

LOGIQ S8



Product Description

The LOGIQ* S8 is our premium multi-purpose ultrasound imaging system digital beamformer designed for abdominal, vascular, breast, cardiac, small parts, obstetrics, gynecology, neonatal, pediatrics, urology and transcranial applications.

General Specifications

Dimensions and Weight

- Height
 - Maximum: 1760mm, 69.3in
 - Minimum: 1100 mm, 43.3 in (OLED), 1150 mm, 45.3 in (LCD)
- Width
 - Keyboard: 520mm, 20.5 in
 - Caster: 530mm, 20.9 in
 - 22" OLED Monitor: 527mm, 20.7in
 - 23" LCD Monitor: 561mm, 22.1in
- Depth
 - Maximum: 865mm, 34.1 in
 - Caster: 795mm, 31.3 in
- Weight
 - 85 kg, 187.4 lbs

Electrical Power

- Voltage: 100-120 Vac or 220-240 Vac
- Frequency: 50/60 Hz
- Power consumption maximum of 900VA with peripherals

Console Design

- 4 Active universal probe pinless ports and 1 parking
- Integrated SSD
- Integrated DVD multi drive
- On-board storage of thermal printer
- Integrated speakers
- Locking mechanism that provides rolling lock and caster swivel lock
- Integrated cable management
- Front and rear handles
- Easily removable air filters

User Interface

Operator Keyboard

- Operating keyboard adjustable in two dimensions:
 - Height
 - Rotation
- Backlit alphanumeric keyboard
- Ergonomic hard key layout
- Interactive back-lighting
- Integrated recording keys for remote control of up to 6 peripheral or DICOM® devices
- Integrated gel warmer

Touch Screen

- Wide 10.1" high-resolution, color, touch, LCD screen
- Interactive dynamic software menu
- Brightness adjustment
- User-configurable layout

Display Monitor

- 22" Wide screen High-Resolution OLED monitor
- 23" Wide screen high-resolution LCD LED backlit monitor (option)

- Monitor translation (independent of console with articulated arm):
 - 660 mm horizontal (end to end)
 - 135 mm vertical (end to end)
 - 90° swivel
- Fold-down and lock mechanism for transportation
- Brightness and contrast adjustment
- Resolution: 1920 X 1080
- Horizontal/Vertical viewing angle of +/- 89°
- Realtime image same as monitor on tablet

System Overview

Applications

- Abdominal
- Obstetrical
- Gynecological
- Breast
- Small parts
- Vascular /Peripheral
- Transcranial
- Pediatrics and neonatal
- Musculoskeletal
- Urological
- Cardiac

Operating Modes

- B-Mode
- M-Mode
- Color Flow Mode (CFM)
- TVI (Option)
- B-Flow*/B-Flow Color (Option)
- Extended Field of View (LOGIQ View, Option)
- Power Doppler Imaging (PDI)
- PW Doppler
- CW Doppler (Option)
- Volume Modes (3D/4D)
 - Static 3D
 - Real Time 4D (option)
- Anatomical M-Mode
- Curved Anatomical M-Mode
- B Steer+ (Option)
- Coded Contrast Imaging (Option)
- Strain Elastography (Option)
- Shear wave elastography (Option)

Scanning Methods

- Electronic Sector
- Electronic Convex
- Electronic Linear
- Mechanical Volume Sweep

Transducer Types

- Sector Phased Array
- Convex Array
- Micro convex Array
- Linear Array
- Matrix Array
- Volume Probes (4D)
 - Convex Array
 - Micro convex Array

- Linear Array
- Split Crystal

System Standard Features

- Advanced user interface with high resolution wide 10.1" LCD touch panel
- Automatic Optimization
- CrossXBeam*
- Speckle Reduction Imaging (SRI-HD)
- Fine Angle Steer
- Coded Harmonic Imaging
- Virtual Convex
- Patient information database
- Image Archive on integrated CD/DVD and hard drive
- Advanced 3D
- 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
- Cardiac Calcs
- InSite* capability
- On-board electronic documentation
- MyTrainer+
- Email to MMS

Peripheral Options

- Integrated options for:
 - Digital BW thermal printer
 - DVD video recorder
 - Digital color thermal printer
- Digital A5 color thermal printer
- External USB printer connection with USB Isolator or network printer Windows compatible. System programmed to print reports, images and data on connected printers (Windows compatible)
- DVI-D output available for compatible devices
- Foot Switch, with programmable functionality
- Video Converter

