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LOGIQ 9

TruScan Imaging Technology

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Product Description

The LOGIQ 9 is our leadership imaging system designed for abdominal, vascular, obstetrics, gynecology, neonatal, urology, transcranial, and small parts applications.

System Architecture

TruScan Architecture – our exclusive, software-intensive, ultrasound imaging platform gives you unsurpassed computational power, image-manipulation capability, workflow flexibility and product upgrade-ability.

TruAccess is the new, GE-exclusive, raw-data processing technology that will change the future of ultrasound imaging. By accessing raw data, TruAccess achieves excellent image quality today and ensures unsurpassed image management tomorrow.

CodeScan, Coded Technology, improves image quality and penetration while Multi-Level Codes provides greater bandwidth control.

SmartScan improves image acquisition and patient throughput while increasing diagnostic confidence and exam consistency.

ComfortScan, our most advanced ergonomic design ever, helps maximize productivity and simplify every exam you perform.

General Specifications

Dimensions and Weight
(Dimensions given with floating keyboard stowed for transport)

- Height - Min: 140.3 cm (55.25 in) - Max: 160.7 cm (63.25 in)
- Width: 64 cm (25.2 in)
- Depth: 89.9 cm (35.4 in)
- Weight (no peripherals): 196.8 kg (434 lb)

Electrical Power
- Voltage:100-120 Vac or 220-240 Vac
- Frequency: 50/60 Hz
- Power: Max. 1.2 KVA with on-board peripherals
- Maximum Thermal Output: 4095 BTU/hr.

Console Design
- 4 Active Probe Ports
- Integrated HDD (40 GB)
- Integrated CD-RW drive
- Integrated MO drive
- On-board storage for peripherals
- Wheels
  - Wheel diameter:
    Front: 175 mm
    Rear: 175 mm
- Integrated locking mechanism that provides rolling lock and caster swivel lock
- Integrated cable management
- Front and rear handles
- Easily removable air filter

User Interface

Operator Keyboard
- Floating keyboard adjustable in three dimensions:
  - Height: adjustable 76.2 – 96.5 cm (30 - 38 in)
  - Rotation: adjustable +/-75° from center
  - Extension: 31.8 cm (12.5 in) from console
- Full-sized, backlit alphanumeric keyboard
- Ergonomic hard key layout
- Interactive back-lighting
- Integrated recording keys for remote control of up to 4 peripheral or DICOM devices
- Integrated gel warmer

Touch Screen
- 10.4 in High Resolution color LCD screen
- Interactive dynamic software menu
- Brightness adjustment
- User-configurable layout

Monitor
- 17″ High-Resolution non-interlaced scan flat CRT
- Center of monitor height adjustable (with keyboard): 125.7 – 146.1 cm (49.5 – 57.5 in)
- Tilt/Rotate Adjustable Monitor
  - Tilt Angle: Down 10°, Up 10°
- Rotate Angle: 90° right, 90° left
- Wide Image area
- Integrated high-fidelity speakers
- Digital brightness & contrast adjustment.

System Overview

Applications
- Abdominal
- Obstetrical
- Gynecological
- Breast
- Small parts
- Vascular / Intraoperative/ Peripheral
- Transcranial
- Pediatric and Neonatal
- Musculoskeletal
- Urological

Operating Modes
- B-Mode
- M-Mode
- Color Flow Mode (CFM)
- Power Doppler Imaging (PDI) with topographic and directional maps
- PW Doppler with high PRF
- B-Flow Mode
- M-Color Flow Mode

Scanning Methods
- Electronic Sector
- Electronic Convex
- Electronic Linear

Transducer Types
- Sector Phased Array
- Convex Array
- Microconvex Array
- Linear Array
- Matrix Array

System Standard Features
- State-of-the-art user interface with high resolution 10.4 inch LCD touch panel
- Automatic Tissue Optimization
- Fine Angle Steer
- Coded Excitation
- Coded Harmonic Imaging
- Virtual Convex
- Patient information database
- Image Archive on CD, MOD, and hard drive
- Integrated MO drive (supports 128, 230, 540, 640 MB or 1.3 GB disks)
- Easy 3D (Freehand acquisition with basic features) with 3D Movie
- Raw Data Analysis
- Real-time automatic Doppler calcs
- OB Calcs
- Fetal Trending
- Multigestational Calcs
- Hip Dysplasia Calcs
- Gynecological Calcs
- Vascular Calcs
- Urological Calcs
- Renal Calcs
- Insite™ capability
- iLinq capability
- On-board electronic documentation

