



M7

Color Doppler Ultrasound System Datasheet

mindray
healthcare within reach

The M7 series is an ergonomically designed portable and ease-of-use machine for multi-specialty use like adults, pregnant women, pediatric patients and neonates. It is intended for use in abdominal, gynecology, obstetrics, peripheral vascular, small parts, urological, cardiac, anesthesia, emergency, ICU/CCU, pediatrics and neonates, transcranial (neonatal cephalic), first aid, interventional, MSK, athletic medical treatment and intraoperative exams.

1 System Overview

1.1 Application

- Abdomen
- Obstetrics
- Gynecology
- Cardiology
- Small parts
- Urology
- Vascular
- Pediatrics
- Nerve
- Emergency Medicine

1.2 Transducer types

- Curved array
- Linear array
- Phased array
- 4D Volume
- Pencil

1.3 Imaging modes

- B-Mode
- Tissue Harmonic and PSH (Phase Shift Harmonic Imaging)
- M-Mode/Color M-mode
- Free Xros M (Anatomical M-mode)
- Free Xros CM (Curved Anatomical M-mode)
- Color Doppler Imaging
- Power Doppler Imaging/Directional PDI
- Pulsed Wave Doppler
- Continuous Wave Doppler
- TDI (Tissue Doppler Imaging)
- Smart 3D™ (Freehand 3D)
- 4D
- iScape™ View (Panoramic Imaging)

1.4 Standard features

- B-Mode
- THI and PSH
- M-Mode

- Color Doppler Imaging
 - Power Doppler Imaging and Directional PDI
 - Pulsed Wave Doppler
 - HPRF (High Pulse Repeat Frequency)
 - iBeam™ (Spatial Compounding Imaging)
 - iTouch™ (Auto Optimization)
 - Zoom/iZoom™ (Full Screen Zoom)
 - B steer
 - Trapezoid Imaging
 - ExFOV Imaging
 - iStation™
 - Integrated 500G hard drive
 - Network Storage Function (Transfer PC format data to shared folder on PC or another M7 system)
 - Remote control function
 - V access function
 - User-defined keys
 - 1 active probe port
 - 1 pencil probe port
 - 2-USB ports
 - 1 S-Video output port
 - 1 Ethernet port
 - Built-in Battery: LI23I001A
 - Power adapter
 - Control panel film with language
- ### 1.5 Optional features
- iClear™ (Speckle Suppression Imaging)
 - Continuous Wave Doppler
 - Free Xros M
 - Free Xros CM
 - iScape™ View
 - Smart 3D™
 - 4D (Including: Static 3D, Real time 4D, Volume Transducer is necessary)
 - IMT (Auto Intima-Media Thickness Evaluation)
 - TDI (Include TVI, TEI, TVD, TVM)
 - TDI Quantitative Analysis
 - Stress Echo
 - iNeedle™ (Needle Visualization Enhancement)
 - Abdominal Package (Including exam mode, comments, measurements, body marks and report template)

- Obstetrical Package (Including exam mode, comments, measurements, body marks and report template)
 - Gynecological Package (Including exam mode, comments, measurements, body marks and report template)
 - Cardiac Package (Including exam mode, comments, measurements, body marks and report template)
 - Small Parts Package (Including exam mode, comments, measurements, body marks and report template)
 - Urological Package (Including exam mode, comments, measurements, body marks and report template)
 - Vascular Package (Including exam mode, comments, measurements, body marks and report template)
 - Pediatric Package (Including exam mode, comments, measurements, body marks and report template)
 - Emergency Medicine Package (Including exam mode, comments, measurements, body marks and report template)
 - Nerve Blocks Package (Including exam mode, comments, measurements, body marks and report template)
 - DICOM Basic (including Verify, Storage, Print, Storage Commitment, Media Storage)
 - DICOM Worklist
 - DICOM MPPS (Modality Performed Procedure Step)
 - DICOM OB/GYN structured report
 - DICOM Vascular structured report
 - DICOM Cardiac structured report
 - DICOM Query/Retrieve
- All the features without hardware can support 90 days trials.

1.6 Language support

- Software: English, Chinese, German, Spanish, French, Italian, Portuguese, Russian, Czech, Polish
- Keyboard input: English, Chinese, German, Spanish, French, Italian, Portuguese, Russian, Czech, Polish, Icelandic, Norwegian, Swedish, Finnish, Turkish, Danish

- Control panel overlay: English, Chinese, German, Spanish, French, Italian, Portuguese, Russian
- User manual: English, Chinese, German, Spanish, French, Italian, Portuguese, Russian

2 Physical Specification

2.1 Dimension and weight

- Width: 361mm
- Depth: 357mm
- Height: 75mm
- Weight: approx. 5.5kg (without batteries, 4D board and adapter)

2.2 Monitor

- 15-inch high resolution color LCD monitor
- Resolution: 1024x768
- Brightness adjustable
- Screen Saver
- Open angle adjustable: 0°-150° (The angle between the monitor and control panel)
- View angle (right/left): 85°

2.3 Handle

2.4 Probe port

- 1 port connects to a transducer or the probe extend module
- 1 pencil probe ports

2.5 Electrical power

- AC adapter Input:
 - Voltage: 100-240V~ (AC adapter)
 - Voltage: 220-240V~ (Configured with UMT-300 Mobile Trolley)
 - Frequency: 50/60 Hz
 - Current: 1.5-0.6A (AC adapter)
 - Power: 600VA (Configured with UMT-300 Mobile Trolley)
- AC adapter Output: 12V \equiv , 10A
- Battery: Lithium-Ion Battery Pack 11.1V \equiv , 4500mAh

2.6 Operating Environment

- Ambient temperature: 0-40 °C
- Relative humidity: 30%-85% (no condensation)
- Atmospheric pressure: 700hPa-1060hPa

2.7 Storage & Transportation Environment

- Ambient temperature: -20~55 °C

- Relative humidity: 30%-95% (no condensation)
- Atmospheric pressure: 700hPa-1060hPa

2.8 Alloy Enclosure

- All-alloy enclosure design

3 User Interface

3.1 Control panel

- Power/Battery Indicator
- Alphanumeric Keys
- Function Keys
- Knobs
- Ergonomic Soft Key Operation
- Backlit keys, ensuring accurate work in the dark room
- 8-segment TGC control
- 8 programmable keys, available for user-defined functions
- Trackball, color and sensitivity adjustment
- Key Brightness adjustment
- Integrated Speakers, Audio Volume Adjustment

3.2 System boot-up

- Boot-up from complete shut-down in about 50 sec
- Boot-up from standby mode in about 12 sec
- Shut down in about 12 sec

3.3 Comments

- Supports text input and arrow
- Adjustable text size and arrow size and direction
- Supports home position
- Covers various application
- More than 800 comments items for versatile application
- User customizable

3.4 Bodymark

- More than 135 bodymarks for versatile application
- User customizable

3.5 Screen information*

- Common info:
 - Mindray logo
 - Hospital name
 - Exam date

- Exam time
- Acoustic power
- Mechanical index
- Tissue thermal index
- ID, 2nd ID, Last name, First Name, Middle initial, Gender, Age
- Probe model
- ECG icon (when ECG connected)
- Operator
- TGC Curve
- Focus position
- Thumbnail
- Imaging parameters
- Help guidance

*Not all items are listed in this part, detail info please refer to user manual

4 Imaging Parameters

4.1 Overview

- Digital beamformer
- Up to 1024 channels
- 8-beam forming

4.2 B-mode

- Display formats: Single(B), Dual(B+B), Quad(4B)
- iClearTM: Off; On, 1-4 steps
- iBeamTM: Off/On
- iTouchTM: Auto optimization (TGC, Gain)
- Frequency (depend on probe)
- B steer: available on linear transducers
- ExFOV: extended FOV available on convex, and volume transducers
- Trapezoid: available on linear transducers
- Depth: 1.8-38.8cm (depend on transducer)
- Frame rate (max): 643 f/s
- Acoustic output power: 7%-100%, 3% /step
- TGC: 8 pods on control panel
- LGC: 4 segments on soft menu
- Dynamic range: 30-160, 5/step
- Gain: 0-100, 1-2/step
- Focus number: 1-4, adjustable
- Focus position: Max. 16, adjustable
- FOV (Field of View): N/M2/M1/W, 4 steps
- Line density: L/M/H/UH
- Persistence: 0-7, 8 steps

