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Title	E1Exp Technical Specifications

SonoScape

SonoScape Medical Corp.

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E1Exp Digital Color Doppler Ultrasound System

Technical Specifications

SonoScape

SonoScape Medical Corp

1. General Specification

The system adopts the advanced ultrasonic Doppler technologies, including the Full Digital Super-wide Band Beam Former, Digital Dynamic Focusing, Variable Aperture and Dynamic Tracing, Wide Band Dynamic Range, and Multi-Beam Parallel Processing, etc. Users can perform the system with the minimum requirement of training or guidance. This system has been designed to comply with applicable international standards and regulations, ensuring the safety and availability of this product.

This system is based on the computer technology and Linux operation system, which make the system more flexible and stable. System maintenance and function update can be completed by software updating, through which would promote product value and keep the technological advancement.

2. Physical Specification

- Size: 378mm×352mm×114mm (W×H×D)
- Weight: Approx. 6.5kg (at most, including battery)
  Approx. 6.1kg (at most, without battery)
- Monitor: 15.6'' widescreen and high-resolution color LCD monitor, LED backlight, anti-flickering and vertically and horizontally rotatable
- Probe port: two (one port can be equipped by order)

3. Advanced Technologies

- Digital front-end technology
- Multi-beam processing technology
- Spatial compound imaging
- μScan image processing technology
- Tissue harmonic imaging
- Invert harmonic imaging
- Graphic diagnosis icon

4. Standard Configurations

- μScan function
- 5-band adjustable frequency in B mode
- Tissue acoustic characteristics index (TSI)
- THI mode
- PHI mode
- CFM mode
- PDI mode
- DPDI mode
- PW mode
- Simult mode
- PW auto trace
- Trapezoidal imaging
- Quad beams
- Image rotation
- Compound imaging
- Biopsy
- Magnifying the whole image
- B/M/PW auto optimization
- Basic measurement package
- Obstetrics measurement package
- Gynecology measurement package
- Cardiology measurement package
- Abdomen measurement package
- Vascular measurement package
- Urology measurement package
- Small parts measurement package
- Pediatrics measurement package
- TEI index
- IMT measurement
- Standby mode
- Auto full screen magnification
- Show gallery
- DICOM3.0

5. Optional Configurations

- Biopsy enhancement (linear)
- Panoramic imaging (2D)
- SR flow imaging
- LGC
- B Mode Prospective Saving

6. Optional Accessories

- WiFi
- Biopsy bracket
- Color ink-jet printer
- B/W video printer
- Foot switch
- Trolley
- Backpack (with draw-bar)
- DVD record
- Remote control
- Barcode scanner
- Hard disk (1T)
- SSD hard disk
- Large capacity battery

7. Scan Methods

- Electronic curved sector scan
- Electronic linear array scan
- Electronic phased array sector scan

8. Applications

- Abdominal
- Vascular
- Cardiac
- Gyn/OB
- Urology
- Musculo-skeletal
- Small organ
- Pediatric
- Cephalic
- Fetal
- Trans-rectal
- Trans-vaginal

9. Imaging Modes

- B mode
- M mode
- THI mode
- PHI mode
- CFM mode
- CFM+M mode
- PDI mode
- DPDI mode
- PW mode
- B+PW simult mode
- B+CFM+PW simult mode
- Panoramic imaging (2D)
- Biopsy enhancement (linear)

10. Display Formats (B Mode Includes Trapezoidal Imaging)

- B + B
- 4B
- B + CFM
- B + PDI
- B+DPDI
- B+TDI
- B+M
- B+PW
- B+CFM+PW
- B+PDI+PW
- B+DPDI+PW
- B+CFM+M

11. System Parameters

- Frame rate: up to 80fps (probe dependent)
- Grayscale Level: 256

12. B Mode

- Gain: 0 - 255 adjustable, 5 steps each
- Scan depth: 40cm
- Image zoom, showing magnification (0.8 - 10 times)
- TGC: 8 levels slider controls
- Image rotation: 0°, 90°, 180°, 270° selectable
- Steer: 0, ±2°, ± 4°, ±6° selectable
- Harmonic imaging: Off, PHI, THI selectable
- Image inversion: Left and Right, Up and Down
- Compound imaging: Off, 1, 2, 3, 4 adjustable
- Focus: focus position and span adjustable, 17 levels adjustable. 1 represents single focus, 2 - 17 represents the length control of focus area.
- Frequency: 5 bands adjustable
- Chroma: Off and 12 types selectable
- μScan: Off, 1, 2, 3, 4, 5 selectable
- Line density: Low, Med, High adjustable (non-high density)
- Persistence: Off, Low, Med, High, Max selectable
- Dynamic range: 20 - 200 selectable
- Grayscale curve: 16 selectable
- Sector width: adjustable
- Power: 1 - 100% adjustable, 5% steps each
- RSI: adipose, muscle, fluid tissue and normal tissue
- Trapezoid imaging: On/Off
- Auto optimization function

13. Color Doppler

- Gain: 0 - 255
- Frame rate: 106 fps (probe dependent)
- Size and position of color ROI: adjustable
- Auto focus
- Inversion: Up/Down, Left/Right
- Flow invert: On/Off
- Hide flow: On/Off (freeze mode)
- Power: 1% - 100%
- Frequency range: 3 steps, adjustable
- Wall filter: Min, Low, Med, High, Max adjustable