System Options
- B-Flow
- LOGIQView
- Coded Contrast Imaging
- Advanced 3D
- Tru3D – sensor-based and quantitative
- DICOM 3.0 connectivity
- Foot Switch, with programmable functionality
- Console Protective Cover

Peripheral Options
- Integrated mounting kits provided for:
  - Analog B&W thermal printer
  - Analog A6 or A5 color thermal printer
  - Digital B&W thermal printer
  - Digital A6 color thermal printer
  - Analog S-VHS VCR
- External Color PC desktop printer & connection kit
- External video & audio connections provided for other devices such as Multi-format cameras, laser cameras, and other peripherals

Display Modes
- Simultaneous Capability
  - B/PW
  - B/CFM or PDI
  - B/M
  - Real-time Triplex Mode (B + CFM or PDI/PW)
  - B-Flow + PW
- Selectable alternating Modes
  - B/PW
  - B + CFM (PDI)/PW
  - B-Flow/PW
- Multi-image (split/quad screen)
  - Live and/or frozen
  - B + B/CFM or PDI
  - PW/M
  - Independent Cine playback
- Zoom Read/Write/Pan
- Colorized Image
  - Colorized B
  - Colorized M
  - Colorized PW
- Time line display
  - Independent Dual B/PW Display
  - Display Formats

  Top/ Bottom selectable format (Size: 1/2:1/2; 1/3:2/3; 2/3:1/3)

  Side/Side selectable format (1/2:1/2; 1/3:2/3; 0:1)
- Virtual Convex

Display Annotation
- Patient Name: First, Last, & Middle name each store 27 characters. Up to 27 total characters displayed.
- Patient ID: 31 Characters. Up to 27 total characters displayed.
- Age, Sex and Birth Date (optional)
- Hospital Name: 23 Characters.
- Date: 2 Types selectable MM/DD/YY, DD/MM/YY
- Time: 2 types selectable 24 hours, 12 hours
- Gestational Age from LMP/EDD/GA/BBT
- Probe Name
- Gray 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 Averaging
  - Gray Map
- M-Mode
  - Gain
  - Dynamic Range
  - Time Scale
- Doppler Mode
  - Gain
  - Angle
  - Sample Volume Depth and Width
  - Wall Filter
  - Velocity and/or Frequency Scale
  - Spectrum Inversion
  - Time Scale
  - PRF
  - HPRF
  - Doppler Frequency
- Color Flow Doppler Mode
  - Line Density
  - Frame Averaging
  - Packet Size
  - Color Scale: 3 types Power, Directional PDI, and Symmetrical Velocity Imaging
  - Color Velocity Range and Baseline
  - Color Threshold Marker
  - Color Gain
  - PDI
  - Spectrum Inversion
  - Doppler Frequency
- TGC Curve
- Acoustic Frame Rate
- Cine Frame Number
- VCR Counter
- VCR Status
- VCR Playback Counter
- Body Pattern: Up to 90 human types plus 13 animal types
- Application Name
- Measurement Results
- Operator Message
- Displayed Acoustic Output
  - TIS: Thermal Index Soft Tissue
  - TIC: Thermal Index Cranial (Bone)
  - TIB: Thermal Index Bone

- MI: Mechanical Index
- % of Power output
- Biopsy Guide Line and Zone

System Parameters

System Setup
- Pre-programmable Categories
- User Programmable Preset Capability
- Factory Default Preset Data
- Languages: English, French, German, Spanish, Italian, Portuguese, Russian, Greek, Swedish, Danish, Dutch, Finnish, Norwegian
- OB Report Format: 5 Types, Tokyo Univ., Osaka Univ., USA, Europe, and ASUM
- EFBW: 8 types, Tokyo University, Osaka University, USA and Europe (Shephard, Merz, Hadlock/Shephard, Williams, Brenner)
- Up to 90 Programmable Annotations
- Body Patterns
- Customized Comment Home Position

