





## Specifications for P12 Elite Digital Color Doppler Ultrasound System

901-20497-A01

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# 1 General Specifications

## 1.1 Applications

- Abdomen
- Cardiology
- OB/Gynecology
- Musculoskeletal
- Vascular
- Small parts
- Urology
- Pediatrics
- TCD
- Breast
- Intraoperative

## 1.2 Probe Types

- Convex array probe
- Linear array probe
- Phased array probe
- Volume probe
- Pencil probe

## 1.3 Imaging Modes

- B
- THI/PHI
- M
- Linear Anatomical M
- Curved Anatomical M
- Color M
- CFM
- PDI/DPDI
- PW
- CW
- TDI
- TDI+PW
- TDI+M

## 1.4 Features

- 5-band adjustable frequency in B mode (fundamental wave and harmonic wave)
- $\mu$ -Scan
- Compound Imaging
- LGC (8-band)
- Tissue Specific Index
- Image Rotation

- Scr-Zoom
- Widescan
- SR Flow (High Resolution Flow)
- HPRF (High Pulse Repetition Frequency)
- Simultaneous Mode (Triplex)
- PW Auto Trace
- Auto IMT
- Auto NT
- Auto EF
- Auto Bladder
- Auto B Line
- Auto Pleural Line
- Auto OB
- S-Fetus
- B Mode Panoramic Imaging
- Color Panoramic Imaging
- Biopsy Guide
- Vis-Needle
- C-xlasto
- Contrast Imaging with TIC
- MFI
- MFI Time
- Mix Mode in Contrast Imaging
- Freehand 3D
- 3D/4D
- S-Live & S-Live Silhouette
- S-Depth
- Auto Face
- AVC Follicle
- FreeVue
- Sono Assistant
- ECG
- Stress Echo
- G-MQA
- R-MQA
- Show Gallery
- Sono-Help
- Sono-Synch
- Remote Upgrade
- Sono-Drop

## 1.5 Languages

- Software: English, Simplified Chinese, Spanish, Russian, French, Italian, German, Norwegian, Portuguese, Japanese, Dutch,

Polish and Czech

- Keyboard Input: English, Simplified Chinese, Latin, French, Polish and Russian
- Bilingual keyboard: English-Russian, English-multilingual
- User manual: English and Simplified Chinese

## 2 Physical Specifications

### 2.1 Dimension and Weight

- Width: 526 mm  $\pm$  15mm
- Depth: 747mm  $\pm$  15mm
- Height: approx. 1135 mm (the height is measured when the control panel, the upper swivel arm and the monitor are adjusted to the lowest position) to 1600 mm (the height is measured when the control panel, the upper swivel arm and the monitor are adjusted to the highest position)
- Weight: 68kg

### 2.2 Monitor

- Monitor:
  - 21.5 inch medical high resolution monitor
  - 23.8 inch medical high resolution monitor
- Resolution: 1920 $\times$ 1080
- Viewing angle: 178°(horizontal), 178°(vertical)
- Swivel angle:  $\pm$ 45° (21.5 inch monitor);  $\pm$ 40° (23.8 inch monitor);
- Up/down angle: -90° to 25° (21.5 inch monitor); -90° to 45° (23.8 inch monitor)
- Contrast and brightness: 0 - 100 adjustable
- Multi-directional articulating monitor arm
  - Upper swivel arm can be rotated left and right, relative to lower swivel arm. Rotation angle:  $\pm$ 110°
  - Upper swivel arm can be adjusted up and down, relative to lower swivel arm. Rotation angle: 0° to 40°

### 2.3 Touch Screen

- 13.3 inch medical high resolution monitor
- Resolution: 1920 $\times$ 1080
- Viewing angle: 170° (horizontal), 170°

(vertical)

- Adjustable inclination angle range: 0° to 15°
- Brightness and contrast: adjustable
- Available to touch with latex gloves
- User-defined position layout: parameters, functions and presets
- Anti-glare and anti-fingerprints
- Gesture control: available to slide the touch screen menu with your finger
- Standby and Wake up: available

### 2.4 Control Panel

- User-oriented design
- Backlight design
- Multiple user-defined keys
- TGC: 8 levels slider controls
- Trackball sensitivity: adjustable
- Swivel angle (left/right): -40° to 40° (from center)
- Adjustable height range: 0 to 70 mm
- Full-sized backlit keyboard

### 2.5 Speaker

Hi-Fi Speaker

### 2.6 Caster

- Diameter: 5 inches
- Specification: all the 4 casters can be independently locked

### 2.7 Probe Port and Probe Holder

- Probe port: 4
- Pencil probe port: 1
- Holder: 5 (including 1 gel holder and 4 probe holders)
- Gel warmer: 1 (optional)
- Cable holder: 2
- Cable hanger: 2

### 2.8 Power

- 100-240V~
- Frequency: 50/60HZ
- Maximum input power: 500VA
- Built-in single battery: charging time  $\leq$  4.5h; power supply time  $>$  40min

