Resona I8 Series

Innovation, in every facet

Diagnostic Ultrasound System

Datasheet

Release 3.1.0

mindray
healthcare within reach

1 System Overview

Thanks to its innovative design and advanced features, Resona I8 offers a completely new experience that empowers you to confidently manage your ever- increasing patient throughput with high efficiency, regardless of the types of patients or clinical challenges you may encounter.

It is intended for use in obstetrics, gynecology, abdominal, pediatric, small organ, musculo-skeletal, cardiac, vascular, urology, nerve, cephalic, thoracic/pleural, Laparoscopic, and Intra-operative exams.

1.1 Imaging Modes

- B-Mode
- THI and PSH (Phase Shift Harmonic Imaging)
- M-Mode/Color M-mode
- B-Mode/M-Mode
- Free Xros M (Anatomical M-mode)
- Free Xros CM (Curved Anatomical M-mode)
- Color Doppler Imaging
- Power Doppler Imaging/Directional PDI
- PW (Pulsed Wave) Doppler
- CW (Continuous Wave) Doppler
- TDI (Tissue Doppler Imaging)
- Contrast Imaging
- Smart 3D (Freehand 3D)
- Real-time 4D
- iScape View (Panoramic Imaging)
- STE Imaging (Sound Touch Elastography)
- STQ Imaging (Sound Touch Quantification)
- Strain Elastography

1.2 Features

- B-Mode
- THI and PSH (Phase Shift Harmonic Imaging)
- M-Mode/Color M-mode
- Color Doppler Imaging
- Power Doppler Imaging and Directional PDI
- PW (Pulsed Wave) Doppler
- CW (Continuous Wave) Doppler
- Free Xros M
- Free Xros CM
- Glazing Flow
- iBeam (Spatial Compound Imaging)
- iClear (Speckle Suppression Imaging)
- iClear^{+}
- iTouch (Auto Image Optimization)
- Echo Boost
- Zoom/iZoom (Full Screen Zoom)
- FCI (Frequency Compound Imaging)
- B steer
- ExFOV (Extended Field of View)
- HD Scope
- SSC (Sound Speed Compensation)
- Channel data processing
- Smart 3D
- Color 3D
- Real-time 4D
- STIC (Spatial-Temporal Image Correlation)
- iPage^{+} (Multi-Slice Imaging)
- SCV^{+} (Slice Contrast View)
- iLive
- Niche
- 3D-Print Format
- Smart Planes CNS
- Smart FLC
- Smart Planes FH
- Smart ICV
- Smart Face
- Smart-V (Smart Volume)
- Smart V Trace
- Smart Scene 3D
- Smart ERA
- IOTA
- Clinical Measurement Package
- Smart OB (Auto OB measurement)
- Smart NT (Auto NT measurement)
- Smart Fetal HR (Fetal Heart Rate)
- Smart HRI
- Smart Bladder
- Smart Hip
- Smart Trace
- Smart Calc
- CPP (Color Pixel Percentage)
- Smart Track
- Smart VTI
- Smart IVC
- Smart B-line
- HR Flow (High Resolution Flow)

- UMA (Ultra-Micro Angiography)
- IMT
- RIMT (RF-Data based IMT)
- R-VQS (RF-Data based Quantitative Analysis on Vessel Stiffness)
- Smart Pelvic
- Smart Breast
- Smart Thyroid
- IVF
- iScape View
- iNeedle (Needle Visualization Enhancement)
- Contrast Imaging
- Contrast Imaging QA (Quantitative Analysis)
- Volume CEUS
- LVO (Left Ventricular Opacification)
- Low MI Contrast
- STE Imaging (Sound Touch Elastography)
- STQ Imaging (Sound Touch Quantification)
- Strain Elastography
- High frame rate STE
- USAT
- HRI+
- LTI
- Ultrasound Fusion Imaging
- Endocavity Fusion Imaging
- Fusion RESP
- ECG function
- AutoEF
- TDI (Include TVI, TVD, TVM, TEI)
- TDI QA (TDI Quantitative Analysis)
- TT QA (Tissue Tracking Quantitative Analysis)
- FH Tissue Tracking QA
- Stress Echo
- V-Mapping
- iScanHelper
- iWorks (Auto Workflow Protocol)
- DICOM
- MedSight
- MedTouch
- UltraAssist (Off-line software)
- UltraView (Off-line analysis software)
- Touch gestures
- Q-Path
- iStorage

2 Physical Specification

2.1 Dimension and Weight

The control panel and the monitor are in the lowest position.

- Depth: 1026±20 mm
- Width: 550±10 mm
- Height: 1098±20 mm
- Weight: approx. less than 94kg±5kg (net weight, standard configuration but not including the transducer)

2.2 Electrical power

- Voltage: 100-240V~
- Frequency: 50/60 Hz
- Power consumption: Max. 600 VA

2.3 Operating Environment

- Ambient temperature: 0-40°C
- Relative humidity: 20%-85% (no condensation)
- Atmospheric pressure: 700hPa-1060hPa

2.4 Storage & Transportation Environment

- Ambient temperature: -20-55 °C
- Relative humidity: 20%-95% (no condensation)
- Atmospheric pressure: 700hPa-1060hPa

2.5 System Noise

26dB @25°C

3 User Interface

3.1 Monitor

- 23.8-inch high resolution color LED monitor
- Resolution: 1920x1080
- Viewing angle: 178 degrees
- Digital on screen display of brightness and contrast controls
- Automatic LED brightness
- Tilt/Rotate independent adjustment
- Tilt angle range: 105 degrees
- Rotate angle range: 240 degrees

3.2 Multi-directional articulating monitor arm

- From left to right: 300±20mm
- From front to back: arm: 300±20mm
- From bottom to top: 150±20mm

3.3 Touch screen

- 13.3-inch high sensitivity anti-glare color touch screen
- Resolution: 1920*1080
- Digital brightness and contrast adjustment through preset
- Viewing angle: 170 degrees
- Angle adjustable range: 40 degrees
- Support touch screen gestures
- Support either hand writing or with gloves on
- Movable 3D/4D tabs
- Editable touch-screen buttons: long press to add, delete or move the buttons.
- Digital TGC
- Short-cut switch of latest used transducer & exams

3.4 Touch gestures

- Swipe down/up: display/remove projected image on touch screen
- Swipe horizontally: page up/down or review images/cine loops one by one
- Swipe from left edge to right: display hidden menu on projected image.
- Image parameter adjustment.
- Measurement on projected image on touch screen
- Zoom in/out the projected image on touch screen
- Rotate or erase on projected 3D/4D image on touch screen

3.5 Floating control panel

- Brightness adjustable for the backlight of the whole control panel
- Full-sized, backlit QWERTY keyboard
- Console: intelligent control panel for clinical-exam specific layout and adaptive adjustment, 6 programmable keys
- Independent rotation and up/down adjustment
  - Left/right rotation: 80 degree for both left and right
  - Down/up adjustment: 230±20mm

3.6 Transducer port and holder

- Transducer ports with dust prevention: 5 active ports and 1 pencil transducer port
- Support active transducer with indicator on
- Transducer holder: 5, plus 1 dedicated endocavity transducer holder and1 dedicated pencil transducer holder

3.7 Wheels

- Diameter: 125mm
- 3 castors for total lock and break, and 1 castor for direction lock and break.

3.8 System boot-up

- Boot-up from shut-down: ≤ 30 sec
- Boot-up from stand-by: < 5 sec
- Shut-down: < 30 sec

3.9 Language support

- Support multi-language user interface, keyboard input, and user manuals.
- User interface: English, Chinese, German, Spanish, French, Italian, Portuguese, Russian, Czech, Polish, Turkish, Finnish, Danish, Icelandic, Norwegian, Swedish, Hungarian, Serbian, Dutch, Lithuanian, Greek, Thai
- Keyboard input: English, Chinese, German, Spanish, French, Italian, Portuguese, Russian, Czech, Polish, Icelandic, Norwegian, Swedish, Finnish, Turkish, Danish, Hungarian, Serbian
- User manual: English, Chinese, German, Spanish, French, Italian, Portuguese, Russian, Polish, Turkish, Serbian, Norwegian, Danish, Swedish, Finnish, Dutch

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

3.10 Other Features

- DVD R/W driver
- Anti-virus software ClamAV

- Audio speakers: Stereo audio speakers
- Built-in Battery
  - Replaceable and rechargeable lithium battery.
  - Full battery lasts for no less than 24H in standby mode
  - Battery capacity indicators without powering on the system
  - Battery fully-recharged time: less than 6h
  - Continuous scanning time: more than 120 mins for 2H battery
- Built-in DVR
  - Built-in digital video recorder.
  - Screen display and voice information are recorded and stored in the built-in hard disk
  - Save space and is a useful tool for education and memory
  - Max storage length each time: 60 min

4 Technical Specifications

4.1 Innovative ZST+ platform

- Premium and innovative ultrasound platform, evolving with powerful processing architecture and enhanced channel data processing based on ZONE Sonography®
- Linux Operating System
- Powerful Processing Architecture
- Advanced Acoustic Acquisition
- Total Recall Imaging (TRI)
- Enhanced Channel Data Processing
- Dynamic Pixel Focusing (DPF), digital variable aperture and dynamic apodization, A/D≥12 bit
- Up to 9,257,536 channels
- System Frequency Range: 1 - 24 MHz (adjustable)
- Gray Scale: 256
- Parallel processing of multiple signals
- Line density per frame ≥ 512 lines
- Sound Speed Compensation (SSC)
- ZONE Sonography® Technology

4.2 Transducer specification

- Single crystal and compound crystal etc.
- Multi-frequency≥7 (probe dependent)
- Supported transducer type
  - Curved array
  - Linear array
  - Phased array
  - Endocavity
  - 4D Volume
  - Bi-Plane
  - pencil transducer

5 Imaging Parameters

5.1 Advanced imaging technologies

- iBeam
  Spatial Compound Imaging, permits use of multi-angle scanning to form a single image, so as to improve image contrast and resolution. Supports Spatial Compound Imaging with 7-level adjustment and up to 9-beam steer
- iClear
  Speckle Suppression Imaging, Available in 2D, Contrast, and 3D/4D mode. 10-level adjustment.
- iTouch (Auto Image Optimization)
  Automatic image parameters optimization of B, Color, PW, Contrast modes, to improve the adjustment efficiency. 9-level adjustment.
  - B-mode: gain, TGC, dehaze
  - Color: gain, color box position
  - Power: gain
  - PW: gain, scale, PRF, WF, SV size, SV position, steering angle
  - Contrast imaging: gain
- TSI
  Multiple imaging conditions are available according to different tissue characteristics (general/muscle/fluid/ fat)
- Smart Track
  - Available on linear transducers
  - Enable the function under Color/ Power mode, the angle and the position of the ROI are adjusted automatically.
  - Enable the function under Color/ Power+PW mode, the angle and the position of the PW sampling line, SV size, SV angle and SV position are adjusted automatically.

- HD scope
  By processing channel data multiply and retrospectively, HD Scope can improve the detail information and image contrast on specific area maximally.
- Echo Boost
  - Available in cardiac exam mode when using a phased array transducer
  - Improve the homogeneity through the whole field of view
  - Better improve the contrast display of the tissue
  - Better noise control in cardiac chambers and muscles
- iNeedle
  It is used in needle-guided biopsy, which dynamically enhance the needle display in ultrasound image. Support dual-screen display of images before and after enhancement in real-time, and adaptive angle correction.
  - Available on linear (except for the linear plane of ELC13-4s), C11-3s, SC5-1Ns, and C6-2Gs probes
  - Needle direction: left, right
  - B/iNeedle: on/off
  - In-plane biopsy and Out-plane biopsy
- Zoom: Image magnification, supports spot zoom (write zoom) and pan zoom (read zoom) on freeze image. Magnification ≥10x
- iZoom: Full-screen magnification by one click in real time, supports ≥2 magnification modes.
- Glazing Flow
  - An advanced image processing technology to demonstrate the 2D blood flow with 4D visualization for easy definition and clarity.
  - Available in Color/Power mode.
  - To stereoscopically display the blood flow.
- QSave
  - Quick save image parameter settings after image adjustment done
  - Support Save, Create, Restore
  - IP (Image Process): Quickly switch all the image parameters of the same image application by one- click
  - 3D/4D Preset Manager
    The scenarios and subpresets can be renamed, restored, deleted, added, set to active, or moved Show scenario and subpreset parameters
    Provide multiple groups of preset 3D/4D parameters based on different application scenarios to quickly obtain expected image effect
- Auto Merge
  Dual B image merge for linear array transducer
- Adjustable Acoustic output power
  - Display TIB, TIC, TIS in real time.
  - Can be adjusted in B, Color/Power, M, PW, CW, TDI modes etc.

5.2 B-mode

- Display formats: Single, Dual, Quad
- iClear/ iClear^{+}: Off, 10 steps
- iBeam: Off, 7 steps
- iTouch: -12-12
- Dual Live: image compared by dual display in real time
- Image quality
  - Supports fundamental frequency conversion ≥ 4 segments
  - Fundamental frequency: Pen/Gen/ Res, etc.
  - Supports THI (Tissue Harmonic Imaging) and PSH (Phase Shift Harmonic Imaging), harmonic frequency conversion ≥ 5 segments
  - Harmonic frequency: HPen/HGen/ HRes/HGen-FFR/HRes-FFR (dependent on transducer), etc.
- B steer: 5 levels, available on linear transducers
- ExFOV
  - Available on transducers: convex, linear, endocavity, volume, phased, bi-planar, Laparoscopic.

- Range:
- Phased arrays probe: off,1
- Other: Off, 1-2
- For liner transducer: after ExFOV is enabled, the image is displayed as a trapezoid. The maximum steer angle is 12°
- For convex transducer: after ExFOV is enabled, the scanning angle will be extended.

- Depth: 30 levels, 1.5-40cm (dependent on transducer)
- Maximum display Depth: ≥40cm
- Maximum detection Depth of the convex transducer: ≥30cm
- Supports FCI (Frequency Compound Imaging)
- Frame rate (max): 2976 f/s
- Acoustic output power: dependent on transducer
- TGC: 8 segments on touch screen
- LGC: 8 segments on touch screen
- Dynamic range (visible and adjustable): 30-300 (dependent on transducer)
- Gain: 0-100, 1/step
- The Gain of B/M/D mode is visible and independently adjustable, ≥100, 1/step
- FOV Size: continuously adjustable
- FOV Position: continuously adjustable
- Line density: L, M, H, UH
- Persistence: 0-7 levels
- Horizontal Scale: on/off
- L/R flip and U/D flip: on/off
- Rotation: 0°, 90°, 180°, 270°
- TSI: general/muscle/fluid/fat
- Gray Map: 8 types
- Tint map: off, 8 types
- Smooth: 0-6 levels
- HD Scope: off, 1-3 levels
- SSC (Sound Speed Compensation): on/ off
- Free view: -45°-45°, 5°/step)
- Dehaze: 0-30 levels
- Ref Lines: on/off (under GYN and Pelvic Floor exam mode when using endocavity transducer)
- V 1:1: on/off (available with linear transducer and under dual-split mode)
- XL View: on/off
- Edge Enhancement: 0-6
- Echo Boost: on/off
- Auto Merge: on/off
- ZoneVue

5.3 THI and PSH

- Patent PSH technology, obtains purer harmonic, better contrast resolution, higher SNR, exceptional high frequency harmonic
- iClear available
- Image quality: HPen/HGen/HRes or HPen/ HPen-FFR/HGen/HRes/HRes-FFR (depends on transducers)
- Echo Boost: on/off

5.4 M-mode

- Display formats: V2:3, V3:2, V3:1, H2:3, FULL (V: vertical, H: horizontal)
- Supports B/M mode dual display and M mode full screen display
- Color M-mode available
- Acoustic output power: same as B
- Depth: same as B
- Dynamic range: 30-180, 5/step
- Gain: 0-100, 1/step
- M sweep speed: 6 steps
- M soften: 0-4, 1/ step
- Tint map: off, 8 types
- Gray Map: 8 types
- Edge enhancement: 0-3, 1/ step

5.5 Color Doppler Imaging

- Dual live
- HR Flow: High Resolution Flow provides better image quality and flow sensitivity
- Image quality: Pen/Gen/Res (color), 1 level (HR Flow)
- Max velocity: 148.5 cm/s
- Steer: available on linear transducers
- Max frame rate: 661 f/s
- Acoustic output power: same as B mode
- Gain: 0-100, 2/step
- ROI size/position: adjustable
- Scale: max. 30 steps
- Baseline: -8 – 8, 1/step
- Wall filter: 8 steps, 5-433 Hz
- PRF: 0.1-15.4 kHz

- Packet size: 0-3, 1/ step
- Flow state: L/M/H
- Smooth: 0-6, 1/ step
- B/C align: on/off
- Priority: 0%-100%, 1%/step
- Color map: V0-V10; VV0-VV9
- Invert: on/off
- Auto Invert: on/off
- Persistence: 0-6, 1/ step
- Velocity tag: on/off
- Line density: L/M/H/UH
- iTouch: on/off
- Smart track: on/off
- Glazing flow: on/off, L/M/H

5.6 Power Doppler Imaging

- Dual live
- HR Flow: High Resolution Flow provides better image quality and sensitivity
- Support directional power Doppler
- Image quality: Pen/Gen/Res (Power), 1 level (HR Flow)
- Acoustic output power: same as B
- Dynamic range: 10-70, 5/step
- Gain: 0-100, 2/step
- ROI size/position: adjustable
- Steer: available on linear transducers)
- Scale: max. 30 steps
- Wall filter: 8 steps
- PRF: 0.1-15.4 kHz
- Packet size: 0-3, 1/ step
- Flow state: L/M/H
- Smooth: 0-6, 1/ step
- B/C align: on/off
- Priority: 0%-100%, 1%/step
- Color map: P0-P3, dP0-dP3
- Persistence: 0-6, 1/step
- Line density: L/M/H/UH
- Invert: on/off
- iTouch: on/off
- Smart track: on/off
- Glazing flow: on/off, L/M/H

5.7 UMA (Ultra-Micro Angiography)

- The breakthrough of traditional Doppler imaging bottleneck. It realizes ultra-high spatial resolution and flow sensitivity for super subtle and slow flow imaging.
- Available under B, Color, Power, and Contrast on convex and linear probes.
- Supports submodes of cUMA, pUMA, sUMA.
- Supports a set of parameters for quick adjustment predefined for different organs in different scenes