- Horizontal Scale: on/off
 - L/R flip and U/D flip: on/off
 - Rotation: 0°, 90°, 180°, 270°
 - TSI (Tissue Specific Imaging):
general/muscle/fluid/fat
 - Gray Map: 8 types
 - Colorize map: off; 10 types
 - Mid Line: on/off
- 4.3 THI and PSH
- Available on all types of transducer (except CW2s)
 - Patent PSH technology, obtains purer harmonic, better contrast resolution
 - iClear™ available
- 4.4 M-mode
- Display formats: V1:1, V1:2, L/R, Full (V: vertical, H: horizontal, L: left, R: right)
 - Color M-mode available
 - Acoustic output power: 7%-100%, 3%/step
 - Dynamic range: 30-160, 5/step
 - Gain: 0-100, 1-2/step
 - Speed: 1-6, 6 steps
 - M soften: 0-4, 5 steps
 - Colorize map: off; 10 types
 - Gray Map: 8 types
 - Edge enhancement: 0-3
- 4.5 Free Xros M (option)
- Display formats: V1:1, V1:2, L/R, Full (V: vertical, H: horizontal, L: left, R: right)
 - Color Free Xros M available
 - Up to 3 lines
 - Speed: 1-6, 6 steps
 - Colorize map: off, 10 types
 - Gray Map: 8 types
- 4.6 Free Xros CM (option)
- Display formats: V1:1, V1:2, L/R, Full (V: vertical, H: horizontal, L: left, R: right)
 - Acoustic output power: 7%-100%
 - Gain: 0-100, 1/step
 - Speed: 1-6, 6 steps
 - Colorize map: off; 10 types
 - Gray Map: 8 types
- 4.7 Color Doppler Imaging
- Dual live
 - Frequency (depend on probe)
 - Max velocity: 264.9cm/s
- Steer: max. 20° (linear transducer)
 - Max frame rate: 372f/s
 - Acoustic output power: 7%-100%
 - Gain: 0-100, 2-3/step
 - ROI size/position: adjustable
 - Scale: 30 steps
 - Wall filter: 0-7, 8 steps
 - PRF: max. 15.5kHz, min.0.3kHz
 - Packet size: 0-3, 4 steps
 - Flow state: L/M/H, 3 steps
 - Smooth: 0-4, 5 steps
 - B/C Align: on/off
 - Priority: 0%-100%, 10%/step
 - Map: 21 types (Variance)
 - Invert: on/off
 - Persistence: 0-4, 5 steps
 - Line density: L/M/H/UH, 4 steps
- 4.8 Power Doppler Imaging
- Dual live
 - Support directional PDI
 - Frequency (depend on probe)
 - Acoustic output power: 7%-100%
 - Dynamic range: 10-70, 5/step
 - Gain: 0-100, 2-3/step
 - ROI size/position: adjustable
 - Steer: max. 20° (linear transducers)
 - Scale: 30 steps
 - Wall filter: 0-7, 8 steps
 - PRF: max. 15.5kHz, min.0.3kHz
 - Packet size: 0-3, 4 steps
 - Flow state: L/M/H, 3 steps
 - Smooth: 0-4, 5 steps
 - B/C Align: on/off
 - Priority: 0%-100%, 10%/step
 - Map: 8 types
 - Directional color map: 4 types
 - Persistence: 0-4, 5 steps
 - Line density: L/M/H/UH, 4 steps
- 4.9 PW/CW-Mode
- Display formats: V1:1, V1:2, L/R, Full (V: vertical, H: horizontal, L: Left)
 - iTouch™: Auto optimization (Baseline, PRF)
 - Frequency (depend on probe)
 - PW velocity: max. 924cm/s
 - CW velocity: max. 5600cm/s
 - Sample volume size: 0.5-20mm (PW only),

0.5-5mm/step

- Sample gate depth: adjustable
- Scale: max. 5600cm/s
- Baseline: -4~4, 9 steps
- PW Steer: max. 20° (linear transducer)
- Audio: 0%-100%, 2%/step
- PW PRF: max. 24kHz, min. 0.7kHz
- Gain: 0-100, 3-4/step
- Dynamic range: 24-72, 2/step
- Sweep speed: 1-6, 6 steps
- Wall filter: 0-6, 7 steps
- Invert: on/off
- Auto invert: on/off
- Angle correction: -80°~80°, 1/step
- Quick angle: 0°, -60°, 60°
- Gray map: 8 types
- Colorize map: Off; 10 types
- Time/frequency resolution: 0-3, 4 steps
- Auto calc: on/off
- Trace area: above, below, all

4.10 Tissue Velocity/Energy Imaging (included in TDI option)

- Available on phased array transducer
- Dual live: side by side displays B and B+TVI
- Max frame rate: 428f/s
- PRF: max. 7.8kHz, min. 0.3kHz
- Acoustic output power: 7%-100%
- Gain: 0-100, 2/step
- Dynamic range: 10-70, 5/step (TEI only)
- ROI size/position: adjustable
- Scale: max. 30 steps, 5.0-100cm/s
- Baseline: -8~8, 17 steps (TVI only)
- Wall filter: 0-7, 8 steps
- Packet size: 0-3, 4 steps
- Tissue state: L/M/H, 3 steps
- Smooth: 0-4, 5 steps
- B/C Align: on/off
- Priority: 0%-100%, 10%/step
- Color map: 11 types
- Invert: on/off (TVI only)
- Persistence: 0-4, 5 steps
- Line density: L/M/H/UH, 4 steps

4.11 Tissue Velocity Doppler (included in TDI option)

- Available on phased array transducer
- Display formats: V1:1, V1:2, L/R, Full (V:

vertical, H: horizontal, L: left, R: right)

- Sample volume size: 0.5-20mm, 12 steps
- Sample gate depth: adjustable
- Scale: max. 69.6 cm/s
- Baseline: -4~4, 9 steps
- Audio: 0%-100%, 2%/step
- PRF: max. 24.0kHz, min. 0.7kHz
- Gain: 0-100, 3-4/step
- Dynamic range: 24-72, 2/step
- Speed: 1-6, 6 steps
- Wall filter: 0-6, 7 steps
- Invert: on/off
- Auto invert: on/off
- Angle correction: -80°~80°, 1/step
- Quick angle: 0°, -60°, 60°
- Gray map: 8 types
- Colorize map: Off; 10 types
- Time/frequency resolution: 0-3, 4 steps

4.12 Tissue Velocity Motion (included in TDI option)

- Display formats: V1:1, V1:2, L/R, Full (V: vertical, H: horizontal, L: left, R: right)
- Acoustic output power: 7%-100%
- Dynamic range: 30-160, 5/step
- Gain: 0-100, 1-2/step
- Speed: 1-6, 6 steps
- M soften: 0-4, 5 steps
- Gray Map: 8 types
- Edge enhance: 0-3, 4 steps

4.13 Smart 3D™ (option)

- Smart 3D™
 - Display formats: Single, Dual, Quad
 - Reset: reset ROI, reset curve, reset orientation
 - Quick Rotation: 0°, 90°, 180°, 270°
 - Inversion: on/off
 - Accept VOI: on/off
 - Render modes: Surface, Max, Min, X-ray
 - Direction: D/U, U/D, L/R, R/L, F/B, B/F (D: down, U: up, L: left, R: right, F: front, B: back)
 - Threshold: 0%-100%, 1%/step
 - Transparency: 0%-100%, 5%/step
 - Smooth: 0-20, 21 steps
 - Brightness: 0%-100%, 2%/step
 - Contrast: 0%-100%, 2%/step

- Colorize map: off; 5 types
- Edit
 - Rotation control: X, Y, Z axis
 - Area selection: inside polygon, outside polygon; inside contour, outside contour; inside rect, outside rect
 - Other operations: undo, redo, undo all, done
- 4.14 4D (option)
 - Available on volume transducer (4CD4s)
 - Static 3D and 4D
 - 4D frame rate: max. 30 vps
 - Display formats: Single, Dual, Quad
 - Reset: reset ROI, reset curve, reset orientation
 - Quick Rotation: 0°, 90°, 180°, 270°
 - Inversion: on/off
 - Accept VOI: on/off
 - Render modes: Surface, Max, Min, X-ray
 - Direction: D/U, U/D, L/R, R/L, F/B, B/F (D: down, U: up, L: left, R: right, F: front, B: back)
 - Threshold: 0%-100%, 1%/step
 - Transparency: 0%-100%, 5 %/step
 - Smooth: 0-20, 21 steps
 - Brightness: 0%-100%, 2%/step
 - Contrast: 0%-100%, 2%/step
 - Colorize map: off; 5 types
 - Edit
 - Rotation control: X, Y, Z axis
 - Area selection: inside polygon, outside polygon; inside contour, outside contour; inside rect, outside rect
 - Other operations: undo, redo, undo all, done
- 4.15 iScape™ View (option)
 - Panoramic imaging
 - Available on all transducers
 - Acquisition method: B
 - Imaging length: 110cm
 - Colorize map: off; 8 types
 - Rotation: 0°~355°
- 4.16 Zoom
 - iZoom™
 - Full screen zoom
 - Normal image, Zoom standard area, Zoom image area, 3 steps
 - Spot zoom (write zoom) 1-10x
 - Pan zoom (read zoom) 1-10x
- 4.17 TDI QA (option)
 - Dedicated quantification tool for TDI velocity analysis
 - Freehand ROI: manually deploy ROI on the cine
 - Up to 8 ROIs
 - ROI tracking
 - Std.Height: 1.5-50 mm
 - Std.Width: 1.5-50 mm
 - Std.Angle: -89°~90°
 - Export: export current data as a CSV format file
- 4.18 Stress Echo (option)
 - Stress echo provides tools for ECG triggered acquisition, display, selection, comparison, evaluation and archiving of multiple cardiac loops during various stages of a stress echo examination
 - Standard acquisition protocols: treadmill, ergometer and pharmacological stress echo
 - User definable scoring conventions: ASE 16 (with score 4-7), ASE 17 (with score 4-7)
 - Customized stages: up to 6 views per stage, and up to 12 stages per study
 - View: standard views (PSLA, PSAX, A4C, A2C), and customized views
 - Image acquisition
 - R-wave trigger
 - Acquire mode: Manual ROI or full screen
 - Ability to acquire frames or clips in B-mode, M-mode, Color, PW and TDI
 - Image selection
 - Attach the images with view annotation label (PSLA, PSAX, A4C, A2C, and customized views)
 - Review
 - Automatically adjust to the number of images user defined
 - Wall Motion Scoring
 - ASE 16 (with score 4-7), or ASE 17 (with score 4-7)
 - Graphical display of scoring (Normal,