- Built-in double battery: charging time  $\leq 9\text{h}$ ; power supply time  $> 1.5\text{h}$
- System boot up time: approx.  $\leq 60\text{s}$
- System shut down time: approx.  $\leq 20\text{s}$

## 2.9 Working Environment

- Temperature:  $10^{\circ}\text{C}$  to  $40^{\circ}\text{C}$
- Relative humidity: 30% - 75%RH (no condensation)
- Atmospheric pressure: 700hPa - 1060hPa

## 2.10 Storage and Transportation Environment

- Temperature:  $-20^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$
- Relative humidity: 20% - 90% (no condensation)
- Atmospheric pressure: 700hPa - 1060hPa

## 3 Annotation and Body Mark

- All exam applications included
- Annotation: text annotation and arrow annotation
- Manual text annotation by touch screen
- Front size of text annotation: adjustable
- Initial position: user-defined
- Preset text annotation
- Arrow direction: adjustable
- Body marks:  $\geq 142$ , selectable
- Body marks classified by specific exam types, and position adjustable
- Preset customization

## 4 Monitor Information

- Manufacturer logo
- Hospital name
- System date and time
- Probe and exam item
- MI and TI (TIB/TIC/TIS)
- Operator
- Patient ID, name, date of birth, gender and age
- Tissue temperature display (specified probe)
- Depth scale and focus position
- Image parameters
- Thumbnail image
- Clipboard

## 5 Image Parameter

### 5.1 Overview

- Grayscale: 256 levels
- Transducer element: up to 256
- Audio: 0 - 100, 11 levels adjustable

### 5.2 B Mode

- Gain: 0 - 255 adjustable
- Scan depth:  $\geq 45\text{cm}$
- Compound imaging: off, 1-4, 5 levels adjustable (e.g. 3C-A)
- HQ Scan: off, 1-4, 5 levels adjustable
- Frequency: 5 bands adjustable (fundamental wave: 5 bands; harmonic wave: 5 bands)
- Chroma: off, 1-15, 16 levels adjustable
- $\mu$ -Scan: off, 1-5, 6 levels adjustable
- Line density: Low, Med, High, 3 levels adjustable (e.g. 3C-A, different levels for different probes)
- Persist: Off, Low, Med, High, Max, 5 levels adjustable
- Focus area: 0-20 (e.g. 3C-A, different focus areas for different probes)
- Dynamic range: 20 - 320 (e.g. 3C1-A)
- Gray map: 1 - 26, 26 levels adjustable
- Power%: 1 - 100, 21 levels adjustable
- Tissue acoustic index: fat (1450m/s), parenchyma (1580m/s), liquidity tissue (1523m/s), common tissue (1540m/s), 4 levels adjustable
- TGC: 8 levels slider controls
- LGC: 8 bands
- Image inversion: left/right, up/down, rotation
- Sector width: adjustable
- B steer: 7 levels adjustable (linear array probe)
- Widescan: off, 1, 2
- Auto optimization: Gain and GSC

### 5.3 M Mode

- Gain: 0 - 255 adjustable
- Chroma: off, 1 - 15, 16 levels adjustable
- Display format: V2/1, V1/1, V1/2, H1/1,

Full, 5 levels adjustable

- Scan speed: Min, Slow, Med, Fast, Max, 5 levels adjustable (e.g. Cardiac probe)
- Power%: 1 - 100, 21 levels adjustable
- **Color M: CFM, TDI**

## 5.4 Linear Anatomical M-Mode

- Display 3 sample lines simultaneously
- Angle and position of sample lines: adjustable

## 5.5 Curved Anatomical M-Mode

- Trace and position of sample lines: adjustable

## 5.6 CFM Mode

- Gain: 0 - 255 adjustable
- Power%: 0 - 100, 21 levels adjustable
- B reject: 0 - 255, 16 levels adjustable
- Size and position of color ROI: adjustable
- Image inversion: up/down, left/right
- Invert: On/Off
- Frequency: 3 levels adjustable
- Wall filter: Min, Low, Med, High, Max, 5 levels adjustable
- PRF: 0.5 - 5.7kHz adjustable (e.g. 3C-A)
- Line density: Min, Low, Med, High, 4 levels adjustable
- **Color map: 1-9, 9 levels adjustable**
- Baseline: 0,  $\pm 1$ ,  $\pm 2$ ,  $\pm 3$ ,  $\pm 4$ , 9 levels adjustable
- Persist: Off, Low, Med, High, Max, 5 levels adjustable
- ROI steer: 7 levels adjustable (linear array probes)
- ROI color: adjustable
- Auto optimization: ROI position and steer angle
- Dual live

## 5.7 PDI/DPDI Mode

- Power%: 0 - 100, 21 levels adjustable
- B reject: 0 - 255, 16 levels adjustable
- Persist: Off, Low, Med, High, Max, 5 levels adjustable (e.g. 3C-A)