Note: Other parameters are the same as those of the Color/Power modes

5.8 PW/CW Mode

- Display formats: V2:3, V3:2, V3:1, H2:3, FULL, Duplex/Triplex (PW only) (V: vertical, H: horizontal)
- Image quality: Pen/Gen/Res
- PW velocity:
  - max. 868.1 cm/s
  - min. 0.01 cm/s
- CW velocity:
  - max. 3900 cm/s
  - min. 0.01 cm/s
- Sample volume size: 0.5-30mm (PW only)
- Sample gate depth: continuously adjustable
- Baseline: 9 steps
- PW Steer: available on linear transducers
- Volume: 0%-100%, 2%/step
- PW PRF: 0.7-23.1 kHz
- CW PRF: 0.2-104.0 kHz
- Gain: 0-100, 2/step
- Dynamic range: 24-72, 2/step
- Sweep speed: 6 steps
- Wall filter
  - PW: 14-1000 Hz
  - CW: 5-1200 Hz
- Invert: on/off
- Auto invert: on/off
- Angle correction: -89~89 degrees, 1/ step
- Quick angle: 0, -60, 60 degrees
- Gray map: 10 types
- Tint map: Off; 8 types
- Time/frequency resolution: 0-6, 1/ step
- HPRF: On/Off
- Auto calc: on/off
- Auto calc cycle: 1, 2, 3, 4, 5
- Auto Calc Loop: on/off

- Trace Sensitivity: -3~3, 1/step
- Trace Smooth: -2, -1, off, 1, 2
- Trace area: above, below, all

5.9 Free Xros M

- Display formats: V2:3, V3:2, V 3:1, H2:3 (V: vertical, H: horizontal)
- Color Free Xros M available
- Up to 3 lines
- Display all lines
- Sweep speed: 6 steps
- M Tint map: off, 8 types
- Gray Map: 8 types

5.10 Free Xros CM

- Only available in TDI mode
- Display formats: V2:3, V3:2, V 3:1, H2:3 (V: vertical, H: horizontal)
- Sweep speed: 6 steps
- Tint map: off; 8 types
- Gray Map: 8 types
- Edit, undo, delete function for curved line

5.11 TDI Imaging

- Imaging modes: TVI, TEI, TVD, TVM
- Spectral Doppler frequency: ≥5
- Max frame rate: 3175 f/s
- Tissue Velocity/Energy Imaging (included in TDI option)
  - Available on transducers SC5-1Ns/ SC8-2s/SC9-2s/SP5-1Ns/P7-3Ts
  - Dual live: side by side displays B and B+TVI
  - PRF: 0.4-14.9 kHz
  - Acoustic output power: same as B mode
  - Gain: 0-100, 2/step
  - Dynamic range: 10-70, 5/step (TEI only)
  - ROI size/position: adjustable
  - Scale: max. 30 steps
  - Baseline: -8 – 8, 1/step (TVI only)
  - Wall filter: 8 steps
  - Packet size: 0-3,1/ step
  - Tissue state: L/M/H
  - Smooth: 0-6, 1/ step
  - B/C wide: on/off
  - Priority: 0%-100%, 1%/step
  - Color map: 10 types (TVI), 8 types (TEI)
  - Invert: on/off
  - Persistence:0-6, 1/ step
  - Velocity tag: on/off (TVI only)
  - Line density: L/M/H/UH
  - Image quality: 2 levels
- Tissue Velocity Doppler (included in TDI option)
  - Display formats: V2:3, V3:2, V3:1, H2:3, FULL, Duplex/Triplex (V: vertical, H: horizontal)
  - Sample volume size: same as PW
  - Sample volume depth: continuously adjustable
  - Scale: 30 levels
  - PRF: 0.7-23.1 kHz
  - Baseline: 9 levels
  - Gain: 0-100, 2/step
  - Dynamic range: 24-72, 2/step
  - Sweep speed: 6 steps
  - Wall filter: 10 steps
  - Invert: on/off
  - Angle correction: -89-89 degrees, 1/step
  - Quick angle: 0, -60, 60 degrees
  - Gray map: 10 types
  - Tint map: Off; 8 types
  - Image quality: 2 levels
  - Time/frequency resolution: 0-6, 1/ step
- Tissue Velocity Motion (included in TDI option)
  - Display formats: V2:3, V3:2, V 3:1, H2:3, FULL (V: vertical, H: horizontal)
  - Acoustic output power: same as B
  - Gain: 0-100, 2/step
  - M sweep speed: 6 steps
  - Smooth: 0-6, 1/ step
  - Color Map: 10 types
  - Image quality: 2 levels
  - Persistence: 0-6, 1/ step
  - Packet size: 0-3, 1/ step
  - Priority: 0%-100%, 1%/step
  - Velocity tag: on/off
  - Tissue state: L/M/H

5.12 3D/4D

- Supports Freehand 3D (linear, convex, phased transducers)
- Supports real-time 4D and Color 3D (abdominal volume and endocavity volume transducers)
- General Imaging modes: Surface, Min, Max, X-ray
- Supports multi virtual light sources: Point, Parallel, Torch etc. and free combination of light sources is supported.
- Supports off-line processing of 3D/4D data, and adjusts imaging before storage of stored data.

5.13 Smart 3D

- Smart 3D

  Acquisition preparation:
  - 3D/4D Scenario setting: Routine
  - Acquisition Methods: Rocked, Linear
  - Reset VOI: On/Off
  - Flip VOI: On/Off
  - Angle: 10-80°
  - Distance: 10-200mm
  - Acquiring Time: 1.0s-20.0s VR:
  - 3D/4D Scenario: Routine-Surf., iLive Gen., iLive Transp., Skeleton
  - Reset: All, Orientation, Curve
  - VOI: On/Off/Fixed
  - Active quadrant: A, B, C, VR
  - VR orientation: 0°, 90°, 180°, 270°
  - Flip: flip VR
  - Sync: synchronize VR with selected plane
  - Orientation Assist: On/Off
  - Threshold: 0-100%, 1%/step
  - Opacity: 0-100%, 5%/step
  - Brightness: 0-100%, 2%/step
  - Contrast: 0-100%, 2%/step
  - Smooth: 0-10, 1/ step
  - Depth VR: Off/Black/Cyan/Blue/ Rose
  - Tint: off; 8 types
  - Degree: 10-80°
  - Distance: 10-200mm

  MPR:
  - Active quadrant: A, B, C
  - Gray Map: 1-8
  - Brightness: 0-100%, 2%/step
  - Contrast: 0-100%, 2%/step
  - iClear: Off; 7 types
  - Tint: Off; 8 types
  - Thickness: 0-30mm

  Adv.:
  - Direction: Up/Down, Left/Right, Front/Back, Down/Up, Right/Left, Back/Front
  - VR Refine: Off; 7 steps
  - Surface enhance: 0-7, 1/step
  - MagiClean: Off/Low/Mid/High/ Max
  - Inversion: On/Off
  - A3:1: On/Off
  - Move light: On/Off
  - Degree: 10-80°
  - Distance: 10-200mm
  - Main render: Surface, Max, Min, X Ray, iLive
  - Sub render: Surface, Max, Min, X Ray
  - Mix: Set the mix ratio of the two render modes
- Tool

  Edit:
  - Rubber: On/Off
  - Eraser Diameter: 8-80, 1/step
  - Cut (area selection): Polygon, Contour, Rectangle
  - Undo: Undo, Undo All

  3D Layout:
  - Niche Views: Inner, Outer
  - 3Slice
  - Active Quadrant: A, B, C, Niche/ 3Slice

  Auto rotation:
  - Position: Set Start/Set End
  - Direction: Left/Right, Up/Down
  - Step: 1-15°
  - Quick Angle: 30-180°
  - Rotation control: play, single loop, loop
  - Save AVI to USB

5.14 4D

- Available on all volume transducers

- Static 3D and real time 4D

  Acquisition preparation:
  - 4D frame rate: max. 80 vps
  - 3D/4D Scenario setting: Smart Scene3D (Spine, Brain, Long Bone, Face, Endometrium, Pelvic), Routine, iLive Pro, Bone, Tissue (not all scenarios are listed)
  - Refresh: On/Off
  - Angle
  - Quality: low1, low2, mid, high1, high2

  VR:
  - 3D/4D Scenario: Smart Scene 3D, Routine, iLive Pro, Bone, Tissue, Routine (not all scenarios are listed)
  - 3D iClear: Off; 7 steps
  - Face^{+}: Off, 3 steps
  - Auto Play: Stop, x1, x2, x3, x1/2, x1/ 3
  - Frame: Select a frame
  - Other parameters are the same as Smart 3D

  MPR
  - 3D iClear: Off; 7 types
  - Other parameters are the same as Smart 3D

  Adv.:
  - Threshold: 0%-100%
  - Opacity: 0%-100%
  - Brightness: 0%-100%
  - Contrast: 0%-100%
  - 3D iClear: Off, 1-7
  - Smooth: 0-10
  - Depth VR: OFF, Black, Cyan, Blue, Rose
  - Tint: Off, 1-8
  - Shading: 0-10
  - Hyaline: 0%-100%
  - Grad View
  - Other parameters are the same as Smart 3D

  Tool

  The parameters are the same as Smart 3D
- 3D Reference Point
  - Enable the operator to define one or more reference points on MPRs, which are then projected to VR image; helpful for the operator to better understand the corresponding spatial relations of VR image and MPRs
  - Display: Point, H line, V line
  - Delete All
  - Hide All
- 3D Print
  - Quality: Low, Mid, High
  - Generate Mesh
  - File Format: .stl, .obj, .ply, .3mf, .off
  - Save mesh to USB
  - Threshold: 0%-100%
  - 3D iClear: Off, 1-7
  - Smooth: 0-10

5.15 Color 3D

Provides more stereoscopic blood flow signals. It is mainly used in blood perfusion tissues in some complex space to make blood flow observation visually. 3D imaging in color and power modes is supported.

5.16 Niche

Compiles the 3 MPRs together according to their relative positions, to provide a much clearer interior anatomical structure for diagnosis

5.17 Smart Scene 3D

An innovative technique of automatic scenario-oriented volume scan for extremely easy, efficient and accurate exams. It is capable of automatically identifying tissue characteristics, such as fetal brain, fetal face, fetal bone, fetal spine

5.18 STIC

Spatio-Temporal Imaging Correlation, based on the movements of the fetus, rebuilt and show the anatomical structure within a physical movement by using the interconnection between the time and the space, for better diagnosis in 4D function.

5.19 iPage^{+}

- Multiple tomographic parallel slices imaging, to display volume image with slices, for better display the spatial relationship of tissue and lesion.
- Displays ≥25 images at different depths on the screen at the same time, and the

slice spacing is adjustable (0.5 mm-10 mm).

5.20 SCV+

Slice Contrast View Plus, includes SCV imaging and CMPR functions. SCV imaging can reduce speckle noise and improve contrast resolution as well as enhance signal-noise ratio, which helps in discovering diffuse pathology in organs.

CMPR is to obtain a curved sectional image by dissecting the 4D image, so as to observe the curved tissue structure. In clinical application, it is often used to observe the curved anatomy in stretching such as fetal spine.

5.21 iLive

- An advanced rendering mode for realistic volume imaging display
- Brings a better imaging experience by adding lighting rendering effect to the traditional way, allowing human tissue texture to be revealed more clearly.
- Supports Hyaline function.

5.22 Smart Planes CNS

- A professional screening software of the fetal central nervous system.
  Automatically detect the standard CNS scanning planes, and calculate the anatomical parameters for each planes. It is used to assist doctors in diagnosis of fetal craniocerebral diseases in a more efficient and standardized way.
- Automatically acquire multiple standard cranial sections and acquire
  ≥4 commonly used measurement indicators
- Automatically display the standard planes: TCP, TTP, MSP and TVP
- Auto comment supported: A(anterior), P(posterior), L(Left), R(Right), U(Up), D(down), CSP, T, CH, CV, CM, LV on TCP, TTP, MSP and TVP
- Auto measurement supported:
  - TCD and Cist Maga (CM) on section TCP;
  - BPD, OFD and HC on section TTP;
  - LVW on section TVP
- Support editing measurement results
- Hide/show measurement results
- Support comment and bodymark on sectional plane

5.23 Smart ICV

- Smart intracranial volume, an advanced tool to detect fetal cranial tissue, provides automatic calculation of fetal intra-cranial volume for advanced fetal CNS study.
- Supports modifying the contour by trace, adaptive trace, control point editing, and recalculate the volume.

5.24 Smart Planes FH

- Detect automatically left ventricular outflow tract view, right ventricular outflow tract view, LAV-DA view, 3VV-T view and stomach bubble view
- Automatically acquire ≥6 standard fetal heart sections.

5.25 Smart Face

Allows to recognize fetal face and remove the shading obstacle data automatically, then display the face in an optimal viewing angle. At the same time, you can adjust the display direction of the fetal face by one click, and support forward/reverse rubber erasing.

5.26 Smart FLC (Smart Follicle)

- Automatically measures and calculate the number and size of follicles in the image area, and evaluate follicles according to the follicle size.
- Automatically segments the anechoic structure is by one click, and displays the anechoic structures at different positions and sizes in different colors.
- Automatically measures the follicle diameter, length at the X-axis, Y-axis, Z-axis, as well as the average value and volume of the three axes.

5.27 Smart-V (Smart Volume)

Fast volume calculation tools to calculate the volume of tissue structure or lesions

- Smart-V ROI: Manual ROI on A, B, C plane separately
- Smart-V Trace: Manual trace on A, B, C plane separately

- Smart-V Vocal/Smart-V Parallel: Trace contours on each slice separately

5.28 Smart ERA

- A fully automated endometrial receptivity analysis tool, Enables endometrium receptivity assessment with automated workflow.
- Supports automatic measurement of the segmented results.

5.29 RIMT (RF-Data based IMT)

- Available in single/dual B carotid exam mode
- Side: left/right
- Calculation of 6 RIMT values, RIMT average value, SD and ROI W
- Report operation:
  - Data deleting
  - RIMT trend graphic viewing
  - Preview

5.30 iScape View

- Acquisition method: B and Power
- Supports speed indicator
- Actual size: on/off
- Fit size: on/off
- Ruler: on/off
- Tint map: off; 8 types
- Rotation: 0~355 degrees, 5/step

5.31 Contrast Imaging*

- Contrast imaging technology, which provides exceptional contrast agent detecting capability, not only extracts second harmonic, but also non-linear fundamental signals
- Available on C6-2Gs/SC5-1Ns/C11-3s/ SC8-2s/SC9-2s/V11-3Hs/V11-3HBs/L9-3s/L14-Ws /L20-5s/L13-3Ns/SP5-1Ns/DE11-3Ws/SD8-1s /ELC13-4s
- Micro Flow Enhancement (MFE) available
- Timer1: on/off
- Timer2: on/off
- Pro capture: captures prospective image less than 480s preset table
- Retro capture: captures retrospective image less than 120s preset table
- Dual live: side by side displays tissue image and contrast image
- MFE period: 0.1s, 0.2s, 0.4s, 0.6s, 0.8s, 1.0s, MAX
- Destruct: instantly destroy contrast bubbles
- Destruct AP: -30~0 dB, 0.3/step
- Destruct time: 500-2000 ms,75/step
- iClear: off; 7 steps
- Mix: mix contrast image with tissue image
- Mix map: 7 types, available when Mix mode is active
- Persistence: 8 steps
- Dynamic range: same as B mode
- Gray map: 8 types
- Tint map: off; 8 types
- Supports U/D Flip and L/R Flip
- Rotation: same as B mode
- CEUS Position: on/off
- Line density: L/M/H/UH
- FOV: on/off
- FOV size/position: continuously adjustable
- ExFov: off, 1-2, 1/step
- Gain: 0-100, 1/step
- iTouch: on/off, -8~8, 2/step
- Image quality: 3 levels
- Smooth: 0-6, 1/step
- Enhance: on/off
- Markline: on/off
- LGC: 8 points
- ZoneVue
- Tissue Gain: 0-100,1/step
- *This ultrasound series is designed for compatibility with commercially available ultrasound contrast agents. Because the availability of these agents is subject to government regulation and approval, product features intended for use with these agents may not be commercially marketed nor made available before the contrast agent is cleared for use. Contrast related product features are enabled only on systems for delivery to an authorized country or region of use. Mindray medical systems makes no claims concerning the safety or effectiveness of contrast agents.

5.32 Contrast Imaging QA

- Support Time-Intensity Curve analysis
- Table display: display data in table
- Up to 8 ROIs
- Delete all
- Delete current
- Fit curve
- Raw curve
- Motion tracking: Reduce the effect of tissue movement
- X scale: 1-5, 1/step
- Export: export current data as CSV format file

5.33 LVO

- Only available in cardiac exam mode
- Dedicated left ventricle contrast imaging tool

5.34 Low MI Contrast

- Only available in cardiac exam mode
- Enhances echo reflection by using contrast agent to perform myocardial analysis based on echocardiography technique

5.35 Volume CEUS

- Available on DE11-3Ws/SD8-1s
- Timer1: on/off
- Timer2: on/off
- Capture 3D image

5.36 STE Imaging (Sound Touch Elastography Imaging)

- Available on C6-2Gs/SC5-1Ns/SC8-2s/ SC9-2s/L9-3s/L14-3Ws/L20-5s/L13-3Ns
- Display Format: V1:1, H1:1, FULL
- Invert: on/off
- HQ Elasto: on/off
- E Quality: Pen, Gen, Res
- Elas.Metric: E, Cs, G
- Scale: 30 levels
- Opacity: 0-5, 1/step
- Map: 3 types
- ROI Width/Height: continuously random adjustable
- ROI Center Depth: continuously adjustable
- Depth: same as B mode
- iLayering: on/off
- Filter: 0, 1
- RLB View: on/off
- M-STB Index: on/off
- M-STB Sensibility: 0~4, 1/step
- Smooth: 0~2, 1/step
- Persistence: 0~2, 1/step
- RLB Map: on/off, RLB, RLB&E, RLB&B&E
- Map Position: 0%~100%, 5%/step
- E bar: Mean, Max, Min, SD
- E Avg: off, 8 levels
- Select/Bad: on/off
- Lesion: off,1~10

5.37 High frame rate STE

To increase the frame rate of STE function.