Hyperkinetic, Severely Hyperkinetic,
Akinetic, Dyskinetic)

- LV volume measurement
 - Measurement of LV Volume in all phases of cardiac cycle
- Report
 - Reporting for both Wall Motion Scoring and LV volume measurement

4.19 iNeedle™ (option)

- Needle visualization enhancement
- Available on L14-6Ns, L12-4, L14-6s, 7L4s
- Available on B mode
- Steer angle: +/-50°, +/-40°, +/-30°, +/-20°
- B/iNeedle: On/Off (provide a comparison between normal and enhanced images)

5 Cine Review and Post Processing

5.1 Cine review

- Available in all modes
- Frame by frame manual cineloop review or auto playback with variable speed
- Independent cine review in 2D Dual and Quad mode one by one
- Maximum cine memory is up to 8380 frames or 131s (depend on the mode)
- Maximum 4D cine memory is around 100M
- Retrospective storage (1-120s, or 1-120 cycles, pre-settable) and prospective storage (1-480s, or 1-120cycles, pre-settable)
- Frame compare: compare different frames for one cine in dual format
- Cine compare: compare two or more than two cines in dual or quad format
- Jump to first and jump to last: one keystroke review the first or last frame
- Start point and end point: selectable

5.2 Post Processing

- B-mode:
 - Zoom
 - gray map
 - colorize map
 - flip
 - rotation
- M-mode:
 - gray map

colorize map
display format

- Color/Power:
 - Invert
 - Baseline
 - color map
 - B display
- PW/CW:
 - angle correction
 - quick angle
 - invert
 - dynamic range
 - gray map
 - colorize map

6 Measurement/Analysis and Report*

6.1 Generic measurements

- B-mode
 - Depth
 - Distance
 - Angle
 - Area: Ellipse, Trace, Spline, Cross
 - Volume: 3-Distance, Ellipse, Ellipse+Distance
 - Cross
 - Parallel
 - Trace Length
 - Ratio (D) (Distance ratio)
 - Ratio (A) (Area ratio)
 - B Histogram
 - B Profile (not available for M7T)
 - Color Velocity
 - Volume Flow
- M-mode
 - Distance
 - Time
 - Slope
 - Velocity
 - Heart Rate
- Doppler mode
 - Time
 - Heart Rate
 - D Velocity (Doppler velocity)
 - Acceleration
 - D Trace (Doppler spectrum trace)
 - PS/ED (PS: Peak Systolic Velocity; ED: End

- Diastolic Velocity)
- Volume Flow
- Automatic Doppler Spectrum Analysis
 - Automatic real-time tracing
 - 1, 2, 3, 4, 5 auto calculation cycles
 - User configurable display of measurement items
 - Support PI, RI, TAMAX, TAMEAN, Volume Flow calculations
 - Appropriate factory setting according to applications

6.2 Clinical option measurement package

- Abdominal
 - B-mode measure:
 - Liver
 - Renal L (Renal Length)
 - Renal H (Renal Height)
 - Renal W (Renal Width)
 - Cortex (Renal Cortical Thickness)
 - Adrenal L (Adrenal Length)
 - Adrenal H (Adrenal Height)
 - Adrenal W (Adrenal Width)
 - CBD (Common bile duct)
 - Portal V Diam (Portal Vein Diameter)
 - CHD (Common hepatic duct)
 - GB L (Gallbladder Length)
 - GB H (Gallbladder Height)
 - GB wall th (Gallbladder wall thickness)
 - Panc duct (Pancreatic duct)
 - Panc head (Pancreatic head)
 - Panc body (Pancreatic body)
 - Panc tail (Pancreatic tail)
 - Spleen
 - Aorta Diam (Aorta Diameter)
 - Aorta Bif (aorta bifurcation)
 - Iliac Diam (iliac diameter)
 - Pre-BL L (Previous-Bladder Length)
 - Pre-BL H (Previous-Bladder Height)
 - Pre-BL W (Previous-Bladder Width)
 - Post-BL L (Posterior-Bladder Length)
 - Post-BL H (Posterior-Bladder Height)
 - Post-BL W (Posterior-Bladder Width)
 - B-mode Calculation:
 - Renal Vol (Renal Volume)
 - Pre-BL Vol (Previous-Bladder Volume)
 - Post-BL Vol (Posterior-Bladder Volume)

- Mictur.Vol (Micturated Volume)
- B-mode study:
 - Kidney (Length, Width, Height, Volume)
 - Adrenal(Length, Width, Height, Volume)
 - Bladder(Length, Width, Height, Volume)
- Doppler-mode measure:
 - Ren A Org (Renal Artery Origin)
 - Arcuate A (Arcuate Artery)
 - Segment A (Segmental Artery)
 - Interlobar A (Interlobar Artery)
 - Renal A (Renal Artery)
 - M Renal A (Main Renal Artery)
 - Renal V (Renal Vein)
 - Aorta
 - Celiac Axis
 - SMA (Superior Mesenteric Artery)
 - C Hepatic A (Common Hepatic Artery)
 - Hepatic A (Hepatic Artery)
 - Splenic A (Splenic Artery)
 - IVC (Inferior Vena Cava)
 - Portal V (Portal Vein)
 - M Portal V (M Portal Vein)
 - Lt Hepatic V (Left Hepatic Vein)
 - Rt Hepatic V (Right Hepatic Vein)
 - Hepatic V (Hepatic Vein)
 - M Hepatic V (Middle Hepatic Vein)
 - Splenic V (Splenic Vein)
 - SMV (Superior Mesenteric Vein)
- Obstetrics
 - B-mode measure:
 - GS (Gestational Sac Diameter)
 - YS (Yolk Sac)
 - CRL (Crown Rump Length)
 - NT (Nuchal Translucency)
 - BPD (Biparietal Diameter)
 - OFD (Occipital Frontal Diameter)
 - HC (Head Circumference)
 - AC (Abdominal Circumference)
 - FL (Femur Length)
 - TAD (Abdominal Transversal Diameter)
 - APAD (Anteroposterior Abdominal Diameter)
 - TCD (Cerebellum Diameter)
 - Cist Magna (Cist Magna)
 - LVW (Lateral Ventricle Width)
 - HW (Hemisphere Width)

