



Versana Premier™

Care with Confidence



3 Premier

Productive.
Sound designed for peace of mind.

ound system can help you deliver high-quality, personalized care, per busy day. This innovative system is well suited for general practice nters, community health clinics, and other facilities offering basic to cover abdominal, OB/GYN, cardiac, urology, vascular and

clinical features let you provide quick and comfortable exams, diagnose a broad range of conditions.

activity tools

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aria users





For you can trust

new levels of excellence

g technology

nding imaging power and clarity to boost diagnostic confidence. It helps you see
sues, and delineate structure boundaries. You'll enjoy proven functionalities found



icture borders clearly.



Sensitive B-Flow™ and B-Flow color imaging to analyze blood flow,
diagnose vessel-wall irregularities and stenosis, and more.



- Simple maintenance; easy troubleshooting and repair
- InSite™ service technology† for fast remote diagnostics and repairs

+ Decades of GE Healthcare heritage at your servi

Invest in Versana Premier and benefit from vast GE ultrasound exper
with you, your practice, and your patients in mind to meet your clini
connectivity needs.

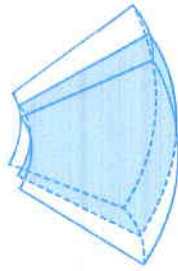


Simple to use

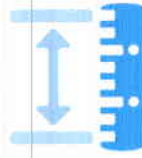
Intuitive locations help you diagnose a wide spectrum of patient conditions. Intuitive flow. The system boots up quickly and operates quietly. It is compact to fit small between rooms.



Whizz dynamic image tuning continuously optimizes the image as you scan, even as you move from one organ or area to another



Use **3D volume** imaging for rich anatomical views



Take **automated measurements** of bladder volume, cysts or masses, IUT thickness, fetal characteristics and more



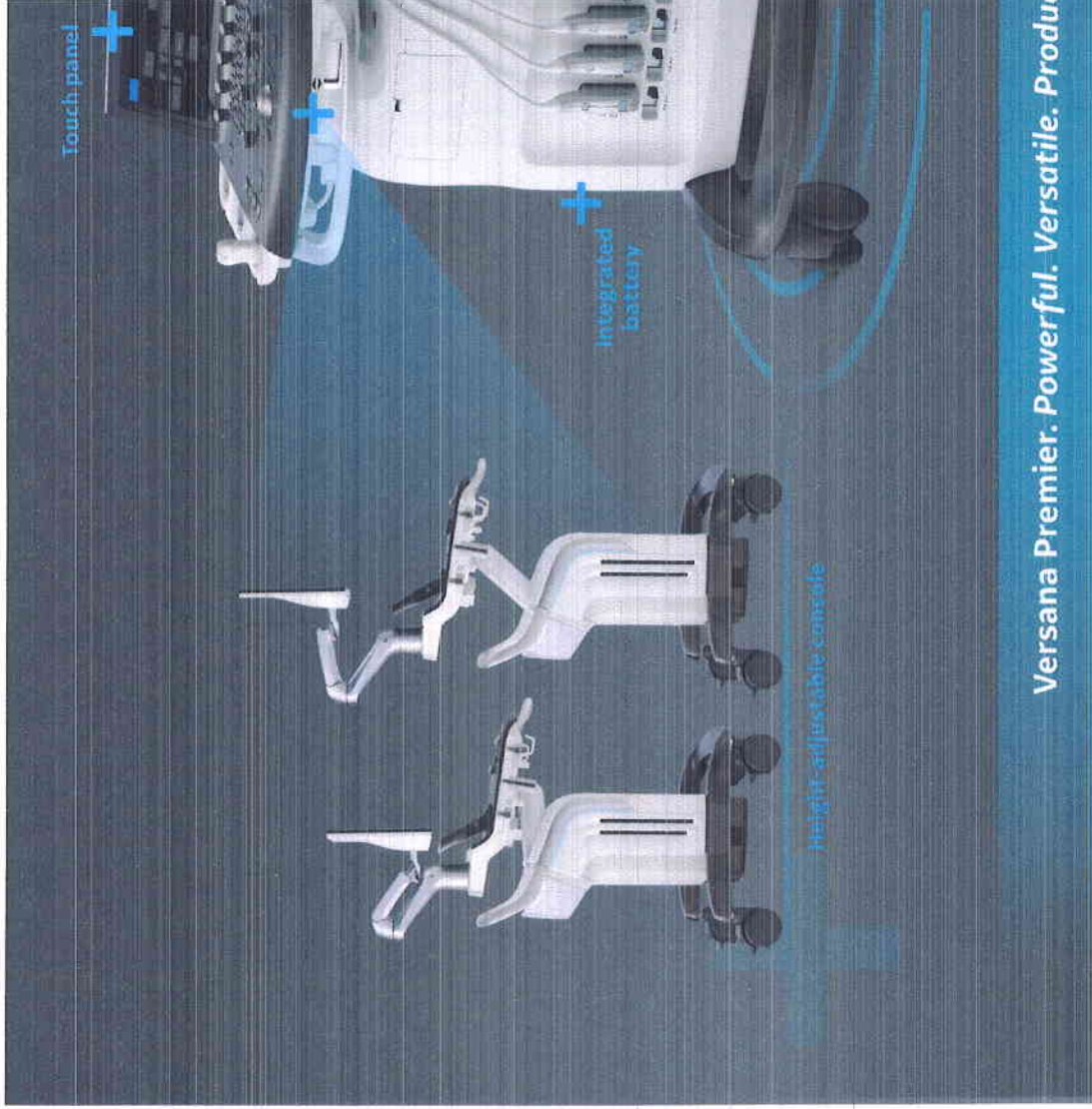
Overlay **voice comments** on images for playback when reviewing exams



Network options let use the cloud¹ to share images with for consultation²



Use **battery power** to move the system from room to room without powering down



Touch panel

Integrated battery

Height adjustable console

Versana Premier. Powerful. Versatile. Product

+ Sharp stay a

- Scan Coz illustrati
- My Traini care, seti
- Web-bas
- Local fac





An opportunity for growth

Ultrasound to serve you well today and set your course for the future.

+ Experience the strength of the GE Healthcare family

Your support team is fully trained & GE Healthcare qualified, deeply experienced, and close by.

- Expert support during and after purchase
- In-depth product instruction
- Remote or on-site technical, clinical and network support

+ Customized solutions and path to growth

Help your practice grow with Versana Premier. You can select a basic package, with the option to add more probes and software. Or let GE experts help select another system to suit your needs.

+ Versana Club: Learn. Network. Share.

The Versana Club gives you access to member resources members that can help expand your ultrasound knowledge and improve your practice. It's a place to share images with your peers from around the world.

You'll also enjoy:

- Educational offerings
- Web-based video tutorials
- Information on Versana family service solutions and products
- Up-to-date content on ultrasound and patient care
- Notices of regional ultrasound events and other news
- Access to the broader family of GE ultrasound user clubs



Versana Premier. Care with Confidence.

Powerful. Versatile. Productive. World-class ultrasound designed for peace-of-mind.

† Local educational offerings may vary according to regions. Please check with your local GE representative.

* Option may not be available in all countries.

† Requires internet connection; may not be available in all countries.

‡ Image sharing to mobile devices via Bluetooth available in some countries

§ Financing options vary from country to country. Please check with your local GE representative.

Products mentioned in this material may be subject to government regulation and may not be available in all countries. Please check with your local Sales Representative. Shipment and the effective sale in certain countries can only occur if the product is approved. Final product configuration and features may differ from the ones represented here and may not be available in every country. Check with your local GE representative for details.

Imagination at work

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gehealthcare.com

Introducing Versana Premier

Powerful. Versatile. Productive.
World-class ultrasound designed for peace of mind.