- PRF: 0.5 - 10KHz (probe dependent)
- Line density: Min, Low, Med, High adjustable
- Color/direction energy: 7 levels adjustable for color Doppler mode
- Color baseline adjustment: 9 levels adjustable
- Persistence: Off, Low, Med, High, Max selectable (probe dependent)
- B reject: 0 - 255 adjustable
- Linear steer angle: 0, ±8°, ±12°, ±16° adjustable

14. M Mode

- Chroma: 13 types adjustable
- Display format: Full, H1/1, V1/2, V1/1, V2/1
- Scan speed: 5 levels adjustable
- Power: 1% - 100% adjustable

15. Spectral Doppler Mode

- Doppler methods
    - PW (pulsed wave) Doppler
- Mode: PW inactivated mode 1, inactivated mode 2, and activated mode.
- PW simult: On/Off (adjustable in inactivated mode 2 or activated mode)
- Sample volume and position for PW Doppler: 0.5 - 24.0mm adjustable
- Spectrum inversion: achievable
- Angle correction: 0°, 60°, -60° adjustable
- θ angle correction: -88° to 88°, 2° steps each
- Spectral real-time trace: achievable
- Baseline shift: 9 steps selectable
- Frequency range: 3 steps selectable
- Wall filter: Min, Low, Med, High, Max adjustable
- PRF: 1 - 25KHz (PW) (probe dependent)
- Max velocity range
    - ±0.0576 to ±6.14m/s (PW) (probe dependent, sampling angle range: ±60°)
- Scan speed: 5 levels adjustable
- Doppler Chroma: 13 types selectable
- Display format: FULL, H1/1, V1/2, V1/1, V2/1

- Steer angle: 0, ±8°, ±12°, ±16° adjustable

16. Integrated Data Management System

- Hard disk memory capacity: 500G (lager capacity optional)
- USB ports: three

17. Image Storage and Playback

- Cine playback: up to 10000 frames in B mode
- Static and dynamic image storage in B mode (including dual-split display and quad-split display)
- The stored images can be viewed directly on PC
- Clip board function
- Doppler cine playback: Speed is adjustable; Sound can be played back

18. DICOM Network Communication

- Storage: directly transmits images with patient information to a DICOM file server
- Medical digital images and communication DICOM 3.0 interface

19. Preset Function

- Users can customize the presets based on different probes and examination parts to optimize imaging parameters and adjustment combination.
- Users can arrange the presets.
- Users can import or export the presets. (not including system-provided examination settings)

20. Patient Data Management

- Name, ID, Gender, Date of Birth, Height, Weight, LMP, EDD and GA can be input
- Patient reports and images are archived by patient examination

- Reports and images can be previewed
- Preview size can be set to 1×1 or 2×2
- Previewed file can be selected, deleted, printed or DICOM sent, DICOM printed or exported.
- Data can be exported to USB drive in BMP, JPG, TIF, AVI, WMV, PDF, TXT or HTML format.

21. Annotation and Body Mark Settings

- Body mark can be classified by specific examination. Body marks of the examination types such as abdomen, small part, urology, breast, gynecology, obstetrics, vascular, cardiology and MSK are provided.
- Annotation can be selected and input in the library. Annotations of the examination types such as abdomen, urology, small part, breast, gynecology, obstetrics, vascular, cardiology and MSK can be preset.

22. Safety Standard

- Comply with IEC 60601-1, Class I BF,
- Comply with IEC 60601-1-2, Group 1, Class B
- Comply with IEC 60601-2-37

23. Environmental Requirements

- Operation environment
  - Temperature: 0°C to +40°C
  - Relative humidity: 30% - 85% (no condensation)
  - Atmospheric pressure: 700 - 1060hPa
- Transportation and storage environment
  - Temperature: -20°C to +55°C
  - Relative humidity: 20% - 90% (no condensation)
  - Atmospheric pressure: 700 - 1060hPa
- Power supply
  - AC/DC Adaptor:
    - ➤ Input: 100-240Va.c., 1.5-0.75A, 50-60Hz;
    - ➤ Output: 19Vd.c., 4.74A
  - Main unit: 19Vd.c., 4.74A

24. Optional Probes

- Linear probes
    - L741
        - Frequency: 4.0 - 16.0MHz
        - Array element: 128
    - 10I2
        - Frequency: 4.0 - 16.0MHz
        - Array element: 96
- Convex probes
    - C361
        - Frequency: 2.0 - 6.0MHz
        - Array element: 96
- Transvaginal probes
    - 6V1
        - Frequency: 3.0 - 15.0MHz
        - Array element: 128
- Micro-convex probes
    - C613
        - Frequency: 4.0 - 13.0MHz
        - Array element: 128
- Transrectal probes
    - EC9-5
        - Frequency: 3.0 - 15.0MHz
        - Array element: 128

NOTE:

- The specifications of this system may change without any prior notification.

- Some products or features may not be available in some countries.

- Please contact your local SonoScape sales representative for more information.

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