Display Modes

- Live and Stored Display Format: Full size and split screen - both w/ thumbnails. For still and Cine
- Review Image Format: 4x4 and "thumbnails". For still and Cine
- Simultaneous Capability
 - B or CrossXBeam /PW
 - B or CrossXBeam /CFM or PDI
 - B/M
 - B/CrossXBeam
- Real-time Triplex Mode available on all 2D Transducers

- (B or CrossXBeam + CFM or PDI/PW or CW (Option))
- Selectable alternating Modes
 - B or CrossXBeam /PW
 - B or CrossXBeam + CFM (PDI)/PW (CW (Option))
 - B/CW (Option)
- Multi-image (split/quad screen)
 - Live and/or frozen
 - B or CrossXBeam + B or CrossXBeam /CFM or PDI
 - PW/M
 - Independent Cine playback
- Time line display
 - Independent Dual Display
 - B or CrossXBeam /PW or CW
 - Display Formats
 - Top/ Bottom selectable format
 - Side/Side selectable format
 - Timeline only
- Virtual Convex

Display Annotation

- Patient Name: First, Last and Middle
- Patient ID
- Alternate Patient ID
- Age, Sex and Birth Date
- Hospital Name
- Date format: 3 types selectable MM/DD/YY, DD/MM/YY, YY/MM/DD
- Time format: 2 types selectable: 24 hours, 12 hours
- Gestational Age from LMP/EDD/GA/BBT
- 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
 - Frame Averaging
 - Gray Map
 - SRI-HD
- 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
 - Doppler Frequency
- Color Flow 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
- Inversion
- Doppler Frequency
- TGC Curve
- Acoustic Frame Rate
- Cine Gage, Image Number / Frame Number
- Body Pattern: Multiple human and 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 Maximum Power output
- Biopsy Guide Line and Zone
- Heart Rate

General 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, Japanese (message only), Chinese (message only)
- OB Report Formats including Tokyo Univ., Osaka Univ., USA, Europe, and ASUM
- User Defined Annotations
- Body Patterns
- Customized Comment Home Position

User Manual available on board through Help (F1)

User Manual and Service Manual are included on CD with each system. A printed manual is available upon request.

Cine Memory/Image Memory

- Cine memory typical 4000 frame 3 min (depending transducer and application)
- Cine memory is possible in perspective and retrospective mode

- 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

Image Storage

- On-board database of patient information from past exams
- Storage Formats:
 - DICOM – compressed/ uncompressed, single/ multiframe, enhanced (3D/4D), with/ without Raw Data
 - Export JPEG, JPEG2000, WMV (MPEG 4) and AVI formats
 - Solid State Drive Image Storage: > 500GB
- Storage Devices for exporting (individual images/clips, reports, data):
 - USB Memory Stick: 64MB to 64GB
 - CD-R storage: 700MB
 - DVD storage: -R (4.7GB)
- Compare previous exam images with current exam images
- Reload of archived data sets

Connectivity and DICOM

- Ethernet network connection
- Wireless LAN (Option)
- DICOM 3.0 (Option)
 - Verify
 - Print
 - Store
 - Modality Worklist
 - Storage Commitment
 - Modality Performed Procedure Step (MPPS)
 - Media Exchange
 - Off network / mobile storage queue
 - Query / Retrieve
- Public SR Template
 - Structured Reporting – compatible with vascular and OB standard
- InSite ExC capability
- Tricify (Option)

Privacy and Security

- Password Policies
 - Provides the ability to specify password policies for user accounts
- Session Management
 - Lock screen after minutes (configurable)
- Disk Encryption
 - Encrypts patient data archive partition
- Malware Protection

- Provides whitelisting type malware protection

Physiological Input Panel (Option)

- Physiological Input
 - ECG, 2 lead
 - Dual R-Trigger
 - Pre-settable ECG R Delay Time
 - Pre-settable ECG Position
 - Adjustable ECG Gain Control
- Automatic Heart Rate Display

Report Writer (Option)

- On-board reporting package automates report writing
- Formats various exam results into a report suitable for printing or reviewing on a standard PC
- Exam result reports can include patient info, exam info, measurements, calculations, images, comments and physician diagnosis
- Standard templates provided
- Customizable templates