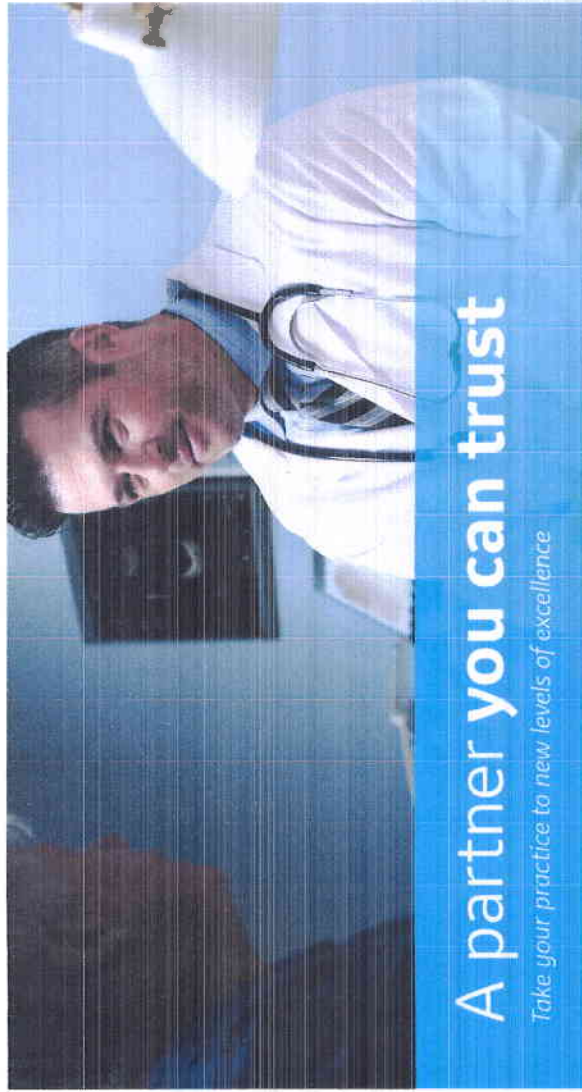
The Versana Premier ultrasound system can help you deliver high-quality, personalized care, patient after patient, day after busy day. This innovative system is well suited for general practice clinics, physical check-up centers, community health clinics, and other facilities offering basic medical care. It is versatile to cover abdominal, OB/GYN, cardiac, urology, vascular and musculoskeletal exams.

A wide variety of probes and clinical features let you provide quick and comfortable exams, see clearly, and confidently diagnose a broad range of conditions.

- World-class imaging
- Smart clinical features
- Intelligent automated productivity tools
- Clinical and product education
- Expert service and technical support
- Flexible financing options
- Access to a network of Versana users

+ Versana Premier is part of the Versana ultrasound family: complete solutions that help empower care without compromise, balancing capability, affordability, and reliability.





A partner you can trust

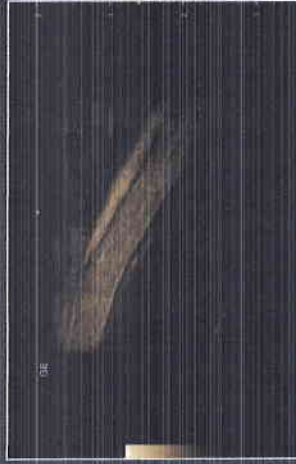
Take your practice to new levels of excellence

+ World-class imaging technology

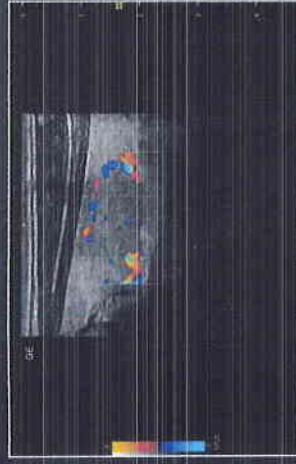
Versana Premier delivers outstanding imaging power and clarity to boost diagnostic confidence. It helps you see clearly, differentiate between tissues, and delineate structure boundaries. You'll enjoy proven functionalities found on most advanced GE systems.



CrossBeam™ and SR+1D to define structure borders clearly.



Sensitive B-Flow™ and B-Flow color mapping to analyze blood flow, diagnose vessel wall irregularities and stenosis, and more.



Sensitive color Doppler to examine thyroid vasculature and blood flow in vessels.



Auto IFT automatically measures the thickness of the intima media on the far and near vessel walls.

Versana Premier. Powerful. Versatile. Productive.

+ Comprehensive service and support for peace of mind

GE delivers flexible, worry-free, multi-year coverage. It's your assurance of long life, high uptime, maximum patient volume, and strong return on investment.

- Expert service engineers always close by
- Simple maintenance, easy troubleshooting and repair
- InSite® service technology* for fast remote diagnostics and repairs



+ Decades of GE Healthcare heritage at your service

Invest in Versana Premier and benefit from vast GE ultrasound expertise. It's designed with you, your practice, and your patients in mind to meet your clinical, workflow and connectivity needs.



A complete solution

Advanced capability, clinical education, and financing to fit your budget

+ Versatile system, simple to use

Multiple exam protocols and applications help you diagnose a wide spectrum of patient conditions. Intuitive automated tools streamline workflow. The system boots up quickly and operates quietly. It is compact to fit small spaces and easy to maneuver between rooms.



Scan Assistant lets you create standardized exam protocols, reducing fatigue and maximizing exam consistency



Whizz dynamic image tuning continuously optimizes the image as you scan, even as you move from one organ or area to another



Use **3D volume** imaging for rich anatomical views



Capture standard pre- and post-stress cardiac views with **Stress Echo**



Take **automated measurements** of bladder volume, cysts or masses, IMT thickness, fetal characteristics and more



Overlay **voice comments** on images for playback when reviewing exams



Compare current and prior exams side-by-side with the **Follow-Up Tool**



Use **battery power** to move the system from room to room without powering down

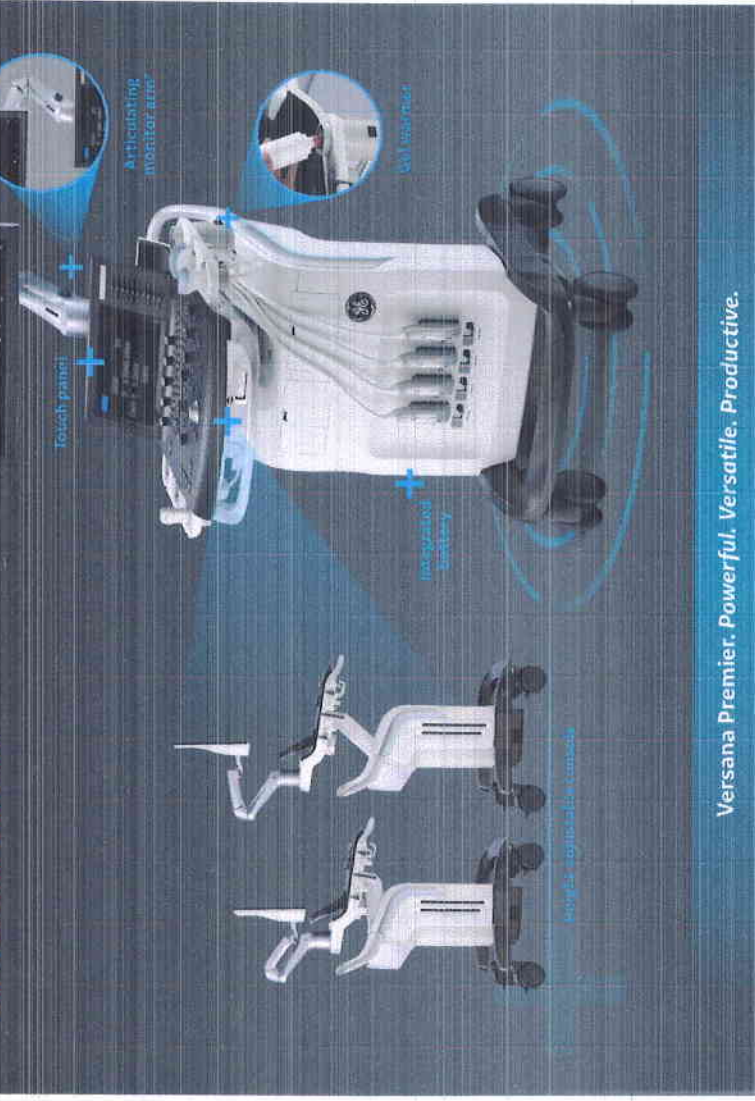


Network options let use the cloud¹ to share images with for consultation²

+ Flexible financing options to enhance return on investment

Financing plans³ including monthly payments help you meet your financial goals and grow your practice.

+ Ergonomic features for clinician and patient comfort



Versana Premier. Powerful. Versatile. Productive.