- Color map: 1 - 7, 7 levels adjustable
- Image inversion: up/down, left/right
- Wall filter: Min, Low, Med, High, Max, 5 levels adjustable

## 5.8 SR Flow

- Gain: 0 - 255 adjustable
- Power%: 1 - 100, 21 levels adjustable
- B reject: 0 - 255, 16 levels adjustable
- Size and position of color ROI: adjustable
- Image inversion: up/down, left/right
- Frequency: 3 levels adjustable
- PRF: 0.5-5.7kHz adjustable (e.g. 3C-A)
- Line density: Min, Low, Med, High, 4 levels adjustable
- Color map: 1,2, 2 levels adjustable
- Persist: Off, Low, Med, High, Max, 5 levels adjustable
- ROI steer: 7 levels adjustable (linear array probes)
- ROI color: adjustable
- Auto optimization: ROI position and steer angle
- Dual live
- Wall filter: Min, Low, Med, High, Max, 5 levels adjustable

## 5.9 PW Mode

- Gain: 0 - 255 adjustable
- Display format: H1/2, V2/1, V1/1, V1/2, Full, 5 levels adjustable
- Simultaneous mode (Triplex)
- PW sample volume: 0.5 - 24mm (e.g. 3C-A)
- PW sample position: adjustable
- **Invert: On/Off**
- **Quick angle correction: 0°, 60°**
- Angle correction range: 0 - 89°
- Steer angle: 7 levels adjustable (linear array probe)
- Auto trace: achievable in real-time mode and frozen mode
- Baseline: 9 levels adjustable
- Frequency: 3 levels adjustable
- Wall filter: Min, Low, Med, High, Max, 5 levels adjustable
- PRF: 1 - 16kHz (e.g. 3C-A)

- HPRF
- Velocity range: 0-10.47m/s (e.g. 3C-A, PRF=16 kHz,  $\theta=60^\circ$ , the lowest baseline)
- Scan speed: Min, Slow, Med, Fast, Max, 5 levels adjustable
- Chroma: Off, 1 - 15, 16 levels adjustable
- Dynamic range: 20-320, 11 levels adjustable (e.g. 3C-A)
- Auto Optimization: Baseline and PRF

## 5.10 CW Mode

- Gain: 0 - 255 adjustable
- Display format: H1/2, V2/1, V1/1, V1/2, Full, 5 levels adjustable
- CW sample position: adjustable
- Invert: On/Off
- Angle correction range: 0 -  $89^\circ$
- Auto trace: achievable in real-time mode and frozen mode
- Baseline: 9 levels adjustable
- Wall filter: Min, Low, Med, High, Max, 5 levels adjustable
- PRF: 1 - 50kHz (e.g. 2P-1)
- Velocity range: 0 - 42.35m/s (2P1, PRF=50kHz,  $\theta=60^\circ$ )
- Scan speed: Min, Slow, Med, Fast, Max, 5 levels adjustable
- Chroma: Off, 1 - 15, 16 levels adjustable

## 5.11 TDI Mode

- Tissue speed imaging and tissue power imaging
- Power%: 1 - 100, 21 levels adjustable
- Flow reject: 0 - 255, 16 levels adjustable
- Persist: Off, Low, Med, High, Max, 5 levels adjustable
- Color map: 1-10, 10 levels adjustable
- Image inversion: up, down, left, right
- Invert: On/Off

## 5.12 TDI+PW Mode

- PRF: 0.5-4.5kHz (2P1)
- Velocity range: 0 - 2.95m/s (2P1, PRF=4.5kHz,  $\theta=60^\circ$ , the lowest baseline and frequency)

## 5.13 TDI+M Mode

- Gain: 0 - 255 adjustable
- Chroma: Off, 1 - 15, 16 levels adjustable
- Display format: H1/1, V2/1, V1/1, V1/2, Full, 5 levels adjustable
- Scan speed: Slow, Med, Fast, Max, 4 levels adjustable

# 6 Advanced Features

## 6.1 Freehand 3D

- Scan method: sector scan, parallel scan
- Display format: Single display, Dual-split display, Quad-split display
- Slice: A, B, C, 3D
- Rotate image along X, Y or Z axis
- Up/Down: move the image up/down
- Left/Right: move the image left/right
- Direction: top, bottom, left, right, front, back
- 3D orientation:  $0^\circ$ ,  $90^\circ$ ,  $180^\circ$ ,  $270^\circ$
- Reset: default settings, sweep angle, viewing angle, direction
- Render mode: Surface, Grad. Light, Skeleton, Transp. Min, X-Ray, S-Depth, S-Live
- Auto rotation:  $0^\circ$ ,  $45^\circ$ ,  $90^\circ$ ,  $180^\circ$ ,  $270^\circ$ ,  $360^\circ$
- 3D Frame: On/Off
- Edit ROI: On/Off
- Adjust light: On/Off (S-Live)
- Trackball (Rotate highlighted): Rotate, Z Rotate
- Threshold: 0 - 100, 1 each step
- Contrast: 0 - 100, 1 each step
- Transparency: 0 - 100, 1 each step
- Brightness: 0 - 100, 1 each step
- Smoothness: 0 - 30, 1 each step
- Light position.: 0 - 9, 1 each step
- B Chroma: 1 - 12, 1 each step
- 3D Chroma: Off, 1- 14 adjustable, 1 each step
- Scan distance in parallel scan mode: 10-200, 10 each step (range depends on number of scanning slices)
- Sweep angle in sector scan mode:  $10^\circ$  -  $90^\circ$ ,