Scanning Parameters

- Displayed Imaging Depth: 0 – 33 cm
- Minimum Depth of Field: 0 – 2 cm (Zoom) (probe dependent)
- Maximum Depth of Field: 0 – 33 cm (probe dependent)
- Continuous Dynamic Receive Focus / Continuous Dynamic Receive Aperture available on all 2D Transducers
- Adjustable Dynamic Range
- Adjustable Field of View (FOV)
- Image Reverse: Right/ Left
- Image Rotation of 0°, 90°, 180°, 270°

Digital B-Mode

- Adjustable:
 - Acoustic Power
 - Gain
 - Dynamic Range
 - Frame Averaging
 - Gray Scale Map
 - Frequency
 - Speed of Sound (probe, application dependent)
 - Line Density
 - Scanning Size (FOV or Angle - depending on the probe, see probe specifications)
 - B Colorization
 - Reject
 - Suppression
 - SRI-HD
 - Edge Enhance

Digital M-Mode

- Adjustable:
 - Acoustic Power
 - Gain
 - Dynamic Range

- Gray Scale Map
- Frequency
- Sweep Speed
- M Colorization
- M Display Format
- Rejection

Anatomical M-Mode

- M-mode cursor adjustable at any plane
- Can be activated from a Cine loop from a live or stored image
- M and A capability
- Available with Color Flow Mode
- Curved Anatomical M-Mode

Digital Spectral Doppler Mode (with automatic HPRF)

- Adjustable:
 - Acoustic Power
 - Gain
 - Gray Scale Map
 - Transmit Frequency
 - Wall Filter
 - PW Colorization
 - Velocity Scale Range
 - Sweep Speed
 - Sample Volume Length
 - Angle Correction
 - Steered Linear
 - Spectrum Inversion
 - Trace Method
 - Baseline Shift
 - Doppler Auto Trace
 - Compression
 - Trace Direction
 - Trace Sensitivity

Digital Color Flow Mode

- Adjustable:
 - Acoustic Power
 - Color Maps, including velocity-variance maps
 - Gain
 - Velocity Scale Range
 - Wall Filter
 - Packet Size
 - Line Density
 - Spatial Filter
 - Steering Angle
 - Baseline Shift
 - Frame Average
 - Threshold
 - Accumulation mode
 - Sample Volume Control
 - Flash Suppression

Digital Power Doppler Imaging

- Adjustable:
 - Acoustic Power
 - Color Maps, including directional maps

- Gain
- Velocity Scale Range
- Wall Filter
- Packet Size
- Line Density
- Spatial Filter
- Steering Angle
- Frame Average
- Threshold
- Accumulation mode
- Sample Volume Control
- Flash Suppression

Continuous Wave Doppler (Option)

- Available on the following probes M5Sc-D, M5S-D, 3Sp-D, 6S-D, S4-10-D, 6Tc-RS, P2D, P6D, P8D
- Steerable CW mode includes Adjustable:
 - Acoustic Power
 - Gain
 - Gray Scale Map
 - Transmit Frequency
 - Wall Filter
 - CW Colorization
 - Velocity Scale Range
 - Sweep Speed
 - Angle Correction
 - Spectrum Inversion
 - Trace Method
 - Baseline Shift
 - Doppler Auto Trace
 - Compression
 - Trace Direction
 - Trace Sensitivity

Automatic Optimization

- Optimize B-Mode image to help improve axial and lateral gain uniformity and contrast resolution.
- Selectable amount of contrast resolution enhancement (low, medium, high)
- Auto-Spectral Optimize – adjusts baseline, invert, PRF (on live image), and angle correction
- Color and Flow Autofrequency
- Dedicate button “Auto” for “Automatic Optimization on”

Coded Harmonic Imaging

- Available on all 2D and 4D probes
- multi-frequency
- Dedicate button for on/off

B-Flow (Option)

- Available on the following probes C1-6-D, C1-6VN-D, C1-5-D, C2-9-D, C2-9VN-D, C2-7-D, C2-7VN-D, 9L-D, 11L-D, ML6-15-D, M5Sc-D, M5S-D, S1-5-D, L8-18i-D, 10C-D, C3-10-D, L3-9i-D, L3-12-D, RSP6-16-D
- Background: On/Off

