GE Healthcare

Venue 50 Ultrasound

Product Description

The Venue™ 50 is a high-performance tablet ultrasound system with an easy-to-use touchscreen and enhanced needle visibility. It boots up while you put your gloves on. The system's advanced tools and overall simplicity help provide clinical precision with ease. Venue 50 is designed for Anesthesia, Musculoskeletal, Point of Care, Interventional, and Vascular Access applications. The sleek and portable design easily fits into tight spaces. The single-surface screen can be easily cleaned and disinfected with medical grade cleaning solutions. Flexible data management and connectivity options, with optional DICOM™, help speed image storage and archiving for physicians at the Point of Care and patient bedside.

General Specification

Console Dimensions	
Height	282 mm (11.1 in)
Width	274 mm (10.8 in)
Depth	56 mm (2.2 in)
Weight	4.0 kg (8.8 lbs.) with probe

Console Electrical Power
Voltage: 100-240 V AC
Frequency: 50/60 Hz
Power: Max. 180 VA

Console Design
Tablet Style
Lithium-Ion Battery Pack
Single probe port
Integrated Speaker
Docking cart (optional)
Tabletop docking station (optional)

Docking Cart Dimensions
Height: 1152-1442 mm (45.4-56.8 in)
Width: 510 mm (20.1 in)
Depth: 480 mm (18.9 in)
Weight: 28.5 kg (62.8 lbs.)

Docking Station Dimensions
Height: 375 mm (14.7 in)
Width: 463 mm (18.2 in)
Depth: 243 mm (9.5 in)
Weight: 4.6 kg (10.1 lbs.)

User Interface

Touch Screen
Multi-touch user-interface with gesture recognition
Mode-specific controls
Alphanumeric Keyboard

Touch Screen (continued)
Measurement
Annotations
Body marks
Utility settings
Patient information entry

Display Screen
12.1 in High Resolution Color LCD
Display: 1024x768

Hard Keys
On/Off button

LED
Battery life

System Overview

Transducer Types
Linear Array
Phased Array
Convex Array

Operating Modes
B-Mode
M-Mode
Color Flow Mode (CFM)
Power Doppler Imaging (PDI)
Needle Recognition

Standard Features
Automatic Tissue Optimization (ATO)
CrossXBeam™
Measurements and calculations, editable
Pinch Zoom
Split window

System Overview (continued)

Standard Features (continued)
Configurable menu
Standard CINE Memory
Loops storage from memory
Internal solid-state drive (SSD)
Patient data protection
User-define preset

Software Options
M-mode
DICOM
OB Package
Needle Recognition
Ophthalmic
eSmart Trainer

Hardware Options
Docking Cart
Tabletop Docking Station
Probes
3-probe port

Media & Peripheral Options
USB thermal B&W printer
Memory Stick
Footswitch
Barcode reader
Wireless card

Display Modes
Live image or Stored image
Full size or split screen

Display Annotation	
Institution/Hospital Name	
Date: MM/DD/YY, DD/MM/YY and YY/MM/DD	
Time: configurable 12 or 24 hrs	
Patient Name: Last, First	
Patient ID: 16 characters	
Power Output Readout	• MI: Mechanical Index • TIS, TIB, TIC: Thermal Index
System Status (real-time or frozen)	
Probe Orientation Marker: Coincides with a probe orientation marking on the probe.	
Loop replay	
Measurement Results Window	
Probe Type	
Preset Name	
Imaging Parameters by Mode (current mode)	• B-mode: Gain Image Depth TGC: 4 plots Others: Configurable, 3 at most • M-mode: M Gain Image Depth M sample line TGC: 4 plots Configurable, 3 at most • Color Flow Mode: Color Gain Image Depth Color ROI box TGC: 4 plots Configurable, 3 at most • Power Doppler Imaging Mode: PDI Gain Image Depth PDI ROI box TGC: 4 plots Configurable, 3 at most

System Overview (continued)

Display Annotation (continued)	
Imaging Parameters by Mode (current mode)	• Needle Recognition Mode: B Gain Needle Gain Beam Angle Needle Direction TGC: 4 plots • CINE Mode Previous Frame Next Frame Play/Pause
B Scale Markers: Depth	
System Messages Display	
Annotation Library: 18-21 preset labels, defined by the application	
Customizable annotations: 12 available for each application	
Keyboard for free text on screen	
Comments available in Live scan mode and Freeze mode	
Body marks available for each application	
Arrows available in Live scan mode and Freeze mode	
Battery status	
Biopsy Guide Line and Zone	
Configurable user-interface with anatomy specific presets	