- 2° each step
- Edit: trace, box, eraser
- Display (C-Plane): AB, AC, BC, ABC
- M-Slice
  - Display: 1\*2, 2\*2, 3\*4, 3\*3, 4\*4, 5\*5
  - Slice distance: 0.5 - 10.0 adjustable, 0.5 each step
  - Slice number: 3 - 29 adjustable, 2 each step
  - Single slice magnification
- AVC Follicle

## 6.2 Static 3D/4D

- Display format: Single display, Dual-split display, Quad-split display
- Slice: A, B, C, 3D
- Rotate image along X, Y or Z axis
- Up/Down: move the image up/down
- Left/Right: move the image left/right
- Direction: top, bottom, left, right, front, back
- 3D orientation: 0°, 90°, 180°, 270°
- Reset: default settings, sweep angle, viewing angle, direction
- Render mode: Surface, Grad. Light, Skeleton, Transp. Min, X-Ray, S-Depth, S-Live
- Auto rotation: 0°, 45°, 90°, 180°, 270°, 360°
- 3D Frame: On/Off
- Image quality: Low, Med1, Med2, High1, High2, Max
- Sweep angle: 5°-75° (VC6-2), 5° each step
- Stability: On/Off
- Focus: can be moved and adjusted according to ROI
- Edit ROI: On/Off
- Auto face: On/Off
- Adjust light: On/Off (S-Live)
- VolPre: user can return to pre-activated mode from activated mode
- Cine loop: different adjustment range for different size of volume data
- First frame: To first frame
- Last frame: To last frame
- Auto play: On/Off

- Set first frame: set the saved first frame
- Set last frame: set the saved last frame
- Frame by frame: select the current frame
- Cine speed: adjust the auto play speed
- Trackball (Rotate highlighted): Rotate, Z Rotate
- Threshold: 0 - 100, 1 each step
- Contrast: 0 - 100, 1 each step
- Transparency: 0 - 100, 1 each step
- Brightness: 0 - 100, 1 each step
- Smoothness: 0 - 30, 1 each step
- Light Position: 0 - 9, 1 each step (light position can also be set at any place by rotating the trackball)
- 3D Chroma: Off, 1- 14 adjustable, 1 each step
- B Chroma: 1 - 12, 1 each step
- 2D  $\mu$ -Scan: Off, 1-19, 20 levels adjustable
- 3D  $\mu$ -Scan: Off, 1, 2, 3, 4, 5, 6 levels adjustable
- Edit: trace, box, eraser
- Display (C-Plane): AB, AC, BC, ABC
- M-Slice
  - Display: 1\*2, 2\*2, 3\*4, 3\*3, 4\*4, 5\*5
  - Slice distance: 0.5 - 10.0 adjustable, 0.5 each step
  - Slice number: 3 - 29 adjustable, 2 each step
  - Single slice magnification
- AVC Follicle
- Maximum frame rate: 16.56 f/s (VC6-2, 4D)

## 6.3 FreeVue

- Line type: Line, Curve, Poly Line, Trace
- Line number: One, Two, Three
- View mode: Actual View, Project View
- Viewing direction: Left, right, top, bottom
- ICON switch: control the display of image marks
- View Rot: control the rotation of icon

## 6.4 C-xlasto (Compression Elastography)

- Image inversion: up/down, left/right
- Display format: Single display and

- Dual-split display
- Map display: independent adjustment of left and right map
- Depth adjustment
- B image parameters: adjustable
- TGC: adjustable
- User-defined preset of C-xlasto: available
- Strain map left: 1 - 7, 1 each step
- Strain map right: 0 - 7, 1 each step
- Frequency: 3 levels adjustable
- Contrast: 0.02 - 2.00, 0.01 each step
- Transparency: 0.10 - 1.00, 0.02 each step
- Persist: 0.02 - 0.98, 0.02 each step