- OOD (Outer Orbital Diameter)
 - IOD (Inter Orbital Diameter)
 - HUM (Humerus Length)
 - Ulna (Ulna Length)
 - RAD (Radius Length)
 - Tibia (Tibia Length)
 - FIB (Fibula Length)
 - CLAV (Clavicle Length)
 - Vertebrae (Length of Vertebrae)
 - MP (Middle Phalanx Length)
 - Foot (Foot Length)
 - Ear (Ear Length)
 - APTD (Anteroposterior trunk diameter)
 - TTD (Transverse trunk diameter)
 - FTA (Fetal Trunk Cross-sectional Area)
 - THD (Thoracic Diameter)
 - HrtC (Heart Circumference)
 - TC (Thoracic circumference)
 - Umb VD (Umbilical Vein Diameter)
 - F-kidney (Fetal kidney Length)
 - Mat Kidney (Matrix Kidney Length)
 - Cervix L (Cervical Length)
 - AF (Amniotic Fluid)
 - NF (Nuchal Fold)
 - Orbit (Orbit)
 - PL Thickness (Placental Thickness)
 - Sac Diam1 (Gestational Sac Diameter 1)
 - Sac Diam2 (Gestational Sac Diameter 2)
 - Sac Diam3 (Gestational Sac Diameter 3)
 - AF1 (Amniotic Fluid 1)
 - AF2 (Amniotic Fluid 2)
 - AF3 (Amniotic Fluid 3)
 - AF4 (Amniotic Fluid 4)
 - LVIDd (Left Ventricular Internal Diameter at End-diastole)
 - LVIDs (Left Ventricular Internal Diameter at End-systole)
 - LV Diam (Left Ventricular Diameter)
 - LA Diam (Left Atrium Diameter)
 - RVIDd (Right Ventricular Internal Diameter at End-diastole)
 - RVIDs (Right Ventricular Internal Diameter at End-systole)
 - RV Diam (Right Ventricular Diameter)
 - RA Diam (Right Atrium Diameter)
 - IVSd (Interventricular Septal Thickness at End-diastole)
 - IVSs (Interventricular Septal Thickness at End-systole)
 - IVS (Interventricular Septal Thickness)
 - LV Area (Left Ventricular Area)
 - LA Area (Left Atrium Area)
 - RV Area (Right Ventricular Area)
 - RA Area (Right Atrium Area)
 - Ao Diam (Aorta Diameter)
 - MPA Diam (Main Pulmonary Artery Diameter)
 - LVOT Diam (Left Ventricular Outflow Tract Diameter)
 - RVOT Diam (Right Ventricular Outflow Tract Diameter)
- B-mode calculation:
- Mean Sac Diam (Mean Gestational Sac Diameter)
 - AFI
 - EFW1 (Estimated Fetal Weight 1)
 - EFW2 (Estimated Fetal Weight 2)
 - HC/AC
 - FL/AC
 - FL/BPD
 - AXT
 - CI
 - FL/HC
 - HC(c)
 - HrtC/TC
 - TCD/AC
 - LVW/HW
 - LVD/RVD
 - LAD/RAD
 - AoD/MPAD
 - LAD/AoD
- B-mode study:
- AFI (Auto)
- M-mode measure:
- FHR (Fetal Heart Rate)
 - LVIDd (Left ventricular diameter at end diastole)
 - LVIDs (Left ventricular diameter at end systole)
 - RVIDd (Right ventricular diameter at end diastole)
 - RVIDs (Right ventricular diameter at end systole)

- systole)
- IVSd (interventricular septal thickness at end diastole)
- IVSs (interventricular septal thickness at end systole)
- Doppler-mode measure:
 - Umb A (Umbilical Artery)
 - Duct Venos (Ductus Venos)
 - Placenta A (Placenta Artery)
 - MCA (Middle Cerebral Artery)
 - Fetal Ao (Fetal Aorta)
 - Desc Aorta (Descending Aorta)
 - Ut A (Uterine Artery)
 - Ovarian A (Ovarian Artery)
 - FHR (Fetal Heart Rate)
- Cardiology
 - B-mode measure:
 - LA Diam (Left Atrium Diameter)
 - LA Major (Left Atrium major Diameter)
 - LA Minor (Left Atrium minor Diameter)
 - RA Major (Right Atrium major Diameter)
 - RA Minor (Right Atrium minor Diameter)
 - LV Major (Left Ventricular major Diameter)
 - LV Minor (Left Ventricular minor Diameter)
 - RV Major (Right Ventricular major Diameter)
 - RV Minor (Right Ventricular minor Diameter)
 - LA Area (Left Atrium area)
 - RA Area (Right Atrium area)
 - LV Area (d) (Left Ventricular area at end-diastole)
 - LV Area (s) (Left Ventricular area at end-systole)
 - RV Area (d) (Right Ventricular area at end-diastole)
 - RV Area (s) (Right Ventricular area at end-systole)
 - LVIDd (Left Ventricular Internal Diameter at end-diastole)
 - LVIDs (Left Ventricular Internal Diameter at end-systole)
 - RVDd (Right Ventricular Diameter at end-diastole)
 - RVDs (Right Ventricular Diameter at end-systole)
 - end-systole)
 - LVPWd (Left Ventricular Posterior wall thickness at end-diastole)
 - LVPWs (Left Ventricular Posterior wall thickness at end-systole)
 - RVAWd (Right Ventricular Anterior wall thickness at end-diastole)
 - RVAWs (Right Ventricular Anterior wall thickness at end-systole)
 - IVSd (Interventricular Septal thickness at end-diastole)
 - IVSs (Interventricular Septal thickness at end-systole)
 - Ao Diam (Aorta Diameter)
 - Ao Arch Diam (Aorta arch Diameter)
 - Ao Asc Diam (Ascending Aorta Diameter)
 - Ao Desc Diam (Descending Aorta Diameter)
 - Ao Isthmus (Aorta Isthmus Diameter)
 - Ao st junct (Aorta ST junct Diameter)
 - Ao Sinus Diam (Aorta Sinus Diameter)
 - Duct Art Diam (Ductus Arteriosus Diameter)
 - Pre Ductal (Previous ductal Diameter)
 - Post Ductal (Posterior ductal Diameter)
 - ACS (Aortic Valve Cusp Separation)
 - LVOT Diam (Left Ventricular Outflow Tract Diameter)
 - AV Diam (Aorta Valve Diameter)
 - AVA (Aortic Valve Area)
 - PV Diam (Pulmonary valve Diameter)
 - LPA Diam (Left pulmonary Artery Diameter)
 - RPA Diam (Right pulmonary Artery Diameter)
 - MPA Diam (Main pulmonary Artery Diameter)
 - RVOT Diam (Right Ventricular Outflow Tract Diameter)
 - MV Diam (Mitral Valve Diameter)
 - MVA (Mitral Valve area)
 - MCS (Mitral Valve Cusp Separation)
 - EPSS (Distance between point E and Interventricular Septum when mitral valve is fully open)
 - TV Diam (Tricuspid valve Diameter)

- TVA (Tricuspid Valve Area)
- IVC Diam (Insp) (Inferior vena cava inspiration Diameter)
- IVC Diam (Expir) (Inferior vena cava expiration Diameter)
- SVC Diam (Insp) (Superior vena cava inspiration Diameter)
- SVC Diam (Expir) (Superior vena cava expiration Diameter)
- LCA (Left Coronary Artery)
- RCA (Right Coronary Artery)
- VSD Diam (Ventricular Septal defect Diameter)
- ASD Diam (Atrial Septal defect Diameter)
- PDA Diam (Patent ductus Arteriosus Diameter)
- PFO Diam (Patent Oval Foramen Diameter)
- PEd (Pericardial Effusion at diastole)
- PEs (Pericardial Effusion at systole)
- B-mode calculation:
 - LA/Ao (Left Atrium Diameter/ Aorta Diameter)
 - Ao/LA (Aorta Diameter/Left Atrium Diameter)
- B-mode study:
 - S-P Ellipse
 - B-P Ellipse
 - Bullet
 - Mod. Simpson
 - Simp SP(A2C)
 - Simp SP(A4C)
 - Simpson BP
 - Cube (2D)
 - Teichholz (2D)
 - Gibson (2D)
 - LA Vol (A-L)
 - LA Vol (Simp)
 - LV Mass (Cube-2D)
 - LV Mass (T-E)
 - LV Mass (A-L)
 - MVA (VTI)
 - AVA (VTI)
 - Qp/Qs
 - PISA MR
 - PISA AR
- PISA TR
- PISA PR
- M-mode measure:
 - LA Diam (Left Atrium Diameter)
 - LVIDd (Left Ventricular Internal Diameter at end-diastole)
 - LVIDs (Left Ventricular Internal Diameter at end-systole)
 - RVDd (Right Ventricular Diameter at end-diastole)
 - RVDs (Right Ventricular Diameter at end-systole)
 - LVPWd (Left Ventricular Posterior wall thickness at end-diastole)
 - LVPWs (Left Ventricular Posterior wall thickness at end-systole)
 - RVAWd (Right Ventricular Anterior wall thickness at end-diastole)
 - RVAWs (Right Ventricular Anterior wall thickness at end-systole)
 - IVSd (Interventricular Septal thickness at end-diastole)
 - IVSs (Interventricular Septal thickness at end-systole)
 - Ao Diam (Aorta Diameter)
 - Ao Arch Diam (Aorta arch Diameter)
 - Ao Asc Diam (Ascending Aorta Diameter)
 - Ao Desc Diam (Descending Aorta Diameter)
 - Ao Isthmus (Aorta Isthmus Diameter)
 - Ao st junct (Aorta ST junct Diameter)
 - Ao Sinus Diam (Aorta Sinus Diameter)
 - LVOT Diam (Left Ventricular outflow tract Diameter)
 - ACS (Aortic valve Cusp Separation)
 - LPA Diam (Left pulmonary Artery Diameter)
 - RPA Diam (Right pulmonary Artery Diameter)
 - MPA Diam (Main pulmonary Artery Diameter)
 - RVOT Diam (Right Ventricular outflow tract Diameter)
 - MV E Amp (Amplitude of the Mitral Valve E wave)
 - MV A Amp (Amplitude of the Mitral Valve