+ Sharpen your skills and stay ahead of the curve

- Scan Coach: 3D animation, anatomic illustrations and reference images
- My Trainer: on-board help with system care, setup and operation
- Web-based product and clinical tutorials
- Local face-to-face training and remote application support⁴



⁴ Optional features which may vary from country to country



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Versana PremierTM

Ultrasound System

Specification sheet

September 11, 2018

Rev. 1

Product description

Versana Premier ultrasound is designed to help you apply your clinical and imaging skills to deliver high-quality care to the wide range of patients you see daily. This high-quality system is well suited for general practice clinics, physical check-up centers, community healthcare centers, screening centers, and other facilities worldwide that offer basic medical care. Its versatility covers a broad range of examinations: abdominal, OB/GYN, cardiac, small parts, urology, vascular, pediatrics and MSK.



General specification

Dimensions and weight

Height with monitor	• Max. 1780 mm (70.1 in) • Min. 1405 mm (55.5 in)
Width	• Keyboard: 593 mm (24.4 in) • Caster: 717 mm (24.4 in)
Depth	• Maximum: 839 mm (31.9 in) • Caster: 803 mm (31.5 in)

Weight (no peripherals): less than 70 kg

Electrical power

Voltage 100 - 240 VAC

Frequency 50/60 Hz

Power consumption maximum of 450 VA with peripherals

Console design

Max 4 active probe ports

Integrated HDD (500 GB)

Integrated speakers

Probe holders, removable for cleaning and washing

Gel holder, removable for cleaning and washing

Gel warmer

Front and rear handles

Probe cable management slots

Easily removable air filters

Wheels: Locking mechanism that provides rolling lock and caster swivel lock

User interface

Operator keyboard

Height adjustable

Full alphanumeric keypad covered with washable protection film

10 TGC pods

9.9" (213.4 mm) touch screen with 1024 x 600 resolution

Monitor

21.5" (482.6 mm) high-resolution with 1920 x 1024 resolution

Articulating monitor arm

Monitor (cont.)

Tilt/Rotate/Pan	• Tilt angle: +25°/-90° • Rotate angle: -130°/+50° • Horizontal Pan: 650 mm • Vertical Pan: 150 mm
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Fold-down and lock mechanism for transportation

Brightness and contrast adjustment

System overview

Applications

Abdominal

Obstetrical

Gynecological

Small parts

Musculoskeletal

Vascular/peripheral vascular

Urological

Pediatric

Transcranial

Cardiac

Scanning methods

Electronic convex

Electronic linear

Electronic micro convex

Electronic sector

Mechanical volume sweep

Transducer types

Convex array

Linear array

Microconvex array

Sector phased array

Volume probes (4D)

Bi-plane convex array

System overview *(cont.)*

Operating modes

B-Mode
Coded Phase Inversion Harmonic Imaging
M-Mode
Anatomical M-Mode (option)
Curve AMM (option)
Color M-Mode
Color Flow mode (CFM)
Power Doppler Imaging (PDI)
Directional PDI
B-Flow™ (B-Flow Color) (option)
PW Doppler with high PRF
CW Doppler mode (option)
TVI mode (option)
3D/4D volume modes (option)
Elastography (option)

System standard features

EZ Configure Wizard

Whizz

Dynamic image optimization, Auto detection, auto measurement and Auto annotation, Auto Bladder

CrossXBeam™

SRI-HD (High Definition Speckle Reduction Imaging)

B-Steer

Coded Phase Inversion Harmonic Imaging

Virtual Convex

Patient information database

Image archive

Raw data analysis

Voice comments

Real-time automatic Doppler calculations

OB calculations

SonoBiometry (BPD/HC/AC/HL/FL)

Fetal trending

System standard features *(cont.)*

Multi-gestational calculations

Hip dysplasia calculations

Gynecological calculations

Vascular calculations

Breast Productivity

Urological calculations

Auto bladder

Auto detect bladder contour in 2 orthogonal planes and calculate bladder volume

Renal calculations

Cardiac calculations

On-board reporting package

MPEGVue

Network storage

Remote capability: InSite™ ExC

My Trainer

Scan Coach

Scan Assistant

System options

CW Doppler

Anatomical M-Mode

Curve AMM

LOGIQView

Elastography

Advanced 3D (Easy 3D)

B-Flow (B-Flow Color)

Tissue Velocity Imaging (TVI) with Q-Analysis

Stress Echo

Auto EF

Static 3D/
Real-time 4D

- TUI
- VOCAL

Auto IMT

Breast Care 2.0

System options *(cont.)*

Thyroid Productivity	A package in thyroid measurement including measurement and relevant descriptions
Needle Recognition	
Follow-up tool	
DICOM® 3.0 connectivity	
Tricefy™	

Peripheral options

Sony UP-D898MD B/W thermal printer
Sony UP-D898MD B/W thermal printer with fixture kit
Sony UP-D25MD color thermal printer
1-pedal type foot switch
3-pedal type foot switch
USB stick 8 G
1 TB external mobile USB HDD
DVD RW kit
USB ECG kits (AHA/IEC)
ECG module (option)
Wireless LAN card
HP Office 200 color printer
Bluetooth adapter

Display modes

Live and stored display format	
Widescreen	• Full size and split screen • Both with thumbnails for still and Cine
Review image format: 4x4 and thumbnails for still and Cine	
Simultaneous capability	• Dual B (B/B) • B/CFM or PDI • B/PW or B/CWB/M • B + CFM/M • Real-time triplex mode (B + CFM or PDI+PW or CW) • B-Flow or B-Flow Color
Zoom	
Write (HD)/read 20X	

Display modes *(cont.)*

Live and stored display format <i>(cont.)</i>	
Colorized Image	• Colorized B • Colorized B-Flow • Colorized M • Colorized PW • Colorized CW • Colorized 3D • Colorized 4D
Timeline display	• Independent dual B/PW or CW display • Independent dual B/PW or CW display – Top/bottom selectable format (Size: 1/2:1/2; 1/3:2/3; 2/3:1/3) – Side/side selectable format (Size: 1/2:1/2; 1/4:3/4; TL only)
Virtual convex	
LOGIQView	
TUI (Tomography Ultrasound Imaging)	

Selectable alternating modes

B/M
B/PW
B + CFM/M
B + CFM (PDI)/PW (CW)
Freehand 3D-Mode
Freehand 3D-Mode Color
B/CW
B + CFM (PDI)/CW
Multi-image split screen (quad screen)
Live and/or frozen
B + B/CFM or PDI
PW/M
Independent Cine playback

Display annotation

General user interface
Patient name: first, last (Max. 28 characters displayed per each; up to 64 total characters per each)
Patient ID (Max. 64 characters)

Display annotation (cont.)

General user interface (cont.)

Other ID (Max. 64 characters)

Age, sex and date of birth

Hospital name (Max. 23 characters displayed)

Date format:
3 types selectable

- MM/DD/YYYY
- DD/MM/YYYY
- YYYY/MM/DD

Time format:
2 types selectable

- 24 hours
- 12 hours

Gestational age
from

- LMP
- GA
- EDD
- BBT

Displayed acoustic
output

- TIS: Thermal Index Soft Tissue
- TIC: Thermal Index Cranial (Bone)
- TIB: Thermal Index Bone
- MI: Mechanical Index

% of maximum power output

Probe name

Map names

Probe orientation

Depth scale marker

Lateral scale marker

Focal zone markers

Image depth

Zoom depth

B-Mode

Gain

Dynamic range

Imaging frequency

Edge enhance

Frame average

Frame rate

Gray map

ATO (Auto Tissue Optimization)

SRI-HD

CrossXBeam

Color Flow mode

Line density

Frame average

Packet size

Color scale: 2 types

- Power
- Directional PDI

Color velocity range and baseline

Color threshold marker

Color gain

PDI

Inversion

Doppler frequency

PDI mode

Line density

Frame averaging

Packet size

Directional PDI

Color velocity range and baseline

Color threshold marker

PDI gain

Inversion

B-Flow/B-Flow Color mode

Gain

Background

SRI-HD

Accumulation

Flow module

Rejection

Colorize

Edge enhance

Gray map

Frame average

Power output

Sensitivity/PRI

Dynamic range

Frequency

Display annotation *(cont.)*

B-Flow/B-Flow Color mode *(cont.)*

Suppression
Flash suppression
Enhance
Threshold
Map compress
Default map
Wall filter
Transparency

M-Mode

Gain
Dynamic range (use the dynamic range of B-Mode)
Time scale
AMM
Curve AMM

Doppler Mode

Gain
Angle
Sample volume depth and width length
Wall filter
Velocity and/or frequency scale
Spectrum inversion
Time scale
Scale
Doppler frequency

Elastography

Frame reject
Axial smoothing
Noise reject
Sample volume
Lateral smoothing
Window
Map
Frame average

Elastography *(cont.)*

Line density
Frequency
Soft compress
Hard compress
Scale

3D/4D

Tile/mix
Active curve
Reset curve
Lower threshold
Volume angle
B quality
3D orient
Render mode
Colorize
Direction
Render 1 gray
Render 2 gray
Adv. Render
Transparency
Reference image
Cut mode
Cut depth
Depth
Rotational angle
Step angle
Rotation axis
Start angle
End angle
Loop speed

Easy 3D

Utilities
Texture
Gray surface

Display annotation (cont.)