5.38 Strain Elastography

- Available on V11-3Hs/V11-3HBs/L9-3s/ L14-3Ws/L20-5s/L13-3Ns/DE11-3Ws/ ELC13-4s
- Support strain, strain ratio and strain histogram measurement
- Unique shell analysis function
- Stress compensation technology reduces deeper tissue artifacts, obtain more uniform stress throughout whole field
- Stress indicator: supports frame by frame stress indication.
- Map: 6 types
- Smooth: 0-5, 1/ step
- Opacity: 0-5, 1/step
- ROI Width/height: continuously adjustable
- Invert: on/off
- Display Format: V1:1, H1:1, FULL
- Strain mode: 0~1, 1/step
- Dynamic Range: 0~5, 1/step
- Map Position: 0%~100%, 5%/step

5.39 STQ Imaging (Sound Touch Quantification Imaging)

- Available on C6-2Gs/SC5-1Ns/SC8-2s/ SC9-2s/V11-3Hs/L9-3s/L14-3Ws/L20-5s/ L13-3Ns/DE11-3Ws/ELC13-4s
- ROI Adjustment: adjust the ROI fixed size
- Elas.Metric: E, Cs, G

- The square height of the elasto curve represents the average value of the elasto metric for current frame.
- E bar: Mean, Max, Min, SD
- M-STB Index: On/Off
- M-STB Sensibility: 0-4, 1/step
- Filter: 0, 1
- Smooth: 0-2, 1/step
- Persistence: 0-2, 1/step
- Map Position: 0~100%, 5%/step
- Lesion: off, 1~10
- Scale: 0-9, 1/step
- E Avg: off, 8 levels
- HQElasto: on/off

5.40 Fatty Liver Lab

Only the SC5-1Ns transducer supports this function

- USAT

  UltraSound ATtenuation analysis enables quantitative fatty liver assessment by measuring the attenuation coefficient.
- HRI+

  HepatoRenal Index Plus enables quantitative fatty liver assessment by measuring the echo intensity ratio between the liver parenchyma and the renal cortex based on the RF data.
- LTI

  Liver Texture Index enables quantitative fatty liver assessment by statistically analyzing the size and density of scatters of the liver parenchyma
- Parameters of USAT, HRI+, and LTI

  Note: the parameter items may vary based on the specific fatty liver lab mode selected
  - Scan Time: Single, 1s, 2s, 3s, MAX
  - H-ROI Size: 10mmx10mm~26mmX26mm(2mm/step), 30mmx30mm
  - M-STB Index: On/Off
  - Filter: 0, 1, 2
  - M-STB Sensi.: 0~4,1/step
  - H1:1: On/Off
  - Full: On/Off
  - E bar: Mean, Max, Min, SD (the value may varies based on the specific fatty liver lab mode selected)
  - RLB Map: On/Off
  - RLB View: On/Off
  - Opacity: 0~9, 1/step
  - Map: F1~F4, 1/step
  - Att.Metric: dB/cm/MHz, dB/m/MHz, dB/m
  - Scale: 0~10, 1/step
  - Frame Average: 1, 3, 5, 7, 10 (the value may varies based on the specific fatty liver lab mode selected)
  - Select/Bad: 1~10, 1/step

5.41 Ultrasound Fusion Imaging

- Available on C6-2Gs/SC5-1Ns/SC8-2s/ SC9-2s/L14-3Ws/L13-3Ns/SP5-1Ns in B/ Color/ Power/ contrast imaging mode (non-cardiac)
- Single window display
- Fusing CT/MR/PET/freehand volume data with the ultrasonic image
- CT/MR/PET data reconstruction for 3D displaying
- Tracking system: on/off
- Fusion ratio: -1~1, 0.1/step
- Axis rotation: 0° ~ 360° based on X-axis, Y-axis or z-axis in increment of 2°.
- ROI Offset X: -630~630
- ROI Offset Y: -566~566
- Window W/L: 1/step. Adjust the CT/MR/PET/freehand brightness and the contrast by changing the width and the level.
- Reset Window W/L
- Reset CT/MR
- Display marks
- Respiration curve: on/off
- Respiration Range: 0/1/2
- View Type: Axial, Coronal, Sagittal
- Quick Translation
- Registration
- Mark on Volume Data/Mark on Fusion Image
- Support general measurement
- Support adding comment and bodymark

5.42 Endocavity Fusion Imaging

- Mainly used for endocavity transducer, fusing real-time ultrasound and CT/MR images.
- Available on ELC13-4s and V11-3Hs

5.43 Fusion RESP

By automatically detecting the patient's respiratory motion signal, provide the respiratory motion compensation technology, reduce the fusion distortion caused by the patient's respiration, and provide more accurate fusion imaging.

5.44 AutoEF

- Automatic Ejection Fraction Measurement, it provides an efficient way to detect the left ventricle and calculate the EF.
- Output EDV/ESV/EF/SV/CO by Simpson method
- Activated with or without ECG
- Adjustment for the border of endocardium by single point or multi points
- Adjust Frame
- Layout: Dual/ Single
- Diastole FR
- Systole FR
- Volume curve: on/off

5.45 TDI QA

- Dedicated quantification tool for TDI velocity, strain, strain rate analysis
- Ellipse ROI, Standard ROI
- Up to 8 of ROI
- ROI tracking: tracking ROI along with cardiac movement
- Delete all
- Delete current
- Smooth: 1-7, 1/step
- X scale: 1-5,1/step
- Std.Height: 1.5-50 mm
- Std.Width: 1.5-50 mm
- Std.Angle: -89-90 degrees
- Export: export current data as CSV format file

5.46 TT QA

- Available on SP5-1Ns in adult cardiac, cardiac-difficult (car-penetration), and pediatric cardiac exam modes.
- Tissue tracking quantitative analysis
- Mandatory ECG connection before TT QA cine acquisition
- Six views for analysis: ALAX, A4C, A2C, PSAXB, PSAXM, PSAXAP
- Reload: reload cine again for new study
- Edit: modify trace points
- Start tracking
- Accept & compute: start tracking myocardium movement when user accept trace result
- Display effect: 0/1; at 0, tracking in dots; at 1, tracking in velocity vector arrow
- Trace method: 3 point or manual for ALAX, A4C, A2C; manual for PSAXB, PSAXM, PSAXAP
- Bull's eye: trace result in bull's eye model
- LGC: available
- Valve's open and close time index: MVC, MVC', AVC, AVO, MVO
- Data export: export data in CSV file
- Cycle: ECG triggered cardiac cycle recognition for analysis; adjustable
- Auto play: stop, X1/10, X1/5, X1/4, X1/3, X1/2, X1, X2, X3
- Thickness: 1-30mm, 1mm/step; adjust trace thickness
- Track point: 20-40, 1/step
- Parameter: Volume, Speed, Displacement, L Strain, L Strain R, T Strain, T Strain R, Area, R Strain, R Strain R, C Strain, C Strain R, C Rotation, C Rotation R
- Smooth: 0-4, 1/step
- Trace method: 3 point, manual
- Tracking cycles: 1, 3
- Blue's Eye view
- Curve Display
- Torsion & Torsion Rate Curve
- LGC adjustment

5.47 Fetal Heart TT QA

- Fetal Heart Tissue Tracking with Quantitative Analysis, Real-time track the continuous motion of fetal myocardium, display the mechanical changes of each segment in the longitudinal, circumferential and radial directions, offering accurate and effective evaluation of myocardial movement of fetal heart
- Available Under Fetal Echo related exam modes

5.48 Stress Echo

- Available on SP5-1Ns in cardiac mode
- 14 factory protocols
- User-defined protocols
- ECG triggered acquisition, display, selection, comparison, evaluation and archiving of multiple cardiac loops during various stages of a stress echo examination
- Customized stages: up to 7 views per stage, and up to 12 stages per study
- View: standard views (PLAX, SAB, PSAX, SAA, A4C, A2C, ALAX), 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 (PLAX, SAB, PSAX, SAA, A4C, A2C, ALAX, 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

5.49 Smart IVC

Automatic Inferior Vena Cava trace and calculation, automatically trace the IVC diameter change, and calculate the CI, DI and IVC Variation, helping for volume status assessment and guide the fluid therapy.

5.50 Smart VTI

Automatic Velocity Time Integral measurement, automatically trace the PW spectrum of LVOT, and obtain VTI, SV, CO and SVV, for rapid assessment of volume responsiveness.

5.51 Smart B-line

- Used to detect B lines of the lung in B mode
- Acquisition method: single B in real- time or freeze mode
- Scanning areas: 6 Zones, 8 Zones, 12 Zones
- Auto Calc
- OverView
- Image and diagnosis comments

5.52 R-VQS

- RF-data Based Quantitative Analysis on Vessel Stiffness
- Track movements of the upper and lower vessel walls automatically
- Displacement and Vessel diameter display in the result window.
- Motion curve of vessel walls display under the image in real time.

5.53 Smart Pelvic

- Enter smart pelvic in 2D or 3D/4D scanning mode.
- Set Rest and Valsalva frame
- Measure automatically

5.54 Smart Fetal HR (Fetal Heart Rate)

Measure the fetal heart rate automatically on B/M mode

5.55 IOTA

- Integrated IOTA-ADNEX model: multiclass risk prediction model for different ovarian neoplasias assessment.
- 3 clinical indexes and 6 ultrasound indexes
- Auto input of ultrasound predictors from measurements
- Auto display of the max data if there are repeated measurements
- Bar comparison to show the difference between patient specific risk and baseline risk in subclassifications of malignancy
- The result is visualized in the ultrasound report

5.56 Smart Breast

- Automated breast mass BI-RADs classification and reporting tool, which provides automated breast ultrasound lesion classification and reporting, and it can be used as breast ultrasound quality control solution with high- efficiency.
- Standardized scanning procedure based on the lesions, and Standardized scanning procedure guide
- Automatic lesion identification, detection, measurement, comment, report generation, etc.
- Multi-lesion& multi-plane management and analysis

5.57 Smart Thyroid

- Automated thyroid ultrasound analysis and reporting tool, for efficiency and standardization of thyroid nodule diagnosis.
- Standardized scanning procedure based on the lesions, and Standardized scanning procedure guide
- Automatic lesion identification, detection, measurement, comment, report generation, etc.
- Multi-lesion& multi-plane management and analysis

5.58 IVF

- In Vitro Fertilization, includes dedicated IVF image parameter/ measurement/comment/bodymark / report
- The uterus and follicle growth curve can be displayed in the IVF report.
- Data of IVF history exams can be checked in the IVF report.
- The user-defined analysis model is supported for reproductive function evaluation.

5.59 iScanHelper

- An ultrasonic tutorial and assistant package integrated in ultrasound devices.
- Tutorial function as a guidance to show basic scanning skill with graphic of transducer position, schematic of anatomy and example clinical image
- Supports Abdomen, gynecological, urological, obstetrical, Small Parts and nerve block area.

5.60 iCompare

Allow to compare real-time ultrasound imaging to images from iStation; Helpful to easily evaluate and follow up the progression of disease, treatment effect monitoring

5.61 V-Mapping

- Manually edit the vascular body mark.
- Manually edit the body mark through the touch screen to Intuitively display the lesion position.

6 Cine Review and Raw Data Processing

6.1 Cine review

- Available in 2B, Color, Contrast, 4D modes.
- Supports editing and clipping during cine review. Frame by frame manual cine loop review or auto playback with variable speed
- Save and edit the clipped and edited cine images for many times

- Maximum cine memory up to 83575 frames (B storage server) or 310.65s (M storage server) (depends on the mode)
- Maximum 4D cine memory: 10721 volumes (DE11-3Ws)
- Retrospective storage (1-120s pre- settable) and prospective storage (1- 480s pre-settable)
- Frame compare: displays one cine in dual format and allows frame by frame compare side by side
- Cine compare: compare cines which are saved in same imaging mode
- Jump to first and jump to last: one keystroke go to first or last frame in the cine

6.2 Raw data processing

- B-mode
  - TGC
  - Gain
  - Dynamic range
  - Gray map
  - Tint map
  - iClear
  - L/R Flip
  - U/D Flip
  - Rotation
  - iTouch
  - LGC
  - Dual live
  - Auto Merge
  - H Scale
  - Echo Boost
  - B/iNeedle
  - Smooth
  - Zoom
  - Ref Lines
  - Dehaze
  - V1:1
  - XL View
  - Edge Enhance
- M-mode
  - Gain
  - Speed
  - Dynamic Range
  - Gray Map
  - Tint Map
  - Display format
- Color
  - Gain
  - Baseline
  - Smooth
  - Color map
  - Priority
  - Dual Live
  - Invert
  - Velocity tag
  - Glazing flow
- PW
  - Gain
  - Baseline
  - Volume
  - Angle
  - Speed
  - Dynamic range
  - Gray map
  - Tint Map
  - Display format
  - Invert
  - WF
  - T/F Res

7 Measurement/Analysis and Report*

NOTICE: Support manual, semi-automat, automat on Freeze image and CINE clip, and real-time measurements.

For general measurement, automatic measurement, and clinical measurement packages, see the Appendix.

7.1 Automatic Measurement and Analysis

- AutoCalc
  - PS
  - ED
  - MD
  - PPG
  - TAMAX
  - Vol Flow(TAMAX)
  - TAMEAN
  - Vol Flow(TAMEAN)
  - Vas Diam
  - Vas Area
  - DT
  - MPG
  - MMPG
  - VTI

- AT
- S/D
- D/S
- PI
- RI
- PV
- HR

- IMT (Intima-Media Thickness Measurement)

  Automatic detection, measurement and analysis of IMT when ROI is set
- Smart OB
  - Auto measurement for OB, a special tool for easy OB scan, and greatly reduce time and increase productivity
  - Support BPD, HC, OFD, FL, AC, HUM. More than 6 automatic measurement items are supported.
- Smart NT

  Automatic detection and measurement of fetal nuchal translucency, which makes NT evaluation more efficient and accurate.
- Smart HIP

  Automatic hip measurements and Graf classification of neonatal and pediatric hip for easy screening of DDH (Developmental Dysplasia of the Hip).
- Smart HRI

  Hepato-Renal Index, which is provided automated liver steatosis assessment by automatically calculating brightness scale ratio between the liver with renal cortex in B mode.
- Smart Trace

  A smart tool for easy and precise boundary trace

  Automatically identify and trace lesions, as well as measure the length, area and circumstance of the long axis and short axis within the defined ROI.
- CPP

  Measure the blood flow signal distribution in the defined ROI under the Color/Power mode, and calculate the color pixel percentage within the defined ROI.
- Smart Bladder

  Auto measure three diameters and calculate the bladder volume
- Smart Calc

  Automatic trace, measurement and calculation tool

7.2 User-defined Measurement

Supports user-defined measurement calculations and studies

7.3 Report

- Specific report template by application
- Editable value in report
- Images selectable
- Able to Export as PDF/RTF file
- Presettable hospital information
- Anatomy information for vascular and OB report
- Editing though iReport
- User-defined report template
- Selecting report modules
- Adding/removing measurement items from the report
- Changing report layout
- Load/save comment
- Viewing history reports
- Preview and printing reports

7.4 Comments/Bodymark

- Supports text input and arrow
- Voice annotation: record voice as annotation for images and cine
- Support freehand marking on touch screen
- Adjustable text size and arrow size
- Supports home position
- Covers various application
- More than 250 bodymarks for versatile application
- User customizable Comments/ Bodymark

7.5 iWorks

- Auto workflow protocol, can be combined with a standardized exam protocol to facilitate a more efficient and standard ultrasound exam in the clinic with guidance.

- Automatically add comments, body marks and switch the image mode according to the protocol.
- Templates are user configurable
- Template import and export are available
- Functions: pause, stop, replace, repeat, skip, insert single step, return and continue, steps in thumbnail
- iNSert another template during the iWorks process.
- iWorks setup mode: B; B/B (Dual Live); Dual B/B; Color; B/Color (Dual Live); Power; B/Power (Dual Live); B + PW; Color + PW; Power + PW; B + CW; Color + CW; B+M; B+TVI; TVI+TVD; iScape View.
- iWorks setup annotation: support up to 2 annotations, location and font size are configurable.
- iWorks setup bodymark: select existing library, and transducer indicator is pre-settable
- iWorks setup measurement: select existing measurement library

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

8 Exam Storage and Management

8.1 Exam Management

- iStation workstation dedicated for patient information management
- Workstation dedicated for image management
- Workstation dedicated for report and report template management
- Workstation dedicated for exam management
  - Patient exam query/retrieve
  - Support review of current and past exam
  - New exam, Activate exam, Continue exam functions, End exam are available
  - Support measurements and calculations on archived exam and images

8.2 Exam Storage

- Supports local hard disk storage: 1TB HDD and 128G SSD
- Optional: 1TB SSD
- Direct digital storage of single frame and cine files.
- Export images in BMP/JPG/TIFF/DCM/ AVI/MP4 format
- Supports back-end storage, export and backup of image data, real-time exam, without affecting exam operation.
- Supports backup/send to USB devices, DVD+RW, DVD+R, CD-RW, CD-R, DVD-R, DVD-RW media
- Supports DICOM 3.0
- Supports network storage (iStorage). Based on the TCP/IP protocol, the ultrasound image and report can be directly transmitted to the PC device.
- Supports print service.

9 Connectivity

9.1 Ethernet Network Connection

- Cable connection
- Wireless connection
- Support for image sharing from ultra-sound devices to mobile devices via email

9.2 DICOM 3.0

- DICOM Basic
  - Verify (SCU, SCP)
  - Print
  - Store
  - Storage Commitment
  - Media Exchange
- DICOM Worklist
- DICOM Query/Retrieve
- DICOM Modality Performed Procedure Step - MPPS
- DICOM OB/GYN structure report
- DICOM Cardiac structure report
- DICOM Vascular structure report
- DICOM Breast structure report
- DICOM Abdomen structure report
- DICOM Small Parts structure report
- DICOM Pediatric structure report
- DICOM Urology structure report

9.3 UltraView

Off-line analysis workstation, PC-based ultrasound image analysis software.

Supports post-processing and more measurement analysis of ultrasound image off-line.

- Components:
  - DICOM Basic
  - DICOM Query/Retrieve
  - DICOM OB/GYN SR
  - DICOM Cardiac SR
  - DICOM Vascular SR
  - DICOM Breast SR
  - TDI QA
  - Contrast Imaging QA
  - Tissue Tracking QA
  - iPage
  - Niche
  - SCV (Slice Contrast View)
  - iLive
  - Smart OB
  - Smart NT
  - IVF
  - AutoEF
  - IMT
  - Stress Echo
  - Ultrasound Fusion Imaging
  - Smart Planes CNS

9.4 UltraAssist

Direct network storage tool between ultrasound system and personal computer

- The ultrasound system supports sending reports or patient information to the PC via iStorage.
- The PC supports import custom report templates and test items to the ultrasound system via iReport and iMeasurement.