- A wave)
- MV E-F Slope (Mitral Valve E-F slope)
- MV D-E Slope (Mitral Valve D-E slope)
- MV DE (Amplitude of the Mitral Valve DE wave)
- MCS (Mitral Valve Cusp Separation)
- EPSS (Distance between point E and the interventricular septum)
- PEd (Pericardial effusion at diastole)
- PEs (Pericardial effusion at systole)
- LVPEP (Left Ventricular pre-ejection period)
- LVET (Left Ventricular ejection time)
- RVPEP (Right Ventricular pre-ejection period)
- RVET (Right Ventricular ejection time)
- HR (Heart Rate)
- M-mode calculation:
 - LA/Ao (Left Atrium Diameter/Aorta Diameter)
 - Ao/LA (Aorta Diameter/Left Atrium Diameter)
- M-mode study:
 - LVIMP (M)
 - Cube (M)
 - Teichhloz (M)
 - Gibson (M)
 - LV Mass (Cube-M)
- Doppler-mode measure:
 - MV Vmax (Mitral Valve Maximum Velocity)
 - MV E Vel (Mitral Valve E-wave Velocity)
 - MV A Vel (Mitral Valve A-wave Velocity)
 - MV E VTI (Mitral Valve E-wave Velocity)-Time Integral
 - MV A VTI (Mitral Valve A-wave Velocity)-Time Integral
 - MV VTI (Mitral Valve Velocity)-Time Integral
 - MV AccT (Mitral Valve Acceleration Time)
 - MV DecT (Mitral Valve Deceleration Time)
 - IVRT (isoVelocity Relaxation Time)
 - IVCT (isoVelocity Compression Time)
 - MV E Dur (Mitral Valve E-wave Duration)
 - MV A Dur (Mitral Valve A-wave Duration)
 - LVOT Vmax (Left Ventricular Outflow Tract Velocity)
 - LVOT VTI (Left Ventricular Outflow Tract Velocity)-Time Integral)
 - LVOT AccT (Left Ventricular Outflow Tract Acceleration Time)
 - AAo Vmax (Ascending Aorta Maximum Velocity)
 - DAo Vmax (Descending Aorta Maximum Velocity)
 - AV Vmax (Aorta Valve Maximum Velocity)
 - AV VTI (Aorta Valve Velocity)-Time Integral)
 - LVPEP (Left Ventricular Pre-ejection Period)
 - LVET (Left Ventricular Ejection Time)
 - AV AccT (Aorta Valve Acceleration Time)
 - AV DecT (Aorta Valve Deceleration Time)
 - RVET (Right Ventricular Ejection Time)
 - RVPEP (Right Ventricular Pre-ejection Period)
 - TV Vmax (Tricuspid Valve Maximum Velocity)
 - TV E Vel (Tricuspid Valve E-wave Flow Velocity)
 - TV A Vel (Tricuspid Valve A-wave Flow Velocity)
 - TV VTI (Tricuspid Valve Velocity)-Time Integral)
 - TV AccT (Tricuspid Valve Acceleration Time)
 - TV DecT (Tricuspid Valve Deceleration Time)
 - TV A Dur (Tricuspid Valve A-wave Duration)
 - RVOT Vmax (Right Ventricular Outflow Tract Maximum Velocity)
 - RVOT VTI (Right Ventricular Outflow Tract Velocity)-Time Integral)
 - PV Vmax (Pulmonary Valve Maximum Velocity)
 - PV VTI (Pulmonary Valve Velocity)-Time Integral)
 - PV AccT (Pulmonary Valve Acceleration Time)
 - MPA Vmax (Main Pulmonary Artery Maximum Velocity)
 - RPA Vmax (Right Pulmonary Artery

- Maximum Velocity)
 - LPA Vmax (Left Pulmonary Artery Maximum Velocity)
 - PVein S Vel (Pulmonary Vein S-wave Flow Velocity)
 - PVein D Vel (Pulmonary Vein D-wave Flow Velocity)
 - PVein A Vel (Pulmonary Vein A-wave Flow Velocity)
 - PVein A Dur (Pulmonary Vein A-wave Duration)
 - PVein S VTI (Pulmonary Vein S-wave Velocity)-time Integral)
 - PVein D VTI (Pulmonary Vein D-wave Velocity)-time Integral)
 - PVein DecT (Pulmonary Vein Deceleration Time)
 - IVC Vel (Insp) (Inferior Vena Cava Inspiration Maximum Velocity)
 - IVC Vel (Expir) (Inferior Vena Cava Expiration Maximum Velocity)
 - SVC Vel (Insp) (Superior Vena Cava Inspiration Maximum Velocity)
 - SVC Vel (Expir) (Superior Vena Cava Expiration Maximum Velocity)
 - MR Vmax (Mitral Valve Regurgitation Maximum Velocity)
 - MR VTI (Mitral Valve Regurgitation Velocity)-Time Integral)
 - MS Vmax (Mitral Valve Stenosis Maximum Velocity)
 - dP/dt (Rate of Pressure Change)
 - AR Vmax (Aortic Valve Regurgitation Maximum Velocity)
 - AR VTI (Aortic Valve Regurgitation Velocity)-Time Integral)
 - AR DecT (Aortic Valve Regurgitation Deceleration Time)
 - AR PHT (Aortic Valve Regurgitation Pressure Half Time)
 - AR Ved (Aortic Valve Regurgitation Velocity) at end-Diastole)
 - TR Vmax (Tricuspid Valve Regurgitation Maximum Velocity)
 - TR VTI (Tricuspid Valve Regurgitation Velocity)-Time Integral)
 - PR Vmax (Pulmonary Valve Regurgitation Maximum Velocity)
 - PR VTI (Pulmonary Valve Regurgitation Velocity)-Time Integral)
 - PR PHT (Pulmonary Valve Regurgitation Pressure Half Time)
 - PR Ved (Pulmonary Valve Regurgitation Velocity) at end-Diastole)
 - VSD Vmax (Ventricular Septal Defect Maximum Velocity)
 - ASD Vmax (Atrial Septal Defect Maximum Velocity)
 - PDA Vel (d) (Patent Ductus Arteriosus Velocity at End-diastole)
 - PDA Vel (s) (Patent Ductus Arteriosus Velocity at End-systole)
 - Coarc Pre-Duct (Coarctation of Pre-Ductus)
 - Coarc Post-Duct (Coarctation of Post-Ductus)
 - HR (Heart Rate)
 - RAP (Right Atrium Pressure)
- Doppler-mode calculation:
- MV E/A (MV E Vel (cm/s) / MV A Vel (cm/s))
 - MVA(PHT) (MVA(PHT) (cm²) = 220 / MV PHT (ms)Mitral Valve Orifice Area (PHT))
 - TV E/A (Tricuspid Valve E-Vel/A-Vel)
 - TVA(PHT) (Tricuspid Valve Orifice Area (PHT))
- TDI measure:
- Ea(medial) (Mitral Valve medial Early diastolic motion)
 - Aa(medial) (Mitral Valve medial Late diastolic motion)
 - Sa(medial) (Mitral Valve medial Systolic motion)
 - ARa(medial) (Mitral Valve medial Acceleration Rate)
 - DRa(medial) (Mitral Valve medial Deceleration Rate)
 - Ea(lateral) (Mitral Valve lateral Early diastolic motion)
 - Aa(lateral) (Mitral Valve lateral Late diastolic motion)
 - Sa(lateral) (Mitral Valve lateral Systolic

- motion)
 - ARa(lateral) (Mitral Valve lateral Acceleration Rate)
 - DRa(lateral) (Mitral Valve lateral Deceleration Rate)
- Cardiac study items (B mode):
 - S-P Ellipse
 - B-P Ellipse
 - Bullet
 - Mod.Simpson
 - Simpson SP (A2C)
 - Simpson SP (A4C)
 - Simpson BP
 - Cube
 - Teichholz
 - Gibson
 - LA Vol(A-L)
 - LA Vol (Simp)
 - RA Vol (Simp)
 - LV Mass (Cube)
 - LV Mass (A-L)
 - LV Mass (T-E)
 - Qp/Qs
 - PISA MR
 - PISA AR
 - PISA TR
 - PISA PR
- Cardiac study items (M mode):
 - LVIMP (Left Ventricular Index of Myocardial Performance)
 - Cube
 - Teichholz
 - Gibson
 - LV Mass (Cube)
- Cardiac study items (Doppler mode):
 - MVA(VTI)
 - AVA(VTI)
 - LV TEI
 - RVSP
 - PAEDP
 - RV TEI
 - Qp/Qs
 - PISA MR
 - PISA AR
 - PISA TR
 - PISA PR
- Cardiac study items (TDI mode):
 - Ea (medial)
 - Aa (medial)
 - ARa (medial)
 - DRa (medial)
 - Sa (medial)
 - Ea (lateral)
 - Aa (lateral)
 - ARa (lateral)
 - DRa (lateral)
 - Sa (lateral)
- Vascular
 - B-mode measure:
 - Normal (D) (Vessel Diameter)
 - Resid (D) (Residual Diameter)
 - Normal (A) (Vessel Area)
 - Resid (A) (Residual Area)
 - CCA IMT (Common Carotid Artery IMT)
 - Bulb IMT (Bulbillate IMT)
 - ICA IMT (Internal Carotid Artery IMT)
 - ECA IMT (External Carotid Artery IMT)
 - B-mode calculation:
 - Stenosis D (Stenosis Diameter)
 - Stenosis A (Stenosis Area)
 - B-mode study:
 - Stenosis
 - IMT
 - Doppler-mode measure:
 - CCA (Common Carotid Artery)
 - Bulb (Bulbillate)
 - ICA (Internal Carotid Artery)
 - ECA (External Carotid Artery)
 - Vert A (Vertebral Artery)
 - Innom A (Innominate Artery)
 - Subclav V (Subclavian Vein)
 - Axill A (Axillary Artery)
 - Brachial A (Brachial Artery)
 - Ulnar A (Ulnar Artery)
 - Radial A (Radial Artery)
 - Subclav A (Subclavian Artery)
 - Axill V (Axillary Vein)
 - Cephalic V (Cephalic Vein)
 - Basilic V (Basilic Vein)
 - Ulnar V (Ulnar Vein)
 - Radial V (Radial Vein)
 - C.Iliac A (Common Iliac Artery)