Easy 3D (cont.)

Render
Threshold 1
Threshold 2
Scan distance
Colorize

Advance 3D

Define axis
Group planes
Reslice
Tile

General system parameters

System setup

9 pre-programmable categories
User programmable preset capability
Factory default preset data
Languages: English, Latin American Spanish, French, German, Italian, Brazilian Portuguese, Chinese (simplified), Swedish, Russian, Norwegian, Danish, Dutch, Finnish, OB Report Formats including Tokyo Univ., Osaka Univ., USA, Europe, and ASUM
User defined annotations
Body patterns
Customized comment home position

System scanning parameters

Digital agile beamformer architecture
225,792 system processing channels
Max. frame rate: 1447 f/s (depends on probes and modes)
Displayed imaging depth: 1 – 33 cm
Minimum depth of field: 0 – 2 cm (zoom) (probe dependent)
Maximum depth of field: 0 – 33 cm (probe dependent)
Transmission focus: 1 – 8 focal points selectable (probe and application dependent)
Quad beamforming
Continuous dynamic receive focus/aperture
Multi-frequency/wideband technology
Frequency range: 1.7 to 18 MHz
256 shades of gray
224 dB systematic dynamic range
Adjustable dynamic range (36 – 96 dB)
Adjustable field of view (FOV): up to 168 degrees (depending on probe)
Image reverse: right/left
Image rotation of 0°, 90°, 180°, 270°

B-Mode

Acoustic power output	0 – 100%, 2, 5, and 10 steps
Gain	From 0 – 90 dB, 1 dB steps
Adjustable dynamic range	36 – 96 dB, 3 or 6 dB steps
Frame averaging	8 steps

General system parameters *(cont.)*

B-Mode *(cont.)*

Gray scale map	6 or 8 types probe dependent
B colorization	9 types
Frequency	Up to 11 selectable (depending on probe)
Line density	5/6 steps (depending on probe)
Line density zoom	5 steps
Thermal index	T1c, T1s, T1b
Image reverse	On/off
Focus number	8 steps
Focus width	3 types
Suppression	6 steps
Edge enhance	7 steps
Rejection	6 steps
Steered linear	$\pm 12^\circ, \pm 15^\circ$ (probe dependent)
Scanning size (FOV or angle – depending on the probe)	
SRI-HD	Up to 6 levels selectable
CrossXBeam	Up to 7 angles selectable
Depth	1 – 33 cm, 0.5 or 1 cm step, probe dependent

Coded Harmonic Imaging

Coded Phase Inversion Harmonic Imaging

Available on all probes

Line density	5/6 steps (depending on probe)
Line density zoom	5 steps
Suppression	6 steps
Edge enhance	7 steps
Gray scale map	7 types
Tint map	9 types
Gain	0 – 90 dB, 1 dB step
Dynamic range	51 to 78 dB 3 dB per step; 36~48/78~96 6 dB per step;
Rejection	6 steps
Frequency	Up to 4 steps, probe dependent

SRI-HD

High Definition Speckle Reduction Imaging (provides multiple levels of speckle reduction)

Compatible with side-by-side DualView display

Compatible with all linear, convex and sector transducers

Compatible with B-Mode, 3D/4D imaging

CrossXBeam

Provides 3, 5, 7, 9 frames of spatial compounding

Live side-by-side DualView display

Compatible with
Color mode

- Coded Harmonic Imaging
- Virtual Convex
- SRI-HD
- Color mode
- PW

Available on 4C-RS, L6-12-RS, E8C-RS, 8C-RS, RAB2-6-RS, L8-18i-RS, BE9CS-RS, E8Cs-RS, 12L-RS, LK760-RS

Color Flow mode

Baseline	0 – 100%, 10% steps
Invert	On/off
CF/PDI focus depth	Default pre-settable for 10 – 100% of ROI in depth, 15% or 20% step
CF/PDI flash suppression	5 steps
CF/PDI angle steert	0, $\pm 10^\circ$, $\pm 15^\circ$, $\pm 20^\circ$
Packet size	8 – 24, dependent on probe and application
Line density	5 steps
Line density zoom	5 steps
Frame average	7 steps
PRF	0.1 – 25 KHz/19 steps
Spatial filter	6 steps
Gain	0 – 40 dB, 0.5 dB steps
Wall filter	4 steps, dependent on probe and application
Scanning size (FOV or angle)	Probe dependent
CF/PDI vertical size (mm) of ROI	Default pre-settable
CF/PDI center depth (mm) of ROI	Default pre-settable

General system parameters (cont.)

Color Flow mode (cont.)

CF/PDI frequency	Up to 4 steps, depending on probe
Color maps, including velocity-variance maps	14 types depending on application
Transparent map	5 steps
Color threshold	0 – 100%, 10% steps
Accumulation	8 steps
Flash suppression	

Power Doppler imaging

PDI map	14 types
CF/PDI focus depth	Default pre-settable for 10 – 100% of ROI in depth, 15% or 20% step
CF/PDI acoustic output	0 – 100%, 2%, 5% or 10% step
CF/PDI angle steer	0, $\pm 10^\circ$, $\pm 15^\circ$, $\pm 20^\circ$
Packet size	8 – 24, dependent on probe and application
Spatial filter	6 steps
Frame average	7 steps
PRF	0.1 – 25 KHz/19 steps
Power threshold	0 – 100%, 10% steps
Gain	0 – 40 dB, 0.5 dB steps
Wall filter	4 steps depending on probe and application
CF/PDI frequency	Up to 15 steps, depending on probe
Transparent map	5 steps
Invert	On/off
Accumulation	8 steps

Auto Optimization

Optimize B-Mode image to improve contrast resolution
 Selectable amount of contrast resolution improvement (low, medium, high)

Auto-Spectral Optimize adjusts	• Baseline • Invert • PRF (on live image)
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M-Mode

Gain: -20 – 20 dB, 1 dB step

M-Mode (cont.)

Dynamic range: 36 to 96 dB; 36~48, 6 dB per step; 48~78, 3 dB per step; 78~96, 6 dB per step

Gray scale map: 6 or 8 types (probe dependent)

Colorization: 9 types

Scanning size (FOV or angle – dependent on probe, see probe specifications)

Rejection: 6 steps

M/PW display format: V-1/3B, V-1/2B, V-2/3B, H-1/2B, H-1/4B, timeline only (Vert 1/3B, Vert 1/2B, Vert 2/3B, Horiz 1/2B, Horiz 1/4B, TL only)

Anatomical M-Mode (option)

M-Mode cursor adjustable at any plane

Can be activated from a Cine loop from a live or stored image

Measure and analysis capability

Available with Color Flow mode

Curve AMM

Pulse Wave Doppler mode

Acoustic power: 0 – 100%, 2, 5, and 10 steps

Gain: 0 – 85 dB, 1 dB step

Gray scale map: Up to 8 types

PRF: 0.3 – 27.9 KHz

Transmit frequency: 1.7~10 MHz, probe dependent

Wall filter: 5.5 – 5000 Hz, 27 steps, probe dependent

PW colorization: Up to 6 types

Velocity scale range:

- 0.1-6670 cm/s
- Sweep speed: 0~7, 8 steps

Sample volume depth: 0.1~33 cm, probe dependent

SV gate: 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16 mm

Angle correction: -90°~90°, 1° per steps

M/PW display format: V-1/3B, V-1/2B, V-2/3B, H-1/2B, H-1/4B, timeline only

Spectrum inversion

Duplex: simultaneous: on/off (B-Mode only)

PW angle steer: 0, $\pm 10^\circ$, 15, 20° (use angle steer of B-Mode)

Trace method: Off, Max, Mean...