- Sensitivity/PRI
- Line Density
- Edge Enhance
- Frame Average
- Gray Scale Map
- Tint Map
- Dynamic Range
- Rejection
- Gain
- Hybrid B-Flow
 - Supported on C1-6-D, C1-6VN-D, 9L-D, ML6-15-D, L3-12-D
 - B&B-Flow simultaneous dual display
 - B&B-Flow overlay display
- B-Flow Color (BFC)
- B-Flow High Definition Color (HD Color) high resolution visualization for slow flows and small blood vessels
 - Supported on C1-6-D, C1-6VN-D, 9L-D, ML6-15-D, L3-12-D
- Accumulation

B Steer+ (Option)

- Available on the following probes
9L-D, 11L-D, ML6-15-D, L8-18i-D, L3-9i-D, L3-12-D, RSP6-16-D

Coded Contrast Imaging (Option)

- Available on the following probes
C1-6-D, C1-6VN-D, C2-7-D, C2-7VN-D, 3CRF-D, C1-5D, C2-9-D, C2-9VN-D, C2-6b-D, IC5-9-D, 9L-D, 11L-D, ML6-15-D, L3-12-D, M5Sc-D, M5S-D, L8-18i-D, L3-9i-D, RAB6-D, RSP6-16-D
- 2 Contrast Timers
- Timed Updates: 0.05 – 10 seconds
- Accumulation mode, six levels
- Maximum Enhance Mode
- Flash
- Time Intensity Curve (TIC) Analysis
- Parametric Imaging (option)
- Auto MI control
- Enables: Dual view (contrast + B-mode), Time Intensity Curve Analysis (Curve Wash in / Wash out with Time to Peak, Area Under The Curve, Curve Gradient, Arrival Time and more), auto filter for artifacts deriving from respiratory acts.
- Coded Contrast Imaging manages contrast with low mechanical index
- The LOGIQ S8 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.

Parametric Imaging (Option)

- Arrival Time analysis of contrast-enhanced raw data cine clips
- User configurable settings:
 - Color map
 - Transparency
 - Gradation
 - Capture
 - Threshold
 - Motion correction

LOGIQ View (Option)

- Extended Field of View Imaging (Panoramic imaging)
- Available on the following probes
9L-D, 11L-D, ML6-15-D, L3-9i-D, L3-12-D, L8-18i-D, C1-6-D, C1-6VN-D, C2-7-D, C2-7VN-D, C3-10-D, 3CRF-D, C1-5D, C2-9-D, C2-9VN-D, C2-6b-D, 10C-D, IC5-9-D, BE9CS-D, S1-5-D, M5Sc-D, M5S-D, 3Sp-D, 6S-D, S4-10-D, RSP6-16-D, RAB6-D, RIC5-9-D, 6Tc-RS
- For use in B-Mode
- CrossXBeam is available on linear probes
- Auto detection of scan direction
- Pre or post-process zoom with Rotation
- Auto fit on monitor
- Scan back, can back up the probe, realign it, then go forward to redo a portion of the scan
- Available Measurements

3D

- Allows unlimited rotation and planar translations
- 3D reconstruction from Cine sweep

Advanced 3D

- Acquisition of Color data
- Automatic rendering
- 3D Landscape technology
- 3D Movie

Real Time 4D (Option)

- Acquisition Modes:
 - Real Time 4D
 - Static 3D
- Visualization Modes:
 - 3D Rendering (diverse surface and intensity projection modes)
 - Sectional Planes (3 Section planes perpendicular to each other)
 - Volume Contrast Imaging-Static (option)
 - Tomographic Ultrasound Imaging (option)
- Render Mode:
 - Surface Texture, Surface Smooth, max-, min- and X-ray (average

intensity projection), mix mode of two render modes

- Curved 3 point Render start
- 3D Movie
- Scalpel: 3D Cut tool
- Display Format:
 - Quad: A-/B-/C-Plane/3D
 - Dual: A-Plane/3D
 - Single: 3D or A- or B- or C-Plane
- Automated Volume Calculation - VOCAL II (option)
- Betaview
- Auto Sweep
- STIC (Option)
- HD Live (Option)
- OmniView (Option)
 - VCI OmniView

Volume Navigation (Option)

