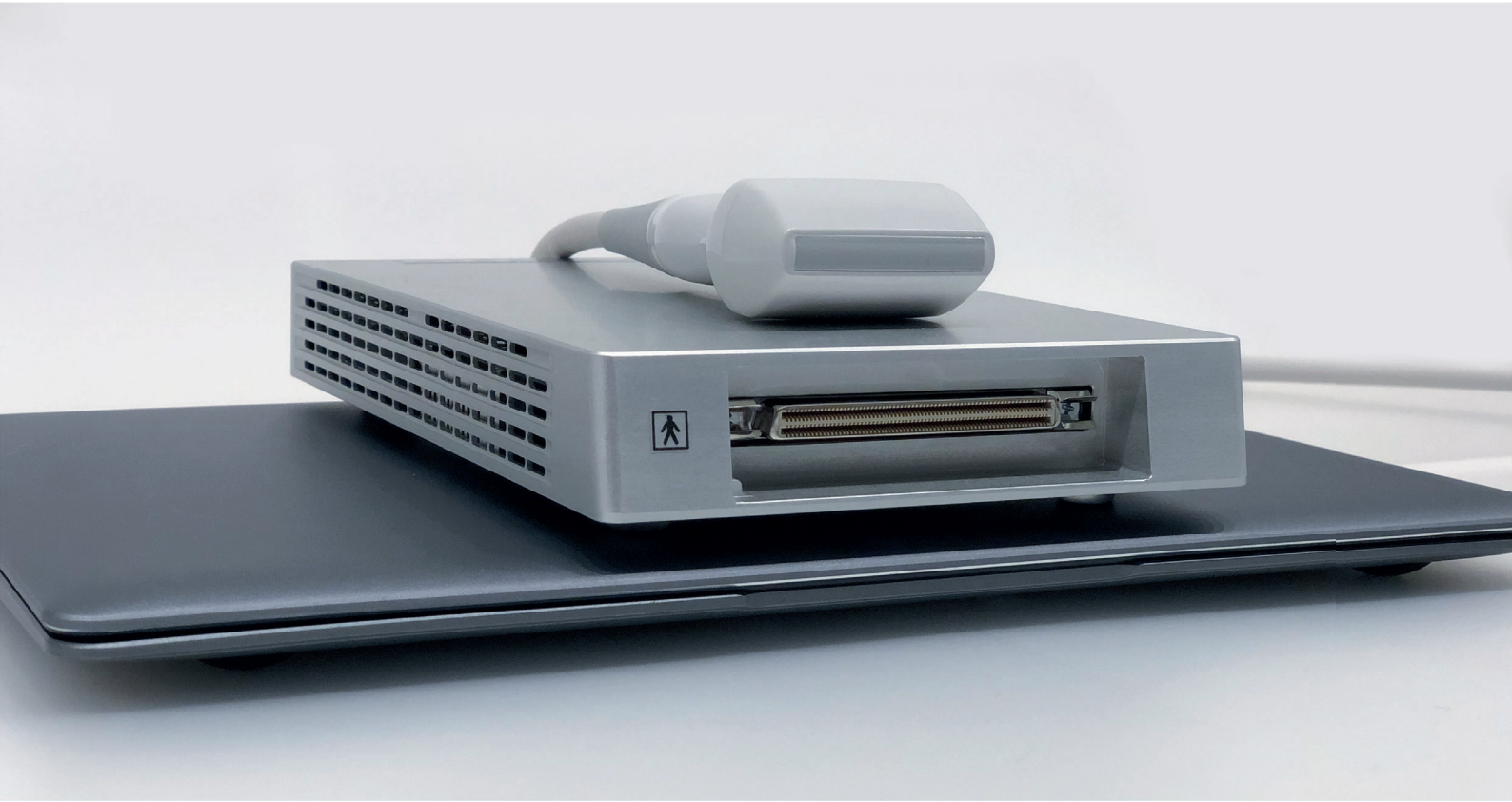
Rev. 1.0

ArtUs Ultrasound Scanner

Technical Data Sheet

ArtUs is a top-choice ultrasound machine among leading universities and healthcare professionals, renowned for its superior performance, high frame-rate, and compact design. It offers a diverse selection of multifrequency probes, catering to a wide range of medical applications.



TELEMED

TELEMED
ULTRASOUND MEDICAL SYSTEMS

Technical Specifications

Models

ArtUs EXT-1H: one probe port

ArtUs EXT-2H: two probe ports

Imaging Modes

- **B, B+B, 4B, B+M, M**
- **B - mode:**
  1. B-steer for linear probes
  2. Compound for linear and convex probes
  3. Virtual convex for linear probes
  4. Expanded view angle for convex probes
  5. B live+B live (two live B-streams from two transducers), ArtUs EXT-2H only
- **Color Doppler** (CFM)
- **Power Doppler** (PDI)
- **Directional Power Doppler** (DPDI)
- **Pulsed Wave Doppler** (PWD)
- **B+PWD** (Duplex)
- **B+CFM/PDI/DPDI+PWD** (Triplex)
- **Inverted Tissue Harmonic Imaging** (ITHI)
- **Tissue Harmonic Imaging** (THI)
- **Parallel beam forming**
- **Beamformed RF data access** through SDK library and set of research software (Python, MATLAB, LabView)

Connectivity

- USB 3.0

Technical Specifications

Transducers

Multi-frequency transducers from 1.5 to 18.0 MHz.