Baseline shift: 11 steps

General system parameters *(cont.)*

Pulse Wave Doppler mode *(cont.)*

Doppler Auto Trace

Compression: 0.5~2.4 (0.5, 0.7, 0.9, 1, 1.1, 1.4, 1.6, 2, 2.4)

Trace direction: Above, below, both

Trace sensitivity: 0~40, 2 steps

Continuous Wave Doppler (option)

Gray scale map: 8 types

Baseline: 11 steps

Angle correct: $\pm 90^\circ$, 1° step

Spectral color: 6 types

Invert: on/off

Spectral averaging: 5 steps

Gain: 0 – 85 dB, 1 dB steps

Wall filter: 5.5 – 5000 Hz, 27 steps, dependent on probe and application

CW-Mode includes	• Transmit frequency: 1.9, 4.2, 5, 6.2 MHz • CW colorization: tint map A/B/C/D/E/F • Velocity scale range: 0.1~6105 cm/s • Spectrum inversion • Trace method: Max, Mean • Doppler Auto Trace: Frozen, Live, Off • Trace direction: Above, Below, Both
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Trace sensitivity: 0~40, step: 2

Cine memory/image memory

384 MB of Cine memory

Selectable Cine sequence for Cine review

Prospective Cine mark

Measurements/calculations and annotations on Cine playback

Scrolling timeline memory

Dual image Cine display

Quad image Cine display

Cine gauge and Cine image number display

Cine review loop

Cine review speed: 11 steps (11, 13, 14, 17, 22, 25, 31, 48, 100, 200, 400%)

Image storage

On-board database of patient information

Storage formats:

- DICOM – compressed/uncompressed, single/multi-frame, with/without Raw Data
- Export JPEG, WMV (MPEG 4) and AVI formats
- DICOM still image storage size: ~2.1 MB
- Display format: full size, 4x4 and thumbnails
- Storage devices:
 - Internal hard drive partition of 356 GB for image storage
 - External USB HDD and USB memory stick support for Import, Export, DICOM Read, SaveAs, and MPEGVue
 - CD-RW storage: 700 MB
 - DVD storage: -R (4.7 GB)

Conversion to formats: JPEG, AVI, WMV

Live image and stored image side-by-side display

Reload of archived data sets

Network storage support for Import, Export, DICOM Read, SaveAs, MPEGVue

Connectivity and DICOM

Ethernet network connection

- DICOM 3.0 (option)
- Verify
- Print
- Store
- Modality worklist
- Storage commitment
- Modality Performed Procedure Step (MPPS)
- Query/retrieve
- Structured reporting template – Can be compared to vascular and OB standard
- Remote capability InSite ExC

Virtual Convex

Provides a convex field of view

Compatible with CrossXBeam

Available on linear and sector transducers

General system parameters *(cont.)*

LOGIQView (option)

Extended field of view imaging

Available on 4C-RS, L6-12-RS, 8C-RS, 3Sc-RS, E8C-RS, E8Cs-RS, RAB2-6-RS, L8-18i-RS, 6S-RS, BE9CS-RS, LK760-RS, 12L-RS, 12S-RS probes

For use in B-Mode

CrossXBeam is available on linear probes

Auto detection of scan direction

Post-process zoom

Rotation

Auto fit on monitor

Measurements in B-Mode

Up to 60 cm scan length

Easy 3D (option)

Allows unlimited rotation and planar translations

3D reconstruction from Cine sweep

Utilities: Average Off/Average Light/Average Medium/Average strong

Gray surface 0 – 100%

Threshold1 0 – 255

Threshold2 0 – 255

Scan distance 1.0 – 15.0

Colorize 0 – 360

Advanced 3D (option)

Define axis: Select 2 points as start and end point of long axis

Group planes: Off/Main/Parallel/Angular

Reslice: Cube/Virtual Rescan/Cubic Plane

Tile: 1/2/4/6

Static 3D/Real-time 4D (option)

Available on RAB2-6-RS

Acquisition modes

- Static 3D
- Real-time 4D

Visualization modes

- 3D rendering (diverse surface and intensity projection modes)
- Sectional planes (3 section planes perpendicular to each other)

Static 3D/Real-time 4D (option) *(cont.)*

Render Mode

Surface Texture, Surface Smooth, Max-, Min-, X-ray, Mix Mode of two render modes

Display format

- Quad: A-/B-/C-Plane/3D
- Dual: A-Plane/3D
- Single: 3D

Curved 3-point render start

3D Movie

- Loop Speed: 6 – 400
- Run/stop
- Scalpel: 3D cut tool
- Cut mode: Inside Contour/Outside Contour/Inside Box/Outside Box/Small Eraser/Big Eraser
- Cut depth: Full/UserDefine
- Depth: 0 – 1000
- 3D rotation Cine
- Rotational angle: 30 – 360°
- Step angle: 1 – 15°
- Rotation axis: X/Y
- 3D volume review
- Start frame: Define start frame
- End frame: Define end frame
- Run/Stop

Niche

TUI: Tomographic Ultrasound Imaging

- Display format: 1x1/1x2/2x2/3x3
- Slices: 3 – 19
- Slices distance: 0.5 – 40 mm

VOCAL (option)

Virtual Organ Computer-aided Analysis

Real-time 4D

Max volume frame rate: 29.1 f/s

4D Volume Cine

B-Flow (option)

Available on 4C-RS, L6-12-RS, 12L-RS probes

Background	On/off
Sensitivity/PRI	1 – 50, 17 steps
Line density	5 steps
Edge enhance	7 steps
Frame average	0 – 7, 8 steps
Gray scale map	8 maps
Tint map	5 maps
Dynamic range	36 – 96 dB, 16 steps
Rejection	6 steps

General system parameters (cont.)

B-Flow (option) (cont.)

Gain	0 – 90 dB range, 1 dB per steps
B-Flow Color	
Accumulation	8 levels

Elastography (option)

Available on L6-12-RS/E8Cs-RS/4C-RS/12L-RS

Semi-quantification	• Frame reject: 0 – 8 • Axial smoothing: 0 – 4 • Noise reject: 0 – 8 • Sample Volume: 0 – 4 • Lateral smoothing: 0 – 4 • Window: 0 – 8 • Map: 8 • Frame average: 0 – 10 • Line Density: 0 – 4 • Soft compress: 0 – 10 • Hard compress: 0 – 10
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TVI (option)

Myocardial Doppler imaging with color overlay on tissue image

Available on the sector probes

Tissue color overlay can be removed to show just the 2D image, still retaining the tissue velocity information

Q-Analysis: Multiple Time Motion trace display from selected points in the myocardium

Stress Echo (option)

Advanced and flexible stress echo examination capabilities	• Provides exercise and pharmacological protocol templates • 8 default templates • Template editor for user configuration of existing templates or creation of new templates • Reference scan display during acquisition for stress level
Comparison (dual screen)	• Baseline level/Previous level selectable • Raw data continuous capture • Over 87.5 seconds available • Wall motion scoring (bullseye and segmental) • Smart stress: Automatically set up various scanning parameters (geometry, frequency, gain, etc.) according to same projection on previous level

Follow-up tool (option)

The follow-up tool is intended to ensure consistency in serial scans on a patient, and to compare the images of a previous ultrasound exam to the current exam.

Breast Care (option)

Breast Care is a customizable workflow designed for breast scanning. It provides guidance efficiently to complete various modes of imaging, measurement and BI-RADS®. Positive findings are highlighted and scored for easy reference in subsequent patient visits.

Needle recognition (option)

Needle recognition enables precise needle visualization for accurate image-guided procedures. It is available with linear probes L6-12L-RS, L8-18i-RS, and 12L-RS.

General system parameters (cont.)

Scan Coach

Scan Coach is a contextual reference tool that provides clinical guidance to determine the correct scan plane for acquisition. References for anatomical structures can be displayed on demand by the user. Clinical reference images and animations depict information related to each step. The tool covers five applications

- Abdomen
- Obstetrics
- Gynecology
- Cardiology
- Vascular

My Trainer

My Trainer lists FAQs from customers and instructs customers how to solve problems quickly by themselves. It also covers basic system setup, operation, and care.

Controls available while live

Write Zoom

B/M/CrossXBeam-Mode

Gain

TGC

Dynamic range

Acoustic output

Transmission focus position

Transmission focus number

Line density control

Sweep speed for M-Mode

Number of angles for CrossXBeam

PW-Mode

Transmission frequency

Scale

Wall filter

Sample volume gate

- Length
- Depth

Velocity scale

Color Flow mode

CFM gain

CFM velocity range

Acoustic output

Wall echo filter

Controls available while live (cont.)

