

Prospect T2

World's First Preclinical Ultrasound

Tablet

- Real-time *in vivo* imaging
- Truly research oriented
- Compact and convenient



Cutting Edge Ultrasound Solutions



is dedicated to providing cutting edge ultrasound solutions to our customers since 2011. Our core competence is the ability to leverage rapid advancement of electronics technologies and powerful software computations into biomedical ultrasound and to address our customers' needs.



Real - Time

Real time B and Color Doppler imaging



Streamline Workflow

Improved online acquisition and offline analysis workflow



Mobility

Touch screen and highly portable body offer excellent flexibility

AI

AI-aided

AI-based image post-processing



Advanced Features

Comprehensive measurement tools for 2-D and 3-D image data



Data Storage

1TB SSD available for storing various data formats

Scanning Platform for Improved Workflow



Ergonomic design enables effortless imaging from any angle and position



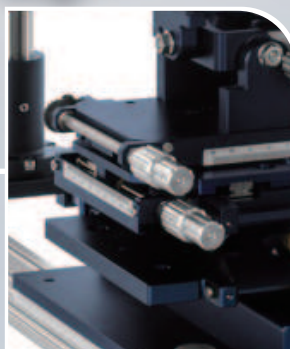
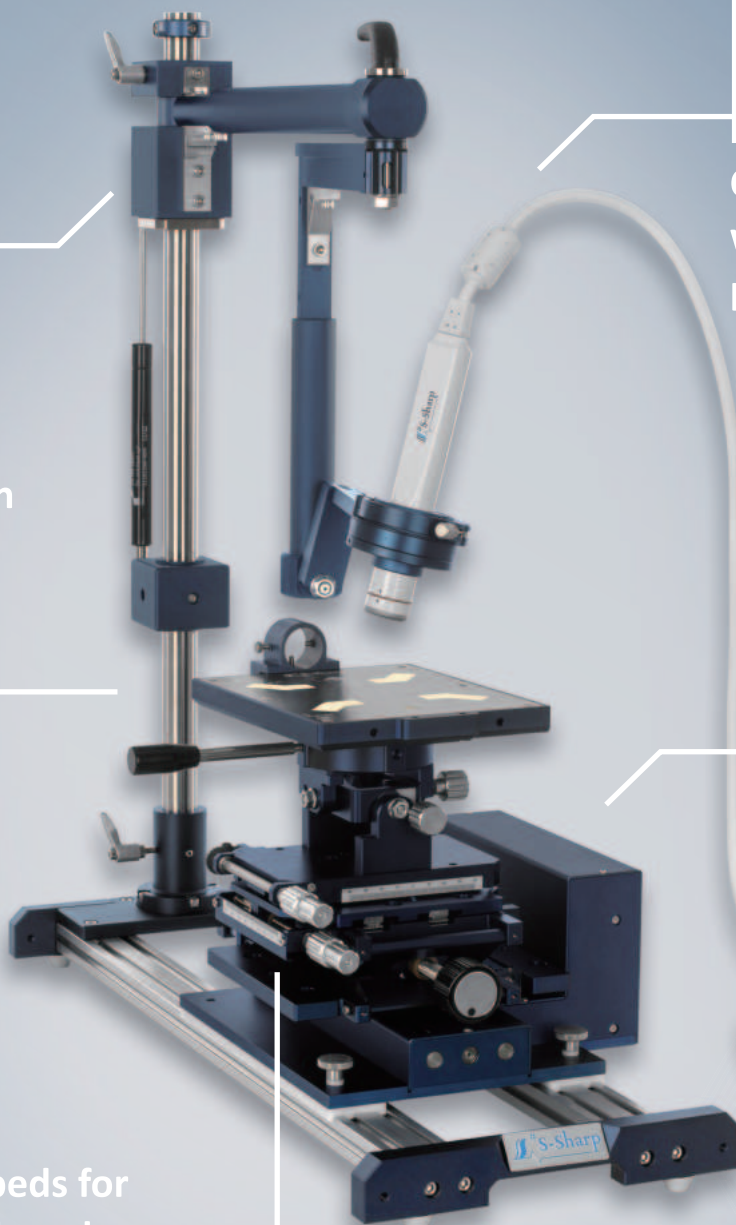
Compact form factor with enhanced performance