9.5 MedSight

- An interactive App that lets you transfer clinical images straight from Mindray Ultrasound system to a smart device, such as mobile phone or tablet PC
- Transfer images or clips from system to mobile terminal through Wi-Fi
- Support both iOS and Android system
  - Android (4.0 and above)
  - iOS (7.0 and above)
  - For iOS powered smart device: DICOM is mandatory
  - For Android powered smart device: DICOM not necessary

9.6 MedTouch

- Connect Ultrasound machine to smart devices based on Android and iOS system, such as tablet PC or mobile phone. Remote control of Ultrasound machine, review of patient information, and tutorial software iScanHelper study on smart devices
- Supports remote control of the Ultrasound machine, to adjust parameter (Gain, Depth, Freeze/ Unfreeze, Image Storage, Zoom, iTouch, mode switching among B, Color, Dual Live).
- Support Android and iOS powered smart devices
  - Android 4.0 and above
  - iOS 7.0 and above
  - DICOM not necessary

9.7 Gallerydrop

Transfer the ultrasound images or cine files from ultrasound to mobile devices through QR code scanning.

10 Transducers

10.1 Curved Array

- C6-2Gs
  - Application: Obstetrics, Gynecology, Abdominal, Urology
  - Bandwidth: 1.2-6.0 MHz
  - Number of Elements: 128
  - FOV (max): 94°
  - Extended FOV: 106°
  - Convex Radius: 20 mm
  - Depth: 4.0-40 cm
  - Physical Footprint: 37.6 mm × 19 mm
  - Footprint: 31.5 mm ×11.2 mm
  - B-mode Frequencies: 1.2-3.8, 1.7-5.2, 2.0-6.0 MHz

- Harmonic Frequencies: 3.2, 4.0, 5.0 MHz
- Color Frequencies: 2.0, 2.5, 3.0, 3.5 (HR Flow) MHz
- PW Frequencies: 2.0, 2.5, 3.0 MHz
- Biopsy Guide: NGB-024, multi angle, reusable; LPUBKG81 (disposable)

• SC5-1Ns (Single Crystal)
- Application: Obstetrics, Gynecology, Abdominal, Small Organ, Musculo-skeletal, Vascular, Urology, Nerve, Thoracic/pleural
- Bandwidth:1.2-6.0 MHz
- Number of Elements:192
- FOV (max): 60°
- Extended FOV: 73°
- Convex Radius: 60 mm
- Depth: 4.0-40.0 cm
- Physical Footprint: 76.7 mm × 28 mm
- Footprint: 68 mm × 18 mm
- B-mode Frequencies: 1.2-3.8, 1.7-5.2, 2.0-6.0 MHz
- Harmonic Frequencies: 4.0, 5.0, 6.0 MHz
- Color Frequencies: 2.0, 2.5, 3.0, 3.5 (HR Flow) MHz
- PW Frequencies: 2.0, 2.5, 3.0 MHz
- Biopsy Guide: NGB-022, multi angle, reusable; LPUBKG60 (disposable); CIVCO 658-004-1/2/ 3/4/5 (disposable)

• C11-3s
- Application: Abdominal, Vascular, Cardiac, Small Organ, Pediatric, Cephalic
- Bandwidth: 2.6-12.8 MHz
- Number of Elements: 128
- FOV (max): 101°
- Extended FOV: 113°
- Convex Radius: 15 mm
- Depth: 1.5-35 cm
- Physical Footprint: 32.8 mm × 25 mm
- Footprint: 27.4 mm × 8.4 mm
- B-mode Frequencies: 2.6-6.5, 3.2-7.9, 4.7-12.8 MHz
- Harmonic Frequencies: 6.0, 7.0, 8.0 MHz
- Color Frequencies: 4.4, 5.0, 5.7, 5.0 (HR Flow) MHz
- PW Frequencies: 4.4, 5.0, 5.7 MHz
- Biopsy Guide: NGB-018, multi angle, reusable

• SC9-2s (Single Crystal)
- Application: Obstetrics, Gynecology, Abdominal, Urology, Vascular
- Bandwidth: 1.8 - 8.2 MHz
- Number of Element: 192
- FOV (max): 65°
- Extended FOV: 76°
- Convex Radius: 43mm
- Depth: 4-40cm
- Physical Footprint: 66.1mm× 26.1mm
- Footprint: 48.8mm × 12.1mm
- B-mode Frequencies: 1.8~5.4, 2.3~6.8, 2.8~8.2 MHz
- Harmonic Frequencies: 4.8, 5.4, 6.0, 6.5 MHz
- Color Frequencies: 3.0, 3.5, 4.0, 3.5 (HR Flow) MHz
- PW Frequencies: 3.0, 3.5, 3.8 MHz
- Biopsy Guide: NGB-058, multi angle, reusable

• SC8-2s (Single Crystal)
- Application: Obstetrics, Gynecology, Abdominal, Urology, Vascular
- Bandwidth: 1.8-8.2 MHz
- Number of Element: 192
- FOV (max): 76°
- Extended FOV: 88°
- Convex Radius: 40 mm
- Depth: 4.0-40.0 cm
- Physical Footprint: 26.3 mm × 66.9 mm
- Footprint: 15 mm × 52 mm
- B-mode Frequencies: 1.8-5.4, 2.3-6.8, 2.8-8.2 MHz
- Harmonic Frequencies: 4.0, 5.5, 6.0 MHz
- Color Frequencies: 3.0, 3.5, 4.0, 3.5 (HR Flow) MHz
- PW Frequencies: 3.0, 3.5, 3.8 MHz

- Biopsy Guide: NGB-029, multi angle, reusable

- V11-3Hs
  - Application: Obstetrics, Gynecology, Urology
  - Bandwidth: 3.0-11.0 MHz
  - Number of Elements: 192
  - FOV (max): 170°
  - Extended FOV: 210°
  - Convex Radius: 11 mm
  - Depth: 1.5-28.0 cm
  - Physical Footprint: 24.9 mm × 21.8 mm
  - Footprint: 24 mm × 9 mm
  - B-mode Frequencies: 3.0-7.0, 4.0-9.0, 5.0-11.0 MHz
  - Harmonic Frequencies: 8.0, 9.0, 10.0 MHz
  - Color Frequencies: 4.4, 5.0, 5.7, 5.5 (HR Flow) MHz
  - PW Frequencies: 4.5, 5.0, 5.5 MHz
  - Biopsy Guide: NGB-025, single angle, reusable; CIVCO 610-543 (disposable); CIVCO 610-1274 (disposable)
- V11-3HBs
  - Application: Obstetrics, Gynecology, Urology
  - Bandwidth: 3.0-11.0 MHz
  - Number of Elements: 192
  - FOV (max): 180°
  - Extended FOV: 240°
  - Convex Radius: 11 mm
  - Depth: 1.5-28.0 cm
  - Physical Footprint: 23.4 mm × 19.2 mm
  - Footprint: 23.8 mm × 9.1 mm
  - B-mode Frequencies: 3.0-7.0, 4.0-9.0, 5.0-11.0 MHz
  - Harmonic Frequencies: 8.0, 9.0, 10 MHz
  - Color Frequencies: 4.4, 5.0, 5.7, 5.5 (HR Flow) MHz
  - PW Frequencies: 4.5, 5.0, 5.5 MHz
  - Biopsy Guide: NGB-048, single angle, reusable

10.2 Volume

- DE11-3Ws
  - Application: Obstetrics, Gynecology, Urology
  - Bandwidth: 2.0-9.0 MHz
  - Number of Elements: 192
  - FOV (max): 162°
  - Extended FOV: 187°
  - Volume Sweep Angle (max): 120°
  - Convex Radius: 10 mm
  - Depth: 4.0-20.0 cm
  - Physical Footprint: 24 mm × 24 mm
  - Footprint: 24 mm × 24 mm
  - B-mode Frequencies: 2.0-6.0, 2.8-8.2, 3.0-9.0 MHz
  - Harmonic Frequencies: 4.0, 5.0, 6.0 MHz
  - Color Frequencies: 4.4, 5.0, 5.7, 5.0 (HR Flow) MHz
  - PW Frequencies: 4.4, 5.0, 5.7 MHz
  - Biopsy Guide: NGB-047, single angle, reusable
- SD8-1s (Single Crystal)
  - Application: Obstetrics, Gynecology, Abdominal
  - Bandwidth: 1.8-8.2 MHz
  - Number of Elements: 192
  - FOV (max): 66°
  - Extended FOV: 91°
  - Volume Sweep Angle (max): 85°
  - Convex Radius: 45 mm
  - Depth: 4.0-40.0 cm
  - Physical Footprint: 75.7 mm × 52.6 mm
  - Footprint: 54.5 mm × 14.9 mm
  - B-mode Frequencies: 1.8-5.4, 2..3-6.8, 2.8-8.2 MHz
  - Harmonic Frequencies: 4.0, 5.0, 5.5, 6.0, 6.3 MHz
  - Color Frequencies: 3.0, 3.5, 4.0, 3.5 (HR Flow) MHz
  - PW Frequencies: 3.0, 3.5, 3.8 MHz
  - Biopsy Guide: NGB-039, multi angle, reusable

10.3 Linear Array

- L9-3s
  - Application: Abdominal, Pediatric, Small Organ, Musculo-skeletal, Vascular, Nerve, Obstetrics
  - Bandwidth: 2.5-9.0 MHz

- Number of Elements: 192
- FOV (max): 4.37 cm
- Extended FOV
  Ohter: 20°
  OB1, NT: 30°
- Steered Angle
  B: -12°, -6°, 0°, 6°, 12°
  C/PW: -30°-30°
- Depth: 1.5-35.0 cm
- Physical Footprint: 62 mm × 22 mm
- Footprint: 48 mm × 11 mm
- B-mode Frequencies: 2.5-7.0, 3.4-8.2, 3.6-9.0 MHz
- Harmonic Frequencies: 5.0, 6.0, 7.0 MHz
- Color Frequencies: 3.0, 3.6, 5.0, 4.0 (HR Flow) MHz
- PW Frequencies: 3.0, 3.6, 5.0 MHz
- Biopsy Guide: NGB-034, multi angle, reusable

• L14-3Ws
- Application: Small Organ, Musculo-skeletal, Vascular, Abdominal, Pediatric, Thoracic/ Pleural, Nerve
- Bandwidth: 3.0-18.0 MHz
- Number of Elements: 256
- FOV (max): 5.08 cm
- Extended FOV: 20°
- Steered Angle
  B: -12°, -6°, 0°, 6°, 12°
  C/PW: -30°-30°
- Depth: 1.5-35.0 cm
- Physical Footprint: 66.8 mm × 25.5 mm
- Footprint: 55.5 mm × 8.2 mm
- B-mode Frequencies: 3.0-9.0, 5.0-12.0, 9.0-18.0MHz
- Harmonic Frequencies: 10.0, 11.0, 12.0 MHz
- Color Frequencies: 5.0, 6.2, 7.2, 8.3 (HR Flow) MHz
- PW Frequencies: 5.0, 6.2, 7.2 MHz
- Biopsy Guide: NGB-054, multi angle, reusable

• L20-5s
- Application: Abdominal, Small Organ, Musculo-skeletal, Vascular, Nerve
- Bandwidth: 6.0-23.0 MHz
- Number of Elements: 192
- FOV (max): 2.85cm
- Extended FOV: 20°
- Steered Angle
  B: -12°, -6°, 0°, 6°, 12°
  C/PW: -20°-20°
- Depth: 1.5-29.0 cm
- Physical Footprint: 42.23 mm × 22.10 mm
- Footprint: 31.5 mm × 4.5 mm
- B-mode Frequencies: 6.0-13.0, 9.0-16.6, 12.5-23.0 MHz
- Harmonic Frequencies: 14.0, 16.0, 18.0 MHz
- Color Frequencies: 9.0, 11.0, 13.0, 13.0 (HR Flow) MHz
- PW Frequencies: 8.3, 10.0, 12.5 MHz
- CW: 10.0 MHz
- Biopsy Guide: not available

• L13-3Ns
- Application: Small Organ, Musculo-skeletal, Vascular, Abdominal, Pediatric, Thoracic/ Pleural, Nerve
- Bandwidth: 3.0-15.0 MHz
- Number of Elements:192
- FOV (max): 3.80 cm
- Extended FOV: 20°
- Steered Angle
  B: -12°, -6°, 0°, 6°, 12°
  C/PW: -30°-30°
- Depth: 1.5-35.0 cm
- Physical Footprint: 56.8 mm × 21.2 mm
- Footprint: 43.5 mm × 8.2 mm
- B-mode Frequencies: 3.0-9.6, 5.4-11.5, 6.6-13.0 MHz
- Harmonic Frequencies: 9.0, 10.0, 10.5, 11.0 MHz
- Color Frequencies: 4.2, 5.0, 6.2, 7.2 (R Flow) MHz
- PW Frequencies: 4.2, 5.0, 6.2 MHz
- Biopsy Guide: NGB-053, multi angle, reusable

10.4 Phased Array

• SP5-1Ns (Single Crystal)

- Application: Abdominal, Cardiac, Vascular, Cephalic, Thoracic/ Pleural
- Bandwidth: 1.5-5.0 MHz
- Number of Elements: 80
- FOV (max): 90°
- Extended FOV: 90°
- Depth: 2.0-38.0 cm
- Physical Footprint: 38.2 mm × 30.4 mm
- Footprint: 24 mm × 15.4 mm
- B-mode Frequencies: 1.5-2.5, 2.5-3.5, 3.5-4.5 MHz
- Harmonic Frequencies: 3.0, 3.5, 4.0 MHz
- Color Frequencies: 2.0, 2.3, 2.5, 2.5 (HR Flow) MHz
  TDI: 3.0, 3.8 MHz
- PW Frequencies: 2.0, 2.3, 2.5 MHz
  TDI: 2.5, 4.0 MHz
- CW: 2.0 MHz
- Biopsy Guide: NGB-011, multi angle, reusable

- P7-3Ts
  - Application: Cardiac
  - Bandwidth: 2.3-7.2 MHz
  - Number of Elements: 64
  - FOV (max): 90°
  - Extended FOV: 90°
  - Depth: 2.0-38.0 cm
  - Physical Footprint: 14 mm × 12 mm
  - Footprint: 12.2 mm × 12.2 mm
  - B-mode Frequencies: 2.3-5.4, 2.8-6.4, 3.3-7.2 MHz
  - Harmonic Frequencies: 5.0, 6.0, 7.0 MHz
  - Color Frequencies: 2.7, 3.3, 4.0, 4.0 (HR Flow) MHz
    TDI: 5.0, 6.2 MHz
  - PW Frequencies: 2.7, 3.3, 4.0 MHz
  - Biopsy Guide: not available

10.5 Bi-Plane

ELC13-4s (Convex & Linear)

- Application: Urology, Gynecology
- Bandwidth
  - Convex: 3.5-9.5 MHz
  - Linear: 3.2-12.8 MHz
- Number of Elements: 192
- FOV (max)
  - Convex: 177°
  - Linear: 6.48 cm
- Extended FOV
  - Convex: 217°
  - Linear: 40°
- Convex Radius: 10 mm (Convex)
- Steered Angle
  - B: -12°, -6°, 0°, 6°, 12°
  - C/PW: -15°-15°
- Depth
  - Convex: 1.5-28.0 cm
  - Linear: 1.5-35.0 cm
- Physical Footprint
  - Convex: 20 mm × 20 mm
  - Linear: 19.5 mm × 19.5 mm
- Footprint
  - Convex: 20mm × 9mm
  - Linear: 71.4mm × 9mm
- B-mode Frequencies
  - Convex: 3.5-6.0, 4.5-7.5, 5.5-8.8, 6.5-9.5 MHz
  - Linear: 3.2-7.8, 5.3-9.0, 5.8-10.0, 7.0-12.8 MHz
- Harmonic Frequencies
  - Convex: 8.0, 9.0, 10.0 MHz
  - Linear: 10.0, 11.0, 12.0 MHz
- Color Frequencies
  - Convex: 4.4, 5.0, 5.2, 5.5 (HR Flow) MHz
  - Linear: 6.0, 7.2, 8.3, 9.0 (HR Flow) MHz
- PW Frequencies
  - Convex: 4.5, 5.0, 5.5 MHz
  - Linear: 5.0, 6.3, 7.1, 8.3 MHz
- Biopsy Guide: NGB-051, multi angle, reusable; CIVCO 658-007 EX3, Biopsy Grid

10.6 Pencil transducer

- CW2s
  - Application: Cardiac, Cephalic, Pediatric
  - Number of Elements: 2
  - Biopsy Guide: not available
- CW5s
  - Application: Vascular, Cephalic, Pediatric
  - Number of Elements: 2

- Biopsy Guide: not available

11 Peripheral Devices and Accessories

- Black/White Video Printer
  - Digital: MITSUBISHI P95DW-N
  - Digital& Analog: SONY UP-X898MD
- Color Digital Printer
  SONY UP-D25MD
- Graph/Text Printer
  HP OFFICEJET PRO 8100 CANON TS708
  Epson L130
  HP 8100 (CM752A)
  Epson L805
  Epson L3256
  Epson L8058
  Epson L3218
  HP 7000(C9299A)
  HP DeskJet 2029
  HP DeskJet 1112
  Canon G580 Canon G1830 Canon G2830
- Gel Warmer
  - Support gel warming with 3 angle position: 15, 45, 90 degrees
  - Easily be disassembled off system for cleaning
  - Temperature with 4 levels: off/ 34°C/37°C/40°C, with deviation of ±2°C
  - Light indicator for temperature protecting
  - Dimension: 78mm (Width)*82mm (Depth)*119mm (Height)
  - Weight: approx. 240g (net)
  - Continuous operation time: >12H
- Footswitch
  - USB port: FS-81-SP-2(single pedal), 971-SWNOM (2/3 pedal)
  - Support user-definable functions (Freeze, Save, Print)
- ECG
  - 6-pin, AHA/IEC, for 3-lead wires
  - ECG wave display: on/off
  - ECG source: Lead/External
  - Position: 0 - 100%, 5%/step
  - Trig mode: off/single/dual/timer
  - Gain: 0-30, 1/step
  - Sweep speed: 1-6, 1/step
  - Invert: on/off
- PCG (not for sale in EU countries)
  - PCG wave display: on/off
  - Gain: 0-30, 1/step
  - Speed: 6 steps
  - Smooth: 1-4, 1/step
- Barcode Reader
  - SYMBOL LS2208 (1D)
  - SYMBOL DS4308 (2D)
  - Honeywell HH1800
- Built-in Wireless Adapter
  - Encryption: WPA, WPA2
  - Protocols: IEEE 802.11 ac/a/b/g/n
  - Frequency: 2.4G/5G

12 System Inputs and Outputs

- Audio input/output
  Microphone: 1 port
- Video Output
  - S-Video out: 1 port, PAL/NTSC
  - HDMI: 1 Port
  - VGA out: 1 port
- Physio Input
  - Support ECG/PCG signal
  - ECG: 1 port
  - PCG: 1 port
- Other Input/Output
  - USB: 6 ports (5 USB 3.0 and1 Type- C)
  - Ethernet: 1 port

13 Safety and Conformance

- Quality Standards
  - ISO 9001
  - ISO 13485
- Design Standards
  - CSA C22.2 No. 601-1
  - 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 IEC60601-2-37
  - EN 62304 and IEC 62304
  - EN 62366 and IEC 62366

- EN ISO 17664 and ISO 17664

14 CE Declaration

The ultrasound system is fully in conformance with the Regulation (EU) 2017/ 745 Concerning Medical Devices. The number adjacent to the CE marking (0123) is the code of the EU-notified body that certified meeting the requirements of Annex II excluding (4). of the Directive.