System Parameters

System Setup
Factory default application data
Languages setup for UI: English, German, French, Italian, Spanish, Portuguese, Simplified Chinese, Swedish, Norwegian, Danish, Finnish, Greek, Russian, Dutch, Japanese
Languages for Manuals: English, French, Spanish, German, Italian, Portuguese, Japanese, Chinese, Czech, Danish, Dutch, Estonian, Finnish, Greek, Hungarian, Latvian, Lithuanian, Norwegian, Polish, Russian, Slovakian, Swedish, Korean
Operation Error Message Display
Patient Name Format: Last, First
System Boot Up: < 16 sec
Probe Loading: < 3 sec

Imaging Processing and Presentation

Software Intensive Ultrasound Imaging Platform	
Digital Beamformer	• Displayed Imaging Depth: Minimum Depth of Field: 0.5 cm (probe dependent); Maximum Depth of Field: 30 cm (probe dependent)
Continuous Dynamic Receive Focus/Aperture	
Multi-Frequency/Wideband Technology	

CINE Memory/Image Memory
250MB Standard CINE Memory (120 sec of recording at most)
CINE Review: frame-by-frame and loop replay
Live Scan Save: Configure save button to save an image during live scanning

Image Archive/Connectivity	
Image Browser: Previewing of previous archived images as well as current stored patient images	
Image Management (removable media)	• Delete Selected Image • Review in Full Image Area
One Print (Recording) UI Keys to approved printer	
Live Scan Save: Configure save button to save an image during live scanning	• Archiving Format: JPEG MPEG4 /H.264
Capture Area:	• Image Area • Full Screen
Archiving Image Frames:	• Single: stores single frame while in Freeze mode • Multiple: stores image loops while in Live scan mode • Patient Information Window, and Search/Create Patient Window • Column header sorting from Image Review Screen by name, date, ID • Automatic generation of patient ID • Search by ID, First Name and Last Name
DICO	• DICOM store • Worklist query • Multi-frame DICOM
Network Quicksave	

Scanning Parameters

B-Mode
Acoustic Output
Thermal Index: TI
Gain
Frequency
CrossXBeam
Gray map
Focus Position
Reverse
Harmonics: defined by the preset
Depth: 0.5-30 cm, defined by the preset, probe dependent
TGC
ATO level
Dynamic Range
Compression
Rejection
Frame Average
SRI HD
Edge Enhance
FOV

M-Mode
Gain
Depth: 0.5-30 cm, defined by the preset, probe dependent
Speed
Layout
Gray Map
Compression
Edge Enhance

Color Flow Mode
ROI Position
ROI Size
Gain
Scale
Depth: 0.5-30 cm, defined by the preset, probe dependent
Threshold

Color Flow Mode (continued)
Sample Volume
Frame Average
Frequency
Steer
Acoustic output
Wall Filter
Focus Position
Color Map
Compression
Invert
Quantification: the amount of blood flow within ROI

PDI-Mode
ROI Position
ROI Size
Gain
Scale
Depth: 0.5-30 cm, defined by the preset, probe dependent
Threshold
Sample Volume
Frame Average
Frequency
Steer
Acoustic Output
Wall Filter
Focus Position
Color Map
Compression
Quantification: the amount of blood flow within ROI

Needle Recognition Mode
Needle Direction
Beam Angle
Needle Gain

Measurements and Calculations

Distance
Area
Volume
Angle
Trace
Open Trace
Heart Rate/Time

Obstetrics Measurements/Calculations
Abdominal Circumference (AC)
Amniotic Fluid Index (AFI)
Area
Antero-Postero Trunk Diameter and Transverse Trunk Diameter (APTD-TTD)
Bi-parietal Diameter (BPD)
Crown Rump Length (CRL)
Estimated Fetal Weight (EFW)
Femur Length (FL)
Gestational Sac (GS)
Head Circumference (HC)
Humerus Length (HL)
Occipito frontal Diameter (OFD)
Cardio-Thoracic Area Ratio (CTAR)
Fetal Trunk Cross-Sectional Area (FTA)
Spine Length (SL)
Multi-Gestational Calculations
Up to 3 fetuses
Comparison of multiple fetus data on a graph and a worksheet

OB Worksheet	
Patient Information	• Fetus Number • CUA/AUA Selection
Measurement Information	• AFI • AC • HC • BPD • FL