Interchangeable beds for mice and rats with real-time vital sign monitoring



Integrated with optional 3D motor



Operation stage with precision control up to 0.01 mm in X, Y, and Z axes

Broadband Probes With Compact Form Factor

Probes Specifications

PB506e

- Application: Zebrafish, Mouse
- User Selection: 40-55MHz
- f#: 1.5

PB406e

- Application: Mouse, Rat
- User Selection: 25-50MHz
- f#: 2

PB207e

- Application: Mouse, Rat
- User Selection: 15-25MHz
- f#: 2.5



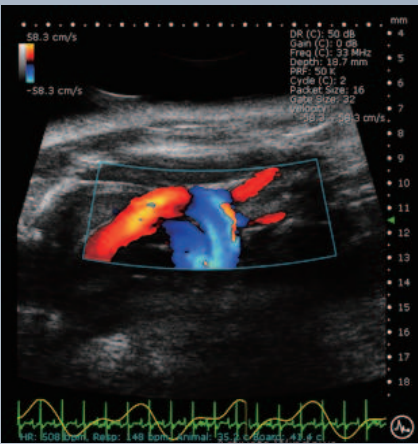
Scanning Modes

B mode

Real-time 2D gray-scale imaging with Virtual Array technology and AI-based post-processing for better lateral resolution and contrast.
High-frame-rate image series can be achieved by ECG triggering and respiration gating.
Tissue harmonics imaging is available.



Mouse carotid bifurcation in B mode



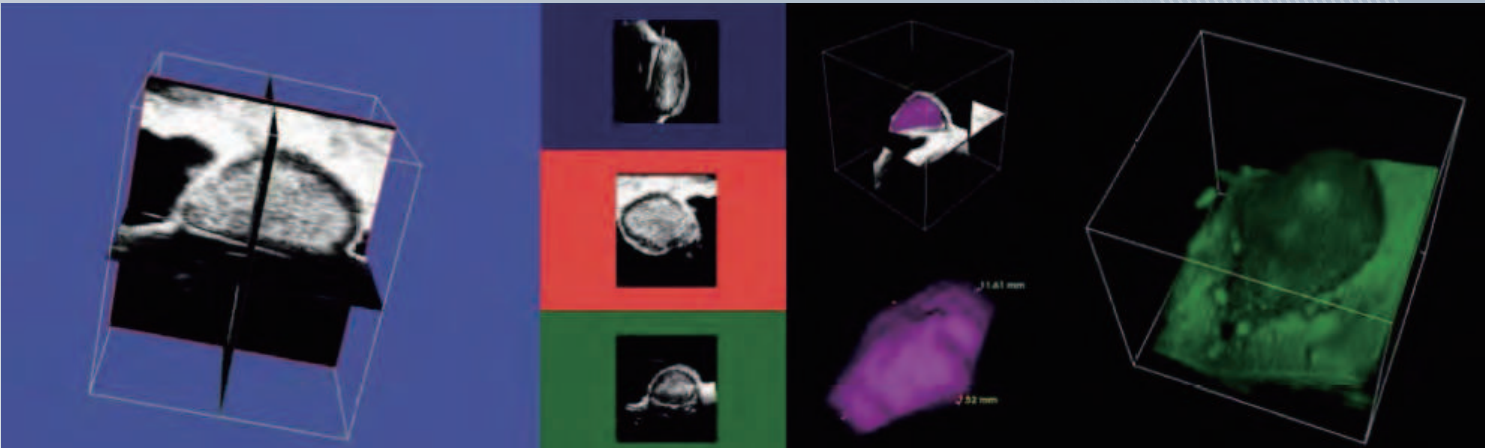
Doppler mode

Supports two Doppler modes—Color Doppler and Power Doppler—providing color-coded blood flow information on the B-mode image.