- Available on the following probes
C1-6-D, C1-6VN-D, C1-5-D, C2-9-D, C2-9VN-D, C2-6b-D, 9L-D, ML6-15-D, C2-7-D, C2-7VN-D, 3CRF-D, C3-10-D, IC5-9-D, S1-5-D, S4-10-D, M5Sc-D, M5S-D, L8-18i-D
- Manages 3D datasets CT, PET, MR, X-Ray Angiographic, Tru3D
- Sensor-based acquisition
- Sensor inside probe compatible
- Position Markers
- Needle tip tracking
- Virtual tracking
- Auto image registration
- Tru3D feature includes:
 - Display of data in: Main-, Parallel-, Angular-Mode
 - Render Modes: Gray Surface, Texture, Min-, Max-, Average-Intensity
 - Measurements: distance, angle, area, volume
 - 3D Movie

Needle Tracking (Option)

- Available on the following probes
C1-6-D, C1-6VN-D, C1-5-D, C2-9-D, C2-9VN-D, C2-6b-D, 9L-D, ML6-15-D, C2-7-D, C2-7VN-D, 3CRF-D, C3-10-D, IC5-9-D, S1-5-D, S4-10-D, M5Sc-D, M5S-D, L8-18i-D
- Position Markers
- Needle tip tracking
- Virtual tracking

Scan Assistant (Option)

- Factory Programs
- User –defined programs
- Steps include image annotations, mode transitions, basic imaging controls and measurement initiation

Compare Assistant (Option)

- Allows side-by-side comparison of previous ultrasound and other modality exams during live scanning

Power Assistant (Option)

- System to avoid the loss of data/images in case of power failure
- Allows moving the system without a complete system shutdown and boot-up power cycle
- Manages auto stand-by in case of power failure
- Extended Battery for off line scanning (option) provides battery powered live scanning

Breast Productivity Package (Option)

- Worksheet summary includes measurements and locations for nodule, parathyroid and lymph node
- Feature Assessment
- BI-RADS™ Assessment
- User editable

Thyroid Productivity Package (Option)

- Worksheet summary includes measurements and locations for nodule, parathyroid and lymph node
- Feature Assessment
- User editable

FibroScan** (Option – not available in Canada)

- Available on the following probes M+ probe, XL+ probe
- VCTE**: Vibration Controlled Transient Elastography
- CAP**: Controlled Attenuation Parameter (Option)

Shear Wave Elastography (Option)

- Available on the following probes C1-6-D, C1-6VN-D, 9L-D
- User programmable measurement display in kPa and meters per sec
- Single and dual view display

Strain Elastography (Option)

- Available on the following probes ML6-15-D, 11L-D, 9L-D, L3-12-D, C1-6-D, C1-6VN-D, C2-9-D, C2-9VN-D, C1-5-D, IC5-9-D, BE9Cs-D, RIC5-9-D

Elastography Quantification (Option –

not available in the United States)

- Relative quantification tool, Multiple ROI set up in the system and customizable (also by user) with comparative analysis on complex curves.
- Available on the following probes ML6-15-D, 11L-D, 9L-D, L3-12-D, C1-6-D, C1-6VN-D, C2-9-D, C2-9VN-D, C1-5-D, IC5-9-D, BE9Cs-D

Quantitative Flow Analysis (Option)

- Available in Color and Power Doppler

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
- Curved Anatomical M-mode: free (curved) drawing of M-mode generated from the cursor plane independent from the axial plane
- 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 100 sec available
- Wall motion scoring (bulls-eye and segmental)
- Smart stress: Automatically set up various scanning parameters (for instance geometry, frequency, gain, etc.) according to same projection on previous level

Auto EF (Option)

- Allows semi-automatic measurement of the global EF (Ejection fraction)
- User editable

Cardiac Strain (Cardiac AFI) (Option)

- Allows assessing the Left Ventricle with all segments at a glance by combining three longitudinal views into one comprehensive bulls-eye view
- 2D strain based data moves into clinical practice

Virtual Convex

- Provides a convex field of view (trapezoid)
- Compatible with CrossXBeam
- Available on the following probes 9L-D, 11L-D, ML6-15-D, L3-12-D, L8-18i-D, L3-9i-D, S1-5-D, M5Sc-D, M5S-D, 3Sp-D, 6S-D, S4-10-D, 6Tc-RS