15 NOTICE

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

Mindray reserves the right to make changes in specifications and features shown herein, or discontinue the product at any time without notice or obligation. Contact Mindray Representative for the most current information.

16 Appendix

16.1 Generic measurements

- Summarized items:
  - B-Mode: Distance, Angle, Circumference, Area, Volume, etc.
  - M-Mode: Slope, Heart Rate, Distance, Time, Velocity etc.
  - D-Mode: PS/ED, Velocity, Heart Rate, Time, Acceleration, Velocity Ratio etc.
- Detailed items:
  - B-Mode

    Depth

    Distance

    Distance L-L

    Shuttle Ellipse

    Trace

    Spline

    Cross

    Angle (2-Lines)

    Angle (3-Points)

    Double Dist Trace

    Len

    Trace Len(Spline)

    Parallel Distance

    P-L IMT

    B-Profile

    B-Hist(Ellipse) B-Hist(Trace) B-Hist(Spline)

    B-Hist(Rectangle)

    Color Vel

    Strain Hist

    Elas. Hist

    Color Vel Profile Elas.

    Strain

    TSM

    Color Pixel Percent(Ellipse) Color Pixel Percent(Trace) Color Pixel Percent(Rectangle) Color Pixel Percent(Recall) Smart Calc

    Smart Trace Att.

    Att. Hist

    Volume

    Volume (Ellipse)

    Volume (E+Dist.)

    Ratio(D)

    B Ratio

    Volume

    Volume

    Volume (Ellipse)

    Volume (E+Dist.)

    Ratio(A)

    Area1

    Area2

    Directional Ratio D1

    D2

    RAC

    Sag

    XS

    Volume Flow

    Vas Area

    TAMEAN

    TAMAX

    Elas. Ratio

A
B
Strain Ratio A
B
Att. Ratio
Att A Att
B

– M-Mode
HR
HR(R-R)
Slope
Distance
Depth
Time
Velocity

– D-Mode
PS
ED
PS/ED
Vel
HR
HR(R-R)
Time
Auto Trace Manual
Trace Spline Trace
Acceleration

Ratio(Vel)
Ratio(VTI)

Volume Flow
Vas Area
TAMEAN
TAMAX

16.2 Clinical option measurement package

- Abdomen / Abdomen Difficult

Summarized items:

Provide measurements of abdominal artery, abdominal vein, hepatic vein, liver, gallbladder, pancreas, appendix, pylorus, kidney, ureter, bladder, spleen, inferior vena cava, etc.

Detailed items:
B-Mode Aorta
Bif AAA Status
Shunt Diam
Portal V Diam
M Portal V Diam
Splenic V Diam PS
Conflnc Diam Renal
V Diam SMV Diam
IMV Diam
CHD
GB L
GB H
GB W
GB wall th
Cystic Duct
CBD
Panc duct Panc
head Panc neck
Panc body Panc
tail Appendix
Appendix Wall
Pylorus Pylorus
Wall Renal L
Renal H Renal
W Cortex
Adrenal L
Adrenal H
Adrenal W
Ureter
Cortex(Renal Transplant1)
Renal V Diam(Renal Transplant1) Ureter
Diam(Renal Transplant1) Cortex(Renal
Transplant2)
Renal V Diam(Renal Transplant2) Ureter
Diam(Renal Transplant2) Smart Bladder
Dual
Pre-BL L
Pre-BL H
Pre-BL W
Post-BL L
Post-BL H

Post-BL W
Spleen L
Spleen H
Spleen W
Spleen Area
Skin-L.Capsule Dist.
Hepatic Lesion1 Elas.
Hepatic Lesion2 Elas.
Hepatic Lesion3 Elas.
LSM
Rt DT(Insp) Rt
DT(Expir) Lt
DT(Insp) Lt
DT(Expir)
Free Fluid
Smart HRI

Renal Vol
Pre-BL Vol
Post-BL Vol
Mictur.Vol

Aorta
  Anterior-Posterior
  Transverse
  Outer Diameter
  Inner Diameter
  Outer Area Inner
  Area
Celiac Axis
  Anterior-Posterior
  Transverse
SMA
  Anterior-Posterior
  Transverse
C Hepatic A Anterior-
  Posterior Transverse
Proper Hepatic A
  Anterior-Posterior
  Transverse
Hepatic A
  Anterior-Posterior
  Transverse
Splenic A
  Anterior-Posterior
  Transverse
GDA
  Anterior-Posterior
  Transverse
IMA
  Anterior-Posterior
  Transverse
AAA
  Long
  Anterior-Posterior
  Transverse
Celiac A Aneurysm Long
  Anterior-Posterior
  Transverse
SMA Aneurysm
  Long
  Anterior-Posterior
  Transverse
C Hepatic A Aneurysm
  Long
  Anterior-Posterior
  Transverse
Proper Hepatic A Aneurysm Long
  Anterior-Posterior
  Transverse
Hepatic A Aneurysm Long
  Anterior-Posterior
  Transverse
Splenic A Aneurysm Long
  Anterior-Posterior
  Transverse
GDA Aneurysm
  Long
  Anterior-Posterior
  Transverse
IMA Aneurysm
  Long
  Anterior-Posterior
  Transverse
EVAR Residual Aneurysm Sac(2D)
  Anterior-Posterior
  Transverse EVAR
Inflow(2D)
  Anterior-Posterior
  Transverse
EVAR Graft Body(2D)

- Anterior-Posterior Transverse
- EVAR Limb(2D)
  - Anterior-Posterior Transverse
- EVAR Outflow(2D)
  - Anterior-Posterior
  - Transverse
- Aortic Bypass Graft Anast(2D)
  - Anterior-Posterior Transverse
- Aortic Bypass Graft Graft(2D)
  - Anterior-Posterior Transverse
- ABD Stenosis 1(2D)
  - Anterior-Posterior
  - Transverse
  - Outer Diameter
  - Inner Diameter
  - Outer Area Inner
  - Area
- ABD Stenosis 2(2D)
  - Anterior-Posterior
  - Transverse
  - Outer Diameter
  - Inner Diameter
  - Outer Area Inner
  - Area
- ABD Stenosis 3(2D)
  - Anterior-Posterior
  - Transverse
  - Outer Diameter
  - Inner Diameter
  - Outer Area Inner
  - Area
- ABD Stenosis 4(2D)
  - Anterior-Posterior
  - Transverse
  - Outer Diameter
  - Inner Diameter
  - Outer Area Inner
  - Area
- IVC
  - Anterior-Posterior
  - Transverse Checklist
- Hepatic V(2D)
  - Anterior-Posterior
  - Transverse
- Lt Hepatic V(2D)
  - Anterior-Posterior
  - Transverse
- M Hepatic V(2D)
  - Anterior-Posterior
  - Transverse
- Rt Hepatic V(2D)
  - Anterior-Posterior
  - Transverse
- Liver
  - L
  - H
  - W
- R Liver Lobe L
  - H
  - W
- L Liver Lobe L
  - H
  - W
- Hepatic Lesion 1 d1
  - d2
  - d3
- Hepatic Lesion 2 d1
  - d2
  - d3
- Hepatic Lesion 3 d1
  - d2
  - d3
- Hepatic Cyst 1
  - d1
  - d2
  - d3
- Hepatic Cyst 2
  - d1
  - d2
  - d3
- Hepatic Cyst 3
  - d1
  - d2
  - d3
- GB
  - GB L

- GB H
- GB W
- GB wall th

GB Finding 1
- d1
- d2
- d3

GB Finding 2
- d1
- d2
- d3

GB Finding 3
- d1
- d2
- d3

GB Finding 4
- d1
- d2
- d3

GB Finding 5
- d1
- d2
- d3

Panc Finding 1 d1
- d2
- d3

Panc Finding 2
- d1
- d2
- d3

Panc Finding 3
- d1
- d2
- d3

Panc Finding 4
- d1
- d2
- d3

Panc Finding 5
- d1
- d2
- d3

Kidney
- Renal L
- Renal H
- Renal W
- Cortex

Adrenal
- Adrenal L
- Adrenal H
- Adrenal W

Renal Lesion 1 d1
- d2
- d3

Renal Lesion 2 d1
- d2
- d3

Renal Lesion 3 d1
- d2
- d3

Renal Cyst 1
- d1
- d2
- d3

Renal Cyst 2
- d1
- d2
- d3

Renal Cyst 3
- d1
- d2
- d3

Kidney(Superior) H
- W

Kidney(Mid) H
- W

Kidney(Inferior) H
- W

Renal A
- Long
- Anterior-Posterior
- Transverse

Renal A Aneurysm
- Long
- Anterior-Posterior
- Transverse

Kidney(Renal Transplant1) L
- H

W
Adrenal(Renal Transplant1) L
H
W
Finding 1(Renal Transplant1) L
H
W
Finding 2(Renal Transplant1) L
H
W
Finding 3(Renal Transplant1) L
H
W
Finding 4(Renal Transplant1) L
H
W
Finding 5(Renal Transplant1) L
H
W
Finding 6(Renal Transplant1) L
H
W
Renal Transplant 1(2D) Cortex(Renal Transplant1)
Renal V Diam(Renal Transplant1)
Ureter Diam(Renal Transplant1)
Kidney(Renal Transplant1)
L
H
W
Adrenal(Renal Transplant1) L
H
W
Finding 1(Renal Transplant1) L
H
W
Finding 2(Renal Transplant1) L
H
W
Finding 3(Renal Transplant1) L
H
W
Finding 4(Renal Transplant1) L
H
W
Finding 5(Renal Transplant1) L
H
W
Finding 6(Renal Transplant1) L
H
W
Kidney(Renal Transplant2) L
H
W
Adrenal(Renal Transplant2) L
H
W
Finding 1(Renal Transplant2) L
H
W
Finding 2(Renal Transplant2) L
H
W
Finding 3(Renal Transplant2) L
H
W
Finding 4(Renal Transplant2) L
H
W
Finding 5(Renal Transplant2) L
H
W
Finding 6(Renal Transplant2) L
H

W
Renal Transplant 2(2D) Cortex(Renal Transplant2)
Renal V Diam(Renal Transplant2)
Ureter Diam(Renal Transplant2)
Kidney(Renal Transplant2)
L
H
W
Adrenal(Renal Transplant2) L
H
W
Finding 1(Renal Transplant2) L
H
W
Finding 2(Renal Transplant2) L
H
W
Finding 3(Renal Transplant2) L
H
W
Finding 4(Renal Transplant2) L
H
W
Finding 5(Renal Transplant2) L
H
W
Finding 6(Renal Transplant2) L
H
W
Bladder Pre-
BL L Pre-
BL H Pre-
BL W
Post-BL L
Post-BL H
Post-BL W
Smart Bladder XS
Bladder Sag
Bladder
Spleen
Spleen L Spleen
H Spleen W
Spleen Area
Hepatic Lesion1 ElasRatio A
B
Hepatic Lesion2 ElasRatio A
B
Hepatic Lesion3 ElasRatio A
B

M-Mode
Rt DT(Insp M) Rt
DT(Expir M) Lt
DT(Insp M) Lt
DT(Expir M)
RDE(QB)
RDE(DB)
LDE(QB)
LDE(DB)

D-Mode
Aorta Celiac
Axis SMA
C Hepatic A Proper
Hepatic A Hepatic
A Splenic A
GDA
IMA
Aorta(Post) Celiac
Axis(Post)
SMA(Post)
C Hepatic A(Post) Proper
Hepatic A(Post) Hepatic
A(Post) Splenic
Artery(Post) GDA(Post)
IMA(Post)
EVAR Residual Aneurysm Sac EVAR
Inflow
EVAR Graft Body
EVAR Limb EVAR
Outflow

Aortic Bypass Graft Anast
Aortic Bypass Graft Graft IVC
Reflux
IVC
Hepatic V Lt
Hepatic V M
Hepatic V
Rt Hepatic V Portal
V
M Portal V
Splenic V
Renal V SMV
IMV
Hepatic A Anast(Liver Transplant)
Hepatic V Anast(Liver Transplant)
Portal V Anast(Liver Transplant)
IVC(Liver Transplant)
Hep V Confl(Liver Transplant)
Donor IVC(Liver Transplant)
Renal A
Ren A Org M
Renal A
Renal A1
Renal A2
Hilum
Interlobar A
Arcuate A
Segment A
Artery Anast(Renal Transplant1) Artery Anast 2(Renal Transplant1) Vein Anast(Renal Transplant1) Vein Anast 2(Renal Transplant1) Renal A(Renal Transplant1)
Renal A1(Renal Transplant1) Renal A2(Renal Transplant1) Hilum(Renal Transplant1) Interlobar A(Renal Transplant1) Arcuate A(Renal Transplant1) Segmental A(Renal Transplant1) Renal Vein 1(Renal Transplant1) Renal Vein 2(Renal Transplant1) Artery Anast(Renal Transplant2) Artery Anast 2(Renal Transplant2) Vein Anast(Renal Transplant2) Vein Anast 2(Renal Transplant2) Renal A(Renal Transplant2)
Renal A1(Renal Transplant2)
Renal A2(Renal Transplant2)
Hilum(Renal Transplant2) Interlobar A(Renal Transplant2) Arcuate A(Renal Transplant2) Segmental A(Renal Transplant2) Renal Vein 1(Renal Transplant2) Renal Vein 2(Renal Transplant2) TIPS

SMA/Ao
CA/Ao

ABD Stenosis 1
Pre Sten Sten
Post Sten ABD
Stenosis 2
Pre Sten
Sten
Post Sten ABD
Stenosis 3
Pre Sten
Sten
Post Sten ABD
Stenosis 4
Pre Sten
Sten
Post Sten
Renal Transplant 1(Doppler) Artery Anast(Renal Transplant1)
Artery Anast 2(Renal Transplant1) Vein Anast(Renal Transplant1) Vein Anast 2(Renal Transplant1) Renal A(Renal Transplant1)
Renal A1(Renal Transplant1) Renal A2(Renal Transplant1) Hilum(Renal Transplant1) Interlobar A(Renal Transplant1) Arcuate A(Renal Transplant1) Segmental A(Renal Transplant1) Renal Vein 1(Renal Transplant1) Renal Vein 2(Renal Transplant1)
Renal Transplant 2(Doppler) Artery Anast(Renal Transplant2)
Artery Anast 2(Renal Transplant2) Vein Anast(Renal Transplant2) Vein Anast 2(Renal Transplant2) Renal A(Renal Transplant2)

Renal A1(Renal Transplant2) Renal A2(Renal Transplant2) Hilum(Renal Transplant2) Interlobar A(Renal Transplant2) Arcuate A(Renal Transplant2) Segmental A(Renal Transplant2) Renal Vein 1(Renal Transplant2) Renal Vein 2(Renal Transplant2)

- Cardiology

  Summarized items:

  – Left ventricular function measurement:
  – Left ventricular function measurement method: Simpson, Mod.Simpson, S-P Ellipse, B-P Ellipse, Bullet, Teichholz, Cube, Gibson
  – LV Mass (Cube-2D), (A-L), (T-E)
  – LA Vol (Simp), (A-L)
  – MVA VTI, AVA (VTI)
  – Cardiac output: LVOT, RVOT, MV, TV
  – Quantitative Analysis of PISA MR, PISA AR, PISA TR, and PISA PR
  – Qp/Qs
  – LV TEI Index
  – RV TEI Index
  – Z score (3 years and younger)
  – Z score (Under 18)

  Detailed items:

  B-Mode
  RVAWd(2D)
  RVAWs(2D)
  RVDd(2D)
  RVDs(2D)
  IVSd(2D) IVSs(2D)
  LVIDd(2D)
  LVIDs(2D)
  LVPWd(2D)
  LVPWs(2D)
  Diastole(2D)
  Systole(2D)
  LVLd apical
  LVLs apical
  LVAd apical
  LVAs apical
  LVAd sax MV
  LVAs sax MV
  LVAd sax Endo
  LVAd sax Epi LV
  Major
  LV Minor
  LV Area(d)
  LV Area(s)
  HR(2D)
  RA Major
  RA Minor
  RA Area
  RA Vol(A4C)
  RAP
  RV Area(d)
  RV Area(s)
  RV Major
  RV Minor
  LA Diam(2D)
  LA Major
  LA Minor LA
  Area LVOT
  Diam
  Ao Diam(2D)
  ACS(2D)
  AV Diam
  Ao Isthmus(2D)
  Ao Sinus Diam(2D)
  Ao st junct(2D) AVA
  Ao Arch Diam(2D)
  Ao Asc Diam(2D) Ao
  Desc Diam(2D) Duct
  Art Diam Post
  Ductal
  Pre Ductal
  MCS(2D)
  MV Diam MV
  EPSS(2D) MVA
  TV Diam TVA
  PV Diam
  RVOT Diam
  MPA Diam(2D)
  RPA Diam(2D)
  LPA Diam(2D)
  IVC Diam(Expir)

IVC Diam(Insp)
SVC Diam(Expir)
SVC Diam(Insp)
LCA Diam
RCA Diam
PEd(2D)
PEs(2D)
VSD Diam
ASD Diam
PDA Diam
PFO Diam
AutoEF
Rt DT(Insp) Rt
DT(Expir) Lt
DT(Insp) Lt
DT(Expir)