Pre-Processing
- Write Zoom up to 4x
- B/M-Mode
  - Gain
  - TGC
  - Dynamic Range
  - Acoustic Output
  - Transmission Focus Position
  - Transmission Focus Number
  - Edge Enhancement
  - Smoothing Control
  - Line Density Control
  - Sweep Speed for M-Mode
- PW-Mode
  - Gain
  - Dynamic Range
  - Acoustic Output
  - Transmission Frequency
  - PRF
  - Wall Filter
  - Spectral Averaging
  - Sample Volume Gate
    Length
    Depth
  - Velocity Scale
- Color Flow Mode
  - CFM Gain
  - CFM Velocity Range
  - Acoustic Output
  - Wall Echo Filter
  - Packet Size
  - Frame Rate Control
  - CFM Spatial Filter
  - CFM Frame Averaging
  - CFM Line Resolution
  - Frequency / Velocity Base Line Shift
  - CFM ACE-Filter

Post-Processing
- Max Read Zoom to 8x
- Base Line Shift
- Sweep Speed
- B/M-Mode
  - Gray Map
  - Colorized B and M
  - Post Gain
  - Compression
  - Anatomical M Mode
- PW Mode
  - Gray Map
  - Post Gain
  - Compression
  - Rejection
  - Colorized D
  - Color Tag
  - Display Format
- Color Flow
  - Color Map
  - CFM Velocity Tag
  - CFM Display Threshold
  - Angle Correct (PW mode)
  - Quick Angle Correct (PW mode)
  - Auto Angle Correct (PW mode)
  - Spectral Invert for Color and Doppler

Image Processing and Presentation

- Digital Beamformer
- 1024 system processing channel technology
- Displayed Imaging Depth: 0 – 36 cm
- Minimum Depth of Field: 0 – 2 cm (Zoom) (probe dependent)
- Maximum Depth of Field: 0 – 36 cm (probe dependent)
- Transmission Focus
  - 1- 8 Focus Points selectable (probe and application dependent)
  - Focal Zone position, up to 12 steps
- Continuous Dynamic Receive Focus / Continuous Dynamic Receive Aperture
- 256 shades of gray
- Up to 145 dB Dynamic Range/Displayed is 102 dB
- Adjustable Field of View (FOV)
- Image Reverse: Right/ Left
- Image Rotation: 4 steps, Rotation: 0°, 180°

CINE Memory/Image Memory
- CINE Memory: 128 MB
- Dual Image CINE Display
- CINE Gauge and CINE image number display
- CINE Review Loop
- CINE Review Speed: 9 types (1/1, ½, 1/3, ¼, 1/5, 1/6, 1/7, 1/8, 1/9)
- Selectable CINE Sequence for CINE Review
- Measurements/ Calculations & Annotations on CINE Playback
- Scrolling timeline memory

Image Storage
- On-board database of patient information from past exams
- Storage Format: DICOM
- Image Storage Size:
  – Gray Image: ~300K to ~1.3 MB
  – Color Image: ~900K to 1.9 MB
- Multiframe
- Display Format: Full size, 4x3, and "thumbnails"
- Live image and stored image side-by-side display
- MO Disk Storage: 128, 230, 540, 640 MB or 1.3 GB
- CD-RW storage
- Conversion to JPEG and AVI file formats
- Hard Drive Image Storage: 18.1 GB

Connectivity
- Ethernet network connection
- RS-232 serial data output
- DICOM support (option)
  - Verify
  - Print
  - Store
  - Modality Worklist
  - Storage Commitment
  - Modality Performed Procedure Step (MPPS)
  - Media Exchange
  - Off network / mobile storage queue

Raw Data Processing
- Complete image flexibility allows stored image optimization and measurements. :
  - Overall B-Mode gain, dynamic range and gray scale maps
  - Overall Doppler gain, baseline shift, sweep speed and inverted spectral waveform.
  - Tru3D reconstruction from a stored CINE loop
  - Anatomical M-Mode
  - All Post-Processing capabilities

Scanning Parameters

Digital B-Mode
- B Acoustic Power: 25 – 100 %
- B Gain: 120 dB range, 1 dB steps, (includes slide pots)
- B Displayed Dynamic Range: 36 – 102 dB, 3-6 dB steps
- B Frame Averaging: 7 steps
- B Gray Scale Map: 18 types
- B Edge Enhancement: 6 steps
- Frequency Selection
- Line Density: up to 5 steps
- Scanning Size (FOV or Angle (Depending on the probe, see probe specifications)

- B Colorization: 4 color settings
- Image Softener: 4 steps
- Reject: 6 steps
- Suppression: 6 steps

Digital M-Mode
- M Acoustic Power: 25 – 100 %
- M Gain: 120 dB range, 1 dB steps, includes slide pots
- M Displayed Dynamic Range: 36 – 102 dB, 3-6 dB steps
- M Gray Scale Map: 18 types
- M Edge Enhancement: 6 step-
- M Sweep Speed: 8 types
- M Colorization: 4 colors
- CFM/M-Mode capability