SRI-HD

- Speckle Reduction Imaging
- Provides multiple levels of speckle reduction (user selectable)
- Compatible with Side by Side DualView Display
- Compatible with ALL linear, convex and sector transducers
- Compatible w/ B-Mode, Color, Contrast Agent and 3D imaging

CrossXBeam

- Available on the following probes 9L-D, 11L-D, ML6-15-D, L3-12-D, L8-18i-D, L3-9i-D, C1-6-D, C1-6VN-D, C2-7-D, C2-7VN-D, 3CRF-D, C1-5D, C2-9-D, C2-9VN-D, C2-6b-D, C3-10-D, 10C-D, IC5-9-D, BE9CS-D, RAB6-D, RIC5-9-D, RSP6-16-D
- Provides (user selectable) 3,5,7, or 9 angles of spatial compounding
- Live Side by Side DualView Display
- Compatible with:
 - Color Mode
 - PW
 - SRI-HD
 - Coded Harmonic Imaging
 - Virtual Convex

Controls Available While “Live”

- Automatic Optimization
- Write Zoom (acoustic zoom) with frame rates and resolution increase. Navigator to visualize in the detail (dynamic 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
 - Gain
 - 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

Controls Available on “Freeze” or Recall

- Automatic Optimization
- SRI-HD
- Zoom Panoramic
- CrossXBeam – Display non-compounded and compounded image simultaneously in split screen
- 3D reconstruction from a stored Cine loop
- B/M/CrossXBeam Mode
 - Gray Map Optimization
 - TGC
 - Colorized B and M
 - Frame Average (loops only)
 - Dynamic Range
- Anatomical M Mode
 - Max Read Zoom to 8x
 - Base Line Shift
 - Sweep Speed
- PW Mode
 - Gray Map
 - Post Gain
 - Baseline shift
 - Sweep Speed
 - Invert Spectral wave form
 - Compression
 - Rejection
 - Colorized Spectrum
 - Display Format
 - Doppler Audio
 - Angle Correct
 - Quick Angle Correct
 - Auto Angle Correct
- Color Flow
 - Overall Gain (loops and stills)
 - Color Map
 - Transparency Map
 - Frame Averaging (loops only)
 - Flash Suppression
 - CFM Display Threshold
 - Spectral Invert for Color/Doppler

- Anatomical M-Mode on cine loop
- 4D
 - Gray Map, Colorize
 - Post Gain
 - Change display – single, dual, quad sectional or rendered

Measurements / Calculations

General B-Mode

- Depth and 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)
- TAMEAN (Time Averaged Mean 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)
 - 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)
 - FIB (Fibula Length)
 - Radius (Radius Length)
 - BOD (Extra-Orbital Diameter)
 - NBL (Nasal Bone Length)
- Estimated Fetal Weight (EFW) by:
 - AC, BPD
 - AC, BPD, FL
 - AC, BPD, FL, HC
 - AC, FL
 - AC, FL, HC
 - AC, HC
 - BPD, APTD, TTD, FL
 - BPD, APTD, TTD, SL
- Calculations and Ratios
 - FL/BPD
 - FL/AC
 - FL/HC
 - HC/AC
 - CI (Cephalic Index)
 - AFI (Amniotic Fluid Index)
 - CTAR(Cardio-Thoracic Area Ratio)
- Measurements / Calculations by: ASUM, ASUM 2001, Berkowitz, Bertagnoli, Brenner, Campbell, CFEF, Chitty, Eik-Nes, Eriksen, 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, WHO, Pexsters, Sonek, Doubilet, Alexander, Chervenak
- 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

OB Measure Assistant (Option)

- Allows automatic measurement of BPD, HC, FL and AC
- User editable

Breast Measure Assistant (Option)

- Allows automatic contour and measurement of breast lesions in a user selected ROI
- Feature Assessment
- BI-RADS Assessment
- User editable

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
- 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)
- Automatic IMT (Option)
- Summary Reports

Urological Calcs

- Bladder Volume
- Prostate Volume
- Lt/Rt Renal Volume
- Generic Volume
- Post-Void Bladder Volume

Probes (All Optional)

Bandwidth and FOV are referred to LOGIQ S8

C1-6-D/C1-6VN-D XDclear Convex Probe

- Applications: Abdomen, OB, Gynecology, Urology, Vascular
- Bandwidth 1-6 MHz (probe spec)
- Frequency range 1.7-6MHz (user selectable)
- Biopsy Guide: Multi-Angle, disposable with a reusable bracket (H4913BB)