OB Worksheet (continued)	
Calculation Information	• EFW • EFW GP (growth percentile) • FL/BPD • FL/AC • HC/AC • FL/HC • CI (Cephalic Index)
OB Graphs	• Fetal Graphical Trending • Quad views • Ultrasound and gestational age

Probes

12L-SC Wide Band Linear Probe
Applications: Peripheral Vascular, Pediatric, Small Organ, Conventional Musculoskeletal, Superficial Musculoskeletal, Thoracic/Pleural, Abdominal, Neonatal Cephalic, Intraoperative, Interventional Guidance, Vascular Access, Tissue Biopsy, Nerve Block, Ophthalmic
FOV (max): 38.4mm
B-mode Imaging Frequency: 8-13 MHz
CFM Imaging Frequency: 4-6.67 MHz
Steered Angle: +/-20
Biopsy Guide Available: Multi-angle, Transverse bracket, Infinite biopsy kit

3S-SC Wide Band Phased Array Probe
Applications: Fetal/OB, Abdominal, Pediatric, Neonatal Cephalic, Adult Cephalic (transcranial), Cardiac, Conventional Musculoskeletal, Thoracic/Pleural, Tissue Biopsy, Intraoperative, Ophthalmic
FOV: 60°-90°
B-mode Imaging Frequency: 1.5–4.0 MHz
CFM Imaging Frequency: 1.82-3.08 MHz
Biopsy Guide Available: Multi Angle

Probes (continued)

4C-SC Wide Band Convex Probe
Applications: Fetal/OB, Abdominal, Pediatric, Conventional Musculoskeletal, Thoracic/Pleural, Nerve Block, Intraoperative, Tissue Biopsy
Convex Radius: 60mmR
FOV: 35°-55°, application dependent
B-mode Imaging Frequency: 2.5-6 MHz
CFM Imaging Frequency: 2.22-3.08 MHz
Biopsy Guide Available: Multi Angle

L8-18i-SC Wide Band Linear Probe
Applications: Peripheral Vascular, Pediatric, Small Organ, Conventional Musculoskeletal, Superficial Musculoskeletal, Thoracic/Pleural, Abdominal, Neonatal Cephalic, Intraoperative, Interventional Guidance, Vascular Access, Tissue Biopsy, Nerve Block.
FOV (max): 25.2mm
B-mode Imaging Frequency: 8-18 MHz
CFM Imaging Frequency: 4.44-8.7 MHz
Steered Angle: +/-20

E8CS-SC Wide Band Convex Probe
Applications: Fetal/OB, Abdominal, Transvaginal and Tissue Biopsy.
Convex Radius: 8.7 mmR
FOV: 145°
B-mode Imaging Frequency: 3.48-9.0 MHz
CFM Imaging Frequency: 4.0-5.0 MHz
Biopsy Guide Available: Multi Angle

10C-SC Wide Band Convex Probe
Applications: Abdominal, Pediatric, Small Organ, Neonatal Cephalic, Superficial Musculoskeletal, Thoracic/Pleural, Intraoperative and Ophthalmic
Convex Radius: 10.0 mmR
FOV: 75°-102°
B-mode Imaging Frequency: 5.5-10.0 MHz
CFM Imaging Frequency: 4.0-5.0 MHz

Inputs and Outputs

Outputs
HDMI interface on docking station and docking cart

Connectors
3 USB interface on docking station and docking cart
1 USB interface on console
Docking Connector
Removable SD card
Wireless LAN 802.11 b/g/n by wireless card
Wired LAN 10/100 BaseT

Safety Conformance

Venue 50	
Complies with ANSI/AAMI ES60601-1 Medical Electric Equipment	
Certified to CAN/CSA-C 22.2 No.601.1 by an SCC accredited Test Lab	
CE Marked to Council Directive 93/42/EEC on Medical Devices	
Compliant with DIRECTIVE 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) requirement.	
Conforms to the following standards for safety:	• EN/IEC 60601-1 Electrical medical equipment • EN/IEC 60601-1-2 Electromagnetic Compatibility • EN/IEC60601-1-6 General requirements for safety – Collateral Standard: Usability • EN/IEC60601-2-37 Particular requirements for the safety of ultrasonic medical diagnostic and monitoring equipment • ISO 10993 Biological evaluation of Medical devices • AIUM/NEMA UD3 Acoustic output Display (MI, TIS, TIB, TIC) • EMC Emissions Group 1 Class A device requirements as per Sub clause 4.2 of CISPR 11

About GE Healthcare

GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. GE (NYSE: GE) works on things that matter - great people and technologies taking on tough challenges. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

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