LA/Ao(2D)

-- LV(2D)
Diastole(2D)
Systole(2D)
IVSd(2D)
LVIDd(2D)
LVPWd(2D)
IVSs(2D)
LVIDs(2D)
LVPWs(2D)
HR(2D)
Simpson
A4Cd
A4Cs
A2Cd
A2Cs
HR(2D)
Mod. Simpson
LVLd apical
LVLs apical
LVAd sax MV
LVAs sax MV
LVAd sax PM
LVAs sax PM
HR(2D)
S-P Ellipse
LVLd apical
LVAd apical
LVLs apical
LVAs apical
HR(2D)
B-P Ellipse
LVIDd(2D)
LVAd sax MV
LVIDs(2D)
LVAs sax MV
LVAd apical
LVAs apical
HR(2D)
Bullet
LVLd apical
LVLs apical
LVAd sax MV
LVAs sax MV
HR(2D)
LV Mass(Cube-2D)
IVSd(2D) LVIDd(2D)
LVPWd(2D)
LV Mass(A-L)
LVLd apical
LVAd sax Epi
LVAd sax Endo
LV Mass(T-E)
LVAd sax Epi
LVAd sax Endo a
d
LA Vol(Simp)
LA Vol(A2C)
LA Vol(A4C)
LA Vol(A-L)
LA apical
LAA(A2C)
LAA(A4C)
MVA(VTI)
LVOT Diam
LVOT VTI MV
VTI
AVA(VTI)
LVOT Diam
LVOT VTI
AV VTI
CO(LVOT)
LVOT Diam
LVOT VTI
AV HR
CO(RVOT)

RVOT Diam
RVOT VTI PV
HR
CO(MV)
MV Diam
MV VTI
MV HR
CO(TV)
TV Diam
TV VTI TV
HR
PISA MR
MR Rad MR
Als. Vel MR
VTI
PISA AR
AR Rad AR
Als. Vel AR
VTI
PISA TR
TR Rad
TR Als. Vel
TR VTI
PISA PR
PR Rad
PR Als. Vel
PR VTI
Qp/Qs
LVOT Diam
LVOT VTI
RVOT Diam
RVOT VTI
Z-Scores (= 3Y) (2D)
AV Diam
Ao Sinus Diam Ao
st junct
PV Diam
Ao Arch IA-LCA Ao
Arch LCA-LSA Ao
Arch after LSA Ao
Isthmus Thoracic Ao
Diam IVC Diam
MV Diam
TV Diam
MPA Diam
RPA Diam
LPA Diam

Z-Scores (<18Y) (2D)
LV Area(d) A4C
LV Area(s) A4C
LVIDd A4C(2D)
LVIDs A4C(2D) LA
AP Diam A4C LA
LL Diam A4C
LA Area A4C
RA AP Diam A4C RA
LL Diam A4C
RA Area A4C RV
Area(d) A4C RV
Area(s) A4C RVd
Major A4C RVs
Major A4C
RVd Minor (basal) A4C
RVd Minor (midcavity) A4C LV
Area(d) A2C
LV Area(s) A2C
LVIDd A2C(2D)
LVIDs A2C(2D)

M-Mode
RVAWd(M)
RVAWs(M)
RVDd(M)
RVDs(M)
Ao Arch Diam(M) Ao
Asc Diam(M) Ao
Desc Diam(M) Ao
Diam(M)
Ao Isthmus(M)
Ao Sinus Diam(M) Ao
st junct(M) ACS(M)
HR(M)
IVSd(M)
IVSs(M)
LA Diam(M)
LPA Diam(M)
Diastole(M)
Systole(M)
LVET(M)
LVIDd(M)
LVIDs(M)
LVOT Diam
LVPEP(M)
LVPWd(M)

LVPWs(M)
MCS(M)
MPA Diam(M)
MV A Amp MV
E Amp MV D-E
Slope MV D-E
Amp
MV E-F Slope
MV EPSS(M)
PEd(M)
PEs(M)
RPA Diam(M)
RVET(M)
RVOT Diam
RVPEP(M)
MAPSE TAPSE
MV ALL
IVC Diam(Insp)(M) IVC
Diam(Expir)(M) SVC
Diam(Insp)(M) SVC
Diam(Expir)(M) Rt
DT(Insp M)
Rt DT(Expir M) Lt
DT(Insp M) Lt
DT(Expir M)
RDE(QB)
RDE(DB) LDE(QB)
LDE(DB)

-
LA/Ao(M)

LV(M)
Diastole(M)
Systole(M)
IVSd(M)
LVIDd(M)
LVPWd(M)
IVSs(M)
LVIDs(M)
LVPWs(M)
HR(M)
LV Mass(Cube-M)
IVSd(M) LVIDd(M)
LVPWd(M)
LV Tei Index(M)
MV C-O dur(M)
LVET(M)
Z-Scores (= 3Y) (M)
IVSd(M) LVPWd(M)
Z-Scores (<18Y) (M)
LVIDd(M) LVIDs(M)

D-Mode
MV Aa(lateral)
MV Aa(medial)
AAo Vmax
AV VTI
AV HR
AV Vmax
AR DecT
AR Time
AR PHT
AR Ved
AR Vmax
AR VTI
MV ARa(lateral)
MV ARa(medial)
ASD Vmax
AV AccT
AV DecT
Coarc Post-Duct
Coarc Pre-Duct
DAo Vmax
MV DRa(lateral)
MV DRa(medial)
MV Ea(lateral) MV
Ea(medial) IVC
Vel(Expir) IVC
Vel(Insp) IVCT
LPA Vmax
LVET(Doppler)
LVOT AccT
LVOT VTI
LVOT Vmax
LVPEP(Doppler)
MPA Vmax dP/dt
Tau(BAI)
MR VTI
MR Vmax

MS Vmax
MV A Dur
MV A Vel
MV A VTI
MV AccT
MV DecT
MV E Dur
MV E Vel
MV E VTI
IVRT
MV VTI
MV HR
MV Vmax
PVein A Dur
PVein A Vel
PVein D Vel
PVein D VTI
PVein DecT
PVein S Vel
PVein S VTI
PDA Vel(d)
PDA Vel(s)
PR PHT
PR VTI
PR Ved
PR Vmax
PR DecT
PV AccT
PV VTI PV
HR
PV Vmax
RAP
RPA Vmax
RVET(Doppler)
RVOT Vmax RVOT
VTI
RVPEP(Doppler)
MV Sa(lateral) MV
Sa(medial) SVC
Vel(Expir) SVC
Vel(Insp) TR VTI
TR Vmax
TV A Dur
TV A Vel
TV AccT TV
DecT TV E
Vel
TV VTI
TV HR
TV Vmax VSD
Vmax
Hepatic V S Vel
Hepatic V D Vel

MV E/A
MVA(PHT)
TV E/A
TVA(PHT)

LV Tei Index(Doppler) MV
C-O dur(Doppler)
LVET(Doppler)
RVSP
TR Vmax
RAP
PAEDP
PR Ved
RAP
MVA(VTI)
LVOT Diam
LVOT VTI MV
VTI
AVA(VTI)
LVOT Diam
LVOT VTI
AV VTI
CO(LVOT)
LVOT Diam
LVOT VTI
AV HR
CO(RVOT)
RVOT Diam
RVOT VTI PV
HR
CO(MV)
MV Diam
MV VTI
MV HR
CO(TV)
TV Diam
TV VTI
TV HR
RV Tei Index TV
C-O dur
RVET(Doppler)

PISA MR
MR Rad MR
Als. Vel MR
VTI
PISA AR
AR Rad AR
Als. Vel AR
VTI
PISA TR
TR Rad
TR Als. Vel
TR VTI
PISA PR
PR Rad
PR Als. Vel
PR VTI
Qp/Qs
LVOT Diam
LVOT VTI
RVOT Diam
RVOT VTI

- Emergency

Summarized items: Provides application measurement related to emergency

Detailed items:
Renal L
Renal H
Renal W
CBD
Portal V Diam
CHD
GB wall th
Aorta Bif
Ureter Pre-
BL L Pre-BL
H Pre-BL
W
Post-BL L
Post-BL H
Post-BL W
Smart Bladder Dual GS
YS L
CRL
BPD
UT L
UT H
UT W
Endo Ovary
L Ovary H
Ovary W

Renal Vol
Pre-BL Vol
Post-BL Vol
Mictur.Vol
Ovary Vol
UT Vol
UT SUM

Smart Bladder
XS Bladder
Sag Bladder
Uterus
UT L
UT H
UT W
Endo
Ovary
Ovary L
Ovary H
Ovary W
Kidney
Renal L
Renal H
Renal W
Cortex
Bladder Pre-
BL L Pre-
BL H Pre-
BL W
Post-BL L
Post-BL H
Post-BL W

M-Mode
FHR (M)

D-Mode
FHR (Doppler)

- Gynecology

Summarized items:

Provides measurements of uterus, cervix, ovary, follicle, urethra, rectum, levator ani muscle and sphincter.

Detailed items:

B-Mode

UT L

UT H

UT W

Endo Cervix

L Cervix H

Cervix W

Ovary L

Ovary H

Ovary W

Follicle1 L

Follicle1 W

Follicle1 H

Follicle2 L

Follicle2 W

Follicle2 H

Follicle3 L

Follicle3 W

Follicle3 H

Follicle4 L

Follicle4 W

Follicle4 H

Follicle5 L

Follicle5 W

Follicle5 H

Follicle6 L

Follicle6 W

Follicle6 H

Follicle7 L

Follicle7 W

Follicle7 H

Follicle8 L

Follicle8 W

Follicle8 H

Follicle9 L

Follicle9 W

Follicle9 H

Follicle10 L

Follicle10 W

Follicle10 H

Follicle11 L

Follicle11 W

Follicle11 H

Follicle12 L

Follicle12 W

Follicle12 H

Follicle13 L

Follicle13 W

Follicle13 H

Follicle14 L

Follicle14 W

Follicle14 H

Follicle15 L

Follicle15 W

Follicle15 H

Follicle16 L

Follicle16 W

Follicle16 H

Follicle17 L

Follicle17 W

Follicle17 H

Follicle18 L

Follicle18 W

Follicle18 H

Follicle19 L

Follicle19 W

Follicle19 H

Follicle20 L

Follicle20 W

Follicle20 H

Follicle21 L

Follicle21 W

Follicle21 H

Follicle22 L

Follicle22 W

Follicle22 H

Follicle23 L

Follicle23 W

Follicle23 H

Follicle24 L

Follicle24 W

Follicle24 H

Follicle25 L

Follicle25 W

Follicle25 H

Follicle26 L

Follicle26 W

Follicle26 H

Follicle27 L

Follicle27 W

Follicle27 H
Follicle28 L
Follicle28 W
Follicle28 H
Follicle29 L
Follicle29 W
Follicle29 H
Follicle30 L
Follicle30 W
Follicle30 H
DWT BSD(R)
BSD(Va)
RVA(R)
RVA(Va)
UTA(R)
UTA(Va) URA
PVA(R)
PVA(Va)
PUA(R)
PUA(Va)
BPW-SP Dist.(R)
BPW-SP Dist.(Va)
Cx-SP Dist.(R)
Cx-SP Dist.(Va)
RA-SP Dist.(R)
RA-SP Dist.(Va)
Shuttle(R)
Shuttle(Va)
Rectocele Depth
Intus. Depth
ARA(R)
ARA(Va)
ARA(C)
LH AP Diam(R)
LH AP Diam(Va) LH
AP Diam(C)
LH Lateral Diam(R) LH
Lateral Diam(Va) LH
Lateral Diam(C) LH
Area(R)
LH Area(Va)
LH Area(C) LA
Angle(R) LA
Angle(Va) LA
Angle(C)
LA Thickness(R)
LA Thickness(Va)
LA Thickness(C)
LUG(R)
LUG(Va)
LUG(C)
GYN Lesion1 Strain
GYN Lesion2 Strain
GYN Lesion3 Strain
Lesion1 Elas.
Lesion2 Elas.
Lesion3 Elas.
Fibroid1 Strain
Fibroid2 Strain
Fibroid3 Strain
Fibroid1 Elas.
Fibroid2 Elas.
Fibroid3 Elas.

UT Vol
UT SUM
UT-L/CX-L
Ovary Vol
Follicle1
Follicle2
Follicle3
Follicle4
Follicle5
Follicle6
Follicle7
Follicle8
Follicle9
Follicle10
Follicle11
Follicle12
Follicle13
Follicle14
Follicle15
Follicle16
Follicle17
Follicle18
Follicle19
Follicle20
Follicle21
Follicle22
Follicle23
Follicle24
Follicle25
Follicle26

Follicle27
Follicle28
Follicle29
Follicle30
Mean DWT
BND
IAS Damage
EAS Damage

Uterus
UT L
UT H
UT W
Endo Uterine
Cervix
Cervix L
Cervix H
Cervix W
Fibroid 1
d1
d2
d3
Fibroid 2 d1
d2
d3
Fibroid 3 d1
d2
d3
Uterine Finding 1 d1
d2
d3
Uterine Finding 2 d1
d2
d3
Uterine Finding 3 d1
d2
d3
Uterine Finding 4 d1
d2
d3
Uterine Finding 5 d1
d2
d3
Uterine Finding 6 d1
d2
d3
Ovary
Ovary L
Ovary H
Ovary W
Ovarian Cyst 1
d1
d2
d3
Ovarian Cyst 2
d1
d2
d3
Ovarian Cyst 3
d1
d2
d3
Ovarian Finding 1 d1
d2
d3
Ovarian Finding 2 d1
d2
d3
Ovarian Finding 3 d1
d2
d3
Ovarian Finding 4 d1
d2
d3
Ovarian Finding 5 d1
d2
d3
Ovarian Finding 6 d1
d2
d3
Follicle1
Follicle1 L

- Follicle1 W
- Follicle1 H

Follicle2 Follicle2
- L Follicle2 W
- Follicle2 H

Follicle3 Follicle3
- L Follicle3 W
- Follicle3 H

Follicle4 Follicle4
- L Follicle4 W
- Follicle4 H

Follicle5 Follicle5
- L Follicle5 W
- Follicle5 H

Follicle6 Follicle6
- L Follicle6 W
- Follicle6 H

Follicle7 Follicle7
- L Follicle7 W
- Follicle7 H

Follicle8 Follicle8
- L Follicle8 W
- Follicle8 H

Follicle9 Follicle9
- L Follicle9 W
- Follicle9 H

Follicle10
- Follicle10 L
- Follicle10 W
- Follicle10 H

Follicle11
- Follicle11 L
- Follicle11 W
- Follicle11 H

Follicle12
- Follicle12 L
- Follicle12 W
- Follicle12 H

Follicle13
- Follicle13 L
- Follicle13 W
- Follicle13 H

Follicle14 Follicle14
- L Follicle14 W
- Follicle14 H

Follicle15 Follicle15
- L Follicle15 W
- Follicle15 H

Follicle16 Follicle16
- L Follicle16 W
- Follicle16 H

Follicle17 Follicle17
- L Follicle17 W
- Follicle17 H

Follicle18 Follicle18
- L Follicle18 W
- Follicle18 H

Follicle19 Follicle19
- L Follicle19 W
- Follicle19 H

Follicle20
- Follicle20 L
- Follicle20 W
- Follicle20 H

Follicle21 Follicle21
- L Follicle21 W
- Follicle21 H

Follicle22
- Follicle22 L
- Follicle22 W
- Follicle22 H

Follicle23
- Follicle23 L
- Follicle23 W
- Follicle23 H

Follicle24
- Follicle24 L
- Follicle24 W
- Follicle24 H

Follicle25 Follicle25
- L

Follicle25 W
Follicle25 H
Follicle26 Follicle26 L
Follicle26 W
Follicle26 H
Follicle27 Follicle27 L
Follicle27 W
Follicle27 H
Follicle28 Follicle28 L
Follicle28 W
Follicle28 H
Follicle29 Follicle29 L
Follicle29 W
Follicle29 H
Follicle30 Follicle30 L
Follicle30 W
Follicle30 H
GYN Lesion 1
d1
d2
d3
GYN Lesion 2
d1
d2
d3
GYN Lesion 3
d1
d2
d3
Residual Urine
BL Height BL
Depth
GYN Lesion1 Strain Ratio A
B
GYN Lesion2 Strain Ratio A
B
GYN Lesion3 Strain Ratio A
B
Lesion1 Elas. Ratio A
B
Lesion2 Elas. Ratio A
B
Lesion3 Elas. Ratio A
B
Fibroid1 Strain Ratio A
B
Fibroid2 Strain Ratio A
B
Fibroid3 Strain Ratio A
B
Fibroid1 Elas. Ratio A
B
Fibroid2 Elas. Ratio A
B
Fibroid3 Elas. Ratio A
B

- Obstetric Summarized items:
  - Multiple fetuses, maximum number of fetuses: 4
  - Fetal physiology score
  - Z score
  - Fetal GA
  - Fetal growth curve
  - EFW

Detailed items:
B-Mode
GS
YS L
CRL
NT
BPD
OFD
HC
AC
FL
TAD
APAD
TCD

CM
IT
LVW
HW
OOD
IOD
HUM
Ulna
RAD
Tibia
FIB
CLAV
Vertebrae
MP
Foot
NBL
Ear
APTD
TTD
FTA
THD
HrtC
TC
Umb VD
F-kidney L
Mat Kidney
Cervix L
AF
NF
Orbit
PL Thickness
Sac Diam1 Sac
Diam2 Sac
Diam3 AF1
AF2
AF3
AF4
LVIDd
LVIDs
LV Diam
LA Diam
RVIDd
RVIDs
RV Diam
RA Diam
IVSd IVSs
IVS
LV Area LA
Area RV
Area RA
Area Ao
Diam MPA
Diam
LVOT Diam
RVOT Diam
Facial Angle
HrtA
MV Diam(Z-Score) PV
Diam(Z-Score)
Ao Asc Diam(Z-Score) Ao
Desc Diam(Z-Score) Duct
Art Diam(Z-Score) TV
Diam(Z-Score)
LPA Diam(Z-Score)
RPA Diam(Z-Score)
IVC Diam(Z-Score)
AV Diam(Z-Score)
MPA Diam(Z-Score)
RV Diam(Z-Score) LV
Diam(Z-Score) RV
Area(Z-Score) LV
Area(Z-Score)
RVIDd(Z-Score)
LVIDd(Z-Score)
UT L
UT H
UT W
Endo
AH
PH
3th Ventricle NT
Above Cord NT
Below Cord
Mandible
Prenasal th Heart
AP
Heart T LV
Width LV
Length RV
Width
RV Length
LA Width
RA Width
LVWd

LVWs
RVWd
RVWs
AV Diam
AV Area
PV Area
F-kidney H
F-kidney W
Lung
Stomach YS
H
YS W
Amniotic Sac L
Amniotic Sac H
Amniotic Sac W
Ovary Cyst L
Ovary Cyst H
Ovary Cyst W UT
AW
UT PW
CSP
FMF
MMF
Lung CCAM L
Lung CCAM H
Lung CCAM W
AD
Iliac Wing Angle
FAGL
FAG
Intestinum Crassum
Liver Length
Rib Length
Shoulder Blade

MAD
Mean Sac Diam
AFI
EFW
EFW2
HC/AC(Campbell)
FL/AC
FL/BPD
AXT
CI
FL/HC(Hadlock)
AC(c)
HC(c)

HrtC/TC
TCD/AC
LVW/HW
LVD/RVD
LAD/RAD
AoD/MPAD
LAD/AoD
UT Vol
UT SUM
UT-L/CX-L

- AFI
AF1
AF2
AF3
AF4
Uterus
UT L
UT H
UT W
Endo

M-Mode
FHR (M)
LVIDd
LVIDs
RVIDd
RVIDs
IVSd IVSs
RVIDd(Z-Score)
LVIDd(Z-Score)
MVE
TVE
AVE
MAPSE
TAPSE
LV ICT
LV IRT
LV ET
RV ICT
RV IRT
RV ET

D-Mode
Umb A
Duct Veno
Placenta A

MCA
Fetal Ao
Desc Aorta
Ut A
Ovarian A
FHR (Doppler)
Asc Aorta RVOT
LVOT
MV E
MV A
TV E
TV A
MV E'
MV A'
MV S'
TV E'
TV A'
TV S'
AV PV
AV VTI
PV PV
PV VTI
Duct Art PV
Duct Art VTI
AV TPV
PV TPV
Duct Art TPV
Thoracic Aorta
Hepatic Vein IVC
Umb V
Ovary
Endometrium
Cervical Cancer
Fibroid
Duct Art
ICA
Celiac A

- MV E/A
TV E/A MV
E/E' TV
E/E'

- Pediatrics
  Summarized items: provides application measurement related to pediatrics

  Detailed items:
  B-Mode
  HIP
  HIP-Graft
  HIP(α)
  HIP(β)
  d/D
- SmallPart
  Summarized items:
  Provides measurements of thyroid, parotid gland, lymph nodes, testis, epididymis, thyroid nodules, breast, etc.