- Ex.Iliac A (External Iliac Artery)
- CFA (Common Femoral Artery)
- SFA (Superficial Femoral Artery)
- Pop A (Popliteal Artery)
- TP Trunk A (Tibial Peroneal Trunk Artery)
- Peroneal A (Peroneal Artery)
- P.Tib A (Posterior Tibial Artery)
- A.Tib A (Anterior Tibial Artery)
- Dors.Ped A (Dorsalis Pedis Artery)
- C.Iliac V (Common Iliac Vein)
- Ex.Iliac V (External Iliac Vein)
- Femoral V (Femoral Vein)
- Saph V (Great Saphenous Vein)
- Pop V (Popliteal Vein)
- TP Trunk V (Tibial Peroneal Trunk Vein)
- Sural V (Sural Vein)
- Soleal V (Soleal Vein)
- Peroneal V (Peroneal Vein)
- P.Tib V (Posterior Tibial Vein)
- A.Tib V (Anterior Tibial Vein)
- ACA (Anterior Cerebral Artery)
- MCA (Middle Cerebral Artery)
- PCA (Posterior Cerebral Artery)
- AComA (Ant.communicating br.)
- PComA (Post.communicating br.)
- BA (Basilar Artery)
- IIA (Internal Iliac Artery)
- PFA (Deep Femoral Artery)
- Ba V (Basilar Vein)
- Brachial V (Brachial Vein)
- IIV (Internal Iliac Vein)
- CFV (Common Femoral Vein)
- SFV (Superficial Femoral Vein)
- PFV (Deep Femoral Vein)
- SSV (Small Saphenous Vein)
- Doppler-mode calculation:
 - ICA/CCA (internal carotid artery PS/ common carotid artery PS)
- Doppler-mode study:
 - ABI (Ankle Brachial Index)
- Gynecology
 - B-mode measure:
 - UT L (Uterine Length)
 - UT H (Uterine Height)
 - UT W (Uterine Width)
 - Cervix L (Uterine Cervix Length)
 - Cervix H (Uterine Cervix Height)
 - Cervix W (Uterine Cervix Width)
 - Endo (Endometrium Thickness)
 - Ovary L (Ovary Length)
 - Ovary H (Ovary Height)
 - Ovary W (Ovary Width)
 - Follicle1-16 L (Follicle 1-16 Length)
 - Follicle1-16 W (Follicle 1-16 Width)
 - Follicle1-16 H (Follicle 1-16 Height)
 - B-mode calculation:
 - Ovary Vol (Ovary Volume)
 - UT Vol (Uterine Volume)
 - Uterus Body
 - UT-L/ CX-L (Uterine Length / Cervix Length)
 - Follicle 1-16
 - B-mode study:
 - Uterus (Length, height and width of uterus, endometrium thickness)
 - Uterine Cervix (Length, height and width of uterine cervix)
 - Ovary (Length, height and width of ovary)
 - Follicle 1-16 (Length and width of follicle 1-16)
- Urology
 - B-mode measure:
 - Renal L (Renal Length)
 - Renal H (Renal Height)
 - Renal W (Renal Width)
 - Cortex (Renal Cortical Thickness)
 - Adrenal L (Adrenal Length)
 - Adrenal H (Adrenal Height)
 - Adrenal W (Adrenal Width)
 - Prostate L (Prostate Length)
 - Prostate H (Prostate Height)
 - Prostate W (Prostate Width)
 - Seminal L (Seminal Vesicle Length)
 - Seminal H (Seminal Vesicle Height)
 - Seminal W (Seminal Vesicle Width)
 - Testis L (Testicular Length)
 - Testis H (Testicular Height)
 - Testis W (Testicular Width)
 - Pre-BL L (Previous-Bladder Length)
 - Pre-BL H (Previous-Bladder Height)
 - Pre-BL W (Previous-Bladder Width)

- Post-BL L (Posterior-Bladder Length)
 - Post-BL H (Posterior-Bladder Height)
 - Post-BL W (Posterior-Bladder Width)
 - B-mode calculation:
 - Renal Vol (Renal Volume)
 - Prostate Vol (Prostate Volume)
 - Testis Vol (Testicular Volume)
 - Pre-BL Vol (Previous-Bladder Volume)
 - Post-BL Vol (Posterior-Bladder Volume)
 - Mictur.Vol (Micturated Volume)
 - B-mode study:
 - Kidney
 - Adrenal
 - Prostate
 - Seminal Vesicle
 - Testis
 - Bladder
 - Small Parts
 - B-mode measure
 - Thyroid L (Thyroid Length)
 - Thyroid H (Thyroid Height)
 - Thyroid W (Thyroid Width)
 - Isthmus H (Isthmus Height)
 - Testis L (Testicular Length)
 - Testis H (Testicular Height)
 - Testis W (Testicular Width)
 - Mass1 D1-3
 - Mass2 D1-3
 - Mass3 D1-3
 - B-mode calculation:
 - Thyroid Vol (Thyroid Volume)
 - B-mode study:
 - Thyroid
 - Testis
 - Mass1-3
 - Doppler-mode measure:
 - STA (Superior Thyroid Artery)
 - ITA (Inferior Thyroid Artery)
 - Orthopedics
 - B-mode measure:
 - Hip
 - Hip-Graf
 - d/D
 - Hip(α), Hip(β)
 - Emergency
 - B-mode Measure:
 - Renal L (Renal Length)
 - Renal H (Renal Height)
 - Renal W (Renal Width)
 - CBD (Common bile duct)
 - Portal V Diam (Portal Vein Diameter)
 - CHD (Common hepatic duct)
 - GB wall th (Gallbladder wall thickness)
 - Aorta Diam (Aorta Diameter)
 - Aorta Bif
 - Ureter
 - Pre-BL L (Pre-Animal Bladder Length)
 - Pre-BL H (Pre-Animal Bladder Height)
 - Pre-BL W (Pre-void Bladder Width)
 - Post-BL L (Post-void Bladder Length)
 - Post-BL H (Post-void Bladder Height)
 - Post-BL W (Post-void Bladder Width)
 - GS (Gestational Sac Diameter)
 - YS (Yolk Sac)
 - BPD (Biparietal Diameter)
 - CRL (Crown Rump Length)
 - UT L (Uterine Length)
 - UT H (Uterine Height)
 - UT W (Uterine Width)
 - Endo (Endometrium Thickness)
 - Ovary L (Ovary Length)
 - Ovary H (Ovary Height)
 - Ovary W (Ovary Width)
 - B-mode Calculation:
 - Renal Vol (Renal Volume)
 - Pre-BL Vol (Pre-void Bladder Volume)
 - Post-BL Vol (Post-void Bladder Volume)
 - Mictur.Vol (Micturated Volume)
 - Ovary Vol (Ovary Volume)
 - UT Vol (UT Volume)
 - B-mode Study:
 - Uterus Body
 - Uterus
 - Ovary
 - Kidney
 - Bladder
 - M/Doppler-mode Measure:
 - FHR (Fetal Heart Rate)
- ### 6.3 Report
- Specific report template to the application
 - Editable value in report
 - Images are selectable

- Support anatomical graphics in vascular reports
- Titles are pre-settable in setup
- Export as PDF/RTF format

* Not all measurements are listed in this part; For more detailed information please refer to User Manual

7 Exam Storage and Management

7.1 Exam storage

- 500GB hard drive. More than 430GB internal hard drive reserved for patient data storage
- Capable of storage up to approximately 212,000 single frames (FRM format)
- Storage area
 - Pre-settable: image area, standard area, full-screen
 - Image area: 640*480
 - Standard area: 800*600
 - Full-screen: 1024*768

7.2 Exam management

- iStation™ workstation dedicated for patient exam management
- Patient exam query/retrieve
- Support review of current and past exam
- New exam, Active exam, Continue exam functions, End exam are available
- Support measurements and calculations on archived exam and images
- Export image as BMP/JPG/TIFF/DCM/FRM format (FRM: system format)
- Export cine as DCM/AVI/CIN format (CIN: system format)
- Support backup/send to USB devices, DVD-RW media