## 6.5 Contrast Imaging

- Real-time retrospective storage and prospective storage
- Display format: single (B), dual (2B)
- Image inversion: up/down, left/right
- Biopsy and biopsy calibration: available
- Two timers
- Flash power%: 1 - 100, 5 each step, 21 levels adjustable
- Flash time: 0.1s - 4.0s
- Dynamic range: 20 - 320, 30 each step, 11 levels adjustable
- Power: 1% - 100%, 5 each step, 21 levels adjustable
- Gray map: 1 - 26, 26 levels adjustable
- Chroma: Off, 1 - 15, 16 levels adjustable
- $\mu$ -Scan: Off, 1 - 5, 6 levels adjustable
- Persist: Off, Low, Med, High, Max, 5 levels adjustable
- Sector width: adjustable
- TIC quantitative analysis
  - Time Intensity Curve (TIC) analysis
  - ROI outline: Trace/Ellipse
  - Trace: can be deleted and cleared
  - Parameter display: available
  - Max. ROI: 8
  - Four compound curves: Bolus WIWO, General, Wash In, Wash Out
  - Compound curve: can be hidden
  - Cine speed: 7 levels adjustable
- MFI
- MFI Time

- Mix Mode

## 6.6 Panoramic Imaging

- B mode panoramic imaging
- Color panoramic imaging (CFM/PDI), only available on linear array probe
- Rotation: -180° to 180°
- Zoom: 8.0 times
- Maximum available length: 1000mm
- Chroma: Off, 1-15, 16 levels adjustable
- Gray map: 1 - 26
- Image scale: On/Off
- Full view

## 6.7 Biopsy Guide Function

- Biopsy line angle: adjustable
- Biopsy line dot size: adjustable
- Biopsy depth: adjustable
- Biopsy line angle calibration
- Biopsy line offset calibration
- Biopsy line calibration parameter storage and load default
- User-defined biopsy line angle

## 6.8 Vis-Needle

- Steer angle: 20° to 50°, 10° each step, 4 levels adjustable
- Dual-split display

## 6.9 Widescan Imaging

- Widescan: Off, 1, 2 (linear array probe, phased array probe and convex array probe)

## 6.10 Zoom

- Zoom ratio: 0.8 - 20.0
- Scr-Zoom (one key full screen zoom)
- Pan-Zoom
- HD zoom

## 6.11 Sono-Help

- Applications: Liver, Kidney, Spleen, Biliary system, Uterine adnexa, Obstetrics, Cardiac, Artery and Vein, Thyroid, Breast, Musculoskeletal, Prostate and testicle

- Available for 104 standard scan planes
- Available for probe position, anatomic diagram and ultrasound reference image display
- User-defined key: available

## 6.12 Customized Preset

- Customizable preset: user-defined parameters for different probes and exam types
- Preset order: adjustable
- Import or export presets
- Delete presets
- Overwrite presets

## 6.13 Sono Assistant

- Available in vascular and obstetrics applications
- Auto workflow protocol
- Templates are user-configurable
- Provides reference sections for carotid, LEA, LEV(DVT) and LEV(Reflux) in vascular
- Provides reference sections for early pregnancy, NT, level I, level II and level III screening in obstetrics
- Ultrasound image display of the standard plane for reference
- Displays unfinished scanning sections in the exam
- Supports imaging mode: B/B+Color/B+PW/B+Color+PW/B+CW/B+Color+CW/B+M/B+Color+M

## 6.14 Stress Echo

- Protocol: user-defined or selectable
- Acquisition of cardiac sections in different stress levels in terms of selected protocol for advanced and flexible stress echo examination
- Available on phased array probe, under Cardiac preset
- Provides exercise and pharmacological protocol templates
- Continuous acquisition of sections in the template

- Acquired sections selectable for the exam
- Supports comparison among the acquired sections
- Wall motion scoring (bull's eye) and reporting

## 6.15 G-MQA

- Section type: A2C/A3C/A4C/PLAX/PSAX A/PSAX M/PSAX B
- Trace point: editable
- Motion direction:
  - Long axis: Longitudinal, Radial
  - Short axis: Radial, Rotation, Circumference
- Multiple curve types: Strain, Strain Rate, Velocity, Displacement, Volume
- Bull's eye display
- Peak time display
- Cardiac valve open-close time indication
- Time measurement

## 6.16 R-MQA

- User-defined trace
- Able to delete the trace line
- Max. ROI: 20
- Four-curve types: Strain, Strain Rate, Velocity, Displacement
- Peak time display
- Cardiac valve open-close time indication
- Time measurement

## 6.17 Sono-Drop

- On-site wireless image transmission
- An interactive app that lets you transfer clinical image from SonoScape ultrasound system to a smart device
- Communication should be established by scanning the encrypted QR code.
- Transfer images or clips from system to mobile terminal through WiFi

## 6.18 Sono-Synch

- Synchronize main screen images, real-time camera images, audios remotely
- Synchronize multiple devices simultaneously

## 6.19 Remote Upgrade

- Available to upgrade software and operating system through internet of things

## 7 Measurement/Analysis and Report

### 7.1 Measurement Settings

- BSA setting: Eastern, Western
- Cross cursor size: Small, Medium, Large
- Measure line size: Small, Medium, Large
- Distance dash line display: On/Off
- Velocity cross line display: On/Off
- Ellipse cross line display: On/Off
- M mode cross line display: On/Off
- Volume flow method: TAmear, TAmex
- Volume flow compensation with TAmex: 0.5, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00
- Line ID display: On/Off
- Keep result window: On/Off
- Result font size: Small, Medium, Large
- Result font color: White, Yellow
- Result position: Top Right, Top Left, Bottom Left and Bottom Right adjustable in 2D or M+D mode
- Pleural line color: Blue, Yellow
- Pleural line thickness: On/Off
- Display B line distance result: On/Off