Mouse aortic arch in Color Doppler mode

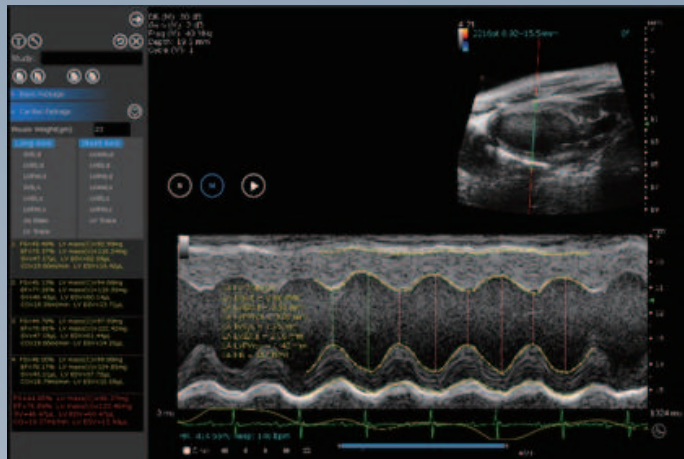
3D Imaging mode

3D image visualization, reconstruction, and volumetric measurements are provided.



Subcutaneous tumor 3D imaging and volumetric measurements

Scanning Modes



M mode

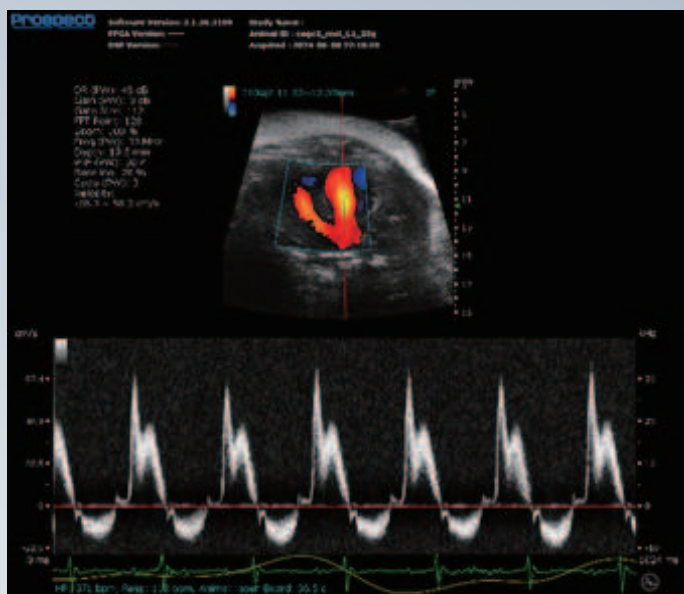
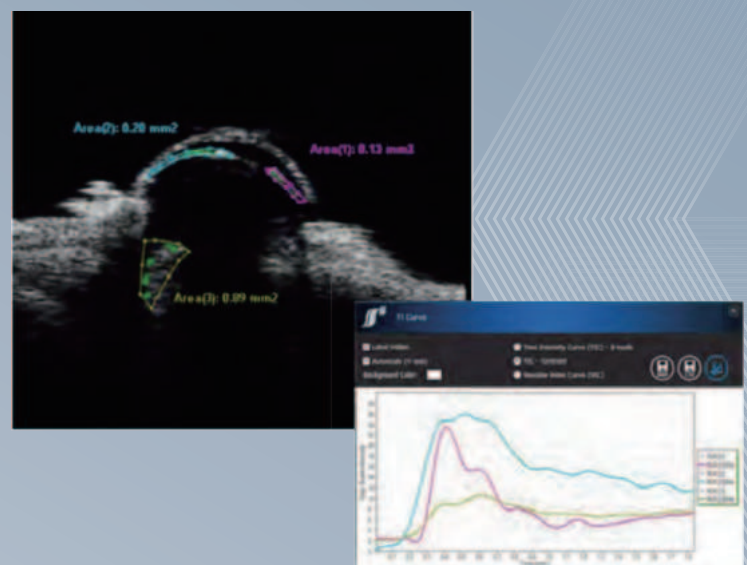
M mode shows the motion of tissue at certain scan line over time. Manual and semi-automated analysis are available.