  Detailed items:
  B-Mode Thyroid
  L Thyroid H
  Thyroid W
  Isthmus H
  THY Nodule1 Strain
  THY Nodule2 Strain
  THY Nodule3 Strain
  THY Nodule1 Elas. THY
  Nodule2 Elas. THY
  Nodule3 Elas. Breast
  Mass1 Strain Breast
  Mass1 Elas. Breast
  Mass2 Strain Breast
  Mass2 Elas. Breast
  Mass3 Strain Breast
  Mass3 Elas. Breast
  Mass4 Strain Breast
  Mass4 Elas. Breast
  Mass5 Strain Breast
  Mass5 Elas. Breast
  Mass6 Strain Breast
  Mass6 Elas. Breast
  Mass7 Strain Breast
  Mass7 Elas. Breast
  Mass8 Strain Breast
  Mass8 Elas. Breast
  Mass9 Strain Breast
  Mass9 Elas. Breast
  Mass10 Strain Breast
  Mass10 Elas. Testicular
  L

Testicular H
Testicular W
Epididymis L
Epididymis H
Epididymis W
Scrotal Wall
Testis V(2D)
Testis V(Valsalva 2D)

Thyroid Vol
Testicular Vol

Thyroid(Superior)
Anterior-Posterior
Transverse
Thyroid(Mid) Anterior-Posterior Transverse
Thyroid(Inferior)
Anterior-Posterior
Transverse
Parathyroid 1
Long
Anterior-Posterior
Transverse
Parathyroid 2
Long
Anterior-Posterior
Transverse
Parotid
Long
Anterior-Posterior
Transverse
Lymph Node 1
Long
Anterior-Posterior
Transverse
Lymph Node 2
Long
Anterior-Posterior
Transverse
Lymph Node 3
Long
Anterior-Posterior
Transverse
Lymph Node 4
Long
Anterior-Posterior
Transverse
Lymph Node 5
Long
Anterior-Posterior
Transverse
Lymph Node 6
Long
Anterior-Posterior
Transverse
Thyroid
Thyroid L
Thyroid H
Thyroid W
Thyroid Nodule 1
Long
Anterior-Posterior
Transverse
Thyroid Nodule 2
Long
Anterior-Posterior
Transverse
Thyroid Nodule 3
Long
Anterior-Posterior
Transverse
Thyroid Nodule 4
Long
Anterior-Posterior
Transverse
Thyroid Nodule 5
Long
Anterior-Posterior
Transverse
Thyroid Nodule 6
Long
Anterior-Posterior
Transverse
Thyroid Nodule 7
Long
Anterior-Posterior
Transverse
Thyroid Nodule 8
Long
Anterior-Posterior
Transverse
Thyroid Nodule 9
Long
Anterior-Posterior

Transverse Thyroid Nodule 10
Long
Anterior-Posterior
Transverse
THY Nodule1 Strain Ratio A
B
THY Nodule2 Strain Ratio A
B
THY Nodule3 Strain Ratio A
B
THY Nodule1 Elas. Ratio A
B
THY Nodule2 Elas. Ratio A
B
THY Nodule3 Elas. Ratio A
B
Breast Mass 1 L
H
W
Nip. Dist.
Skin Dist.
Breast Mass 2 L
H
W
Nip. Dist.
Skin Dist.
Breast Mass 3 L
H
W
Nip. Dist.
Skin Dist.
Breast Mass 4 L
H
W
Nip. Dist.
Skin Dist.
Breast Mass 5
L
H
W
Nip. Dist. Skin Dist.
Breast Mass 6 L
H
W
Nip. Dist. Skin Dist.
Breast Mass 7 L
H
W
Nip. Dist. Skin Dist.
Breast Mass 8 L
H
W
Nip. Dist. Skin Dist.
Breast Mass 9 L
H
W
Nip. Dist. Skin Dist.
Breast Mass 10 L
H
W
Nip. Dist. Skin Dist.
Breast Mass1 Strain Ratio A
B
Breast Mass1 Elas. Ratio A
B
Breast Mass2 Strain Ratio A
B
Breast Mass2 Elas. Ratio A
B
Breast Mass3 Strain Ratio

A
B
Breast Mass3 Elas. Ratio A
B
Breast Mass4 Strain Ratio A
B
Breast Mass4 Elas. Ratio A
B
Breast Mass5 Strain Ratio A
B
Breast Mass5 Elas. Ratio A
B
Breast Mass6 Strain Ratio A
B
Breast Mass6 Elas. Ratio A
B
Breast Mass7 Strain Ratio A
B
Breast Mass7 Elas. Ratio A
B
Breast Mass8 Strain Ratio A
B
Breast Mass8 Elas. Ratio A
B
Breast Mass9 Strain Ratio A
B
Breast Mass9 Elas. Ratio A
B
Breast Mass10 Strain Ratio A
B
Breast Mass10 Elas. Ratio A
B
Testicular
Testicular L
Testicular H
Testicular W
Testis Mass 1
d1
d2
d3
Testis Mass 2 d1
d2
d3
Testis Mass 3 d1
d2
d3
Epididymis
Epididymis L
Epididymis H
Epididymis W
Testicle(Superior) H
W
Testicle(Mid) H
W
Testicle(Inferior) H
W
Epididymal Head L
H
W
Epididymal Body L
H
W
Epididymal Tail L
H
W

M-Mode

D-Mode
STA
ITA
Isthmus
Parathyroid 1

Parathyroid 2
Testis A Testis
V
Testis V(Valsalva)
Epididymis A
Epididymis V

- Urology Summarized items:

  Provides measurement of kidney, kidney cortex, adrenal gland, prostate gland, seminal vesicle, bladder, testis, epididymis, scrotal wall, and urine output.

  Detailed items:
  B-Mode Renal
  L Renal H
  Renal W
  Cortex
  Adrenal L
  Adrenal H
  Adrenal W
  Ureter
  Cortex(Renal Transplant1)
  Renal V Diam(Renal Transplant1) Ureter Diam(Renal Transplant1) Cortex(Renal Transplant2)
  Renal V Diam(Renal Transplant2) Ureter Diam(Renal Transplant2) Prostate L
  Prostate H
  Prostate W
  Seminal L
  Seminal H
  Seminal W
  Urethra
  Smart Bladder Dual
  Pre-BL L
  Pre-BL H
  Pre-BL W
  Post-BL L
  Post-BL H
  Post-BL W
  Testicular L
  Testicular H
  Testicular W
  Epididymis L
  Epididymis H
  Epididymis W
  Scrotal Wall
  Testis V(2D)
  Testis V(Valsalva 2D)
  Prostate Mass1 Strain
  Prostate Mass2 Strain
  Prostate Mass3 Strain
  Prostate Mass1 Elas.
  Prostate Mass2 Elas.
  Prostate Mass3 Elas.

  Renal Vol
  Prostate Vol
  Pre-BL Vol
  Post-BL Vol
  Mictur.Vol
  Testicular Vol

  Kidney
    Renal L
    Renal H
    Renal W
    Cortex
  Adrenal
    Adrenal L
    Adrenal H
    Adrenal W
  Renal Lesion 1 d1
    d2
    d3
  Renal Lesion 2 d1
    d2
    d3
  Renal Lesion 3 d1
    d2
    d3
  Renal Cyst 1
    d1
    d2
    d3
  Renal Cyst 2
    d1
    d2
    d3

Renal Cyst 3
d1
d2
d3
Kidney(Superior) H
W
Kidney(Mid) H
W
Kidney(Inferior) H
W
Renal A
Long
Anterior-Posterior Transverse
Renal A Aneurysm Long
Anterior-Posterior Transverse
Kidney(Renal Transplant1) L
H
W
Adrenal(Renal Transplant1) L
H
W
Finding 1(Renal Transplant1) L
H
W
Finding 2(Renal Transplant1) L
H
W
Finding 3(Renal Transplant1) L
H
W
Finding 4(Renal Transplant1) L
H
W
Finding 5(Renal Transplant1) L
H
W
Finding 6(Renal Transplant1) L
H
W
Renal Transplant 1(2D)
Cortex(Renal Transplant1)
Renal V Diam(Renal Transplant1) Ureter Diam(Renal Transplant1) Kidney(Renal Transplant1)
L
H
W
Adrenal(Renal Transplant1) L
H
W
Finding 1(Renal Transplant1) L
H
W
Finding 2(Renal Transplant1) L
H
W
Finding 3(Renal Transplant1) L
H
W
Finding 4(Renal Transplant1) L
H
W
Finding 5(Renal Transplant1) L
H
W
Finding 6(Renal Transplant1) L
H
W
Kidney(Renal Transplant2) L
H
W
Adrenal(Renal Transplant2) L
H

W
Finding 1(Renal Transplant2) L
H
W
Finding 2(Renal Transplant2) L
H
W
Finding 3(Renal Transplant2) L
H
W
Finding 4(Renal Transplant2) L
H
W
Finding 5(Renal Transplant2) L
H
W
Finding 6(Renal Transplant2) L
H
W
Renal Transplant 2(2D) Cortex(Renal Transplant2)
Renal V Diam(Renal Transplant2)
Ureter Diam(Renal Transplant2)
Kidney(Renal Transplant2)
L
H
W
Adrenal(Renal Transplant2) L
H
W
Finding 1(Renal Transplant2) L
H
W
Finding 2(Renal Transplant2) L
H
W
Finding 3(Renal Transplant2) L
H
W
Finding 4(Renal Transplant2) L
H
W
Finding 5(Renal Transplant2) L
H
W
Finding 6(Renal Transplant2) L
H
W
Prostate Prostate L
Prostate H
Prostate W
Prostate2
Long
Anterior-Posterior Coronal
Seminal Vesicle
Seminal L
Seminal H
Seminal W
Prostate Mass 1 d1
d2
d3
Prostate Mass 2
d1
d2
d3
Prostate Mass 3
d1
d2
d3
Bladder Pre-
BL L Pre-
BL H Pre-
BL W
Post-BL L
Post-BL H
Post-BL W
Smart Bladder
XS Bladder
Sag Bladder
Testicular

Testicular L
Testicular H
Testicular W
Testis Mass 1
d1
d2
d3
Testis Mass 2 d1
d2
d3
Testis Mass 3 d1
d2
d3
Epididymis
Epididymis L
Epididymis H
Epididymis W
Testicle(Superior) H
W
Testicle(Mid) H
W
Testicle(Inferior) H
W
Epididymal Head L
H
W
Epididymal Body L
H
W
Epididymal Tail L
H
W
Prostate Mass1 Strain Ratio A
B
Prostate Mass2 Strain Ratio A
B
Prostate Mass3 Strain Ratio A
B
Prostate Mass1 Elas. Ratio A
B
Prostate Mass2 Elas. Ratio A
B
Prostate Mass3 Elas. Ratio A
B

M-Mode

D-Mode
Renal A
Ren A Org
M Renal A
Renal A1
Renal A2
Hilum
Interlobar A
Arcuate A
Segment A
Artery Anast(Renal Transplant1) Artery Anast 2(Renal Transplant1) Vein Anast(Renal Transplant1) Vein Anast 2(Renal Transplant1) Renal A(Renal Transplant1)
Renal A1(Renal Transplant1) Renal A2(Renal Transplant1) Hilum(Renal Transplant1) Interlobar A(Renal Transplant1) Arcuate A(Renal Transplant1) Segmental A(Renal Transplant1) Renal Vein 1(Renal Transplant1) Renal Vein 2(Renal Transplant1) Artery Anast(Renal Transplant2) Artery Anast 2(Renal Transplant2) Vein Anast(Renal Transplant2) Vein Anast 2(Renal Transplant2) Renal A(Renal Transplant2)
Renal A1(Renal Transplant2) Renal A2(Renal Transplant2) Hilum(Renal Transplant2) Interlobar A(Renal Transplant2) Arcuate A(Renal Transplant2) Segmental A(Renal Transplant2) Renal Vein 1(Renal Transplant2)

Renal Vein 2(Renal Transplant2)
Testis A
Testis V
Testis V(Valsalva)
Epididymis A Epididymis V

Renal Transplant 1(Doppler) Artery
Anast(Renal Transplant1)
Artery Anast 2(Renal Transplant1) Vein Anast(Renal Transplant1) Vein Anast 2(Renal Transplant1) Renal A(Renal Transplant1)
Renal A1(Renal Transplant1) Renal A2(Renal Transplant1) Hilum(Renal Transplant1) Interlobar A(Renal Transplant1) Arcuate A(Renal Transplant1) Segmental A(Renal Transplant1) Renal Vein 1(Renal Transplant1) Renal Vein 2(Renal Transplant1)
Renal Transplant 2(Doppler) Artery
Anast(Renal Transplant2)
Artery Anast 2(Renal Transplant2) Vein Anast(Renal Transplant2) Vein Anast 2(Renal Transplant2) Renal A(Renal Transplant2)
Renal A1(Renal Transplant2) Renal A2(Renal Transplant2) Hilum(Renal Transplant2) Interlobar A(Renal Transplant2) Arcuate A(Renal Transplant2) Segmental A(Renal Transplant2) Renal Vein 1(Renal Transplant2) Renal Vein 2(Renal Transplant2)

- Vascular

Summarized items:

Provides measurement of carotid artery, jugular vein, upper limb artery, lower limb artery, upper limb vein and lower limb vein.