8 Connectivity

8.1 Ethernet Network Connection

- Wired connection
- Wireless connection: Wireless Ethernet adapter(option)

8.2 Network Storage

8.3 DICOM 3.0

- DICOM Basic (option)
 - Verify (SCU, SCP)

- Print
- Store
- Storage Commitment
- Media Exchange
- DICOM Worklist (option)
- DICOM Query/Retrieve (option)
- DICOM Modality Performed Procedure Step
 - MPPS (option)
- DICOM OB/GYN structure report (option)
- DICOM Cardiac structure report (option)
- DICOM Vascular structure report (option)

9 Transducers

9.1 Curved array

- C5-2s
 - Application: Adult Abdomen, Gynecology, Obstetrics
 - Bandwidth: 2.1-5.1 MHz(-6dB); 1.5-5.6MHz (-20dB)
 - Number of Elements: 128
 - FOV (max): 76°
 - Extended FOV: 96°
 - Convex Radius: 51 mm
 - Physical Footprint: 76.3mm× 25.6mm
 - Footprint: 64mm × 16.2mm
 - B-mode Frequencies: 2.5, 3.5, 5.0 MHz
 - Harmonic Frequencies: 5.0, 6.0 MHz
 - Doppler Frequencies: 2.5, 3.0 MHz
 - Biopsy Guide: available, multi angle, reusable
- V10-4s
 - Application: Gynecology, Obstetrics, Urology
 - Bandwidth: 4.5-9.5 MHz(-6dB); 3.6-10.0 MHz(-20dB)
 - Number of Elements: 128
 - FOV (max): 163°
 - Extended FOV: 180°
 - Convex Radius: 11 mm
 - Physical Footprint: 22.1mm ×21.5mm
 - Footprint: 22.1mm×9.1mm
 - B-mode Frequencies: 5.0, 6.5, 8.0MHz
 - Harmonic Frequencies: 8.0, 9.0MHz
 - Doppler Frequencies: 4.0, 5.0MHz
 - Biopsy Guide: available, single angle, reusable

- V10-4Bs
 - Application: Gynecology, Obstetrics, Urology
 - Bandwidth: 4.5-9.5 MHz(-6dB); 3.6-10.0 MHz(-20dB)
 - Number of Elements: 128
 - FOV (max): 163°
 - Extended FOV: 180°
 - Convex Radius: 11 mm
 - Physical Footprint: 22.1mm ×21.5mm
 - Footprint: 22.1mm×9.1mm
 - B-mode Frequencies: 5.0, 6.5, 8.0MHz
 - Harmonic Frequencies: 8.0, 9.0MHz
 - Doppler Frequencies: 4.0, 5.0MHz
 - Biopsy Guide: available, single angle, reusable
 - 6C2s
 - Application: Abdomen, Pediatrics, Transcranial, Vascular, Small parts, Musculoskeletal
 - Bandwidth: 4.2-9.2MHz(-6dB); 3.3-11.3MHz (-20dB)
 - Number of Elements: 128
 - FOV (max): 99°
 - Extended FOV: 118°
 - Convex Radius: 16mm
 - Physical Footprint: 33.5mm×24.8mm
 - Footprint: 29mm×10mm
 - B-mode Frequencies: 5.5, 6.5, 8.0MHz
 - Harmonic Frequencies: 8.0, 9.0MHz
 - Doppler Frequencies: 4.4, 5.0MHz
 - Biopsy Guide: available, multi angle, reusable
 - C6-2Gs
 - Application: Abdomen, Gynecology, Obstetrics
 - Bandwidth: 2.0-5.0MHz(-6 dB); 1.7-6.0MHz(-20dB)
 - Number of Elements: 128
 - FOV (max): 90°
 - Extended FOV: 110°
 - Convex Radius: 20mm
 - Footprint: 31.5mm×11.2mm
 - B-mode Frequencies: 3, 4, 5 MHz
 - Harmonic Frequencies: 5.0, 6.0 MHz
 - Doppler Frequencies: 2.5, 3.0 MHz
 - Biopsy Guide: available, multi angle, reusable
- 9.2 Volume curved array
- 4CD4
 - Application: Gynecology, Obstetrics, Abdomen
 - Bandwidth: 2.5-5.4MHz(-6dB); 1.4-6.4 MHz(-20dB)
 - Number of Elements: 128
 - FOV (max): 80°(B) × 70°(sweep)
 - Convex Radius: 51.5mm
 - Physical Footprint: 73mm ×51.6mm
 - Footprint: 51mm ×15.5mm
 - B-mode Frequencies: 2.5, 4.5, 6.0MHz
 - Harmonic Frequencies: 5.0, 6.0MHz
 - Doppler Frequencies: 2.5, 3.0MHz
 - Biopsy Guide: not available
- 9.3 Linear array
- L14-6s
 - Application: Small parts, Vascular, Pediatrics, Superficial, Musculoskeletal, Neurology
 - Bandwidth: 5.1-12.5MHz(-6dB); 3.5-16.0MHz(-20dB)
 - Number of Elements: 128
 - Field of View (max): 25mm
 - Steered Angle: +/-4°, +/-8°, +/-12°, +/-16°, +/-20°
 - Physical Footprint: 47mm×22.8mm
 - Footprint: 30mm×8mm
 - B-mode Frequencies: 8.0, 10.0, 12.0MHz
 - Harmonic Frequencies: 10.0, 11.0MHz
 - Doppler Frequencies: 5.7, 6.6MHz
 - Biopsy Guide: available, multi angle, reusable
 - L14-6Ns
 - Application: Small parts, Vascular, Pediatrics, Superficial, Musculoskeletal, Neurology
 - Bandwidth: 5.1-12.5 MHz (-6dB); 3.5-16.0MHz(-20dB)
 - Number of Elements: 192
 - Field of View (max): 38mm
 - Steered Angle: +/-4°, +/-8°, +/-12°, +/-16°, +/-20°
 - Physical Footprint: 61.0mm×24.5mm

- Footprint: 44.2mm×8.5mm
- B-mode Frequencies: 8.0, 10.0, 12.0MHz
- Harmonic Frequencies: 10.0, 11.0MHz
- Doppler Frequencies: 5.7, 6.6MHz
- Biopsy Guide: not available
- L12-4s
 - Application: Small parts, Vascular, Musculoskeletal, Pediatrics, Abdomen
 - Bandwidth: 4.0-11.0MHz (-6dB); 3.0-13.0MHz (-20dB)
 - Number of Elements: 192
 - Field of View (max): 38mm
 - Steered Angle: +/-4°, +/-8°, +/-12°, +/-16°, +/-20°
 - Physical Footprint: 61mm×24.5mm
 - Footprint: 44.2mm×8.5mm
 - B-mode Frequencies: 6.0, 7.5, 10.0MHz
 - Harmonic Frequencies: 10.0, 11.0MHz
 - Doppler Frequencies: 5.0, 5.7MHz
 - Biopsy Guide: available, multi angle, reusable
- 7L4s
 - Application: Small parts, Vascular, Pediatrics, Superficial, Musculoskeletal, Neurology
 - Bandwidth: 5.0-11.0MHz (-6dB); 3.5-13.0MHz (-20dB)
 - Number of Elements: 128
 - Field of View (max): 38mm
 - Steered Angle: +/-4°, +/-8°, +/-12°
 - Physical Footprint: 61mm×24.4mm
 - Footprint: 43mm×10mm
 - B-mode Frequencies: 5.0, 7.5, 10.0MHz
 - Harmonic Frequencies: 8.0, 10.0MHz
 - Doppler Frequencies: 5.0, 5.7MHz
 - Biopsy Guide: available, multi angle, reusable
- L7-3s
 - Application: Small parts, Vascular, Pediatrics, Superficial, Musculoskeletal, Neurology
 - Bandwidth: 3.0-6.5 MHz (-6dB); 2.0-8.0MHz (-20dB)
 - Number of Elements: 128
 - Field of View (max): 38mm
 - Steered Angle: +/-4°, +/-8°, +/-12°
- Physical Footprint: 61mm×24.4mm
- Footprint: 43mm×10mm
- B-mode Frequencies: 4.0, 5.0, 6.0MHz
- Harmonic Frequencies: 6.0, 7.0MHz
- Doppler Frequencies: 3.8, 5.0MHz
- Biopsy Guide: available, multi angle, reusable
- 7L5s
 - Application: Small parts, Vascular, Pediatrics, Musculoskeletal
 - Bandwidth: 4.5-10.0 MHz(-6dB); 3.0-12.0MHz (-20dB)
 - Number of Elements: 128
 - Field of View (max): 52mm
 - Steered Angle: +/-4°, +/-8°, +/-10°
 - Physical Footprint: 70mm×24.6mm
 - Footprint: 56mm×10mm
 - B-mode Frequencies: 5.0, 7.5, 10.0MHz
 - Harmonic Frequencies: 8.0, 10.0MHz
 - Doppler Frequencies: 5.0, 5.7MHz
 - Biopsy Guide: available, multi angle, reusable
- 7LT4s
 - Application: Small parts, Vascular, Pediatrics, Superficial, Musculoskeletal, Neurology
 - Bandwidth: 5.0-10.0MHz(-6dB); 3.5-13.5MHz(-20dB);
 - Number of Elements: 128
 - Field of View (max): 40mm
 - Steered Angle: +/-4°, +/-8°, +/-12°
 - Physical Footprint: 61mm×24.4mm
 - Footprint: 43mm×10.0mm
 - B-mode Frequencies: 5.0, 7.5, 10.0MHz
 - Harmonic Frequencies: 8.0, 10.0MHz
 - Doppler Frequencies: 5.0, 5.7MHz
 - Biopsy Guide: not available
- L16-4Hs
 - Application: Intra-operative, Musculoskeletal, Superficial, Peripheral vascular
 - Bandwidth: 6.0-12.5MHz(-6dB), 3.5-16.0MHz (-20dB)
 - Number of Elements: 128
 - Field of View (max): 25.3mm
 - Steered Angle: +/-4°, +/-8°, +/-12°, +/-16°