### 7.2 Basic Measurement Package

- Obstetrics measurement package
- Small parts measurement package
- Gynecology measurement package
- Vascular measurement package
- Abdominal measurement package
- Cardiac measurement package
- Urology measurement package
- Pediatrics measurement package

### 7.3 Report

- Application-specific measurement report
- ✓ Fetal growth curves
- ✓ Fetus anatomy evaluation

- ✓ Fetus compare (four fetuses)
- ✓ Gynecological pelvic floor report
- ✓ IOTA
- ✓ Follicle curve
- ✓ Gynecological anatomy evaluation
- ✓ Stress echo test and bull's eye
- Measurement values: editable
- Measurement results process method: selectable
- Image Insertion
- Report preview
- Comment edit: available
- DICOM send: available
- Report logo (170x60Pixel, bmp): replaceable
- Font size and color settings
- Background color settings
- Display item settings
- Export format: PDF, TXT, RTF, HTML

### 7.4 S-Fetus

- S-Fetus (acq.)
- S-Fetus (meas.)
- BPD/HC/AC/FL scan planes
- Shortcut key: Auto key

### 7.5 Auto Measurement

- Auto IMT
- Auto OB (NT/AC/HC/HL/FL/BPD)
- Auto Bladder Volume Measurement
- AVC Follicle
- Auto B Line
- Auto Pleural Line

## 8 Storage and Data Management

### 8.1 Storage

- Hard disc storage: 1T
- 2D cine storage time setting:
  - ✓ Prospective storage: 1 - 600s
  - ✓ Retrospective storage: 1 - 20s
  - ✓ Freeze storage: 1 - 120s
- 4D cine storage time setting:
  - ✓ Prospective storage: 1 - 600s
  - ✓ Retrospective storage: 1 - 50s
- Directly store to USB drive

- Prospective storage for contrast imaging

## 8.2 Data Management

- Image, video and report sharing service (Samba)
- Export data to USB drive or DVD
- Export format:
  - ✓ System format
  - ✓ PC format
  - ✓ Image format: BMP, JPG, TIF
  - ✓ Cine format: AVI, WMV, MP4
  - ✓ Report format: PDF, TXT, HTML, RTF
  - ✓ DICOM format
  - ✓ DICOMDIR format
- Clipboard: thumbnail display, delete, export
- Create exam, activate exam, resume suspended exam
- Query/Retrieve service
- Review current exam and history exam
- Post-processing and post-measurement
- Backstage storage: quick switch of DICOM cine

## 8.3 Cine Review

- Cine review: frame by frame manual play and auto play with adjustable speed
- One keystroke reviews the first frame or last frame
- Auto play: can be activated/inactivated by using trackball

# 9 Connectivity

## 9.1 I/O Port

- **USB port:**
  - ✓ **USB 3.0: 2**
  - ✓ **USB 2.0: 4**
- Video output port:
  - ✓ VGA
  - ✓ HDMI
  - ✓ S-VIDEO OUT
  - ✓ VIDEO OUT
- Audio input/output port:
  - ✓ MIC IN
  - ✓ AUDIO OUT
- Ethernet port: 1

- Physiological signal input port: 1

## 9.2 Video Output Settings

- VIDEO/S-VIDEO (NTSC, PAL)
- HDMI/VGA (1920\*1080)

## 9.3 Network Connection

- Local network
  - ✓ Local network: On/Off
  - ✓ DHCP or static IP
  - ✓ Static IP: IP, netmask and default gateway settings
  - ✓ MAC address check
  - ✓ Advance: Auto (auto negotiation mode) and Manual (manual adjustment mode)
  - ✓ Auto: According to network environment, speed (10M, 100M, 1000M, Unknown!) and duplex (Semi Duplex, Full Duplex, Unknown!) can be set automatically.
  - ✓ Manual: Speed (10M, 100M) and duplex (Semi Duplex, Full Duplex) can be set manually.
  - ✓ Speed and duplex search and settings
  - ✓ Ping IP Address
- **Wireless network**
  - ✓ Wireless network: On/Off
  - ✓ Authentication method: Open, WEP, WPA/WPA2-PSK, WPA-EAP
  - ✓ DHCP or static IP
  - ✓ Static IP: IP, netmask and default gateway settings
  - ✓ MAC address check
  - ✓ WIFI connection, disconnection, refresh, advanced configuration and network adding
  - ✓ Ultrasound hotspot
  - ✓ **Switch between ultrasound hotspot and WIFI**

## 9.4 **DICOM 3.0**

- DICOM storage
- DICOM structured report
  - ✓ Gynecology structured report
  - ✓ Obstetrics structured report
  - ✓ Cardiology structured report

- ✓ Vascular structured report
- DICOM storage commitment
- DICOM Worklist
- DICOM MPPS
- DICOM print
- DICOM Q/R list

## 10 Probe

NOTE: For the following probes that support widescan, bilateral extension is also supported.