Anatomical M-Mode
- M-mode cursor adjustable at any plane
- Can be activated from a CINE loop from a live or stored image
- M & A capability
- Not available for Linear transducers

Digital Spectral Doppler Mode
- PW Acoustic Power: 0 – 100 %
- PW Gain: 72 dB range, 1 dB step
- PW Displayed Dynamic Range: 24 – 40 dB, 4 dB step
- PW Gray Scale Map: 5 types
- PW Wall Filter: up to 10 steps, PRF (velocity scale) dependent
- PW Colorization: 4 steps
- Color Tag
- PRF: 1.0 – 30.0 kHz
- Velocity Scale Range:
  - PD/HPRF +/- 5 m/sec (0°), +/- 10 m/sec (60°)

  (Depending on the probe etc.)
- Digital Wall Filter Frequency: 20 Hz to 1800 Hz
- PW Sweep Speed: 8 types
- Sample Volume Length: 1 – 16 mm
- Angle Correction: ± 0-90°, 1° step Available before Freeze and after Freeze
- Steered Linear: 0° - 20° (Depending on the probe)
- Spectrum Inversion
- Baseline Shift: 9 steps
- Doppler Auto Trace
- Time Resolution: 2 to 25 msec, typically 10 msec

Digital Color Flow Mode
- Symmetrical Velocity Imaging for optimized 3D color images
- Color Maps: 8 velocity maps; 4 velocity-variance maps
- CFM Gain: 80 dB range, 1 dB steps
- CFM Velocity Scale Range:
  - less than +/- 0.2 cm/s
  - max: +/- 3.0 m/s
- Wall Filter: 40 – 3500 Hz
- 8, 10, 12, 14 or 16 packets
- Line Density: 3 steps
- CFM Spatial Filter: 6 selections
- CFM Window Size (same as B-Mode):
  - Convex 5° - 120°
  - Sector 10° - 90°
  - Linear 5 mm - 46 mm

  (Depending on the probe)
- Maximum Steerable Angle (Slant Scan): +/- 20 °
- CFM Spectrum Inversion
- CFM Baseline Shift: 11 steps
- Pre-settable and independently adjustable B-Mode Gain in B/CFM-Mode
- CFM Frame Average: 7 steps
- CFM Threshold: 0 - 100%
- Realtime Triplex Mode: B + CFM/PW in any depth, at any PRF
- PRF setting for PW/CFM in Triplex Mode with user selectable ratio of 1:1, 1:2, or 1:4

Digital Power Doppler Imaging
- Power Doppler Maps: 10 maps
  - 1 Directional map
- Power Doppler Gain: 0-80 dB in 1 dB steps
- PDI Frame Averaging: 7 steps
- PDI Color Threshold: 0 - 100%
- Wall Filter: 3 steps
- Simultaneous Real-time Triplex Mode
  B+PDI/PW in any depth, at any PRF
- PRF setting for PW/CFM in Triplex Mode with user selectable ratio of 1:1, 1:2, or 1:4
- 8, 10, 12, 14 or 16 packets
- Line Density: 3 steps

Auto Optimization
- Available in:
  - B-Mode
  - B-Flow
  - PW Doppler

B-Flow (option)
- Available on the following probes:
  - 7L
  - 10L
  - i12L
  - M12L
  - M7C
  - 3.5C
  - E8C
  - 8C
- Image Reverse: left/right
- B-Flow sensitivity: 5 steps
- Background ON/OFF
- Displayed Dynamic Range: 36 – 102 dB
- Line Density: 3 steps
- Frame Averaging: 7 steps
- Map: 18 selectable
- Edge Enhance: 6 steps
- Flow Settings: Low / High

Coded Excitation
- Available on the following probes:
  - M7C
  - E8C
  - 10L
  - 10S
  - 8C

Coded Harmonic Imaging
- Available on all probes

Coded Contrast Imaging (option available only outside the United States.)
- Available on 3.5C, 4S, M7C, 7L, 10L, & M12L probes
- Contrast Timer
- Timed Updates: 0.5 – 10 seconds
- 3 fundamental frequencies on 3.5C, 4S, M7C, 10L, and M12L
- 2 fundamental frequencies on 7L
- Up to 4 B-mode harmonic settings:
  - Coded Harmonic Angio
  - Coded Phase Inversion
  - Hi MI Harmonic
  - Coded Phase Inversion
- TruAgent Detection (3.5C, 4S)
- Multiple selections for CHA tissue background
- Maximum Enhance Mode
- The LOGIQ 9 is designed for compatibility with commercially available ultrasound contrast agents. Because the availability of these agents is subject to government regulation and approval, product features intended for use with these agents may not be commercially marketed nor made available before the contrast agent is cleared for use. Contrast related product features are enabled only on systems for delivery to an authorized country or region of use. GE Medical Systems makes no claims concerning the safety or effectiveness of contrast agents.

