

GE

# Voluson E10 BT19

Data Sheet, Rev. 1

## Product description

The Voluson\* E10 BT19 is an advanced imaging platform that combines extraordinary image quality with our superb volume ultrasound technology.

## Highlights

- High Resolution 23" LCD LED or 22" OLED Display
- Radiance System Architecture
- Advanced 4D
- HD*live*\* Technology
- Advanced VCI
- SonoBiometry
- SonoAVC\**follicle*
- SonoVCAD\**heart*
- Advanced STIC
- eSTIC
- Advanced Fetal Echo
- *fetal*HQ
- Steerable CW
- Bi-Plane Mode
- Anatomical M-Mode
- Wide Sector
- Coded Contrast Imaging†
- Scan Assistant
- SonoNT\*
- SonoIT
- Compression & Shearwave Elastography
- Elastography Analysis
- Elastography Ratio Measurement
- B-Flow\*
- Radiant*flow*
- Slow*flow*HD
- SonoRender*live*
- Electronic Matrix Array Volume Technology
- High Performance Transvaginal Probe
- Electronic Height Adjustment
- Floating User Interface
- On Board Archive including Preview and Pre-selection



## General Specifications

Dimensions and weight	
Height (minimum)	1330 mm (52.4 in)
Height (maximum)	1670 mm (65.7 in)
Adjustable	with electrical motor
Width	580 mm (22.8 in)
Depth	940 mm (37.0 in)
Weight (no Peripherals)	147 kg (324.1 lbs.)

Power supply	
Voltage	100 – 240 VAC
Frequency	50/60 Hz (+/-1%)
Power	Max. 800 VA Including all options typical power consumption ~350VA without peripherals
Thermal Output	max. 2730 BTU/h

Console design	
4 Active and Imaging Probe Ports	
Integrated HDD	1 TB
Operating System: Windows** 10 IoT Enterprise 64 bit	
Integrated DVD+R(W)/CD-R(W) drive	
On-board storage for Peripherals	
Wheels	Wheel diameter 150 mm
Integrated cable management	
Front and rear handles	
Probe port illumination	

## User Interface

Operator keyboard	
Floating Keyboard:	
<ul style="list-style-type: none"><li>• Rotation: adjustable +/- 38° from center</li><li>• Height adjustable + 195 mm (7.9")</li></ul>	
Full-sized, backlit alphanumeric keyboard	
Ergonomic hard key layout	
Interactive back-lighting	
Integrated recording keys for remote control of up to 6 peripherals or DICOM® devices, one dedicated DVD recording key	

Touch screen	
12.1" high resolution color LCD screen	
Multi touch interactive dynamic software menu	
Brightness adjustable	

Monitor	
23" high resolution LCD LED Display with DVI interface	
Optional 22" OLED Display	
Resolution Full HD 1920 x 1080 pixel	
Display brightness up to 300 cd/m <sup>2</sup> (OLED: 205 cd/m <sup>2</sup> )	
Tilt/Rotate Adjustable Monitor	
Tilt angle: min. +30°/-75°	
Horizontal rotate angle: +/- 90°	
Digital brightness and contrast adjustment. Five default settings available: Extra Dark, Dark-, Semi Dark-, Light-, Extra Light Room, each for higher and lower color temperature	

## System Overview

Exam types	
Abdominal	
Obstetrical and Fetal Echo	
Gynecological	
Small Parts and Breast	
Vascular	
Pediatrics	
Transrectal	
Cardiology	
Cephalic	
Musculoskeletal (MSK)	

Operating modes	
Brightness Mode (B-Mode) (2D)	
Bi-Plane Mode, including steering of orthogonal plane	
Motion Mode – M-Mode (conventional M-Mode)	
Anatomical M-Mode (AMM)	
Pulsed Wave Doppler (PW) with HPRF	
Continuous Wave Doppler imaging (CW)	
Color Flow Doppler mode (CFM)	
Power Doppler Mode (PD)	
High Definition Power Doppler (HD-Flow*)	
Tissue Doppler Mode (TD) and PW-Tissue Doppler Mode	
B-Flow (BF)	
Compression & Shearwave Elastography (May not be available in all countries)	
Contrast Imaging Mode†	
Combination modes: M/CFM, M/HD-Flow, M/TD, PW/CFM, PW/HD-Flow, PW/PD, PW/TD	
Extended View (XTD View)	
Volume Mode (3D/4D):	
<ul style="list-style-type: none"><li>• 3D Static</li><li>• 4D Real Time</li><li>• VCI-A</li><li>• VCI-OmniView</li><li>• Spatio-Temporal Image Correlation (STIC) &amp; eSTIC</li><li>• 4D Biopsy</li></ul>	

Scanning methods	
Electronic Sector/Convex/Linear	
Mechanic/Electronic Volume Sweep	

User Management and Logging Functionality	
Multiple Users with individual log on credentials	
Different and adjustable access levels	
LDAP Interface	
Enhanced Audit Trail and Usage Log	

Privacy and Security Functionality	
Hard disc AES Encryption with 256-bit length	
Whitelisting	
Encrypted DICOM Communication Capability (TLS)	
Encryption and Data Anonymization Export Capability	
All ports, services and shared resources that are not required for the intended use are disabled	
Operating System Access disabled	

Deactivation of USB ports possible
<b>Transducer types</b>
Sector Array
Convex Array
Microconvex Array
Linear Array
Active Matrix Convex Array (1.25, 1.5D)
Active Matrix Linear Array (1.5D)
Volume probes 4D:
<ul style="list-style-type: none"> <li>• Convex Array</li> <li>• Microconvex Array</li> <li>• Active Matrix Convex Array (1.25, 1.5, 2D)</li> <li>• Active Matrix Linear Array (1.5D)</li> <li>• Linear Array</li> </ul>
<b>System standard features</b>
Innovative user interface with high resolution 12.1" LCD touch panel
B-Mode
M-Mode
PW-Doppler
CFM (Color Flow Doppler Mode)
Automatic Tissue Optimization
Auto TGC
Coded Harmonic Imaging with Pulse Inversion Technology
Coded Excitation (CE)
HD-Flow & Power Doppler Mode
Radiantflow
SlowFlowHD
B-Flow
Tissue Doppler and PW-Tissue Doppler
XTD
SRI II (Speckle Reduction Imaging)
HDlive Silhouette, HDlive Studio
HDlive Flow, HDlive Flow Silhouette
CrossXBeamCRI*(Compound Resolution Imaging)
SonoBiometry (HC, BPD, AC, FL, HL, SonoNT & SonoIT)
SonoCNS (May not be available in all countries)
SonoRender <i>live</i>
Scan Assistant:
<ul style="list-style-type: none"> <li>• Includes measurements, annotations and fetal anatomy and gynecology worksheet entries</li> <li>• Performs predefined mode changes, preset selection and screen layout changes</li> <li>• Supports display of user selected reference images</li> <li>• Standardize image sequence upon DICOM transfer</li> <li>• GYN IDEA Guidelines</li> </ul>
DICOM 3.0 Connectivity
Static 3D Mode:
<ul style="list-style-type: none"> <li>• B Mode only</li> <li>• B + Power Doppler Mode</li> <li>• B + CFM Doppler Mode</li> <li>• B + HD-Flow Mode</li> <li>• B + CRI</li> </ul>
<ul style="list-style-type: none"> <li>• B + CRI + CFM</li> <li>• B + CRI + PD</li> <li>• B + CRI + HD-Flow</li> <li>• B + B-Flow</li> </ul>
Focus and Frequency Composite (FFC)
HD Zoom & Pan Zoom
Steering

Virtual Convex
Wide Sector
Beta-View
Patient information database
Image Archive on hard drive
3D/4D data compression (lossy/lossless)
Inversion Mode
Real-time automatic Doppler calculations
Measurement, Calculations and Worksheets/Report for:
<ul style="list-style-type: none"> <li>• OB</li> <li>• GYN</li> <li>• Vascular</li> <li>• Cardio</li> <li>• Abdominal</li> </ul>
<ul style="list-style-type: none"> <li>• Small Parts</li> <li>• Transrectal</li> <li>• Pediatrics</li> <li>• Cephalic</li> <li>• Musculoskeletal (MSK)</li> </ul>
Multigestational Calculations
Integrated uplink for Cloud-based data storage (Tricefy™) (not available in all countries)
GYN IOTA LR2, Simple Rules and ADNEX Model. (not available in all countries)
GYN IETA Protocol & Report (May not be available in all countries)
xTouch

<b>System options</b>
Advanced 4D
VOCAL II
Advanced VCI (Volume Contrast Imaging)
SonoVCADlabor
Compression Elastography
Shearwave Elastography (May not be available in all countries)
Advanced STIC:
<ul style="list-style-type: none"> <li>• Basic STIC</li> <li>• STIC M-Mode</li> </ul>
<ul style="list-style-type: none"> <li>• STICflow</li> <li>• SonoVCADheart</li> </ul>
SonoAVC, including SonoAVC follicle, antral and general
E4D advanced features (for eM6C G2 activation only)
<ul style="list-style-type: none"> <li>• 2D Modes, Bi-Plane, Bi-Plane CRI, Bi-Plane Steering</li> <li>• Real Time 4D Mode: B Mode and B + CFM/PD/HD-Flow Mode</li> <li>• VCI-A and VCI-A + CFM/PD/HD-Flow Mode</li> <li>• eSTIC</li> </ul>
V-SRI
Steerable CW Mode
Anatomical M-Mode (AMM)
Coded Contrast Imaging + 3D HyCoSy†
Integrated Software DVR
<ul style="list-style-type: none"> <li>• Digital recording</li> <li>• One drive for data export and recording</li> <li>• DVD Formats: DVD+R, -R, +RW, -RW for recording, DVD and CD support for data export</li> <li>• USB support: FAT32 compatibility</li> </ul>
Advanced Security Features
<i>feta</i> /HQ (including speckle tracking capabilities)

<b>Peripheral options</b>
Integrated printers: B&W, Color Thermal Printer
External Color desktop printer with network printing capabilities & connection kits
ECG Digital Module
Foot Switch, with programmable functionality
Barcode Scanner

Magnetic Card reader (not available in all countries)
UPS – Uninterruptible Power Supply
Power Filter
External Patient Monitor Set
Isolation Transformer
WLAN Adapter
USB Microphone

### Display modes

Simultaneous capability in combination with SRI and/or CRI:

<ul style="list-style-type: none"> <li>• B+PW</li> <li>• B+CFM, B+PD, B+TD</li> <li>• B+HD-Flow</li> <li>• B+M, B+AMM</li> <li>• B+3D, B+4D</li> <li>• B+CRI</li> <li>• B+SRI</li> <li>• B+CRI+SRI</li> <li>• Contrast<sup>†</sup>+SRI</li> <li>• B+CRI/3D+CRI</li> <li>• B+SRI/3D+SRI</li> <li>• B+CRI+SRI/3D+CRI+SRI</li> <li>• B+CRI/4D+CRI</li> <li>• B+SRI/4D+SRI</li> <li>• B+CRI/STIC+CRI</li> </ul>	<ul style="list-style-type: none"> <li>• B+SRI/STIC+SRI</li> <li>• B+CRI+SRI/STIC+CRI+SRI</li> <li>• B/B+CRI</li> <li>• B/B+SRI</li> <li>• B/B+SRI+CRI</li> <li>• B/CFM+CRI</li> <li>• B/CFM+SRI</li> <li>• B/CFM+CRI+SRI</li> <li>• B/PD+CRI</li> <li>• B/PD+SRI</li> <li>• B/PD+CRI+SRI</li> <li>• B/HD-Flow+CRI</li> <li>• B/HD-Flow+SRI</li> <li>• B/HD-Flow+CRI+SRI</li> </ul>
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Real-time Triplex Mode:	<ul style="list-style-type: none"> <li>• B/CFM/PW</li> <li>• B/PD/PW</li> </ul>
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Selectable alternating modes:	<ul style="list-style-type: none"> <li>• B+PW or CW</li> <li>• B/CFM+PW or CW</li> <li>• B/PD+PW or CW</li> <li>• B/TD+PW or CW</li> <li>• B/HD-Flow+PW or CW</li> </ul>
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Multi-image (split, quad):	<ul style="list-style-type: none"> <li>• Live and/or frozen</li> <li>• Live Bi-Plane</li> <li>• Split: B+B, B/CFM+B/CFM or B/PD+B/PD or B/TD+B/TD or B/HD-Flow + B/HD-Flow or BF+BF, Contrast<sup>†</sup>+Contrast<sup>†</sup></li> <li>• Split simultan: B+B/CFM or B+B/PD or B+B/HD-Flow</li> <li>• Split: B+PW or M or CW</li> <li>• Split: Frame Review/XTD-View</li> <li>• Quad: B+B+B+B or BF or Contrast<sup>†</sup>, B/CFM+B/CFM+B/CFM+B/CFM or B/PD or B/TD or B/HD-Flow</li> <li>• Independent Cine playback</li> <li>• Quad: A+B+C+3D or 4D</li> <li>• TUI: 1x1, 1x2, 2x2, 3x2, 3x3, 3x4, 4x4</li> <li>• Segmentation: quad (A/B/C/Segm. Object), single (Segm. Object)</li> <li>• Split: TUI Overview+1 slice</li> <li>• Zoom Read/Write (with or without overview image)</li> </ul>
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Image Size: Standard & XL Format

Colorized Image: available in B/M/PW/3D

Time line display:	<ul style="list-style-type: none"> <li>• Independent Dual B/PW Display</li> <li>• Display Formats: Top/Bottom selectable format (Size 1/2:1/2; 1/3:2/3; 2/3:1/3)</li> </ul>
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### Display annotation

Patient name: First/Middle/Last Name, max. 62 characters each

ID: max 32 characters

Secondary patient ID (Citizen Service Number)

Accession #: max 16 characters

Hospital Name: max 30 Characters

Sonographer

Gestational age (OB) or LMP (GYN)

Birth date

Date:	<ul style="list-style-type: none"> <li>• MM/DD/YYYY</li> <li>• DD/MM/YYYY</li> <li>• YYYY/MM/DD</li> </ul>
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Time display selectable: 12/24 hours

Probe name

Application name

Gray Scale bar

Depth Scale

Focal Zone Marker

Frame Rate

Zoom Start/Depth

B-Mode:	<ul style="list-style-type: none"> <li>• User Preset</li> <li>• Receiver Frequency</li> <li>• Gain</li> <li>• Dynamic Control</li> <li>• Gray Map</li> </ul>	<ul style="list-style-type: none"> <li>• Edge Enhance</li> <li>• Persistence</li> <li>• SRI, CRI</li> <li>• Probe Orientation</li> </ul>
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M-Mode/AMM –Mode:	<ul style="list-style-type: none"> <li>• Gain</li> <li>• Dynamic control</li> <li>• Edge Enhance</li> </ul>	<ul style="list-style-type: none"> <li>• Reject</li> <li>• M-Cursor, AMM-Cursor</li> <li>• Time Scale</li> </ul>
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PW Doppler Mode:	<ul style="list-style-type: none"> <li>• Gain</li> <li>• Angle</li> <li>• Sample Volume Depth and Width</li> <li>• Wall Motion Filter</li> <li>• Doppler Frequency</li> </ul>	<ul style="list-style-type: none"> <li>• Velocity or Frequency Scale</li> <li>• Spectrum Inversion</li> <li>• Time Scale</li> <li>• PRF</li> <li>• HPRF</li> </ul>
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Color Flow Imaging modes	<ul style="list-style-type: none"> <li>• Color Gain</li> <li>• Color Balance</li> <li>• Color Balance Marker</li> <li>• Quality</li> <li>• Wall Motion Filter</li> <li>• PRF</li> </ul>	<ul style="list-style-type: none"> <li>• Color Map</li> <li>• Color Scale: kHz, cm/s, m/s</li> <li>• Power and Symmetrical Velocity Imaging</li> <li>• Color Velocity Range</li> <li>• Spectrum Inversion</li> <li>• Orientation Markers</li> </ul>
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3D/4D Mode:	<ul style="list-style-type: none"> <li>• 3D/4D Sub Program</li> <li>• Threshold</li> <li>• Quality</li> <li>• Volume Box Angle</li> <li>• Mix</li> <li>• Acquisition Mode</li> <li>• Compression</li> <li>• VCI: slice thickness</li> </ul>	<ul style="list-style-type: none"> <li>• TUI: slice distance</li> <li>• TUI: slice position in overview image</li> <li>• STIC acquisition time</li> <li>• Calculated heart rate for STIC and eSTIC</li> </ul>
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Compression Elastography	<ul style="list-style-type: none"> <li>• Tx Frequency</li> <li>• Transparency</li> <li>• Velocity Range</li> </ul>	<ul style="list-style-type: none"> <li>• Elasto Map</li> <li>• Persistence</li> <li>• Line Density</li> </ul>
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TGC Curve

Cine Frame Number

Recorder Status

Body Pattern: 124 types organized in 10 anatomical groups

Measurement results

Displayed Acoustic Output:

<ul style="list-style-type: none"> <li>• TIS: Thermal Index Soft Tissue</li> <li>• TIC: Thermal Index Cranial (Bone)</li> </ul>
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- TIB: Thermal Index Bone
- MI: Mechanical Index

Predefined Biopsy Guide Line

ECG Line

Trackball function (Trackball and Trackball buttons)

Zoom overview image (zoom box position)

## System Parameters

### System setup

User Programmable Preset Capability, User program etc.

Display Languages: English, French, German, Spanish, Portuguese, Italian, Danish, Dutch, Finnish, Norwegian, Swedish, Russian, Japanese, Simplified Chinese

Keyboard Languages (Keycap Kits): English, French, German, Spanish, Italian, Danish, Finnish, Norwegian, Swedish, Russian, Swiss, South Slavic Latin

elFU (electronic Instructions for Use) Languages: Bulgarian, Croatian, Czech, Chinese Simplified, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Indonesian, Italian, Japanese, Kazakh, Korean, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Serbian, Slovakian, Slovenian, Spanish, Swedish, Turkish, Ukrainian, Vietnamese

Free programmable Scan assistant lists including Add, Delete, Edit and Reorder of checklist items

Up to 800 Programmable Annotations organized in 10 anatomical groups, including a library function and auto-complete

6 programmable Px buttons for documentation preferences like Save, DICOM Send, Print, Check, Cine length, jpeg, etc.

Several user configurable functions:

- Clinic Name
- Display (TGC curve, Screen Lock, Screensaver, Auto Scan Stop, Beeper, 3D/4D Screen Controls)
- Trackball speed
- Zoom Overview window
- Dim function
- Patient Info display
- Title bar settings
- Start Exam and End Exam configuration

### Measure setup

M&A Setup including Add, Delete, Edit and Reorder of measure items

Application Setup including several parameters of Measurement, Doppler Trace and Calculation presets

Global Setup including several parameters of Measurement, Cursor and Result window presets

Post assign measurements

Auto Sequence measurements

### Biopsy setup

User programmable needle guidelines

### Pre-processing

Write Zoom up to 8x

B/M-Mode:

- Gain
- TGC
- Dynamic Range
- Acoustic Output
- Transmission Frequency
- Persistence Control
- Line Density Control
- Reject

- Transmission Focus Position
- Transmission Focus Number
- Sweep Speed
- M-Cursor position

PW-Mode:

- Gain
- Dynamic Range
- Acoustic Output
- Transmission Frequency
- PRF
- Wall Motion Filter
- Sample Volume Gate
- Length, Depth, Pos
- Velocity Scale
- Sweep Speed

Color Flow Imaging Modes

- Gain
- Acoustic Output
- PRF
- Wall Motion Filter
- Line density
- Ensemble
- Dynamic
- Smooth (Rise and Fall)
- Frequency
- Balance
- Line Filter
- Quality
- Artifact Suppression

### Post-processing

Read Zoom: 0.8x – 3.4x Zoom (with HD-Zoom functionality up to 22x Zoom)

B-Mode:

- 2D Gain
- Dynamic Contrast
- Gray Map
- Edge Enhance
- Colorized B
- SRI II (Speckle Reduction Imaging)

M-Mode:

- Gray Map
- Colorized M
- Edge Enhance
- Display Format
- Sweep Speed

PW Mode:

- Gray Map
- Baseline Shift
- Angle Correction
- Colorized D
- Scale (kHz, m/s, cm/s)
- Trace
- Invert
- Sweep Speed

Color Flow Imaging Modes

- Display Threshold
- Display Mode (V,V-T,T,P,P-T) (CFM only)
- Color Map
- Scale (CFM and HD-Flow)
- Baseline