Packet size

Frame rate control

CFM spatial filter

CFM frame averaging

Frequency/velocity base line shift

Controls available on Freeze or Recall

Automatic Optimization

SRI-HD

CrossXBeam – Display non-compounded and compounded image simultaneously in split screen

3D reconstruction from a stored Cine loop

B/M/CrossXBeam Mode (CrossXBeam is disabled on Freeze or Recall)

Gray map optimization

TGC

Colorized B and M

Frame average (loops only)

Dynamic range

Anatomical M-Mode (Freeze only)

Sweep speed

Gray map

Post gain

Baseline shift (PW, CW)

Sweep speed

Invert spectral waveform

Compression

Rejection

Colorized spectrum

Display format

Doppler audio

Angle Correct

Quick Angle Correct

Auto Angle Correct (can't adjust in Freeze)

Overall gain (loops and stills)

Color map

General system parameters (cont.)

Controls available on Freeze or Recall (cont.)

Transparency map
Frame averaging (loops only)
Flash suppression (disable in Freeze)
CFM display threshold
Spectral invert for Color/Doppler
Anatomical M-Mode on Cine loop

Measurements/calculations

General B-Mode

Depth and distance
Circumference (ellipse/trace)
Area (ellipse/trace)
Volume (ellipsoid)
% Stenosis (area or diameter)
Angle between 2 lines

General M-Mode

M-Depth
Distance
Time
Slope
Heart rate

General Doppler measurements/calculations

Velocity
Time
A/B ratio (velocities/frequency ratio)
PS (Peak Systole)
ED (End Diastole)
PS/ED (PS/ED ratio)
ED/PS (ED/PS ratio)
AT (Acceleration Time)
ACCEL (Acceleration)
TAMAX (Time Averaged Maximum Velocity)
Volume Flow (TAMEAN and vessel area)

Measurements/calculations (cont.)

General Doppler measurements/calculations (cont.)

Heart rate
PI (Pulsatility Index)
RI (Resistivity Index)

Real-time Doppler Auto measurements/calculations

PS (Peak Systole)
ED (End Diastole)
MD (Minimum Diastole)
PI (Pulsatility Index)
RI (Resistivity Index)
AT (Acceleration Time)
ACC (Acceleration)
PS/ED (PS/ED Ratio)
ED/PS (ED/PS Ratio)
HR (Heart Rate)
TAMAX (Time Averaged Maximum Velocity)
PVAL (Peak Velocity Value)
Volume Flow (TAMEAN and Vessel Area)

OB measurements/calculations

Gestational age by	• GS (Gestational Sac) • CRL (Crown Rump Length) • FL (Femur Length) • BPD (Biparietal Diameter) • AC (Abdominal Circumference) • HC (Head Circumference) • APTD x TTD (Anterior/Posterior Trunk Diameter by Transverse Trunk Diameter)
Estimated Fetal Weight (EFW) by	• AC, BPD • AC, BPD, FL, HC • AC, FL, HC • BPD, APTD, TTD, FL
Calculations and ratios	• FL/BPD • FL/HC • CI (Cephalic Index) • CTAR (Cardio-Thoracic Area Ratio)
SonoBiometry	• BPD • HC • AC • HL • FL

Measurements/calculations (cont.)

OB measurements/calculations (cont.)

Measurements/calculations by: ASUM, ASUM 2001, Berkowitz, Bertagnoli, Brenner, Campbell, CFEF, Chitty, Eik-Nes, Ericksen, Goldstein, Hadlock, Hansmann, Hellman, Hill, Hohler, Jeanty, JSUM, Kurtz, Mayden, Mercer, Merz, Moore, Nelson, Osaka University, Paris, Rempen, Robinson, Shepard, Shepard/Warsoff, Tokyo University, Tokyo/Shinozuka, Yarkoni

Fetal graphical trending

Growth percentiles

Multi-gestational calculations (4)

Fetal qualitative description (anatomical survey)

Fetal environmental description (biophysical profile)

Programmable OB tables

Over 20 selectable OB calculations	Expanded worksheets
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GYN measurements/calculations

Right ovary length, width, height

Left ovary length, width, height

Uterus length, width, height

Cervix length, trace

Ovarian volume

ENDO (Endometrial thickness)

Ovarian RI

Uterine RI

Follicular measurements

Vascular measurements/calculations

SYS DCCA (Systolic Distal Common Carotid Artery)

DIAS DCCA (Diastolic Distal Common Carotid Artery)

SYS MCCA (Systolic Mid Common Carotid Artery)

DIAS MCCA (Diastolic Mid Common Carotid Artery)

SYS PCCA (Systolic Proximal Common Carotid Artery)

DIAS PCCA (Diastolic Proximal Common Carotid Artery)

SYS DICA (Systolic Distal Internal Carotid Artery)

DIAS DICA (Systolic Distal Internal Carotid Artery)

SYS MICA (Systolic Mid Internal Carotid Artery)

DIAS MICA (Diastolic Mid Internal Carotid Artery)

SYS PICA (Systolic Proximal Internal Carotid Artery)

DIAS PICA (Diastolic Proximal Internal Carotid Artery)

Vascular measurements/calculations (cont.)

SYS DECA (Systolic Distal External Carotid Artery)

DIAS DECA (Diastolic Distal External Carotid Artery)

SYS PECA (Systolic Proximal External Carotid Artery)

DIAS PECA (Diastolic Proximal External Carotid Artery)

VERT (Systolic Vertebral Velocity)

SUBCLAV (Systolic Subclavian Velocity)

Automatic IMT

Urological calculations

Volume (Auto Bladder volume)

Prostate volume

Left/right renal volume

Generic volume

Post-void bladder volume

Cardiac measurements/calculations

B-Mode measurements

Aorta	• Aortic Root Diameter (Ao Root Diam) • Aortic Arch Diameter (Ao Arch Diam) • Ascending Aortic Diameter (Ao Asc) • Descending Aortic Diameter (Ao Desc Diam) • Aorta Isthmus (Ao Isthmus) • Aorta (Ao st junct)
Aortic valve	• Aortic Valve Cusp Separation (AV Cusp) • Aortic Valve Area Planimetry (AVA Planimetry) • (Trans AVA)
Left atrium	• Left Atrium Diameter (LA Diam) • LA Length (LA Major) • LA Width (LA Minor) • Left Atrium Area (LAA(d), LAA(s)) • Left Atrium Volume, Single Plane, Method of Disk (LAEDV A2C, LAESV A2C) (LAEDV A4C, LAESV A4C)
Left ventricle	• Left Ventricle Volume, Teichholz/Cubic (LVIDd, LVIDs) • Left Ventricle Internal Diameter (LVIDd, LVIDs) • Left Ventricle Length (LVLd, LVLs)

Cardiac measurements/ calculations (cont.)

B-Mode measurements (cont.)

Left ventricle (cont.)	• Left Ventricle Outflow Tract Diameter (LVOT Diam) • Left Ventricle Posterior Wall Thickness (LVPWd, LVPWs) • Left Ventricle Length (LV Major) • Left Ventricle Width (LV Minor) • Left Ventricle Outflow Tract Area (LVOT) • Left Ventricle Mass Index (LVPWd, LVPWs) • Ejection Fraction, Teichholz/Cube (LVIDd, LVIDs) • Left Ventricle Posterior Wall Fractional Shortening (LVPWd, LVPWs) • Mitral Valve • Mitral Valve Annulus Diameter (MV Ann Diam) • E-Point-to-Septum Separation (EPSS) • Mitral Valve Area Planimetry (MVA Planimetry)
Pulmonic valve	• Pulmonic Diameter (Pulmonic Diam)
Right ventricle	• Right Ventricle Internal Diameter (RVIDd, RVIDs) • Right Ventricle Outflow Tract Diameter (RVOT Diam)
System inferior vena cava	Systemic Vein Diameter (Systemic Diam)

M-Mode measurements

Aorta	• Aortic Root Diameter (Ao Root Diam) • Aortic Valve Diameter (AV Diam) • Aortic Valve Cusp Separation (AV Cusp) • Aortic Valve Ejection Time (LVET)
Left atrium	• Left Atrium Diameter to AoRoot Diameter Ratio (LA/Ao Ratio) • Left Atrium Diameter (LA Diam) • Left Ventricle Volume, Teichholz/Cubic (LVIDd, LVIDs) • Left Ventricle Posterior Wall Thickness (LVPWd, LVPWs) • Left Ventricle Ejection Time (LVET) • Left Ventricle Pre-Ejection Period (LVPEP) • Interventricular Septum (IVS)
Mitral valve	• E-Point-to-Septum Separation (EPSS) • Mitral Valve Anterior Leaflet Excursion (D-E Excursion) • Mitral Valve D-E Slope (D-E Slope) • Mitral Valve E-F Slope (E-F Slope)

M-Mode measurements (cont.)