### 10.1 Convex Array Probe

#### • 3C-A

- ✓ Application: Abdomen, OB/Gynecology
- ✓ Frequency range: 1.0-7.0MHz
- ✓ Curvature radius: 50mm
- ✓ Field of view: 60°
- ✓ Widescan (unilateral, 2 levels adjustable): 10°/15°
- ✓ Depth: ≥30cm
- ✓ Acoustic lens: 60mm×18mm
- ✓ Biopsy bracket: NGB3C-A, 12°/16.5°/22.5°/33.5°, sterilizable

#### • C1-5

- ✓ Application: Abdomen, OB/Gynecology
- ✓ Frequency range: 1.0-7.0MHz
- ✓ Curvature radius: 50mm
- ✓ Field of view: 60°
- ✓ Widescan (unilateral, 2 levels adjustable): 10°/15°
- ✓ Depth: ≥30cm
- ✓ Acoustic lens: 60mm×16mm
- ✓ Biopsy bracket: NGBC1-5, 15°/25°/35°, sterilizable

#### • C322

- ✓ Application: Abdomen
- ✓ Frequency range: 2.0-7.0MHz
- ✓ Curvature radius: 20mm
- ✓ Field of view: 68°
- ✓ Widescan (unilateral, 2 levels adjustable): 10°/15°
- ✓ Depth: ≥24cm
- ✓ Acoustic lens: 32mm×11mm

- ✓ Biopsy bracket: NGBC322, 5°/25°, sterilizable
- C613
- ✓ Application: Pediatric Cardiology
- ✓ Frequency range: 4.0-13.0MHz
- ✓ Curvature radius: 14mm
- ✓ Field of view: 90°
- ✓ Widescan (unilateral, 2 levels adjustable): 5°/10°
- ✓ Depth: ≥12cm
- ✓ Acoustic lens: 30mm×10mm
- ✓ Biopsy bracket: NGBC613, 12°/18°/30°, sterilizable

#### • 6V1

- ✓ Application: Gynecology, Urology
- ✓ Frequency range: 3.0-15.0MHz
- ✓ Curvature radius: 11mm
- ✓ Field of view: 135°
- ✓ Widescan (unilateral, 2 levels adjustable): 10°/15°
- ✓ Depth: ≥12cm
- ✓ Acoustic lens: 32mm×10mm
- ✓ Biopsy bracket: NGB6V1, 0°, sterilizable
- ✓ Temperature control

#### • 6V3

- ✓ Application: Gynecology, Urology
- ✓ Frequency range: 3.0-15.0MHz
- ✓ Curvature radius: 10.3mm
- ✓ Field of view: 198°
- ✓ Widescan (unilateral, 2 levels adjustable): 5°/10°
- ✓ Depth: ≥12cm
- ✓ Acoustic lens: 41mm×10mm
- ✓ Biopsy bracket: NGB6V3-2, 0°, sterilizable
- ✓ Temperature control

#### • EC9-5

- ✓ Application: Gynecology, Urology
- ✓ Frequency range: 3.0-15.0MHz
- ✓ Curvature radius: 8mm
- ✓ Field of view: 147°
- ✓ Widescan (unilateral, 2 levels adjustable): 10°/15°
- ✓ Depth: ≥12cm

- ✓ Acoustic lens: 27mm×10mm
- ✓ Biopsy bracket: NGBEC9-5, 1.5°, sterilizable
- ✓ Temperature control

## 10.2 Linear Array Probe

### • 12L-B

- ✓ Application: Peripheral Vascular, Superficial, and Small parts
- ✓ Frequency range: 3.0-17.0MHz
- ✓ Width of view: 38mm
- ✓ Depth: ≥9cm
- ✓ B steer: 0°/±5°/±10°/±15°, 7 levels
- ✓ ROI steer/sample line steer: 0°/±12°/±16°/±20°
- ✓ Widescan (unilateral, 2 levels adjustable): 10°/15°
- ✓ Acoustic lens: 42mm×7mm
- ✓ Biopsy bracket: NGB12L-B, 39°/48°/60°, sterilizable

### • L742

- ✓ Application: Peripheral Vascular, Superficial, Small parts and Abdomen
- ✓ Frequency range: 3.0-17.0MHz
- ✓ Width of view: 38mm
- ✓ Depth: ≥9cm
- ✓ B steer: 0°/±5°/±10°/±15°, 7 levels
- ✓ ROI steer/sample line steer: 0°/±12°/±16°/±20°
- ✓ Widescan (unilateral, 2 levels adjustable): 10°/15°
- ✓ Acoustic lens: 42mm×10mm
- ✓ Biopsy bracket: NGBL742-2, 59.8°/42.9°, sterilizable