Parasternal long axis view for mouse cardiac systolic function evaluation using the cardiac package in M mode

Contrast mode

Microbubble based contrast imaging allows measurements of time-intensity curve (TIC), vascular index curve (VIC) and data export for off-line analysis.

Perfusion image of a mouse eye in contrast mode. Vascular index curve of three different area of the eye is also displayed

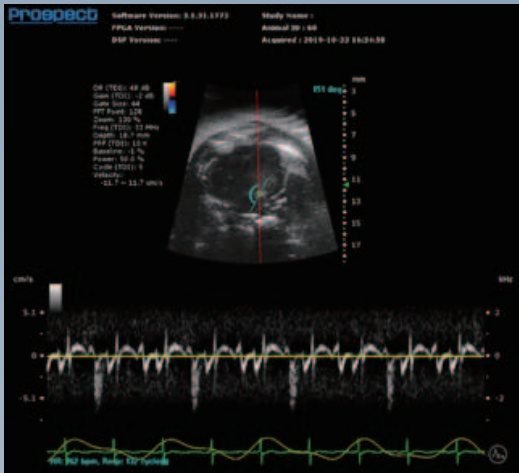


Pulsed-wave (PW) Doppler mode

PW Doppler shows the velocity spectrum as a function of time at a specific sampling position. Different flow patterns can be identified and quantified.

PW Doppler spectrum of mouse mitral inflow for cardiac diastolic function analysis

Scanning Modes



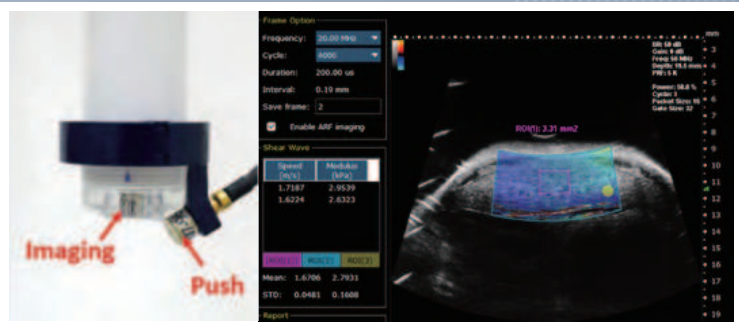
Tissue Doppler mode

Tissue Doppler imaging is used to measure the low-velocity, high-intensity signals of the myocardium.

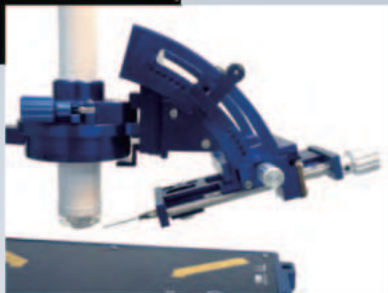
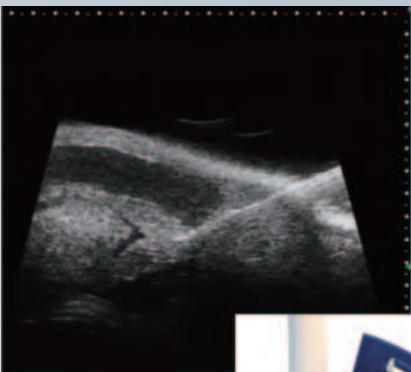
Tissue Doppler imaging at mitral annulus

ARF mode (Elasticity Imaging)

Shear wave elasticity imaging is a non-invasive method of measuring the elasticity of tissues. With the confocal design, shear wave propagation and velocity can be detected and calculated.