Detailed items:

B-Mode
CCA IMT
Bulb IMT
ICA IMT
ECA IMT

IMT
CCA IMT
Bulb IMT ICA
IMT ECA IMT
CCA
Anterior-Posterior Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
Bulb
Anterior-Posterior Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
Carotid Bifurcation
Anterior-Posterior Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
ICA
Anterior-Posterior Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
ECA
Anterior-Posterior Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
Vert A
Anterior-Posterior Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area

Subclav A
Anterior-Posterior Transverse
Outer Diameter
Inner Diameter
Outer Area Inner
Area
Innom A
Anterior-Posterior Transverse
Outer Diameter
Inner Diameter
Outer Area Inner
Area
Mammary A Anterior-
Posterior Transverse
Outer Diameter
Inner Diameter
Outer Area Inner
Area
CCA Aneurysm
Long
Anterior-Posterior Transverse
Bulb Aneurysm
Long
Anterior-Posterior Transverse
Carotid Bifurcation Aneurysm
Long
Anterior-Posterior Transverse
ICA Aneurysm
Long
Anterior-Posterior Transverse
ECA Aneurysm
Long
Anterior-Posterior Transverse
Vert A Aneurysm Long
Anterior-Posterior Transverse
Subclav A Aneurysm Long
Anterior-Posterior
Transverse Innom
A Aneurysm
Long
Anterior-Posterior
Transverse
Mammary A Aneurysm Long
Anterior-Posterior
Transverse
Carotid Graft 1 Anast Long
Anterior-Posterior
Transverse
Carotid Graft 1 Graft Long
Anterior-Posterior
Transverse
Carotid Graft 2 Anast Long
Anterior-Posterior
Transverse
Carotid Graft 2 Graft Long
Anterior-Posterior
Transverse
Carotid Graft 3 Anast Long
Anterior-Posterior
Transverse
Carotid Graft 3 Graft Long
Anterior-Posterior
Transverse
Carotid Stent 1
Long
Anterior-Posterior
Transverse
Carotid Stent 2
Long
Anterior-Posterior
Transverse
Carotid Stent 3
Long
Anterior-Posterior
Transverse
Carotid Stenosis 1
Anterior-Posterior
Transverse

- Outer Diameter
- Inner Diameter
- Outer Area Inner Area

Carotid Stenosis 2
- Anterior-Posterior
- Transverse
- Outer Diameter
- Inner Diameter
- Outer Area Inner Area

Carotid Stenosis 3
- Anterior-Posterior
- Transverse
- Outer Diameter
- Inner Diameter
- Outer Area Inner Area

Carotid Stenosis 4
- Anterior-Posterior
- Transverse
- Outer Diameter
- Inner Diameter
- Outer Area Inner Area

Axill A
- Anterior-Posterior
- Transverse
- Outer Diameter
- Inner Diameter
- Outer Area Inner Area

Brachial A
- Anterior-Posterior
- Transverse
- Outer Diameter
- Inner Diameter
- Outer Area Inner Area

Radial A
- Anterior-Posterior
- Transverse
- Outer Diameter
- Inner Diameter
- Outer Area Inner Area

Ulnar A
- Anterior-Posterior
- Transverse Outer Diameter Inner Diameter Outer Area Inner Area

Axill A Aneurysm Long
- Anterior-Posterior
- Transverse

Brachial A Aneurysm Long
- Anterior-Posterior
- Transverse

Radial A Aneurysm Long
- Anterior-Posterior
- Transverse

Ulnar A Aneurysm Long
- Anterior-Posterior
- Transverse

UE A Graft 1 Native Inflow
- Anterior-Posterior
- Transverse

UE A Graft 1 Anast
- Anterior-Posterior
- Transverse

UE A Graft 1 Graft
- Anterior-Posterior
- Transverse

UE A Graft 1 Native Outflow
- Anterior-Posterior Transverse

UE A Graft 2 Native Inflow
- Anterior-Posterior
- Transverse

UE A Graft 2 Anast
- Anterior-Posterior
- Transverse

UE A Graft 2 Graft
- Anterior-Posterior
- Transverse

UE A Graft 2 Native Outflow
- Anterior-Posterior Transverse

UE A Graft 3 Native Inflow
- Anterior-Posterior
- Transverse

UE A Graft 3 Anast
Anterior-Posterior
Transverse
UE A Graft 3 Graft
Anterior-Posterior
Transverse
UE A Graft 3 Native Outflow
Anterior-Posterior Transverse
UE A Stent 1 Long
Anterior-Posterior
Transverse
UE A Stent 2 Long
Anterior-Posterior
Transverse
UE A Stent 3 Long
Anterior-Posterior
Transverse
UE A Stenosis 1(2D)
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
UE A Stenosis 2(2D)
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
UE A Stenosis 3(2D)
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
UE A Stenosis 4(2D)
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area
Inner Area
C.Iliac A
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
Ex.Iliac A
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
IIA
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
CFA
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
DFA
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
SFA
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner Area
Pop A
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter

- Outer Area
- Inner Area

TP Trunk A
- Anterior-Posterior
- Transverse
- Outer Diameter
- Inner Diameter
- Outer Area Inner Area

A.Tib A
- Anterior-Posterior
- Transverse
- Outer Diameter
- Inner Diameter
- Outer Area Inner Area

Peroneal A
- Anterior-Posterior
- Transverse
- Outer Diameter
- Inner Diameter
- Outer Area Inner Area

P.Tib A
- Anterior-Posterior
- Transverse
- Outer Diameter
- Inner Diameter
- Outer Area Inner Area

Dors.Ped. A Anterior-Posterior Transverse
- Outer Diameter
- Inner Diameter
- Outer Area Inner Area

C.Iliac A Aneurysm
- Long
- Anterior-Posterior
- Transverse

Ex.Iliac A Aneurysm
- Long
- Anterior-Posterior
- Transverse

IIA Aneurysm
- Long
- Anterior-Posterior
- Transverse

CFA Aneurysm
- Long
- Anterior-Posterior
- Transverse

DFA Aneurysm
- Long
- Anterior-Posterior
- Transverse

SFA Aneurysm
- Long
- Anterior-Posterior
- Transverse

Pop A Aneurysm
- Long
- Anterior-Posterior
- Transverse

TP Trunk A Aneurysm Long
- Anterior-Posterior
- Transverse

A.Tib A Aneurysm Long
- Anterior-Posterior
- Transverse

Peroneal A Aneurysm
- Long
- Anterior-Posterior
- Transverse

P.Tib A Aneurysm
- Long
- Anterior-Posterior
- Transverse

Dors.Ped. A Aneurysm
- Long
- Anterior-Posterior
- Transverse

LE A Graft 1 Native Inflow
- Anterior-Posterior
- Transverse

LE A Graft 1 Anast
- Anterior-Posterior
- Transverse

LE A Graft 1 Graft
- Anterior-Posterior
- Transverse

LE A Graft 1 Native Outflow
- Anterior-Posterior

Transverse
LE A Graft 2 Native Inflow
Anterior-Posterior
Transverse
LE A Graft 2 Anast
Anterior-Posterior
Transverse
LE A Graft 2 Graft
Anterior-Posterior
Transverse
LE A Graft 2 Native Outflow
Anterior-Posterior Transverse
LE A Graft 3 Native Inflow
Anterior-Posterior
Transverse
LE A Graft 3 Anast
Anterior-Posterior
Transverse
LE A Graft 3 Graft
Anterior-Posterior
Transverse
LE A Graft 3 Native Outflow
Anterior-Posterior Transverse
LE A Stent 1 Long
Anterior-Posterior Transverse
LE A Stent 2 Long
Anterior-Posterior Transverse
LE A Stent 3 Long
Anterior-Posterior Transverse
LE A Stenosis 1(2D)
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner
Area
LE A Stenosis 2(2D)
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner
Area
LE A Stenosis 3(2D)
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner
Area
LE A Stenosis 4(2D)
Anterior-Posterior
Transverse
Outer Diameter
Inner Diameter
Outer Area Inner
Area
LE A Finding 1
Long
Anterior-Posterior
Transverse
LE A Finding 2
Long
Anterior-Posterior
Transverse
LE A Finding 3
Long
Anterior-Posterior
Transverse
LE A Finding 4
Long
Anterior-Posterior
Transverse
LE A Finding 5
Long
Anterior-Posterior
Transverse
LE A Finding 6
Long
Anterior-Posterior
Transverse
Int Jug V
Anterior-Posterior
Transverse Checklist
Innom V
Anterior-Posterior
Transverse

Checklist Subclav V
Anterior-Posterior
Transverse Checklist
Ax V
Anterior-Posterior
Transverse Checklist
Brachial V
Anterior-Posterior
Transverse Checklist
Radial V
Anterior-Posterior
Transverse Checklist
Ulnar V
Anterior-Posterior
Transverse Checklist
Volar V
Anterior-Posterior
Transverse Checklist
Cephalic V
Anterior-Posterior
Transverse Checklist
Basilic V
Anterior-Posterior
Transverse Checklist
CA Junction Anterior-
Posterior Transverse
Checklist
Upper Arm Cephalic V
Anterior-Posterior
Transverse Checklist
Cephalic-Antecubital V
Anterior-Posterior
Transverse
Checklist Forearm
Cephalic V
Anterior-Posterior
Transverse
Checklist BA
Junction
Anterior-Posterior
Transverse Checklist
Upper Arm Basilic V
Anterior-Posterior
Transverse Checklist
Basilic-Antecubital V
Anterior-Posterior
Transverse Checklist
Forearm Basilic V
Anterior-Posterior
Transverse Checklist
Digital V
Anterior-Posterior
Transverse Checklist
Median Cubital V
Anterior-Posterior
Transverse Checklist
AVF-Inflow Artery
Anterior-Posterior
Transverse
AVF-Anast
Anterior-Posterior
Transverse
AVF-Outflow Vein Level 1
Anterior-Posterior
Transverse
AVF-Outflow Vein Level 2
Anterior-Posterior
Transverse
AVF-Outflow Vein Level 3
Anterior-Posterior
Transverse
AVF-Outflow Vein Level 4
Anterior-Posterior
Transverse
AVF-Outflow Vein Level 5
Anterior-Posterior
Transverse
AVF-Outflow Vein Level 6
Anterior-Posterior

- Transverse
- AVF-Stenosis 1
  - Anterior-Posterior
  - Transverse
- AVF-Stenosis 2
  - Anterior-Posterior
  - Transverse
- AVF-Stenosis 3
  - Anterior-Posterior
  - Transverse
- AVF-Aneurysm 1
  - Anterior-Posterior
  - Transverse
- AVF-Aneurysm 2
  - Anterior-Posterior
  - Transverse
- AVF-Aneurysm 3
  - Anterior-Posterior
  - Transverse
- AV Graft-Inflow Artery
  - Anterior-Posterior
  - Transverse
- AV Graft-Arterial Anast
  - Anterior-Posterior
  - Transverse
- AV Graft-Graft
  - Anterior-Posterior
  - Transverse
- AV Graft-Venous Anast
  - Anterior-Posterior
  - Transverse
- AV Graft-Outflow Vein Level 1
  - Anterior-Posterior Transverse
- AV Graft-Outflow Vein Level 2
  - Anterior-Posterior Transverse
- AV Graft-Outflow Vein Level 3
  - Anterior-Posterior Transverse
- AV Graft-Outflow Vein Level 4
  - Anterior-Posterior Transverse
- AV Graft-Outflow Vein Level 5
  - Anterior-Posterior Transverse
- AV Graft-Outflow Vein Level 6
  - Anterior-Posterior
  - Transverse
- C.Iliac V
  - Anterior-Posterior
  - Transverse Checklist
- Ex.Iliac V
  - Anterior-Posterior
  - Transverse Checklist
- IIV
  - Anterior-Posterior
  - Transverse Checklist
- CFV
  - Anterior-Posterior
  - Transverse Checklist
- Femoral V
  - Anterior-Posterior
  - Transverse Checklist
- DFV
  - Anterior-Posterior
  - Transverse Checklist
- Pop V
  - Anterior-Posterior
  - Transverse Checklist
- P.Tib V
  - Anterior-Posterior
  - Transverse Checklist
- Peroneal V
  - Anterior-Posterior
  - Transverse Checklist
- Sural V
  - Anterior-Posterior
  - Transverse Checklist
- Soleal V
  - Anterior-Posterior
  - Transverse Checklist
- A.Tib V
  - Anterior-Posterior
  - Transverse

Checklist TP
Trunk V
Anterior-Posterior
Transverse Checklist
Saph V
Anterior-Posterior
Transverse Checklist
SSV
Anterior-Posterior
Transverse Checklist
SF Junction Anterior-
Posterior Transverse
Checklist
GSV Thigh
Anterior-Posterior
Transverse Checklist
GSV Knee
Anterior-Posterior
Transverse Checklist
GSV Calf
Anterior-Posterior
Transverse Checklist
SP Junction Anterior-
Posterior Transverse
Checklist
SSV Thigh Extension
Anterior-Posterior
Transverse Checklist
AASV
Anterior-Posterior
Transverse Checklist
PASV
Anterior-Posterior
Transverse Checklist
Thigh Perf
Anterior-Posterior
Transverse
Checklist
Prox Calf Perf
Anterior-Posterior
Transverse Checklist
Mid Calf Perf Anterior-
Posterior Transverse
Checklist
Dist Calf Perf Anterior-
Posterior Transverse
Checklist
Pseudoaneurysm Long
Anterior-Posterior
Transverse
Neck

M-Mode

D-Mode
ACA
A1 ACA
MCA M1
MCA M2
MCA
AComA
Terminal ICA
PComA
PCA
P1 PCA
P2 PCA
Opthalmic A ICA
Siphon Terminal
Vert A BA
Ba V
CCA
ICA
ECA
Bulb
Carotid Bifurcation Vert
A
Subclav A
Innom A
Mammary A
Subclav V

CCA Aneurysm
ICA Aneurysm
ECA Aneurysm
Bulb Aneurysm
Carotid Bifurcation Aneurysm Vert A Aneurysm
Subclav A Aneurysm Innom A Aneurysm Mammary A Aneurysm
Carotid Graft 1 Native Inflow
Carotid Graft 1 Anast Pre Carotid Graft 1 Anast Max Carotid Graft 1 Anast Post Carotid Graft 1 Graft
Carotid Graft 1 Native Outflow
Carotid Graft 2 Native Inflow
Carotid Graft 2 Anast Pre Carotid Graft 2 Anast Max Carotid Graft 2 Anast Post Carotid Graft 2 Graft
Carotid Graft 2 Native Outflow
Carotid Graft 3 Native Inflow
Carotid Graft 3 Anast Pre Carotid Graft 3 Anast Max Carotid Graft 3 Anast Post Carotid Graft 3 Graft
Carotid Graft 3 Native Outflow
Carotid Stent 1
Carotid Stent 2
Carotid Stent 3
Axill A
Brachial A
Ulnar A
Radial A
UE A Graft 1 Native Inflow UE A Graft 1 Anast
UE A Graft 1 Graft
UE A Graft 1 Native Outflow UE A Graft 2 Native Inflow UE A Graft 2 Anast
UE A Graft 2 Graft
UE A Graft 2 Native Outflow UE A Graft 3 Native Inflow UE A Graft 3 Anast
UE A Graft 3 Graft
UE A Graft 3 Native Outflow UE A Stent 1
UE A Stent 2
UE A Stent 3
C.Iliac A
Ex.Iliac A
IIA
CFA
DFA
SFA
Pop A
TP Trunk A
A.Tib A
Peroneal A
P.Tib A
Dors.Ped. A
LE A Graft 1 Native Inflow LE A Graft 1 Anast Pre
LE A Graft 1 Anast Max LE A Graft 1 Anast Post LE A Graft 1 Graft
LE A Graft 1 Native Outflow LE A Graft 2 Native Inflow LE A Graft 2 Anast Pre
LE A Graft 2 Anast Max LE A Graft 2 Anast Post LE A Graft 2 Graft
LE A Graft 2 Native Outflow LE A Graft 3 Native Inflow LE A Graft 3 Anast Pre
LE A Graft 3 Anast Max LE A Graft 3 Anast Post LE A Graft 3 Graft
LE A Graft 3 Native Outflow LE A Stent 1
LE A Stent 2
LE A Stent 3
Axill V
Brachial V
Radial V Ulnar V Cephalic V Basilic V
AVF-Inflow Artery
AVF-Anast
AVF-Outflow Vein Level 1
AVF-Outflow Vein Level 2
AVF-Outflow Vein Level 3
AVF-Outflow Vein Level 4
AVF-Outflow Vein Level 5
AVF-Outflow Vein Level 6

AVF-Stenosis 1
AVF-Stenosis 2
AVF-Stenosis 3
AV Graft-Inflow Artery AV Graft-Arterial Anast AV Graft-Graft
AV Graft-Venous Anast
AV Graft-Outflow Vein Level 1 AV Graft-Outflow Vein Level 2 AV Graft-Outflow Vein Level 3 AV Graft-Outflow Vein Level 4 AV Graft-Outflow Vein Level 5 AV Graft-Outflow Vein Level 6 ASP
BSP

CCA(Sten)
Pre Sten
Sten Post Sten
ICA(Sten)
Pre Sten
Sten Post Sten
ECA(Sten)
Pre Sten
Sten Post Sten
Bulb(Sten)
Pre Sten
Sten Post Sten
Carotid Bifurcation(Sten) Pre Sten
Sten Post Sten
Vert A(Sten) Pre Sten Sten
Post Sten Subclav A(Sten)
Pre Sten
Sten Post Sten
Innom A(Sten)
Pre Sten Sten
Post Sten
Mammary A(Sten)
Pre Sten
Sten
Post Sten Carotid Stenosis 1
Pre Sten
Sten
Post Sten Carotid Stenosis 2
Pre Sten
Sten
Post Sten Carotid Stenosis 3
Pre Sten
Sten
Post Sten Carotid Stenosis 4
Pre Sten
Sten
Post Sten
Axill A(Sten)
Pre Sten
Sten
Post Sten
Brachial A(Sten)
Pre Sten
Sten
Post Sten Ulnar A(Sten) Pre Sten
Sten
Post Sten
Radial A(Sten)
Pre Sten
Sten
Post Sten
UE A Stenosis 1
Pre Sten
Sten
Post Sten
UE A Stenosis 2
Pre Sten
Sten
Post Sten
UE A Stenosis 3
Pre Sten
Sten
Post Sten

UE A Stenosis 4 Pre Sten
Sten Post Sten
C.Iliac A(Sten)
Pre Sten Sten Post Sten
Ex.Iliac A(Sten)
Pre Sten Sten Post Sten
IIA(Sten) Pre Sten Sten Post Sten
CFA(Sten)
Pre Sten Sten Post Sten
DFA(Sten)
Pre Sten Sten Post Sten
SFA(Sten)
Pre Sten Sten Post Sten
Pop A(Sten) Pre Sten Sten Post Sten
TP Trunk A(Sten)
Pre Sten Sten Post Sten
A.Tib A(Sten)
Pre Sten Sten Post Sten
Peroneal A(Sten)
Pre Sten Sten Post Sten
P.Tib A(Sten) Pre Sten Sten Post Sten
Dors.Ped. A(Sten) Pre Sten Sten Post Sten
LE A Stenosis 1
Pre Sten Sten Post Sten
LE A Stenosis 2
Pre Sten Sten Post Sten
LE A Stenosis 3
Pre Sten Sten Post Sten
LE A Stenosis 4
Pre Sten Sten Post Sten
C.Iliac V
PV
Reflux
Checklist
Ex.Iliac V
PV
Reflux
Checklist
IIV
PV
Reflux
Checklist
CFV
PV
Reflux
Checklist
Femoral V
PV
Reflux
Checklist
DFV
PV
Reflux
Checklist
Pop V
PV
Reflux
Checklist

- P.Tib V
  - PV
  - Reflux
  - Checklist
- Peroneal V
  - PV
  - Reflux
  - Checklist
- Sural V
  - PV
  - Reflux
  - Checklist
- Soleal V
  - PV
  - Reflux
  - Checklist
- A.Tib V
  - PV
  - Reflux
  - Checklist
- TP Trunk V
  - PV
  - Reflux
  - Checklist
- Saph V
  - PV
  - Reflux
  - Checklist
- SSV
  - PV
  - Reflux
  - Checklist
- SF Junction
  - PV
  - Reflux
  - Checklist
- GSV Thigh
  - PV
  - Reflux
  - Checklist
- GSV Knee
  - PV
  - Reflux
  - Checklist
- GSV Calf
  - PV
  - Reflux
  - Checklist
- SP Junction
  - PV
  - Reflux
  - Checklist
- SSV Thigh Extension PV
  - Reflux
  - Checklist
- AASV
  - PV
  - Reflux
  - Checklist
- PASV
  - PV
  - Reflux
  - Checklist
- Thigh Perf
  - PV
  - Reflux
  - Checklist
- Prox Calf Perf
  - PV
  - Reflux
  - Checklist
- Mid Calf Perf PV
  - Reflux
  - Checklist
- Dist Calf Perf PV
  - Reflux
  - Checklist
- ABI
  - ASP
  - BSP