Pulmonic valve	• QRS complex to end of envelope (Q-to-PV close) • Right Ventricle Internal Diameter (RVIDd, RVIDs) • Right Ventricle Outflow Tract Diameter (RVOT Diam) • Right Ventricle Ejection Time (RVET) • Right Ventricle Pre-Ejection Period (RVPEP)
Tricuspid valve	• QRS complex to end of envelope (Q-to-TV close)

Doppler mode measurements

Aortic valve	• Aortic Valve Mean Velocity (AV Trace) • Aortic Valve Velocity Time Integral (AV Trace) • Aortic Valve Mean Pressure Gradient (AV Trace) • Aortic Valve Peak Pressure Gradient (AR Vmax) • Aortic Insufficiency Peak Velocity (AR Vmax) • Aortic Insufficiency End-Diastolic Velocity (AR Trace) • Aortic Valve Peak Velocity (AV Vmax) • Aortic Valve Deceleration Time (AV Trace) • Aortic Valve Ejection Time (AVET) • Aortic Valve Area according to PHT
Left ventricle	• Left Ventricle Outflow Tract Peak Pressure Gradient (VLOT Vmax) • Left Ventricle Outflow Tract Peak Velocity (LVOT Vmax) • Left Ventricle Outflow Tract Mean Pressure Gradient (LVOT Trace) • Left Ventricle Outflow Tract Velocity Time Integral (LVOT Trace) • Left Ventricle Ejection Time (LVET)
Mitral valve	• Mitral Valve Regurgitant Mean Velocity (MR Trace) • Mitral Regurgitant Mean Pressure Gradient (MR Trace) • Mitral Regurgitant Velocity Time Integral (MR Trace) • Mitral Valve Mean Velocity (MR Trace) • Mitral Valve Velocity Time Integral (MR Trace) • Mitral Valve Mean Pressure Gradient (MR Trace) • Mitral Regurgitant Peak Pressure Gradient (MR Vmax)

Cardiac measurements/ calculations *(cont.)*

Doppler mode measurements *(cont.)*

Mitral valve *(cont.)*

- Mitral Valve Peak Pressure Gradient (MR Vmax)
- Mitral Regurgitant Peak Velocity (MR Vmax)
- Mitral Valve Peak Velocity (MR Vmax)
- Mitral Valve Velocity Peak A (MV A Velocity)
- Mitral Valve Velocity Peak E (MV E Velocity)
- Mitral Valve Area according to PHT (MV PHT)
- Mitral Valve E-Peak to A-Peak Ratio (A-C and D-E) (MV E/ARatio)
- Mitral Valve Acceleration Time (MV ACC Time)
- Mitral Valve Deceleration Time (MV Dec. Time)
- Mitral Valve Acceleration Time/Deceleration Time Ratio (MVAcc/Dec. Time)

Pulmonic valve

- Pulmonic Insufficiency Peak Pressure Gradient (PR Vmax)
- Pulmonic Insufficiency End-Diastolic Pressure Gradient (PRTrace)
- Pulmonic Valve Peak Pressure Gradient (PV Vmax)
- Pulmonic Insufficiency Peak Velocity (PR Vmax)
- Pulmonic Insufficiency End-Diastolic Velocity (Prend Vmax)
- Pulmonic Valve Peak Velocity (PV Vmax)
- Pulmonary Artery Diastolic Pressure (PV Trace)
- Pulmonic Insufficiency Mean Pressure Gradient (PR Trace)
- Pulmonic Valve Mean Pressure Gradient (PV Trace)
- Pulmonic Insufficiency Mean Square Root Velocity (PR Trace)
- Pulmonic Insufficiency Velocity Time Integral (PR Trace)
- Pulmonic Valve Mean Velocity (PV Trace)
- Pulmonic Valve Velocity Time Integral (PV Trace)
- Pulmonic Insufficiency Pressure Half Time (PR PHT)
- Pulmonic Valve Flow Acceleration (PV Acc Time)
- Pulmonic Valve Acceleration Time (PV Acc Time)
- Pulmonic Valve Ejection Time (PVET)
- QRS complex to end of envelope (Q-to-PV close)

Doppler mode measurements *(cont.)*

Pulmonic valve *(cont.)*

- Pulmonic Valve Acceleration to Ejection Time Ratio (PV Acc Time, PVET)

Right ventricle

- Right Ventricle Outflow Tract Peak Pressure Gradient (RVOT Vmax)
- Right Ventricle Outflow Tract Peak Velocity (RVOT Vmax)
- Right Ventricle Outflow Tract Velocity Time Integral (RVOT Trace)
- Right Ventricle Ejection Time (RV Trace)
- Stroke Volume by Pulmonic Flow (RVOT Planimetry, RVOT Trace)
- Right Ventricle Stroke Volume Index by Pulmonic Flow (RVOT Planimetry, RVOT Trace)

System

- Pulmonary Artery Peak Velocity (PV Vmax)
- Pulmonary Vein Velocity Peak A (reverse) (P Vein A)
- Pulmonary Vein Peak Velocity (P Vein D, P Vein S)
- Systemic Vein Peak Velocity (PDA Diastolic, PDA Systolic)
- Ventricular Septal Defect Peak Velocity (VSD Vmax)
- Atrial Septal Defect (ASD Diastolic, ASD Systolic)
- Pulmonary Vein A-Wave Duration (P Vein A Dur)
- IsoVolumetric Relaxation Time (IVRT)
- IsoVolumetric Contraction Time (IVCT)
- Pulmonary Vein S/D Ratio (P Vein D, P Vein S)
- Ventricular Septal Defect Peak Pressure Gradient (VSD Vmax)
- Pulmonic-to-Systemic Flow Ratio (Qp/Qs)

Tricuspid valve

- Tricuspid Regurgitant Peak Pressure Gradient (TR Vmax)
- Tricuspid Valve Peak Pressure Gradient (TV Vmax)
- Tricuspid Regurgitant Peak Velocity (TR Vmax)
- Tricuspid Valve Peak Velocity (TV Vmax)
- Tricuspid Valve Velocity Peak A (TV A Velocity)
- Tricuspid Valve Velocity Peak E (TV E Velocity)
- Tricuspid Regurgitant Mean Pressure Gradient (TR Trace)
- Tricuspid Valve Mean Pressure Gradient (TV Trace)

Cardiac measurements/ calculations (cont.)

Doppler mode measurements (cont.)

Tricuspid valve (cont.)	• Tricuspid Regurgitant Velocity Time Integral (TR Trace) • Tricuspid Valve Mean Velocity (TV Trace) • Tricuspid Valve Velocity Time Integral (TV Trace) • Tricuspid Valve Time to Peak (TV Acc/Dec Time) • Tricuspid Valve Ejection Time (TV Acc/Dec Time) • Tricuspid Valve A-Wave Duration (TV A Dur) • QRS complex to end of envelope (Q-to-TV close) • Tricuspid Valve Pressure Half Time (TV PHT) • Tricuspid Valve E-Peak to A-Peak Ratio (TV E/A Velocity)
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Color Flow mode measurements

Aortic valve	• Proximal Isovelocity Surface Area: Regurgitant Flow (AR Trace) • Proximal Isovelocity Surface Area: Regurgitant Volume Flow (AR Trace) • Proximal Isovelocity Surface Area: Aliased Velocity (AR Vmax)
Mitral valve	• Proximal Isovelocity Surface Area: Regurgitant Flow (MR Trace) • Proximal Isovelocity Surface Area: Regurgitant Volume Flow (MR Trace) • Proximal Isovelocity Surface Area: Aliased Velocity (MR Vmax)