B-Flow

- Gray map
- Colorized B-Flow
- Advanced SRI (Speckle Reduction Imaging)
- Dynamic Contrast

### Image processing and presentation

Digital Beamformer

743.265.431 system processing channel technology

Minimum Depth of Field: 0 – 1 cm (Zoom, probe dependent)

Maximum Depth of Field: 0 – 50 cm (probe dependent)

Depth Steps: up to 29 (probe dependent)

Transmission Focus: 1-5 Focus Points selectable (probe and application dependent)

Focal Zone position, up to 10 positions selectable

Continuous Dynamic Receive Focus/ Continuous Dynamic Receive Aperture

256 gray levels

16.8 million Colors 24 bit

Up to 280 dB Dynamic Range

Image reverse: Right/Left

Rotation: 0°, 180°

## Cine features

- Cine features:
- Dual/Quad image CINE Display
- CINE Gauge and CINE image number display
- CINE Review Loop
- Selectable CINE Sequence for CINE Review (by Start Frame and End Frame)
- Side Change in dual CINE Mode
- Measurements /Calculations & Annotations on CINE

### Length:

- 2D: 512MB: up to 10 min (depending on B-image size and FPS); typical: about 3 min/4000 images (with curved array: 15cm depth, angle 81°, 22 FPS)
- M-Mode: 32MB: up to 1 min motion time (depending on sweep and depth)
- PW/CW-Mode: 32MB: up to 1 min motion time (depending on sweep speed)

### Cine operation:

- Manual: image by image
- Auto run: speed: 25 to 200% of real-time rate, play repeat mode: forward-forward, forward-backward-forward

## Image/volume storage (archive)

Standard and fully anonymized archive available

### Images stored as:

- Raw Data file (proprietary format)
- DICOM file (Single-or Multi-Frame)

### Volume file stored as:

- Raw Data file (proprietary format)
- DICOM file

Size: typically: 0.8 – 5MB (depending on probe and adjusted volume size)

### Compression:

- 2D: JPEG, lossless, high, mid low
- 3D/4D: Lossy and lossless compression available. Typical compression rates are 50% with lossless compression, 15% with lossy compression but maximum quality and 5% with lossy compression and reduced quality (approximate values).

Review of current exam and archived data sets (Single Images and Cine Clips). View format: Raw data, DICOM data. Display Formats: 1x1, 2x2, 3x3

Reload of current/ archived data sets: 2D Raw Data (incl. Color Doppler, Spectral Doppler and M-Mode). 3D Raw Data (single Volume incl. Calc. Cines). 4D Raw Data (Volume Cine).

### Export as:

- Bitmap files: BMP, TIFF, JPEG;
- Raw files: RAW (2D), VOL (Volume data), 4DV
- (RAW, VOL incl. Patient data – password protected)
- Video File Format: AVI, MP4
- DICOM Files: DCM, DICOM Files with DICOMDIR
- 3D Raw Data: export Cartesian format possible
- Surface formats: STL, OBJ, PLY, 3MF, XYZ (with projected and full 3D export capabilities)

AVI Codec: MS Video 1, FullFrames

Export to: DVD+R(W), CD-R(W), Network, USB devices, email, Printer, DICOM®, Tricefy™

Export Anonymous function: available for following image types: AVI, BMP, TIFF, JPEG, MP4

Backup function to: DVD+R(W)/CD-R(W), Network, USB devices

Repro function: Settings recall (e.g. Geometry, Gain, Color map, etc.) from a stored or reloaded picture

Exam history: Direct access to images from previous exams; direct access to Measure Reports images from previous exams;

Image compare window on screen to compare images from previous exams with current exam image

Hard Drive Data Storage space: approx. 900 GB

## Connectivity

Ethernet network connection

6 USB 3.0 ports for USB devices

### DICOM support:

- Verify
- Print
- Store
- Modality Worklist
- Structured Reporting
- Storage Commitment
- MPPS (Modality performed procedure step)
- Media Exchange
- Off network / mobile storage queue
- Query/Retrieve
- TLS

### Tricefy™ features:

- Store
- Patient Share
- .pdf Report storage
- Query Retrieve

## Scanning Parameters

B-Mode		
B-Mode for all probes		
B Acoustic Power	1-100	
Scan Angle	Probe dependent	
Gain range	+15 to -25 dB	
Gray scale values	8 bit	
SRI	5 steps (1-5)	
CRI	8 steps (1-8)	
CRI filter	4 steps: off, low, mid, high	
CE	On/Off (Probe dependent)	
FFC	On/Off (Probe dependent)	
Persistence filter	8 steps (pre)	
Line filter	3 steps (pre) off, low (12.5/75/12.5%), high (25/50/25%)	
Line Density	3 steps (pre) low, norm, high	
Reject	51 steps (pre) from 0 to 255	
Enhance	6 steps 0, 1, 2, 3, 4, 5	
Gray maps	21 (18 basic maps and 3 User-defined maps)	
Tint maps	10	
Dynamic	12 different dynamic curves C1 – C12	
Display Modes	B, XTD	
Max. B-Mode Frame Rate	> 3000 frames/sec	
Frequency Range	1 to 18 MHz depending on the probe, adjustable in 3 fundamental steps (penetration, normal, resolution) and up to 5 Harmonic steps (HI Pen, low, mid, high, HD Res)	
Screen Formats:		
<ul style="list-style-type: none"> <li>2D Imaging: Single (B), Dual (B+B), Quad (B+B+B+B)</li> <li>XTD View: Single (XTD), Dual (B+XTD)</li> </ul>		
Coded Excitation (CE):	<ul style="list-style-type: none"> <li>ML6-15-D</li> <li>RM6C</li> <li>eM6C G2</li> <li>11L-D</li> </ul>	<ul style="list-style-type: none"> <li>RAB6-D</li> <li>C2-9</li> </ul>
Coded Harmonic Imaging available on all probes		
Focus Frequency Composite (FFC):	<ul style="list-style-type: none"> <li>RIC5-9-D</li> <li>RIC6-12-D</li> <li>9L-D</li> <li>RAB6-D</li> </ul>	<ul style="list-style-type: none"> <li>C1-6-D</li> <li>RM6C</li> <li>eM6C G2</li> </ul>
Compound Resolution Imaging (CRI) available on all probes, except: M5Sc-D and S4-10-D		
Speckle Reduction Imaging (SRI II) available on all probes		
Virtual Convex:	<ul style="list-style-type: none"> <li>RSP6-16-D</li> <li>9L-D</li> </ul>	<ul style="list-style-type: none"> <li>11L-D</li> <li>M5Sc-D</li> </ul>
Wide Sector:	<ul style="list-style-type: none"> <li>RIC5-9-D</li> <li>RAB6-D</li> <li>IC5-9-D</li> </ul>	<ul style="list-style-type: none"> <li>C1-6-D</li> <li>eM6C G2</li> <li>C2-9-D</li> </ul>
HD Res:	<ul style="list-style-type: none"> <li>eM6C G2</li> <li>RAB6-D</li> <li>C2-9-D</li> </ul>	<ul style="list-style-type: none"> <li>IC5-9-D</li> <li>RIC5-9-D</li> <li>C1-6-D</li> </ul>
HI Pen:	<ul style="list-style-type: none"> <li>eM6C G2</li> </ul>	<ul style="list-style-type: none"> <li>C2-9-D</li> </ul>

<ul style="list-style-type: none"> <li>RM6C</li> <li>RAB6-D</li> </ul>	<ul style="list-style-type: none"> <li>RIC5-9-D</li> </ul>	<ul style="list-style-type: none"> <li>C1-6-D</li> <li>IC5-9-D</li> </ul>
Confocal Imaging:	<ul style="list-style-type: none"> <li>RM6C</li> <li>C2-9-D</li> </ul>	<ul style="list-style-type: none"> <li>C1-6-D</li> <li>M5Sc-D</li> </ul>

M-Mode	
M-Mode for all probes	
Working Modes	M (conventional M- Mode) AMM (Anatomical M-Mode)
Power control range	1-100
Gain range	+15 to -25 dB
M sweep speeds:	
<ul style="list-style-type: none"> <li>900/450/300/225/150/100 pixels/sec;</li> <li>26.44/13.22/8.81/6.61/4.40/2.94 cm/s in relation to system monitor</li> </ul>	
Review (memory times)	>60 s (32MB)
Signal processing M:	<ul style="list-style-type: none"> <li>Dynamic range: 1 to 12</li> <li>Reject: 0 to 255</li> <li>Enhance: 0 to 5</li> </ul>
Display Modes:	<ul style="list-style-type: none"> <li>M: 2D+M, 2D+M/CFM, 2D+M/HD-Flow, 2D+M/PD, 2D+M/TD</li> <li>AMM: 2D+AMM, 2D/CFM+AMM/CFM, 2D/HD-Flow+AMM/HD-Flow, 2D/TD+AMM/TD</li> </ul>
Screen Formats: (window arrangement)	
<ul style="list-style-type: none"> <li>2D+M and 2D+AMM: up/down (horizontal): three different sub formats 30/70, 50/50, 70/30% left/right (vertical): 50/50%</li> <li>2D+AMM+AMM: left/right-up/down: 50/25/25%</li> </ul>	

M-Color Flow Mode		
Probes:	<ul style="list-style-type: none"> <li>RIC5-9-D</li> <li>RM6C</li> <li>S4-10-D</li> <li>M5Sc-D</li> </ul>	<ul style="list-style-type: none"> <li>RIC6-12-D</li> <li>eM6C G2</li> <li>C2-9-D</li> </ul>
Acoustic MCFM Power	1-100	
MCFM Color Maps	8 maps	
CFM Gain	+/-15 dB range, 0.1 dB steps	
CFM Velocity Scale Range	PRF: 150Hz to 20.5kHz	
Wall Motion Filter	8 – 3000 Hz	
Ensemble (color shots per line)	8-16, step size 1	
Gentle color filter		
Smooth filter:	Rise: 12 steps Fall: 12 steps	
CFM Spectrum Inversion		
CFM Baseline Shift	17 steps	
Pre-settable and independently adjustable B-, M and MCFM Gain		
CFM Threshold	1 – 255 steps	
Balance	25 – 225, step size 5	
Artifact suppression	On/Off	
Color Display Mode:	<ul style="list-style-type: none"> <li>V (Velocity)</li> <li>V-T (Velocity + Turbulence)</li> <li>V-P (Velocity + Power)</li> </ul>	
Real -time Triplex Mode	<ul style="list-style-type: none"> <li>T (Turbulence)</li> <li>P-T (Power + Turbulence)</li> </ul>	
Real -time Triplex Mode	B + M + MCFM in any depth	