Shear wave elasticity imaging of liver



Imaging-guided Injection

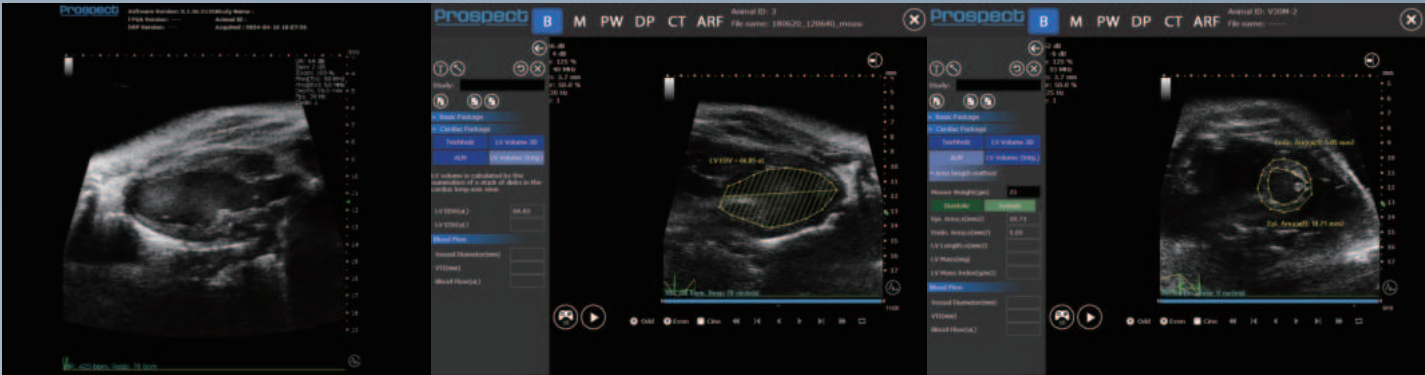
The integration of the needle injector with the imaging probe enables easier image-guided injection procedures.

Mouse pancreas injection

Applications

Cardiovascular Research

Prospect T2 offers excellent quantitative measurement capabilities for cardiovascular research.



Mouse heart from parasternal long axis view

Ventricular volume estimation using cardiac package in B mode

Cardiac function evaluation using B mode cardiac package



Apical 4 chamber view of mouse heart in Color Doppler mode

Assessment of mouse left ventricular diastolic function using E/A ratio cardiac package in PW mode

M mode image of a rat from parasternal long axis view after left anterior descending coronary artery ligation



Tissue Doppler imaging for posterior wall motion from parasternal short axis view

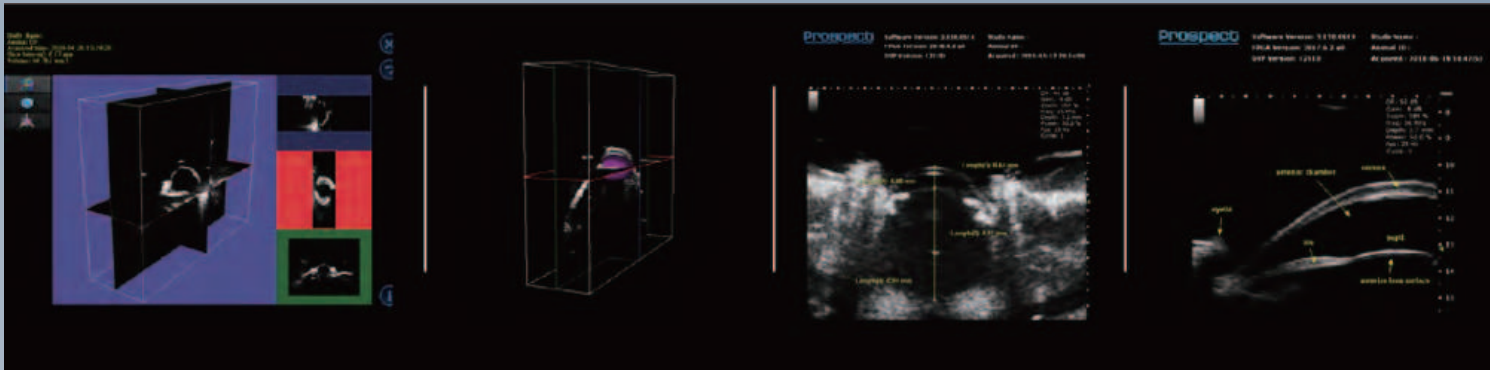
Calculation of blood flow volume with length measured from B image and velocity-time integral from PW spectrum