### • L741

- ✓ Application: Peripheral Vascular, Superficial, and Small parts
- ✓ Frequency range: 4.0-16.0MHz
- ✓ Width of view: 46mm
- ✓ Depth: ≥9cm
- ✓ B steer: 0°/±4°/±6°/±8°, 7 levels
- ✓ ROI steer/sample line steer: 0°/±8°/±12°/±16°
- ✓ Widescan (unilateral, 2 levels

adjustable): 10°/15°

- ✓ Acoustic lens: 49mm×10mm
- ✓ Biopsy bracket: NGBL741-2, 45°/55°/63°, sterilizable
- 9L-A
- ✓ Application: Peripheral Vascular, Superficial, and Small parts
- ✓ Frequency range: 2.0-13.0MHz
- ✓ Width of view: 35mm
- ✓ Depth: ≥10cm
- ✓ B steer: 0°/±2°/±4°/±6°, 7 levels
- ✓ ROI steer/sample line steer: 0°/±8°/±12°/±16°
- ✓ Widescan (unilateral, 2 levels adjustable): 10°/15°
- ✓ Acoustic lens: 42mm×9mm
- ✓ Biopsy bracket: NGB9L-A, 38°/47°/59°, sterilizable

## 10.3 Phased Array Probe

### • 2P1

- ✓ Application: Cardiology
- ✓ Frequency range: 2.0-4.0MHz
- ✓ Field of view: 90°
- ✓ Depth: ≥24cm
- ✓ Acoustic lens: 24mm×16mm

### • 3P-A

- ✓ Application: Cardiology
- ✓ Frequency range: 1.0-6.0MHz
- ✓ Field of view: 90°
- ✓ Depth: ≥30cm
- ✓ Acoustic lens: 25mm×16mm
- ✓ Biopsy bracket: NGB3P-A, 14°/26°, sterilizable

### • 7P-A

- ✓ Application: Pediatric Cardiology
- ✓ Frequency range: 2.0-9.0MHz
- ✓ Field of view: 90°
- ✓ Depth: ≥10cm
- ✓ Acoustic lens: 21mm×12mm
- ✓ Biopsy bracket: NGB7P-A, 13°/18.5°/24.5°

## 10.4 Volume Probe

### • VC6-2

- ✓ Application: Abdomen, Obstetrics
- ✓ Frequency range: 1.0-7.0MHz
- ✓ Curvature radius: 40mm
- ✓ Field of view: 68°
- ✓ Widescan (unilateral, 2 levels adjustable): 5°/10°
- ✓ Depth: ≥22cm
- ✓ Acoustic window: 150mm×86mm
- ✓ Biopsy bracket: NGBVC6-2, 20°/27°/35°

## 10.5 Specialty Probe

- CWD2.0 (Only for FDA)
  - ✓ Application: Trans-cranial
  - ✓ Central frequency: 2MHz
  - ✓ Transducer element: 2
  - ✓ Acoustic window: Φ20mm
- CWD5.0
  - ✓ Application: Trans-cranial
  - ✓ Central frequency: 5MHz
  - ✓ Acoustic window: Φ14mm

## 11 Peripheral Devices and Accessories

### 11.1 Printer

- Printer types
  - ✓ Color ink jet printer
  - ✓ B/W video printer
  - ✓ Color video printer
- Print types
  - ✓ Video print
  - ✓ Network print
  - ✓ USB print
  - ✓ Windows print
- Add printer
- Available printer models:
  - ✓ Sony 898
  - ✓ Hp m252n
  - ✓ Brother DCP-710
  - ✓ Cannon CP1300
  - ✓ HP Color LaserJet CP1515n
  - ✓ MITSUBISHI P95
  - ✓ EPSON L130

- ✓ Sumsung Xpress M2029
- ✓ HP Ink Tank Wireless 411
- ✓ HP Ink Tank 319

### 11.2 Foot Switch

- 2 pedals
- Foot switch: available
- User-defined short-cut keys

### 11.3 USB Bar Code Scanner

- Bar code input

### 11.4 DVD R/W Drive

- Export patient data to DVD
- Import patient data from DVD

### 11.5 Coupling Gel Heater

- Two levels adjustable

## 12 Safety and Certification

- Certification: ISO 9001, ISO 13485
- Comply with:
  - ✓ EN 60601-1 and IEC 60601-1
  - ✓ EN 60601-1-2 and IEC 60601-1-2
  - ✓ EN 60601-1-6 and IEC 60601-1-6
  - ✓ EN 60601-2-37 and IEC 60601-2-37
  - ✓ EN 62304 and IEC 62304
  - ✓ EN 62366-1 and IEC 62366-1
- CE announcement: this system is consistent with EU medical devices directive 93/42/EEC. The code (0197) following CE logo is the number of the notified body by EU, which proves the system is consistent with the directive 93/42/EEC.

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