Spectral Doppler Mode (PW, CW)	
Spectral Doppler Mode for all probes	

Operating Modes	PW (Pulsed Wave Doppler, Single Gate), Steerable CW (Continuous Wave Doppler)
Transmit Frequencies	PW-Doppler: 1.75-18 MHz CW-Doppler: 1.75-16 MHz
Pulse Repetition Frequency (PRF)	PW-Doppler: 0.9-22 kHz CW-Doppler: 1.3-40.0 kHz
Sample Volume (Doppler Gate)	Length: 0.7,1,2,3,4,5,6,7,8,9,10,15 mm Position: 5 mm to B-scan end, Angle correction: -85°...0°...+85°
Power control range	1-100
Gain range	+15 to -25 dB (PW) +15 to -15 dB (CW)
WMF (wall motion filter)	PW: 30...500 Hz, CW: 30...1000 Hz
Baseline shift	$\pm$ PRF/2, $\pm$ 8 steps
Spectrum Analyzer	FFT (Fast Fourier Transformation), max. 256 channels, 256 amplitude levels
PW sweep speeds	Simplex (26.44/13.22/8.81/6.61/4.40/2.94 cm/s), Duplex/ Triplex (26.44/13.22/8.81/6.61/4.40/2.94 cm/s)
Review (memory times)	>60 s(32MB)

Measurable flow velocities:

- PW: 1cm/s – 8m/s ( $\alpha=0^\circ$ , 2.0MHz, max. Baseline shift) 1cm/s – 16m/s ( $\alpha=60^\circ$ , 2.0MHz, max. Baseline shift)
- CW: 1cm/s – 11.6m/s ( $\alpha=0^\circ$ , 2.0MHz, max. Baseline shift) 1cm/s-23.20m/s ( $\alpha=60^\circ$ , 2.0MHz, max. Baseline shift)

Signal processing: Dynamic range: 15 steps (10 to 40), Gray maps: 18 basic curves and 3 User-defined (pre, post) Tint maps: 11

Scale display	Vert.: kHz, cm/s, m/s (selectable), Hor.: 1s marker (big), ½ s marker (small)
Screen Formats	2D/D: up/down (horizontal): three different sub formats 30/70, 50/50, 70/30% left/right (vertical): 50/50%
Display Formats	2D/D (duplex update, simultaneous); 2D+CFM/D, 2D+HD-Flow/D, 2D+PD/D, 2D+TD/D (triplex update, CW or PW). 2D+CFM/PW, 2D+PD/PW, 2D+HDFlow/PW, 2D+TD/PW, (triplex simultaneous, PW only)
Audio Modes	Stereo (both directions separately in both channels)
Audio Volume	Adjustable, control digipots
CW Doppler, steerable	<ul style="list-style-type: none"> <li>• S4-10-D</li> <li>• M5Sc</li> </ul>
	<ul style="list-style-type: none"> <li>• C2-9-D</li> <li>• C1-6-D</li> </ul>
CW Doppler, non-steerable: RAB6-D	

### Color Doppler Mode

Color Doppler Mode for all Probes	
Screen Formats	2D+CFM (Single, Dual, Quad)
Display Modes:	
<ul style="list-style-type: none"> <li>• Simultaneous dual mode: 2D/2D+CFM</li> <li>• Triplex mode: 2D+CFM/PW, 2D/M+MCFM</li> <li>• Volume Mode: 3D+CFM</li> </ul>	
Color coding:	
<ul style="list-style-type: none"> <li>• Steps: 65536 color steps</li> <li>• Display modes: V-T (velocity + turbulence), V (velocity), V-P (velocity + power), T (turbulence), P-T (power + turbulence)</li> </ul>	

Depth range	Axial: 0 to B scan range Lateral: 0 to B scan range
Baseline shift	17 steps (independent from spectral Doppler)
Inversion of color direction	Yes
Wall Motion Filter	7 steps (low1, low2, mid1, mid2, high1, high2, max)
Smoothing Filter	12 steps rising time, 12 steps falling time
Gain Control	+15 dB to -15 dB, 0.2 dB steps
Line Density (color line density)	10 steps
Ensemble (color shots per line)	CFM: 7 to 31; MCFM: 8 to 16
Flow Resolution	4 steps (low, mid1, mid2, high)
Pulse repetition frequency	CFM: 150 Hz to 20.5 kHz MCFM: 150 Hz to 20.5 kHz
Color Map	Up to 8 different color codes for each probe
Frequency range	1 to 18 MHz depending on the probe, adjustable in 3 steps (low, mid, high)
Balance	From 25 to 225
Max. meas. velocity	4.23 m/sec
Min. meas. velocity	0.3 cm/sec
Scale	kHz, cm/s, m/s
Automatic moving tissue suppression	Yes
Max. Color Doppler Frame Rate	> 450 frames/sec

### Power Doppler Mode (PD)

Power Doppler Mode for all Probes	
Screen Formats	2D+PD (Single, Dual, Quad)
Display Modes:	
<ul style="list-style-type: none"> <li>• Simultaneous dual mode: 2D/2D+PD</li> <li>• Triplex mode: 2D+PD/PW</li> <li>• Volume Mode: 3D+PD</li> </ul>	
PD coding	256 color steps
PD window size	Lateral: maximum to minimum B mode scan angle Axial: B-scan range
Display mode	P (power)
Wall motion Filter	7 steps (low1, low2, mid1, mid2, high1, high2, max)
Smoothing Filter	Rising edge: 12 steps Falling edge: 12 steps
Gain Control	+15 dB to -15 dB, 0.2 dB steps
PD Ensemble	7 to 31
PD Line Density	10 steps
Pulse repetition frequency	150 Hz to 20.5 kHz
PD Map	8 different color codes for each probe
Frequency range	1 to 18 MHz depending on the probe, adjustable in 3 steps (low, mid, high)
Flow Resolution	4 steps (low, mid1, mid2, high)
Balance	From 25 to 225 in 41 steps
Artifact suppression	Yes



HD-Flow	
HD-Flow Mode for all Probes	
Screen Formats	Single, Dual, Quad, 2D+HDF
Display Modes:	
<ul style="list-style-type: none"> <li>• Simultaneous dual mode: 2D/2D+HDF</li> <li>• Triplex mode: 2D+HDF/PW; 2D/M+MHDF</li> <li>• Volume mode: 3D+HDF</li> </ul>	
HD-Flow Coding Steps	256 color steps
HD-Flow window size lateral	Maximal to minimal B mode scan angle; axial: B-scan range
Wall Motion Filter	8 steps (low1, low2, mid1, mid2, high1, high2, max1, max2)
Smoothing Filter	12 steps rising edge 12 steps falling edge
Gain Control	+15 dB to -15 dB, 0.2 dB steps
HD-Flow Ensemble	7 to 31
HD-Flow Line Density	10 steps
Pulse repetition frequency	150 Hz to 20.5 kHz
HD-Flow Map	8 different color codes for each probe
Frequency Range	1 to 18 MHz depending on the probe adjustable in three steps (low, mid, high)
Flow Resolution	4 steps (low, mid1, mid2, high)
Balance	From 25 to 225
Line Filter	8 steps (off, 1 to 7)
Artifact suppression	Yes

Radiantflow		
<ul style="list-style-type: none"> <li>• RIC5-9-D</li> <li>• IC5-9-D</li> <li>• RIC6-12-D</li> <li>• ML6-15-D</li> </ul>	<ul style="list-style-type: none"> <li>• 9L-D</li> <li>• RM6C</li> <li>• RAB6-D</li> <li>• eM6C G2</li> </ul>	<ul style="list-style-type: none"> <li>• C2-9-D</li> <li>• C1-6-D</li> <li>• M5Sc-D</li> </ul>
Steps	low/mid/high	

SlowflowHD		
Probes:	<ul style="list-style-type: none"> <li>• ML6-15-D</li> <li>• RM6C</li> <li>• C1-6-D</li> </ul>	<ul style="list-style-type: none"> <li>• eM6C G2</li> <li>• RAB6-D</li> <li>• C2-9-D</li> </ul>
<ul style="list-style-type: none"> <li>• RIC5-9-D</li> <li>• IC5-9-D</li> <li>• RIC6-12-D</li> </ul>		
Screen Formats	Single, Dual, Quad, 2D+ SlowflowHD	
Display Modes:		
<ul style="list-style-type: none"> <li>• Simultaneous dual mode: 2D/2D+ SlowflowHD</li> <li>Triplex mode: 2D+ SlowflowHD /PW (triplex update); 2D+ SlowflowHD /AMM</li> </ul>		
SlowflowHD Coding Steps	256 color steps	
SlowflowHD window size lateral	Maximal to minimal B mode scan angle; axial: B-scan range	
Wall Motion Filter	8 steps (low1, low2, mid1, mid2, high1, high2, max1, max2)	
Smoothing Filter	12 steps	
Gain Control	+15 dB to -15 dB, 0.2 dB steps	
Line Density	10 steps	
Pulse repetition frequency	auto adjusting	
Map	8 different color codes for each probe	

Frequency Range	1 to 18 MHz depending on the probe adjustable in three steps (low, mid, high)
Flow Resolution	4 steps (low, mid1, mid2, high)
Balance	From 25 to 225
Line Filter	8 steps (off, 1 to 7)
Artifact suppression	4 steps (off, low, mid, high)

Tissue Doppler Mode (TD)		
Probes:	<ul style="list-style-type: none"> <li>• eM6C G2</li> <li>• RAB6-D</li> <li>• S4-10-D</li> </ul>	<ul style="list-style-type: none"> <li>• C2-9-D</li> <li>• C1-6-D</li> <li>• M5Sc-D</li> </ul>
<ul style="list-style-type: none"> <li>• RIC5-9-D</li> <li>• RIC6-12-D</li> <li>• RM6C</li> </ul>		
Screen Formats	Single, Dual, Quad, 2D+TD	
Display Modes	Simultaneous dual mode: 2D/2D+TD; Triplex mode: 2D+TD/PW, 2D/M+MTD;	
TD coding steps	65536 color steps	
Depth range	Axial: 0 to B-scan range Lateral: 0 to B-scan-range	
Baseline shift	17 steps	
Inversion of color direction	Yes	
Smoothing Filter	12 steps rising time, 12 steps falling time	
Gain Control	+15 dB to -15 dB, 0.2 dB steps	
Line Density (color line density)	10 steps	
Ensemble (Color shots per line)	3 to 31	
Flow Resolution	4 steps (low, mid1, mid2, high)	
Pulse repetition frequency	150 Hz to 20.5 kHz	
TD Map	4 different color codes for each probe	
Frequency range	1 to 18 MHz depending on the probe, adjustable in 3 steps (low, mid, high)	
Balance	From 25 to 225	
Max. meas. velocity	4.23 m/sec	
Min. meas. velocity	0.3 cm/sec	
Display Mode	V (velocity)	
Scale	kHz, cm/s, m/s	