+/-20°

- Physical Footprint: 11.5mmx 38.0mm
- Footprint: 28.7mmx5.5mm
- B-mode Frequencies: 8.0, 10.0, 12.0 MHz
- Harmonic Frequencies: 10.0, 12.0MHz
- Doppler Frequencies: 5.0, 5.7MHz
- Biopsy Guide: not available

9.4 Bi-planar array

- 6LB7s
 - Application: Prostate, Urology
 - Bandwidth: 3.0-11.0 MHz (-20dB,6LB7s_C); 3.0-12.0MHz (-20dB,6LB7s_L)
 - Number of Elements: 128 (6LB7s_C); 128 (6LB7s_L)
 - Field of View (max): 152° (6LB7s_C)
 - Steered Angle: +/-4°, +/-8°, +/-12° (6LB7s_L)
 - Physical Footprint: 21.9mmx21.9mm (6LB7s_C)
 - Footprint: 21.9mmx11.2mm (6LB7s_C), 72.0mmx11.0mm (6LB7s_L)
 - B-mode Frequencies: 5.0, 6.5, 8.0MHz (6LB7s_C); 5.0, 6.5, 8.0MHz (6LB7s_L)
 - Doppler Frequencies: 4.0, 5.0Mhz (6LB7s_C); 4.0, 5.0Mhz (6LB7s_L)
 - Biopsy Guide: available, single angle, reusable

9.5 Phased array

- P4-2s
 - Application: Adult Cardiac, Transcranial, Pediatric Abdomen
 - Bandwidth: 1.9-4.0MHz (-6dB) ; 1.3-4.7 MHz(-20dB)
 - Number of Elements: 64
 - Field of View (max): 90°
 - Physical Footprint: 38.2mmx30.5mm
 - Footprint: 23.4mmx15.2mm
 - B-mode Frequencies: 2.0, 2.5, 3.0MHz
 - Harmonic Frequencies: 3.2, 3.6MHz
 - Doppler Frequencies: 2.0, 2.3MHz; TDI 2.5, 3.0MHz
 - CW Frequency: 2MHz
 - Biopsy Guide: available, multi angle, reusable

- P7-3s
 - Application: Pediatric Cardiac
 - Bandwidth: 2.6-6.7MHz (-6dB); 2.0-8.0MHz (-20dB)
 - Number of Elements: 96
 - Field of View (max): 90°
 - Physical Footprint: 34mmx24.5mm
 - Footprint: 17.4mmx12.5mm
 - B-mode Frequencies: 3.6, 5.0, 6.6MHz
 - Harmonic Frequencies: 6.0, 7.0MHz
 - Doppler Frequencies: 3.3, 4.0MHz; TDI 3.3, 4.0MHz
 - CW Frequency: 3.3MHz
 - Biopsy Guide: available, multi angle, reusable
- P12-4s
 - Application: Neonatal Cardiac, Transcranial
 - Bandwidth: 4.2-11.0MHz (-6dB); 3.5-13.5MHz (-20dB)
 - Number of Elements: 96
 - Field of View (max): 90°
 - Physical Footprint: 22mmx20mm
 - Footprint: 14.0mmx10.5mm
 - B-mode Frequencies: 6.0, 8.0, 10.0MHz
 - Harmonic Frequencies: 8.0, 10.0MHz
 - Doppler Frequencies: 4.7, 5.7MHz; TDI 4.0, 4.7MHz
 - CW Frequency: 5MHz
 - Biopsy Guide: available, multi angle, reusable
- P7-3Ts
 - Application: Transesophageal Echo
 - Bandwidth: 3.1-7.2MHz (-6dB); 1.9-8.2MHz (-20dB)
 - Number of Elements: 64
 - Field of View (max): 90°
 - Physical Footprint: 14mmx12mm
 - Footprint: 14mmx12mm
 - B-mode Frequencies: 3.6, 5.0, 6.6MHz
 - Harmonic Frequencies: 6.0, 7.0MHz
 - Doppler Frequencies: 2.7, 3.3MHz; TDI 3.3, 4.0
 - CW Frequency: 3.3MHz
 - Biopsy Guide: not available

9.6 CW probe

- CW2s
 - Application: Transcranial, Cardiac, Pediatrics
 - Number of Elements: 2
 - CW Frequency: 2.0MHz
 - Biopsy Guide: not available
- CW5s
 - Application: Vascular
 - Number of Elements: 2
 - CW Frequency: 5.0MHz
 - Biopsy Guide: not available

10.9 Built-in Battery

- Model: LI23I001A
- Replaceable and rechargeable lithium battery
- Full battery lasts more than 64h in standby mode
- Empty battery recharged to full in 2-3h
- Continuous work time: about 1.5 hour in B mode

10.10 DVD R/W

- External USB DVD R/W drive

10.11 Mobile Trolley

- UMT-200
 - Without Extra LCD Display
 - Platform Height: not adjustable after installed
- UMT-300
 - 15-inch Extra LCD Display (optional)
 - Power supply module (optional)
 - External DVD R/W Storage (optional)
 - Platform Height: 855-1010mm adjustable

10.12 Barcode reader

- 1-D barcode reader: SYMBOL LS2208
- 2-D barcode reader: SYMBOL DS6707

10 Peripheral Devices and Accessories

(Option)

10.1 Probe extend module:PEM-21

One extend three probe ports
Support the probes without the trolley
exclude 4CD4s

10.2 Black/white digital video printer

- SONY UP-D897
- MITSUBISHI P93DC
- MITSUBISHI P95DW-N

10.3 Color digital video printer

- SONY UP-D23MD

10.4 Color analog printer

- SONY UP-20, MITSUBISHI CP910E

10.5 Graph/text printer

- HP Deskjet D2568
- HP OfficeJet J3600 (HP Officejet J3608 All-in-One)
- HP Color LaserJet CM1015

10.6 Wireless printer

- HPOTOSMART PLUS e-ALL-IN-ONE B 210a

10.7 Footswitch

- USB port: 971-SWNOM (2-pedal)
- USB port: SP-997-350 (3-pedal)
- Support User-definable functions (Freeze, Save, Print)

10.8 ECG module ECG-21

- ECG lead port: 6 pin, IEC&AHA
- Connection port: connect to I/O extend module

11 System Inputs and Outputs

11.1 I/O Extend port

- I/O Extend module IOM-21 (option)
 - USB: 2 port
 - ECG: 1 port
 - Serial port: 1 port
 - Remote: 1 port
 - Audio out: 1 port
 - Video out: 1 port
 - DVI-I: 1 port
 - Microphone: 1 port
- V/A extend module VAM-11 (option)
 - Audio in: 1 port
 - Video in: 1 port
 - S-Video in: 1 port

11.2 Video/Audio output

- S-Video out: 1 port, PAL/NTSC

11.3 Other input/output

- USB: 2 ports
- Ethernet: 1 port

12 Safety and Conformance

12.1 Quality standards

- ISO 9001
- ISO 13485

12.2 Design standards

- UL 60601-1
- CSA C22.2 No. 601-1
- EN 60601-1 and IEC 60601-1
- EN 60601-1-1 and IEC 60601-1-1
- EN 60601-1-2 and IEC 60601-1-2
- EN 60601-2-37 and IEC60601-2-37
- EN60601-1-4 and IEC60601-1-4
- EN60601-1-6 and IEC60601-1-6

12.3 CE declaration

M7/ M7T system is fully in conformance with the Council Directive 93/42/EEC Concerning Medical Devices, as amended by 2007/47/EC. The number adjacent to the CE marking (0123) is the number of the EU-notified body that certified meeting the requirements of Annex II of the Directive.

NOTICE:

Not all features or specifications described in this document may be available in all probes and/or modes.

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