Online ECG/Respiration data exportation

Applications

Ophthalmic Research

With high frequencies and comprehensive measurement tools, Prospect T2 ensures exceptional performance in ophthalmic studies.



3D imaging of a rat eye in plane view

3D reconstruction of a mouse eye

Guinea pig eye imaging with length measurements of various anatomical structures

Anterior eye imaging of a rabbit

Cancer Research

Early detection of tumor before they are palpable and visually detectable is crucial. Prospect T2 provides precise 2D anatomical observation, molecular imaging with contrast agent, 3D image reconstruction and measurements to quantify tumor progression over time.



The axillary lymph node and a hyperechoic mass found in the liver of a lymphoma mouse model

A subcutaneous tumor image in B mode. The dimension of a tumor can be estimated by measuring tools

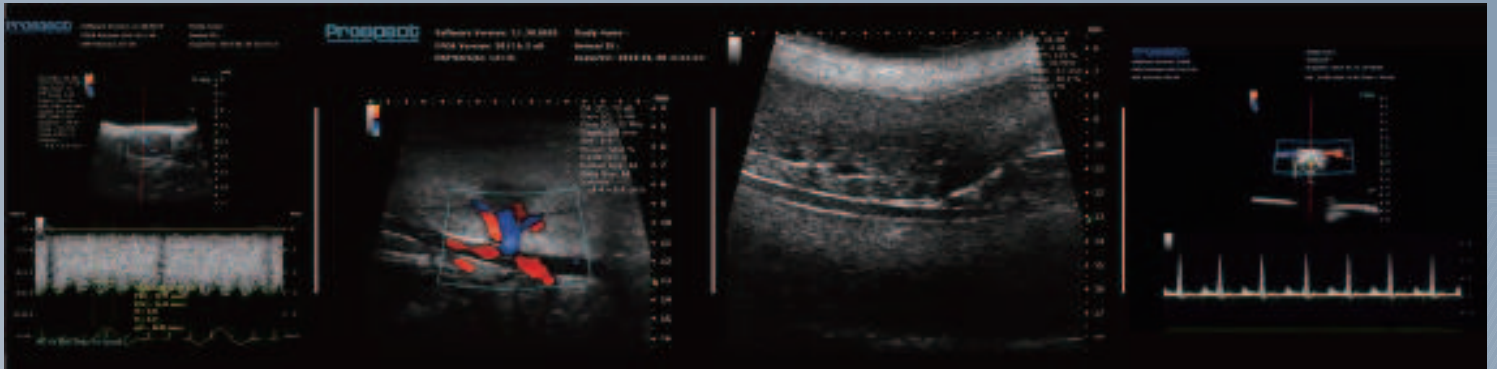
Molecular imaging of a mouse subcutaneous tumor with contrast agent

Time intensity curve shows the concentration change of microbubble during sonoporation procedure
mark the moments when sonoporation is initiated

Applications

General Applications

With high imaging frequencies, Prospect T2 is well suited to observe the internal structures and functions of mouse abdomen organs such as kidney, liver and spleen, enabling early diagnoses of various disease models.