PW-Tissue Doppler Mode (PW-TD)		
Probes:	<ul style="list-style-type: none"> <li>• eM6C G2</li> <li>• RAB6-D</li> <li>• S4-10-D</li> </ul>	<ul style="list-style-type: none"> <li>• C2-9-D</li> <li>• C1-6-D</li> <li>• M5Sc-D</li> </ul>
<ul style="list-style-type: none"> <li>• RIC5-9-D</li> <li>• RIC6-12-D</li> <li>• RM6C</li> </ul>		
Operating Modes	2D+TD/PW (Tissue Doppler + Pulsed Wave Doppler, Single Gate)	
Transmit Frequencies	1.75..18 MHz	
Pulse Repetition Frequency (PRF)	0.9..7.0 kHz	
Sample Volume (Doppler Gate)	Length: 0.7,1,2,3,4,5,6, 7,8,9,10,15 mm Position: 5 mm to B-scan end, Angle correction: -85°...0°...+85°	
Power control range	1-100	
Gain range	B-Mode: +15 to -25 dB TD: +15 to -15 dB PW: +15 to -25 dB	

WMF (Wall Motion Filter)	PW: 30...500 Hz,
Baseline shift	± PRF/2, ± 8 steps
Spectrum Analyzer	max. 128 frequencies, 256 amplitude levels
PW sweep speeds	Duplex/Triplex (26.44 / 13.22 / 8.81 / 6.61 / 4.40 / 2.94 cm/s)
Review (memory time)	>60 s (32MB)
Measurable velocities	1cm/s – 1.3m/s (α = 0°, 2.0MHz, max. zero shift) 1cm/s – 2.5m/s (α = 60°, 2.0MHz, max. zero shift)
Signal processing	Dynamic range: 15 steps (10 to 40) Gray maps: 18 basic curves and 3 User-defined (pre, post) Tint maps: 11
Scale display	Vert.: kHz, cm/s, m/s (selectable) Hor.: 1s marker (big), ½ s marker (small)
Screen Formats	2D+TD/PW: horizontal: three different sub formats 30/70, 50/50, 70/30% vertical: 50/50%
Display Formats	2D+TD/PW (duplex/triplex update/simultaneous);
Audio-Modes	Stereo (both directions separately in both channels)
Audio Volume	Adjustable

### Volume Scan Module

Vol. scan size: max. 64 MB for gray volumes, max. 90 MB for color volumes; The required memory space depends on scan parameters (VOL-box size and quality (low, mid1, mid2, high1, high2, max). Typical: 0.8-5 MB

Lines/2D-image: max. 1024 (typ. 80 to 350)

2D-images/volume: Up to 4096 (Acquisition mode dependent)

VOL-Frames/sec.: >800 (typ. 7-12); The frame rate depends on scan parameters: VOL-box size, quality and probe

4D Volume Cine: up to 400 volumes, up to 512 MB

Display of sectional plane images: synchronous with control seeing, arbitrary movement in volume, monitored position in volume

Rotation: 360°, 1° or 3° increments (X-, Y- and Z-axis)

Magnification. Adjustable form 0.3 to a factor of 4.00

Acquisition Modes:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• 3D Static: <ul style="list-style-type: none"> <li>- 3D (2D incl. CRI)</li> <li>- 3D/PD (incl. CRI)</li> <li>- 3D/CFM (incl. CRI)</li> <li>- 3D B-Flow</li> <li>- 3D/HD-flow incl. CRI</li> <li>- 3D Contrast† (Coded PI, CCIS)</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• 4D: <ul style="list-style-type: none"> <li>- 4D Real Time</li> <li>- 4D Biopsy</li> <li>- VCI-A</li> <li>- VCI-OmniView</li> <li>- STIC</li> <li>- eSTIC</li> </ul> </li> </ul> |
|--|--|

- STIC:
  - Fetal Cardio
  - STIC Angio: B/Power Doppler (incl. CRI)
  - STIC CFM: B/Color Doppler (incl. CRI)
  - STIC HD-Flow: B/HD-Flow (incl. CRI)
  - STIC B-Flow
  - STIC TD
  - STIC with Contrast†

- eSTIC (eM6C G2 probe only):
  - STIC B (Fetal Cardio)
  - STIC CFM (B/Color Doppler)
  - STIC PD (B/Power Doppler)
  - STIC B/HD-Flow
  - STIC B/TD (B/Tissue Doppler)

Visualization Modes:

- Render
  - 3D/4D Rendering (diverse surface and intensity projection modes)
  - SonoRender*live*
- Sectional Planes
  - Multiplanar
  - OmniView, actual and projected view
  - Niche
  - SonoVCAD*labor*
- TUI (Tomographic Ultrasound Imaging) (overview image+parallel slices)
  - TUI Standard
  - SonoVCAD*heart*

Visualization Modes:

- Volume Analysis
  - VOCAL: semi-auto/ manual segmentation tool (segmentation using touch screen), (3D Static only) + Threshold Volume: measure volume below and above a threshold
  - SonoAVC*follicle* (Sono Automated Volume Count)
  - SonoAVC*antral*
  - SonoAVC*general*
- VCI (Volume Contrast Imaging)
- HD*live* Studio: 3 free moveable light sources and types

Render Modes:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• HD<i>live</i> Silhouette</li> <li>• HD<i>live</i> Flow</li> <li>• Surface Enhanced</li> <li>• Color</li> <li>• Mix Mode of two render modes</li> <li>• Surface Texture</li> <li>• Surface Smooth</li> </ul> | <ul style="list-style-type: none"> <li>• HD<i>live</i> Studio</li> <li>• HD<i>live</i> Flow Silhouette</li> <li>• Transparency modes: max-min- and X-ray</li> <li>• Gradient Light</li> <li>• Inversion</li> <li>• Glass Body</li> <li>• Light</li> </ul> |
|--|---|

Display graphics:

- Rotation axis, center point
- ROI box, 3D Frame
- Temporary display of onscreen controls (rotation, translation)

Gray maps: Slices: 21 (18 basic curves and 3 User-defined (pre, post) 3D Image: one general map adjustable with bright (-50 to +50) & contrast (-50 to +50))

Tint maps: Slices: 10; 3D image: 10

Depth render maps: 3

- |            |             |           |
|------------|-------------|-----------|
| V-SRI:     | • RIC6-12-D | • RM6C    |
| • RIC5-9-D | • RAB6-D    | • eM6C G2 |

### BF (B-Flow)

B-Flow for all probes except: S4-10-D and M5Sc

Screen Formats	Single (BF), Dual (BF+BF), Quad (BF+BF+BF+BF)
Display Modes	BF, Update: BF/PW
Acc. Power range	1 – 100
Scan angle	Taken from 2D
Gain range	+15 to -25 dB
Gray scale values	8 bit
SRI	Taken from 2D
Persistence filter	8 steps (pre)

S./PRI	1.00, 1.50, 2.00, 3.00, 4.00, 5.00
Quality	3 steps (pre) low, norm, high
Enhance	6 steps (pre) 0, 1, 2, 3, 4, 5
Gray maps	21 (18 basic maps and 3 User-defined maps)
Tint maps	10
Dynamic	12 different dynamic curves C1 – C12
Accumulation	Off, 0.20, 0.35, 0.50, 0.75, 1.00, 1.50, Infinite
Background	0, 1, 2

### Contrast Imaging†

Probes:	• ML6-15-D	• 9L-D
• C1-6-D	• M5Sc-D	• RIC5-9-D
Acc. Power range	1 – 100	
Scan angle	Taken from 2D	
Gain range	+15 to -25 dB	
Gray scale values	32 bit	
SRI	Taken from 2D	
Persistence filter	8 steps (pre)	
S./PRI	1.00, 1.50, 2.00, 3.00, 4.00, 5.00	
Quality	3 steps low, norm, high	
Enhance	6 steps (pre) 0, 1, 2, 3, 4, 5	
Gray maps	21 (18 basic maps and 3 User-defined maps)	
Tint maps	10	
Dynamic	12 different dynamic curves C1 – C12	
Accumulation	Off, 0.20, 0.35, 0.50, 0.75, 1.00, 1.50, Infinite	
Background	0, 1, 2	
Time Delay	0, 0.5, 1, 2, 3, ...10	
Display Modes:	• Coded PI: CIS	• Coded PI: CCIS
• Coded PI		
Screen Formats:	<ul style="list-style-type: none"> <li>• Code PI: Single (B), Dual (B+B), Quad (B+B+B+B)</li> <li>• CIS: Dual simultan (2D+Coded PI)</li> <li>• CCIS: Single (B), Dual (B+B), Quad (B+B+B+B)</li> </ul>	

### Compression Elastography

Probes:	• IC5-9-D	• ML6-15D
• 11L-D		
Acoustic Power range: 1 – 100		
Tx Frequency: 3 (penet/norm/resol)		
Transparency: 51 steps (0.5, 10, ...255)		
Soft Compress:	• Range: 0-9	• Step Size: 1
• Range: 0-9		
Hard Compress	• Range: 0-9	• Step Size: 1
• Range: 0-9		
PRF: 10, 15, 25, 40, 60, 85 Hz		
Elasto Maps: 8		
Persistence:	• Range: 1-9	• Step Size: 1
• Range: 1-9		
Line Dens.:	Range: 1-2	
Filter Axial:		

• Range: 1-9	• Step Size: 1
Filter Lateral:	
• Range: 1-21	• Step Size: 2
Window Length:	
• Range: 8-25	• Step Size: 1

Screen Formats:

- Single (2D/Elasto)
- Dual (2D/Elasto+2D/Elasto)
- Quad (2D/Elasto+2D/Elasto+2D/Elasto+2D/Elasto)