Combination mode measurements

Aortic valve	• Aortic Valve Area (Ao Diam., LVOT Vmax, AV Vmax) • Aortic Valve Area by Continuity Equation by Peak Velocity (Ao Diam., LVOT Vmax, AV Vmax) • Stroke Volume by Aortic Flow (AVA Planimetry, AV Trace) • Cardiac Output by Aortic Flow (AVA Planimetry, AV Trace, HR) • Aortic Valve Area by Continuity Equation VTI (Ao Diam., LVOT Vmax, AV Trace)
Left ventricle	Cardiac Output, Teichholz/Cubic (LVIDD, LVI Ds, HR)
Mitral valve	Cardiac Output, Teichholz/Cubic (LVIDD, LVI Ds, HR)

Cardiac worksheet

Parameter: Lists the mode, the measurement folder and the specific measurement

Measured Value: Up to six measurement values for each item. Average, maximum, minimum, or last

Generic study in cardiology

Probes

4C-RS

Convex probe

Applications	Abdomen, OB/GYN, vascular, urology
Number of elements	128
Convex radius	60 mmR
FOV	58°
Footprint	66.2 x 18.3 mm
B-Mode imaging frequency	2.0, 3.0, 4.0, 5.0 MHz
Harmonic imaging frequency	3.0, 4.0, 5.0 MHz
CFM/PDI/PWD frequency	2.5, 2.8, 3.6 MHz
Biopsy guide	Multi-angle, reusable bracket

L6-12-RS

Linear probe

Applications	Vascular, small parts, pediatrics
Number of elements	128
Footprint	47 x 11.4 mm
B-Mode imaging frequency	6.0, 8.0, 10.0, 11.0 MHz
Harmonic imaging frequency	8.0, 10.0, 12.0, 13.0 MHz
CFM/PDI frequency	4.0, 5.0, 6.0 MHz
PWD frequency	4.0, 4.5, 5.0 MHz
Steered angle	±20°
Biopsy guide	Multi-angle, reusable bracket

Probes *(cont.)*

L8-18i-RS

Linear probe

Application	MSK superficial
Number of elements	168
Footprint	34.8 X 11.1 mm
B-Mode imaging frequency	8.0, 12.0, 14.0, 16.0 MHz
Harmonic imaging frequency	9.0, 15, 18.0 MHz
CFM/PDI/PWD frequency	6.7, 8.3, 10 MHz
Steered angle	±20°
Biopsy guide	Not available

12L-RS

Linear probe

Applications	Vascular, small parts, pediatrics, MSK
Number of elements	192
Footprint	47.1 x 12.7 mm
B-Mode imaging frequency	6.0, 8.0, 10.0, 12.0 MHz
Harmonic imaging frequency	8.0, 10.0, 12.0, 13.0 MHz
CFM/PDI/PWD frequency	4.2, 6.3, 7.7 MHz
Steered angle	±20°
Biopsy guide	Multi-angle, reusable bracket

LK760-RS

Linear probe

Application	MSK
Number of elements	128
Footprint	67.0 x 13.0 mm
B-Mode imaging frequency	5.0, 7.0, 9.0 MHz
Harmonic imaging frequency	6.0, 8.0, 10.0 MHz
CFM/PDI/PWD frequency	3.5, 4.2, 5.0 MHz
Steered angle	±10°
Biopsy guide	Not available

E8C-RS

Endo micro convex probe

Applications	OB/GYN, urology, transvaginal, transrectal
Number of elements	128
Convex radius	10.73 mmR
FOV	128°
Footprint	16.9 x 21.2 mm
B-Mode imaging frequency	6.0, 8.0, 10.0 MHz
Harmonic imaging frequency	7.0, 8.0, 10.0 MHz
CFM/PDI/PWD frequency	4.2, 5.0, 6.3 MHz
Biopsy guide	Fixed angle, disposable or reusable bracket

E8Cs-RS

Endo micro convex probe

Applications	OB/GYN, urology, transvaginal, transrectal
Number of elements	128
Convex radius	8.73 mm
FOV	168°
Footprint	18.6 x 13.9 mm
B-Mode imaging frequency	6.0, 8.0, 10.0 MHz
Harmonic imaging frequency	7.0, 8.0, 10.0 MHz
CFM/PDI/PWD frequency	4.0, 5.0, 6.0 MHz
Biopsy guide	Fixed angle, disposable or reusable bracket

BE9CS-RS

Simultaneous bi-plane, micro convex probe

Applications	Urology, transrectal
Number of elements	96
Convex radius	9 mm
FOV	133°
Footprint	19 x 18.7 mm

Probes *(cont.)*

BE9CS-RS *(cont.)*

B-Mode imaging frequency	6.0, 8.0, 10.0 MHz
Harmonic imaging frequency	8.0, 9.0, 10.0 MHz
CFM/PDI frequency	4.0, 5.0, 6.3 MHz
PW frequency	4.2, 5.0, 6.3 MHz
Biopsy guide	Fixed angle, disposable or reusable bracket

8C-RS

Micro convex probe	
Application	Pediatrics
Number of elements	128
Convex radius	10.73 mmR
FOV	131°
Footprint	22.0 x 12.0 mm
B-Mode imaging frequency	6.0, 8.0, 10.0 MHz
Harmonic imaging frequency	6.0, 7.0, 8.0, 10.0 MHz
CFM/PDI/PWD frequency	4.2, 5.0, 6.3 MHz
Biopsy guide	Not available

3Sc-RS

Phased array sector probe	
Applications	Cardiac, transcranial
Number of elements	64
FOV	120°
Footprint	23.7 x 18.4 mm
B-Mode imaging frequency	2.0, 3.0, 4.0 MHz
Harmonic imaging frequency	3.0, 3.2, 3.5, 4.0 MHz
CFM/PDI/PWD frequency	1.7, 2.0, 2.5, 3.3 MHz
CWD frequency	1.9 MHz
Biopsy guide	Multi-angle, reusable bracket

6S-RS

Phased array sector probe	
Applications	Cardiac, transcranial
Number of elements	64
FOV	120°
Footprint	23.5 x 16.8 mm
B-Mode imaging frequency	4.0, 5.0, 6.0 MHz
Harmonic imaging frequency	4.0, 5.0, 6.0, 7.0 MHz
CFM/PDI/PWD frequency	3.0, 4.0, 4.5 MHz
Biopsy guide	Not available

12S-RS

Phased array sector probe	
Applications	Neonatal, transcranial
Number of elements	96
FOV	120°
Footprint	17.6 x 13.2 mm
B-Mode imaging frequency	6.0, 8.0, 10.0, 11.0 MHz
Harmonic imaging frequency	9.0, 10.0, 12.0 MHz
CFM/PDI/PWD frequency	4.5, 5.0, 5.6, 6.7 MHz
CW frequency	4.2, 5.0, 6.2 MHz
Biopsy guide	Not available

RAB2-6-RS

Convex volume probe	
Applications	Abdomen, OB/GYN, urology
Number of Elements	128
Convex radius	47.1 mmR
Footprint	62.2 x 34.0 mm
Volume sweep radius	24.11 mm
FOV	70 (B), 84° x 70° (volume scan)
B-Mode imaging frequency	3.0, 4.0, 5.0 MHz

Probes *(cont.)*

RAB2-6-RS *(cont.)*

Harmonic imaging frequency	4.0, 5.0, 6.0 MHz
CFM/PDI/PWD frequency	2.0, 3.0, 4.0 MHz
Biopsy guide	Multi-angle, reusable bracket

Inputs and outputs

CVBS output (RCA)

S-Video output

VGA output (1920 x 1080 resolution)

HDMI output (1920 x 1080 resolution)

Audio line-out (RCA)

Ethernet (RJ45)

USB (4 ports for use)

Safety conformance

The Versana Premier is CE marked to Council Directive 93/42/EEC on medical devices

Conforms to the following standards for safety

- IEC 60601-1 Medical electrical equipment – Part 1: General requirements for safety (basic safety and essential performance)
- IEC 60601-1-2 Medical electrical equipment – Part 1-2: General requirements for safety (basic safety and essential performance) – Collateral Standard: Electromagnetic disturbances – requirements and tests EMC Emissions Group 1 Class A device requirements as per CISPR 11
- IEC 60601-2-37 Medical electrical equipment – Part 2-37: Particular requirements for the safety (basic safety and essential performance) of ultrasonic medical diagnostic and monitoring equipment
- ISO 10993-1 Biological evaluation of medical devices – Part 1 Evaluation and testing
- EN 62366 Medical devices – Application of usability engineering to medical devices

Imagination at work

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