S/D ratio of mouse testicular artery

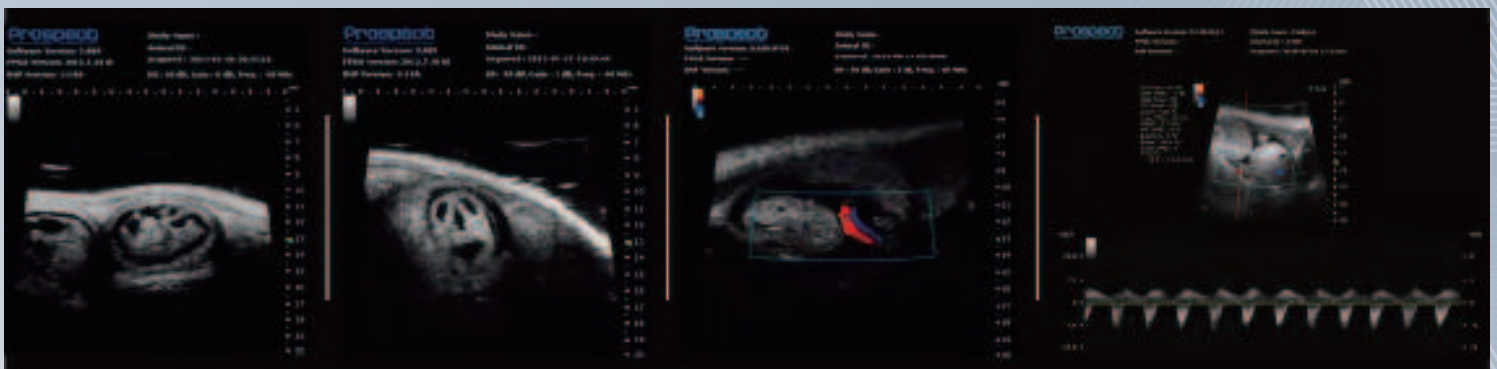
Color Doppler imaging of a mouse renal hilum

Rat sciatic nerve

Ventricular inflow of a zebrafish in PW mode

Developmental Biology

With complete imaging modes, including Color Doppler, Prospect T2 enables clear visualization of embryonic development even during early pregnancy stages. Structures such as embryos, chambers, mitral valves, and vessel flows can be identified and quantified.



E9.5 mouse embryonic heart and neural tube

E12.5 mouse embryonic brain

E13.5 mouse umbilical cord Doppler imaging

Umbilical cord of pregnant mouse (PW Doppler mode)

Prospect T2 Specifications

Resolution	Up to 30µm
Image Modes	B / M / PW / 2D Doppler (color / power) / 3D / Contrast / ARF
Frequency	PB506e: Center Frequency 50MHz (Bandwidth: 40MHz~60MHz) PB406e: Center Frequency 40MHz (Bandwidth: 20MHz~50MHz) PB207e: Center Frequency 20MHz (Bandwidth: 10MHz~30MHz)
Field of View	Depth up to 47mm (20MHz probe) / Width up to 25mm
Advanced Imaging Modes	Virtual array, AI-based imaging post-processing
Frame Rate	Up to 500FPS (ECG mode)
Data Storage Format	SSD 1TB. avi, bmp, jpg, tif, png, DICOM SFSC/MFSC, RF raw data, cinelooop (proprietary format)
Platform	Heating/ ECG, Respiration, rectal temperature monitoring Rat table and mouse table available
3D Motor	0.05mm scan interval in the scan axis
Display	15-inch XGA touch screen Intuitive TUI for improved workflow
Dimension	360x280x85mm
Operation Software	Microsoft Embedded Win10 (English)
Power Requirements	External Power Supply: AC Input 100V-240V (50Hz-60Hz) Max. Power Consumption: 150 Watts
Environment Requirements	Temperature (min-max): -Storage: -20° to +60°C; Operating: 10° to 40°C Humidity: -Storage: 90%; Operating: 80%
Regulation Compliance	EMC: CISPR 11: 2015 / EN 55011: 2016 Group 1, Class A, EN 61326-1: 2021 Safety: EN 61010-1: 2010 + AMD1: 2019 Compliant with Euro RoHS, WEEE certification



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