-scan and P-scan reports.

Sources and documentation

Clearly identified software extensions

PIROP-PC manages examinations on a Windows computer. DICOM 3.0 support for PACS/RIS is an additional option.

PIROP-PC and DICOM are optional; installation is not assumed.

Sources and documentation

Technical specifications & documentation

Brand
Echoson

Model
PIROP A+B+CCT

Technology
Ophthalmic ultrasound

Clinical use
Imaging and OCT · Diagnostics and biometry

Modules
A-Scan + B-Scan + CCT

Display
7-inch touch LCD

Minimum pachymetry
220 µm

Sources and documentation

Maximum pachymetry
1100 µm

Sources and documentation

A-scan probe
12 MHz

Sources and documentation

B-scan probe
12–15 MHz

Sources and documentation

CCT probe
20 MHz

Probe frequency; internal algorithm frequency excluded.

Sources and documentation

B-scan axial resolution
0.12 mm

Axial clinical resolution in B mode.

Sources and documentation

Connectivity
USB · PAL composite video

Sources and documentation

Software
PIROP-PC optional; DICOM 3 optional

Options are not assumed included.

Sources and documentation

Power supply
100–230 V AC ; 50–60 Hz / 12 V DC

Sources and documentation

Dimensions
290 × 205 × 85 mm

With printer.

Sources and documentation

Weight
1.5 kg

With printer.

Sources and documentation

Probe frequency; internal algorithm frequency excluded.

Axial clinical resolution in B mode.

Options are not assumed included.

With printer.

Downloads & resources

- https://echoson.pl/en/pirop-en/
  Source checked on 2026-10-05
- https://echoson.pl/en/pirop-en/
  Source checked on 2026-10-17
- https://echoson.pl/en/pirop-en/
  Source checked on 2026-08-30
- https://echoson.pl/en/pirop-en/
  Source checked on 2026-10-18

Your questions about PIROP A+B+CCT

What is the documented Minimum pachymetry of PIROP A+B+CCT?

220 µm

Sources and documentation

What is the documented Maximum pachymetry of PIROP A+B+CCT?

1100 µm

Sources and documentation

Which configuration should I confirm for PIROP A+B+CCT?

Probe frequency; internal algorithm frequency excluded.

Sources and documentation

Does the pachymetry probe operate at 400 MHz?

No. The probe is specified at 20 MHz. The manufacturer’s 400 MHz figure concerns internal sampling, not transducer frequency.

Sources and documentation

Is DICOM included in every device?

The manufacturer lists PIROP-PC as an optional accessory and DICOM 3.0 as an additional option. Availability must be checked in the ordered configuration.

Sources and documentation

Explore the ASEM clinical catalogue

Browse related areas of the ASEM catalogue. These links do not extend the indications of this device.

Imaging and OCT

Diagnostics and biometry

More than a device, a long-term partnership

Discuss your project with ASEM: equipment selection, installation, training and technical support.



Service illustration

Installation

Discuss the installation requirements and configuration with our technical team.

Learn more

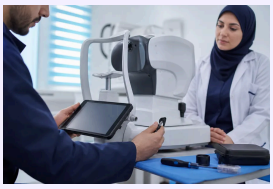


Service illustration

Training

Ask about the training and familiarisation available for your equipment.

Learn more



Service illustration

After-sales service

Contact ASEM for technical assistance and the support appropriate to your equipment.

Learn more



Service illustration

Expert advice

Tell us about your clinical needs to discuss a suitable equipment selection.

Learn more

Contact a specialist

Explore all products

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