Elastography Analysis

Elastography Ratio Measurement

### Shearwave Elastography (May not be available in all countries)

Probes:	• C1-6-D
Acoustic Power range: 1 – 100	
Gain: 0 - 100	
Frequency: 50 – 400 Hz	
Transparency: 51 steps (0.5, 10, ...255)	
Elasto Maps: 8	
Velocity Scale: 2,0 – 10,0 m/s (22 steps)	

### Bi-Plane Mode (available on eM6C G2 only)

Acc. Power range	1 – 100
Scan angle	B-Mode angle: 85° Bi-Plane angle: 90°
Gain range	+15 to -25 dB
Gray scale values	8 bit
SRI	5 steps (1-5)
CRI	8 steps (1-8)
CE	On/Off
FFC	On/Off
Persistence filter	8 steps (pre)
Line filter:	3 steps (pre) off, low (12,5/75/12,5%), high (25/50/25%)
Line Density:	3 steps (pre) low, norm, high
Reject:	51 steps (pre) from 0 to 255
Enhance:	6 steps 0, 1, 2, 3, 4, 5
Gray maps:	21 (18 basic & 3 User-defined maps)
Tint maps:	10
Dynamic:	12 different dynamic curves C1-C12
Steering:	Max 20° (+/- 10°)

## Measurements

Generic measurements		
Distance:	<ul style="list-style-type: none"> <li>Distance (Point to Point)</li> <li>Distance (Line to Line)</li> <li>2D Trace (Trace Length)</li> </ul>	<ul style="list-style-type: none"> <li>2D Trace (Point Length)</li> <li>Stenosis (% Dist.)</li> <li>Ratio D1/D2</li> </ul>
Area/Circumference:	<ul style="list-style-type: none"> <li>Ellipse</li> <li>Trace (Line)</li> <li>Trace (Point)</li> </ul>	<ul style="list-style-type: none"> <li>Stenosis (%Area)</li> <li>Area (2 Dist.)</li> <li>Ratio A1/A2</li> </ul>
Volume: following Methods:	<ul style="list-style-type: none"> <li>1 Distance</li> <li>1 Ellipse</li> <li>1 Dist. + Ellipse</li> </ul>	<ul style="list-style-type: none"> <li>3 Distance</li> <li>Multipane-Planimetric Volume (3D only)</li> </ul>
Angle:	<ul style="list-style-type: none"> <li>Angle (3 Point)</li> </ul>	<ul style="list-style-type: none"> <li>Angle (2 Line)</li> </ul>
M-Mode:	<ul style="list-style-type: none"> <li>Distance (Point to Point)</li> <li>Time</li> <li>Slope</li> <li>Vessel Diam.</li> <li>Ratio D1/D2</li> </ul>	<ul style="list-style-type: none"> <li>HR</li> <li>Stenosis (% Dist.)</li> <li>IMT</li> <li>Stenosis Diam.</li> </ul>
PW Doppler Mode:	<ul style="list-style-type: none"> <li>Auto &amp; Manual Trace: <ul style="list-style-type: none"> <li>PS (Peak Systole)</li> <li>ED (End Diastole)</li> <li>MD (Mid. Diastole)</li> <li>S/D (Ratio)</li> <li>TAmx</li> <li>HR</li> <li>PI (Pulsatility Index)</li> <li>RI (Resistance Index)</li> </ul> </li> <li>Vol. Flow</li> <li>PGmax, PGmean</li> <li>TAmx (Time avg. max. Velocity)</li> <li>TAmx (Time avg. mean Velocity)</li> <li>VTI (Velocity Time Integral)</li> </ul>	
Heart Rate		
Vessel:	<ul style="list-style-type: none"> <li>R/L Vessel area</li> <li>R/L Vessel diam.</li> <li>R/L IMT</li> </ul>	<ul style="list-style-type: none"> <li>R/L Stenosis area</li> <li>R/L Stenosis diam.</li> <li>R/L Flow diam.</li> </ul>
Single Measurements:	<ul style="list-style-type: none"> <li>PS/ED</li> <li>RI</li> <li>PI</li> <li>PS</li> </ul>	<ul style="list-style-type: none"> <li>Acceleration</li> <li>HR</li> <li>ED</li> </ul>

Abdomen calculations	
Liver	Gallbladder
Pancreas	Spleen
Kidney (right/left)	Renal Artery (right/left)
Aorta (Proximal, Mid, Distal)	Portal Vein
Vessel	Bladder Volume
Summary Reports	

Small part calculations
Thyroid (right/left)
Testicle (right/left)
Dorsal Penile Artery (right/left)
Vessel
Summary Reports

Small part breast calculations
Lesion 1-5 (right/left)
Summary Reports
Obstetrics calculations
Fetal Biometry
Early Gestation
Fetal Long Bones
Fetal Cranium
NT Method: SonoNT/Manual
AFI
Uterus
Ovary right/left
Umbilical Vein
Placenta Volume
Ductus venosus: S, D, a, PI, PLI, PVIV
Doppler measurements: Ductus Art., Ductus Ven., Ao, Carotid, MCA, Celiac Artery, Superior Mesenteric Artery, Umbilical Art., Umbilical Vein, FHR, Uterine Art.
Gestational Age Calculation
Gestational Growth Calculation
Fractional limb Volume
Fetal Weight (FW) Estimation
Fetal Trend Graph
Multi-Gestational Calculation & Fetal Compare
Calculation and Ratios
Fetal Qualitative Description (Anatomical surv
Fetal Environmental Description (Biophysical profile)
Summary Reports

Obstetrics Fetal Echo
Chambers
Thorax
Aorta/LVOT
Pulmonary/RVOT
Venous
<i>fetal</i> HQ
FHR
Tricuspid valve
Mitral Valve
Aortic
Pulmonary
LPA
RPA
Ductus Art.
Cardiac Output
LT TEI
RT TEI
Ductus Ven.
Umbilical Vein
Pulmonary Veins
Summary Reports

Obstetrics Z-scores
<ul style="list-style-type: none"> <li>Long Axis</li> <li>Obl. Short axis</li> </ul>

<ul style="list-style-type: none"> <li>• Aortic Arch</li> <li>• Short Axis</li> <li>• Thorax</li> </ul>	<ul style="list-style-type: none"> <li>• 4 Chambers</li> <li>• Summary Reports</li> </ul>
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<b>fetal/HQ</b> <ul style="list-style-type: none"> <li>• Global Heart Size: Length, Width, Area, Axis</li> <li>• Global Heart Shape: Sphericity Index</li> <li>• Ventricular Size (for RV &amp; LV): Area, BAL, Transverse Diameter (24 segment)</li> <li>• Ventricular Shape (for RV &amp; LV): Sphericity Index (24 segment)</li> <li>• Ventricular Contractility: Area Fractional Shortening, Global Strain, Transverse Diameter Shortening (24 segment), BAL Shortening, Annular Plane Systolic Excursion, Lateral and Septal Wall Strain</li> </ul>
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<b>Cardiology calculations</b>
2D Mode: <ul style="list-style-type: none"> <li>• LV Simpson (Single &amp; Bi-Plane)</li> <li>• Volume (Area Length)</li> <li>• LV-Mass (Epi &amp; Endo Area, LV Length)</li> <li>• LV (RVD, IVS, LVD, LVPW)</li> <li>• LVOT Diameter</li> <li>• RVOT Diameter</li> <li>• MV (Dist A, Dist B, Area)</li> <li>• TV (Diameter)</li> <li>• AV/LA (Aortic Valve/Left Atrium)</li> <li>• PV (Diameter)</li> </ul>

M-Mode: <ul style="list-style-type: none"> <li>• LV (IVS, LVD, LVPW, RVD)</li> <li>• AV/LA (Ao Root Diam, LA Diam, AV Cusp Sep., Ao Root Ampl)</li> <li>• MV(D-E, E-F Slope, A-C Interval, EPSS)</li> <li>• HR (Heart Rate) Atrial HR</li> </ul>
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PW-Mode: <ul style="list-style-type: none"> <li>• MV (Mitral Valve)</li> <li>• AV (Aortic Valve), TV (Tricuspid Valve)</li> <li>• PV (Pulmonary Valve)</li> <li>• LVOT &amp; RVOT Doppler (Left &amp; Right Ventricle Outflow Tract)</li> <li>• Pulmonic Veins</li> <li>• PAP (Pulmonary Artery Pressure measurement)</li> <li>• HR (Heart Rate)</li> <li>• TEI-Index</li> </ul>
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C-Mode: <ul style="list-style-type: none"> <li>• PISA</li> </ul>
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Others: <ul style="list-style-type: none"> <li>• Diast. Vol. (Bi)</li> <li>• Syst. Vol. (Bi)</li> <li>• Stroke Volume</li> <li>• Volume Flow</li> <li>• Cardiac Output</li> <li>• Ejection Fraction</li> <li>• Fractional Shortening</li> <li>• Myocardial Thickness</li> <li>• LA/Ao Ratio</li> <li>• E/A Peak</li> <li>• Peak Gradient Acceleration</li> </ul>	<ul style="list-style-type: none"> <li>• Mean Gradient</li> <li>• Mean Gradient Acceleration</li> <li>• VTI</li> <li>• TVA</li> <li>• PG</li> <li>• PHT</li> <li>• MVA</li> <li>• AVA</li> <li>• ERO</li> <li>• CVP (Cardio Vascular Profile) Score</li> </ul>
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Summary Reports
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<b>Transrectal calculations</b>
Prostate
Vessel
Summary Reports incl. PSAD, PPSA(1), PPSA(2) calculation

<b>Vascular calculations</b>
Left/Right CCA (Common Carotid Artery)
Left/Right ICA (Internal Carotid Artery)
Left/Right ECA (External Carotid Artery)
Left/Right Vertebral Artery
Left/Right Subclav.
Left/Right Bulb
Vessels
Summary Reports

<b>Gynecology calculations</b>
Uterus
Left/Right Ovary
Left/Right Follicle
Fibroid
Endometrial thickness (Dist, Double Dist.)
Cervix Length
Left/Right Ovarian Artery
Left/Right Uterine Artery
Vessels
Pelvic Floor
Left/Right Ovarian Cyst
Left/Right Ovarian Mass
Left/Right Adnexal Cyst
Generic Cyst
Left/Right Adnexal Mass
Generic Mass
Bladder (Length/Width/Height/Vol)
FHR
GYN IOTA LR2, Simple Rules and ADNEX Model. (May not be available in all countries)
IETA unenhanced ultrasound examination and enhanced ultrasound examination – Sonohysterography.(May not be available in all countries)
Uterus classification (ESHRE/ESGE and ASRM)
Summary Reports