Automatic recognition of the transducer

- Linear
- Convex
- Microconvex
- Phased Array sectorial

Scanning depth: 2 – 40 cm

Color Doppler (CFM/PDI/DPDI)

- PRF values: 0.5-10 kHz
- angle steering for linear transducers: up to ±25°
- gain control: 40 dB
- wall filter settings: 3 steps (5%, 10%, 15% PRF)
- real-time spatial filter: 4 values
- CFM palette: 10 maps
- B/Color priority control
- color threshold control
- CFM baseline control
- Doppler frequency selection: 2 or 3 frequencies / each transducer
- color frame averaging: 8 values
- Transparent Color Mapping (TCM): 10 values

Pulsed Wave Doppler (PWD)

- PRF values: 1-15 kHz
- wall filter settings: 16 steps (2%-20% PRF)

Technical Specifications

Focusing

- Transmission: variable, 8 zones.
- Receiving: Dynamic point/point focusing.

DICOM

- Verification SCU
- Modality Worklist (MWL) SCU
- Modality Performed Procedure Step (MPPS) SCU
- Store SCU (images, video)
- Print SCU (grayscale, color)

For more information see Echo Wave II Software DICOM Conformance Statement

Image and video save / load:

- AVI
- MP4
- JPG
- BMP
- PNG
- TIF
- XLSX
- DCM (DICOM uncompressed)
- DCM (DICOM-JPEG RGB/YBR)
- DCM (DICOM-JPEG RGB/YBR Video)
- TPD (Telemed Picture Data)
- TVD (Telemed Video Data)

Technical Specifications

Power supply

- External power supply, 100-240V AC, 50-60 Hz

Size and weight

ArtUs EXT-1H:

- aluminium enclosure
- dimensions W x D x H, mm: 136 x 200 x 34
- weight, kg: 0.77

ArtUs EXT-2H:

- aluminium enclosure
- dimensions W x D x H, mm: 140 x 204.5 x 62
- weight, kg: 1.12

Ultrasound software

- Echo Wave II / Echo Wave II touch GUI (Windows 32/64 bit)
- Free downloadable updates.

Research and Developement Tools

Hardware tools:

- **I/O Module** – optional modules for synchronizing the scanner with other signals or instruments such as ECG, EMG, EEG.
- RF Module – optional module that allows to receive RF data in real-time

Software tools:

- **SDK** – Software Developement Kit (available with agreement).
- **ArtUs synchronisation utilities** – utility for configuring ArtUs synch port.

Technical Specifications

- **Real-time imaging for the research** (DLL) – allows to call TELEMED SDK functions to perform real-time ultrasound image data acquisition and imaging from the other programming platforms such as MATLAB, Python etc.
- **ArtUs Synchronisation Package** – utility for configuring of ArtUs synchronisation input/output signals
- **ArtUs RF Data Control for C++** – control majority of ultrasound scanning parameters, receive RF data in real-time and record RF data to file
- **ArtUs RF Data Control for Python, MATLAB and LabVIEW** – control majority of ultrasound scanning parameters, receive RF data in real-time and record RF data to file
- **ArtUs RF Tools Package** – RF tools, MATLAB scripts for import and revision of annotated RF data offline. Collection of scripts illustrating conventional RF signal processing steps, which are typically used in the B mode image formation engine is provided as well.
- **Python scripts package** – Python RF data viewer (GUI) for import and review of annotated RF data offline.

Recommended configuration

- Windows® based computer
- HD/Full HD screen resolution, IPS technology
- CPU i5/i7/i9 2.0 GHz or faster
- 8 Gb RAM or more
- 256 Gb internal Solid State Drive (SSD)
- ArtUs: USB 3.0, other systems: USB 2.0/USB 3.0
- Windows® 8/10/11 (all versions 32/64-bit)

Technical Specifications

Customer Care & Warranty

Remote technical support in real time.

Warranty:

- Artus Beamformer: 2 years
- Probes: 1 year

ArtUs EXT include:

- ArtUs EXT-1H or ArtUs EXT-2H beamformer
- ultrasound transducer (optional)
- Micro-B to Type-A USB 3.0 cable
- 100~240 VAC, 50~60 Hz power supply (EN60601-1)
- AC power cable
- software, assembly and set-up manual, operation manual (USB memory stick)
- I/O module (optional)
- RF module (optional).

Contacts

Design and manufacturing by;

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