LOGIQView
- For use in B-Mode
- LOGIQView Status
- Auto detection of scan direction
- Pre or post-process zoom up to 10X
- Rotation
- Auto best fit on monitor
- Measurements in B-Mode
- Up to 60 cm scan length

3D (options)

Advanced 3D
- Acquisition of Color data
- Automatic rendering

- 3D Landscape technology
- 3D Movie
- Main Mode

Tru3D
- Sensor-based acquisition
- Display of data in: Main-, Parallel-, Angular-Mode
- Render Modes: Gray Surface, Texture, Min-, Max-, Average-Intensity
- Basic measurements: distance, angle, area
- Volume measurements
- 3D Movie

Virtual Convex
- Provides a convex field of view for all linear and sector transducers
  - M12L
  - 10L
  - 7L
  - i12L
  - 4S
  - 10S

Measurements / Calculations

General B-Mode
- Depth & Distance
- Circumference (Ellipse / Trace)
- Area (Ellipse / Trace)
- Volume (Ellipsoid)
- % Stenosis (Area or Diameter)
- Angle between two 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)
- 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)
  - LV (Length of Vertebra)
  - FTA (Fetal Trunk Cross-sectional Area)
  - HL (Humerus Length)
  - BD (Binocular Distance)
  - FT (Foot Length)
  - OFD (Occipital Frontal Diameter)
  - TAD (Transverse Abdominal Diameter)
  - TCD (Transverse Cerebellum Diameter)
  - THD (Thorax Transverse Diameter)
  - TIB (Tibia Length)
  - ULNA (Ulna Length)
- Estimated Fetal Weight (EFW) by:
  - AC, BPD
  - AC, BPD, FL
  - AC, BPD, FL, HC
  - AC, FL
  - AC, FL, HC
  - AC, HC
- Calculations and Ratios
  - FL/BPD
  - FL/AC
  - FL/HC
  - HC/AC
  - CI (Cephalic Index)
  - AFI (Amniotic Fluid Index)
- Measurements / Calculations by: Jeanty, Merz, Tokyo University, Mercer, Hansmann, Erickson, Hill, Shephard, Hadlock, Hohler, Campbell
- 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 Calcs
- Expanded Worksheets

GYN Measurements/ Calculations
- Right Ovary Length, Width, Height
- Left Ovary Length, Width, Height
- Uterus Length, Width, Height
- Ovarian Volume
- ENDO (Endometrial thickness)
- Ovarian RI
- Uterine RI
- Follicular measurements
- Summary Reports

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)
- 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)
- Summary Reports

Probes

- 3.5C Wide Band Convex Probe
  - Applications: Abdomen, OB/Gyn, Urology, Vascular
  - Maximum Band Width (-20dB): 2 – 5 MHz
  - Number of Elements: 128
  - Convex Radius: 40 mm
  - FOV: 68°
  - Foot Print: 53 x 18 mm
  - Doppler Transmission Frequency: 2.5 MHz
  - Harmonic Frequency: 4 MHz
  - Biopsy Guide Available: Single-Angle, Reusable

- M7C Matrix Array Wide Band Convex Probe
  - Applications: Abdomen, OB/Gyn, Pediatrics
  - Maximum Band Width (-20dB): 3 – 8 MHz
  - Number of Elements: 960
  - Convex Radius: 50 mm
  - FOV: 63°
  - Foot Print: 55 x 18 mm
  - Doppler Transmission Frequency: 3.1 MHz
  - Harmonic Frequency: 7 MHz
  - Biopsy Guide Available: Multi-angle, reusable

- E8C Wide Band Microconvex Probe
  - Applications: OB/Gyn
  - Maximum Band Width (-20dB): 4 – 11 MHz
  - Number of Elements: 128
  - Convex Radius: 11 mm
  - FOV: 133°
  - Foot Print: 23 x 10x mm
  - Doppler Transmission Frequency: 4.4 MHz
  - Harmonic Frequency: 8 MHz
  - Biopsy Guide Available: Single Angle, Disposable