<b>Pediatric calculations</b>
Left/Right Hip Joint
Pericallosal Artery
Summary Report

<b>Cephalic calculations</b>
Left/Right ACA (Anterior Cerebral Artery)
Left/Right MCA (Middle Cerebral Artery)
Left/Right PCA (Posterior Cerebral Artery)
Basilar Artery
A-Com. A (Anterior Com. Artery)
P-Com. A (Posterior Com. Artery)
Left/Right CCA (Common Carotid Artery)
Left/Right ICA (Internal Carotid Artery)
Left/Right Vertebral Artery
Vessels
Summary Reports

## OB Tables

### Age Tables

- AC: ASUM, CFEF, Hadlock\_82, Hadlock\_84, Hansmann, Hobbins, Jeanty, JSUM, Kurmanavicius, Merz, Nicolaides, Shinozuka, Siriraj, Tokyo
- AD: Persson
- APAD: Merz
- APTD: Hansmann
- APTDxTTD: Shinozuka, Tokyo
- BOD: Jeanty
- BPD: ASUM, ASUM (old), Campbell, CFEF, Chitty (outer-outer) (outer-inner), Eik-Nes, Hadlock\_82, Hadlock\_84, Hansmann, Hobbins, Jeanty, Johnsen, JSUM, Kurmanavicius, Kurtz, Leung, McLennanPersson, Merz, Nicolaides, OSAKA, Rempen, Sabbagha, Shinozuka, Siriraj, Tokyo, Verburg
- CEREB: Chitty, Goldstein, HILL, Hobbins, Nicolaides, Verburg
- CLAV: YARKONI
- CRL: ASUM, DAYA, Eik-Nes, Hadlock, Hansmann, Intergrowth, JSUM, McLennan, Persson, Pexters, Nelson, OSAKA, Rempen, Robinson, Robinson\_BMUS, Sahota, Shinozuka, Tokyo, Verburg
- FL: ASUM, CFEF, Chitty, Eik-Nes, Hadlock\_82, Hadlock\_84, Hansmann, Hobbins, Hohler, Jeanty, JSUM, Kurmanavicius, Leung, Persson, Merz, Nicolaides, O'Brien, OSAKA, Shinozuka, Siriraj, Tokyo, WARDA, Johnsen
- FTA: OSAKA
- FIB: Jeanty
- GS: Hansmann, Hellman, Holländer, Rempen, Tokyo
- HC: ASUM, CFEF, Chitty, Hadlock\_82, Hadlock\_84, Hansmann, Jeanty, Kurmanavicius, Leung, Merz, Nicolaides, Siriraj, Johnsen
- HL: ASUM, Hobbins, Jeanty, Merz, OSAKA
- LV: Tokyo
- MAD: Eik-Nes, eSnurra, Kurmanavicius
- OFD: ASUM, Chitty, Hansmann, Jeanty, Kurmanavicius, Merz, Nicolaides
- RAD: Jeanty, Merz
- TIB: Jeanty Merz
- TAD: CFEF, Merz
- TTD: Hansmann
- ULNA: Jeanty, Merz

### Growth Tables

- AC: ASUM, CFEF, Chitty, Hadlock, Hansmann, Jacot-Guillarmod, Jeanty, JSUM, Lai\_Yeo, Kurmanavicius, Lessoway, Leung, Merz, Nicolaides, Shinozuka, Siriraj, Tokyo, Verburg, Johnsen, Medvedev, Stork, Intergrowth, WHO
- AD: Persson
- AFI: Moore
- Aorta: Vmax: Rizzo
- APAD: Merz
- APTD: Hansmann
- APTDxTTD: Shinozuka\_SD
- AxT: Shinozuka, Tokyo
- BOD: Jeanty
- BPD: ASUM, Campbell, CFEF, Chitty, Eik-Nes, Hadlock, Hansmann, Jacot-Guillarmod, Jeanty, JSUM, Kurmanavicius, Lai\_Yeo, Lessoway, Leung, Persson, McLenna, Merz, Nicolaides, OSAKA, Paladini, Sabbagha, Shinozuka, Siriraj, Tokyo, Verburg, Medvedev, Stork, Intergrowth, WHO
- CLAV: YARKONI
- CM: Nicolaides
- CRL: ASUM, Hadlock, Hansmann, Intergrowth, JSUM, McLennan, Persson, OSAKA, Robinson, Robinson 1993, Shinozuka, Tokyo, Pexters, Medvevev
- DV a/S: JSUM
- DV Pl: Baschat, JSUM

- DV PLI: Baschat
- DV PVIV: Baschat
- DV S/a: Baschat
- FL: ASUM, CFEF, Chitty, Eik-Nes, Hadlock, Hansmann, Jacot-Guillarmod, Jeanty, JSUM, Kurmanavicius, Lessoway, Lai\_Yeo, Lessoway, Leung, Paladini, Persson, Merz, Nicolaides, O'Brien, OSAKA, Shinozuka, Siriraj, Tokyo, Verburg, WARDA, Johnsen, Medvedev, Stork, Intergrowth, WHO
- FTA: OSAKA
- FIB: Chitty, Jeanty, JFFSD, Siriraj
- FWg: Alexander
- Foot: Chitty
- GS: Hellman, Nyberg, Rempen, Tokyo
- HC: ASUM, CFEF, Chervernak, Chitty, Hadlock, Hansmann, Jacot-Guillarmod, Jeanty, Kurmanavicius, Lai\_Yeo, Lessoway, Leung, Merz, Nicolaides, Paladini, Siriraj, Verburg, Johnsen, Medvedev, Stork, Intergrowth, WHO
- HL: ASUM, Chitty, Jeanty, Lai\_Yeo, Merz, JFFSD, OSAKA, Paladini, Siriraj, Medvedev
- IVC PLI: JSUM
- Lt.Tei(ICT,IRT), Lt.Tei(a,b): Bhorat
- Lung Area Left/Right: Peralta
- LV: Tokyo
- MCA CP: Ebbing
- MCA PI: Ebbing
- MCA PI, RI: JSUM, Bahlman
- MCA PV: Mari
- MAD: Eik-Nes, eSnurra, Kurmanavicius
- MV E/A: HARADA
- NBL: BUNDUKI, SONEK, Medvedev
- OFD: ASUM, Chitty, Hansmann, Jeanty, Kurmanavicius, Merz, Nicolaides, Medvedev, Intergrowth
- MainPA Vmax: Rizzo
- RAD: Chitty, Jeanty, JFFSD, Merz, Paladini, Siriraj
- SAG. AP: Malinger
- SAG. CC: Malinger
- TAD: CFEF, Jacot-Guillarmod, Merz
- TC: Chitkara
- TCD: Goldstein, Hill, Jacot-Guillarmod, Nicolaides, Verburg
- TIB: Chitty, Jeanty, JFFSD, Merz, Siriraj
- TTD: Hansmann
- TV E/A: HARADA
- ULNA: Chitty, Jeanty, JFFSD, Merz, Siriraj
- UmbArt PI: Ebbing, JSUM, Merz
- UmbArt RI: JSUM, Merz, Kurmanavicius
- UtArtPI: Gomez, Merz
- UtArtRI: Merz
- Vermis A: Malinger
- Vermis C: Malinger
- Fractional Limb Avol/Tvol: Lee

### Fetal Weight Estimation (EFW)

- Campbell (AC)
- Hadlock (AC, BPD)
- Hadlock 1 (AC, FL)
- Hadlock 2 (BPD, AC, FL)
- Hadlock 3 (HC, AC, FL)
- Hadlock 4 (BPD, HC, AC, FL)
- Hansmann (BPD, TTD)
- Intergrowth (AC, HC)
- Lee (AVOL; AC, AVOL; AC, BDP, AVOL; TVOL; AC, TVOL; AC, BDP, TVOL)
- Merz (AC, BPD)
- Osaka (BPD, FTA, FL)
- Persson (BPD, MAD, FL)

- Persson 2, Schild (HC, AC, FL)
- Shepard (AC, BPD)
- Shinozuka 1 (BPD, ADTP, TTD, FL)
- Shinozuka 2 (BPD, FL, AC)
- Shinozuka 3 (BPD, APTD, TTD, LV)
- Tokyo (BPD, APTD, TTD, FL)

Gestational Age by EFW

- Hadlock, JSUM 2001, Osaka, Shinozuka, Tokyo

Fetal Weight Growth FWG

- Alexander, Ananth, Bourgogne, Brenner, Burgundy, CFEF, Doubilet, Duryea, Ego, Eik-Nes, Hadlock, Hansmann, Hansmann (86), Hobbins/Persutte, Intergrowth, Johnsen, Jsum 2001, Kramer, Persson, Osaka, Shinozuka, Tokyo, Williams, WHO, Yarkoni

**Fetal Ratios**

CI (BPD/OFD) (Hadlock)

FL/AC (Hadlock)

FL/BPD (Hohler)

FL/HC (Hadlock), (WHO)

HC/AC (Campbell)

Va/Hem (Nicolaidis)

Va/Hem (Hansmann)

Vp/Hem (Nicolaidis)

LHR (Peralta)

CVR (Peranteau)

## Probes

C1-6-D	
XDClear Wide Band Convex Probe	
Applications	Abdomen, OB, GYN, Fetal Cardio
Max. Bandwidth (-20dB)	2-5 MHz
Number of Elements	192
Convex Radius	55 mm
FOV	113°
Foot Print	67.2 x 11.5 mm
Depth	Max. 50 cm
Center Frequency	3.4 MHz
B-Mode Frequency	2.00 – 2.00 MHz
Doppler Frequency	2,50 – 3.85 MHz
Harmonic Frequency	2.00 – 2.56 MHz
Biopsy Guide Available	Multi-Angle, disposable with reusable bracket

C2-9-D	
XDClear Wide Band Convex Probe	
Applications	Abdomen, OB, GYN, Pediatrics
Max. Bandwidth (-20dB)	3-9 MHz
Number of Elements	192
Convex Radius	43 mm
FOV	94°
Foot Print	48.0 x 9.0 mm
Depth	Max. 26 cm
Center Frequency	5.0 MHz
B-Mode Frequency	4.00 – 7.14 MHz
Doppler Frequency	3.03 – 5.00 MHz
Harmonic Frequency	2.63 – 3.57 MHz
Biopsy Guide Available	Multi-Angle, disposable with reusable bracket

IC5-9-D	
Wide Band Convex Probe	
Applications	OB, GYN, Transrectal
Max. Bandwidth (-20dB)	4-9 MHz
Number of Elements	192
Convex Radius	11 mm
FOV	179°
Foot Print	21.2 x 17.2 mm
Depth	Max. 16 cm
Center Frequency	5.8 MHz
B-Mode Frequency	5.00 – 9.09 MHz
Doppler Frequency	4.55 – 6.25 MHz
Harmonic Frequency	3.45 – 3.85 MHz
Biopsy Guide Available	Single-Angle, Reusable and disposable

11L-D	
Wide Band Linear Probe	
Applications	Small Parts, Pediatrics, MSK, Peripheral Vascular, Breast
Max. Bandwidth (-20dB)	4-10 MHz
Number of Elements	192
FOV	38 mm
Foot Print	46.9 x 14.4 mm
Depth	Max. 11 cm
B-Mode Steering Angle	7°/14°/20°
Doppler Steering Angle	7°/14°/20°
Center Frequency	7.3 MHz
B-Mode Frequency	6.67 – 10.00 MHz
Doppler Frequency	5.26 – 7.14 MHz
Harmonic Frequency	4.55 – 5.00 MHz
Biopsy Guide Available	Multi-Angle, disposable with reusable bracket

9L-D	
Wide Band Linear Probe	
Applications	Small Parts, Pediatrics, MSK, Peripheral Vascular, OB
Max. Bandwidth (-20dB)	3-8 MHz
Number of Elements	192
FOV	44 mm
Foot Print	53.0 x 14.1 mm
Depth	Max. 14 cm
B-Mode Steering Angle	7°/14°/20°
Doppler Steering Angle	7°/14°/20°
Center Frequency	5.5 MHz
B-Mode Frequency	4.55 – 10.00 MHz
Doppler Frequency	3.70 – 5.26 MHz
Harmonic Frequency	2.86 – 2.86 MHz
Biopsy Guide Available	Multi-Angle, disposable with reusable bracket

ML6-15-D	
Wide Band Matrix Linear Probe	
Applications	Small Parts, Peripheral Vascular, Pediatrics, MSK, Breast
Max. Bandwidth (-20dB)	4-13 MHz
Number of Elements	1008
FOV	50 mm
Foot Print	60.7 x 16 mm
Depth	Max. 16 cm
B-Mode Steering Angle	7°/14°/20°
Doppler Steering Angle	7°/14°/20°
Center Frequency	9.0 MHz
B-Mode Frequency	8.33 – 11.11 MHz
Doppler Frequency	6.25 – 9.09 MHz
Harmonic Frequency	5.00 – 6.25 MHz
Biopsy Guide Available	Multi-Angle, disposable with reusable bracket



## Probes (cont.)

<b>RAB6-D</b>	
Wide Band Convex Volume Probe	
Applications	Abdomen, OB, GYN, Pediatrics
Max. Bandwidth (-20dB)	2-8 MHz
Number of Elements	192
Convex Radius	47 mm
Volume Sweep Radius	24 mm
FOV	90° (B), 90° x 85° (Volume scan)
Foot Print	62.2 x 34.0 mm
Depth	Max. 26 cm
Center Frequency	4.7 MHz
B-Mode Frequency	3.23 – 6.67 MHz
Doppler Frequency	3.03 – 5.00 MHz
Harmonic Frequency	2.56 – 3.70 MHz
Biopsy Guide Available	Multi-Angle, disposable with reusable bracket

<b>RM6C</b>	
Wide Band Convex Volume Probe with Active Matrix Array	
Applications	Abdomen, OB, GYN, Pediatrics, Fetal Cardio
Max. Bandwidth (-20dB)	1-7 MHz
Number of Elements	960
Convex Radius	59 mm
Volume Sweep Radius	23 mm
FOV	90° (B), 90° x 85° (Volume scan)
Foot Print	64.1 x 40.1 mm
Depth	Max. 26 cm
Center Frequency	4.2 MHz
B-Mode Frequency	2.63 – 5.00 MHz
Doppler Frequency	2.78 – 4.00 MHz
Harmonic Frequency	2.33 – 3.13 MHz
Biopsy Guide Available	Single-Angle, Reusable

<b>RIC5-9-D</b>	
Wide Band Convex Volume Probe	
Applications	OB, GYN, Transrectal
Max. Bandwidth (-20dB)	4-9 MHz
Number of Elements	192
Convex Radius	12 mm
Volume Sweep Radius	12 mm
FOV	180°(B), 180° x 120° (Volume scan)
Foot Print	22.4 x 22.6 mm
Depth	Max. 16 cm
Center Frequency	6.6 MHz
B-Mode Frequency	5.00 – 9.09 MHz
Doppler Frequency	4.55 – 6.25 MHz
Harmonic Frequency	3.45 – 3.85 MHz
Biopsy Guide Available	Single-Angle, Reusable, Disposable, disposable with latex cover

<b>RIC6-12-D</b>	
Wide Band Convex Volume Probe	
Applications	OB, GYN, Transrectal
Max. Bandwidth (-20dB)	5-13 MHz
Number of Elements	256
Convex Radius	12 mm
Volume Sweep Radius	12 mm
FOV	187°(B), 187° x 120° (Volume scan)
Foot Print	22.4 (B) x 22.6 (V) mm
Depth	Max. 13 cm
Center Frequency	9.0 MHz
B-Mode Frequency	6.25 – 10.00 MHz
Doppler Frequency	6.67 – 8.33 MHz
Harmonic Frequency	5.26 – 5.56 MHz
Biopsy Guide Available	Single-Angle, Reusable, Disposable, disposable with latex cover

<b>RSP6-16-D</b>	
Wide Band Linear Volume Probe	
Applications	Small Parts, Pediatrics, MSK, Peripheral Vascular, Breast
Max. Bandwidth (-20dB)	6-18 MHz
Number of Elements	192
Volume Sweep Radius	81 mm
FOV	38.4 mm (B), 38.4 mm x 29° (Volume scan)
Foot Print	48.6 x 55.9 mm
Depth	Max. 8 cm
B-Mode Steering Angle	7°/14°/20°
Doppler Steering Angle	7°/14°/20°
Center Frequency	11.5 MHz
B-Mode Frequency	8.33 – 12.50 MHz
Doppler Frequency	6.25 – 8.33 MHz
Harmonic Frequency	5.26 – 5.26 MHz
Biopsy Guide Available	Single-Angle, disposable with reusable bracket

<b>M5Sc-D</b>	
XDClear Wide Band Phased Array Probe	
Applications	Abdominal, Cardiology, OB, Fetal Echo, Pediatrics, Cephalic
Max. Bandwidth (-20dB)	1-5MHz
Number of Elements	240
FOV	90°
Foot Print	27.5 x 18.1 mm
Depth	Max. 24 cm
Center Frequency	2.9 MHz
B-Mode Frequency	2.44 – 3.33 MHz
Doppler Frequency	1.85 – 2.50 MHz
Harmonic Frequency	1.61 – 2.17 MHz
Biopsy Guide Available	Multi-Angle, disposable with reusable bracket

## Probes (cont.)

<b>S4-10-D</b>	
Wide Band Phased Array Probe	
Applications	Small Parts, Cardiology, Pediatrics
Max. Bandwidth (-20dB)	4-9 MHz
Number of Elements	128
FOV	90°
Foot Print	20.0 x 15.0 mm
Depth	Max. 14 cm
Center Frequency	6.3 MHz
B-Mode Frequency	5.88 – 7.14 MHz
Doppler Frequency	3.85 – 6.25 MHz
Harmonic Frequency	4.00 – 4.35 MHz
Biopsy Guide Available	Not available

<b>eM6C G2</b>	
Wide Band Convex Volume Probe with Active 2D Electronic Matrix Array Technology	
Applications	Abdomen, OB, GYN, Fetal Cardio
Max. Bandwidth (-20dB)	2-7 MHz
Number of Elements	8192
Convex Radius	53 mm
Volume Angle	90°
FOV	85° (B), 85° x 90° (Volume Scan)
Foot Print	60.3 x 32.3 mm
Depth	Max. 26 cm
Center Frequency	4.0 MHz
B-Mode Frequency	3.85 – 5.56 MHz
Doppler Frequency	2.38 – 3.57 MHz
Harmonic Frequency	2.50 – 3.85 MHz
Biopsy Guide Available	Multi-Angle, disposable with reusable bracket

## External Inputs and Outputs

External Connectivity (direct access)

- VGA out
- Network (RJ45)
- Wireless Network interface (USB) (Option)
- USB 3.0 (6x)
- S-Video Out 1
- HDMI

Connectivity behind rear panel (access after opening):

- Audio in/Out  
- Left/right

Ext. Device/Remote Connections:

- BW Printer via USB
- Color Printer/ via USB
- DVR via USB
- Footswitch via USB
- Wireless Network interface (USB) (Option)
- RS 232: via USB to RS 232 converter (Option)
- ECG (Option)

## Service Tools

Data Export capabilities for Asset Performance Analytics

On-board probe quality assessment tool

## Safety Conformance

### The Voluson E10 is:

NRTL certified according IEC 60601-1 (TÜVPS)

Certified to CSA 22.2, 60601.1 by an SCC accredited Test Lab

CB-Test Report by National Certification Body

CE Marked to Council Directive 93/42/EEC on Medical Devices

### The Voluson E10 conforms to the following safety standards

IEC 60601-1 Electrical Medical Equipment

IEC 60601-1-2 Electromagnetic compatibility

IEC 62304 Software Life Cycle Processes

IEC 62366 Application of usability engineering to medical devices

EN 60601-2-37 Particular requirements for the safety of ultrasound medical diagnostic and monitoring equipment

IEC 601157 Declaration of acoustic output

ISO 10993 Biological evaluation of medical devices

IEC 62359 Ultrasonic - Field characterization - Test methods for the determination of thermal and mechanical indices related to medical diagnostic ultrasonic fields

WEEE (Waste Electrical and Electronic Equipment)

ROHS according to 2011/65/EU

†Not for sale in the USA. Not approved or cleared by the U.S. FDA. Please contact your GE Sales Representative for information about availability in your area.

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