- 8C Wide Band Microconvex Probe
  - Applications: Neonatal, Pediatrics Maximum Band Width (-20dB): 4 – 11 MHz
  - Number of Elements: 128
  - Convex Radius: 11 mm
  - FOV: 133°
  - Foot Print: 23 x 10x mm
  - Doppler Transmission Frequency: 4.4 MHz
  - Harmonic Frequency: 8 MHz

- 4S Wide Band Sector Probe
  - Applications: Abdomen, OB/Gyn, TCD
  - Maximum Band Width(-20dB): 2 – 5 MHz
  - Number of Elements: 128
  - FOV: 90°
  - Foot Print: 32 x 19 mm
  - Doppler Transmission Frequency: 1.9 MHz
  - Harmonic Frequency: 4 MHz
  - Biopsy Guide Available: Not Available

- 10S Wide Band Sector Probe
  - Applications: Neonatal, Small Parts, Abdomen, Pediatrics
  - Maximum Band Width (-20dB): 4.0 – 11.0 MHz
  - Number of Elements: 96
  - FOV: 90°
  - Foot Print: 14 x 11 mm
  - Doppler Transmission Frequency: 5.0 MHz
  - Harmonic Frequency: 10.0 MHz
  - Biopsy Guide Available: Not Available

- i12L Intraoperative Wide Band Linear Probe
  - Applications: Intraoperative, Small Parts, Vascular, Pediatrics
  - Maximum Band Width (-20dB): 5 – 12 MHz
  - Number of Elements: 96
  - FOV: 25 mm
  - Foot Print: 29 x 10 mm
  - Doppler Transmission Frequency: 5.0 MHz
  - Harmonic Frequency: 10.0 MHz
  - Biopsy Guide Available: Not Available

- 7L Wide Band Linear Probe
  - Applications: Vascular, Small Parts
  - Maximum Band Width (-20dB): 3 – 7 MHz
  - Number of Elements: 192
  - FOV: 46 mm
  - Foot Print: 52 x 10 mm
  - Doppler Transmission Frequency: 3.8 MHz
  - Harmonic Frequency: 7.0 MHz
  - Steered Angle: Max. 20°
  - Biopsy Guide Available: Multi-Angle, Reusable

- 10L Wide Band Linear Probe
  - Applications: Vascular, Small Parts, Neonatal, Pediatrics
  - Maximum Band Width (-20dB): 4 – 10 MHz
  - Number of Elements: 192
  - FOV: 39 mm
  - Foot Print: 44 x 10 mm
  - Doppler Transmission Frequency: 4.4 MHz
  - Harmonic Frequency: 9.0 MHz
  - Steered Angle: Max. 20°
  - Biopsy Guide Available: Multi-Angle, Reusable

- M12L Matrix Array Wide Band Linear Probe
  - Applications: Small Parts, Vascular, Neonatal, Pediatrics
  - Maximum Band Width (-20dB): 5- 13 MHz
  - Number of Elements: 960
  - FOV: 39 mm
  - Foot Print: 45 x 10 mm
  - Doppler Transmission Frequency: 5.6 MHz
  - Harmonic Frequency: 10.0 MHz
  - Biopsy Guide Available: Multi-Angle, Reusable

External Inputs and Outputs (not including on-board peripherals)

- Video Out
  - SVGA
  - Composite Color
  - Composite b/w
  - S-Video
- Audio Stereo Out
- Remote Expose (2)
- 3 Position Footswitch
- RS-232 serial port for Line Printer
- Ethernet
- External microphone
- Insite™ Modem Connection
- iLinq Modem Connection

Safety Conformance

The LOGIQ 9 is:

- Listed to UL 2601-1 by a Nationally Recognized Test Lab
- Certified to CSA 22.2, 60601.1 by an SCC accredited Test Lab
- CE Marked to Council Directive 93/42/EEC on Medical Devices
- Conforms to the following standards for safety:
  - EN 60601-1 Electrical medical equipment
  - EN 60601-1-1 Electrical medical equipment
  - EN 60601-1-2 Electromagnetic compatibility
  - EN 60601-1-4 Programmable medical systems
  - ISO 10993 Biological evaluation of medical devices
  - NEMA UD3 Acoustic output display (MI, TIS, TIB, TIC)