C2-9-D/C2-9VN-D XDclear Convex Probe

- Applications: Abdomen, Pediatrics, OB, Gynecology, Neonatal, Vascular
- Biopsy Guide: Multi-Angle, disposable with a reusable bracket (H4913BA)

C1-5-D Convex Probe

- Applications: Abdomen, OB, Gynecology, Urology, Vascular
- Biopsy Guide: Multi-Angle, disposable with a reusable bracket (H40432LE)

C2-7-D/C2-7VN-D Micro Convex Biopsy Probe

- Applications: Abdomen
- Biopsy Guide: Multi-Angle, disposable with a reusable bracket (H40482LK), Multi-Angle, reusable stainless bracket (H40482LL)

3CRF-D Micro Convex Biopsy Probe

- Applications: Abdomen
- Biopsy Guide: Single-Angle, disposable with a reusable bracket (H40442LR), Multi-Angle with a reusable bracket (H40452LP)

C2-6b-D Biopsy Convex Probe

- Applications: Abdomen
- Biopsy Guide: Multi-Angle, disposable (H46332LY)

C3-10-D XDclear Micro convex Probe

- Applications: Neonatal, Pediatrics, Vascular
- Bandwidth 3-11 MHz (probe spec)
- Frequency range 3.6-10 MHz (user selectable)

10C-D Micro convex Probe

- Applications: Neonatal, Pediatrics, Vascular

IC5-9-D Micro convex Probe

- Applications: OB, Gynecology, Urological
- Bandwidth 3-10 MHz (this is probe spec) Fov 180°
- Frequency range 3.6 – 9 MHz (user selectable)
- Biopsy Guide: Single Angle, Disposable with a disposable bracket (E8385MJ) or reusable bracket (H40412LN)

BE9CS-D Bi-plane Micro convex Probe

- Applications: Urological
- Biopsy Guide: Single Angle, disposable bracket (E8387M), reusable bracket (E8387MA), disposable bracket (H42742LH), disposable bracket (H42742LJ)

S1-5-D Sector Probe

- Applications: Abdomen, OB, Gynecology, Vascular
- Biopsy Guide: Multi-angle, disposable with a reusable bracket (H4908SD)

M5Sc-D XDclear Sector Probe

- Applications: Cardiac, Transcranial, Abdomen

M5S-D Sector Probe

- Applications: Cardiac, Transcranial, Abdomen

3Sp-D Sector Probe

- Applications: Cardiac, Transcranial, Abdomen
- Bandwidth 1-5 MHz (probe spec)
- Frequency range 1.6–5 MHz (user selectable)

6S-D Sector Probe

- Applications: Cardiac, Pediatrics, Neonatal, OB

S4-10-D Sector Probe

- Applications: Pediatrics, Neonatal

9L-D Linear Probe

- Applications: Vascular, Small Parts, Breast, Musculoskeletal, Pediatrics, Neonatal, Abdomen, OB
- Fov 44 mm
- Bandwidth 2-8 MHz (probe spec)
- Frequency range 3.1-11 MHz (user selectable)

- Biopsy Guide: Multi-angle, disposable with a reusable bracket (H4906BK)

11L-D Linear Probe

- Applications: Vascular, Small Parts, Breast, Musculoskeletal, Pediatrics, Neonatal
- Biopsy Guide Available: Multi- Angle, disposable with a reusable bracket (H40432LC)

L3-12-D Linear Probe

- Applications: Vascular, Small Parts, Breast, Musculoskeletal, OB
Bandwidth 2-11 MHz (probe spec) Fov 51 mm
Frequency range 3.6-12 MHz (user selectable)
- Biopsy Guide Available: Multi- Angle, disposable with a reusable bracket (H48302AA)

ML6-15-D Matrix Array Linear Probe

- Applications: Small Parts, Breast, Musculoskeletal, Vascular, Neonatal, Pediatrics
Bandwidth 4-15 MHz (probe spec) Fov 50 mm
Frequency range 5-20 MHz (user selectable)
- Biopsy Guide Available: Multi-Angle, disposable with a reusable bracket (H40432LJ)

L8-18i-D Linear Probe

- Applications: Small Parts, Vascular, Musculoskeletal, Intraoperative
Fov 25mm
Bandwidth 4-15 MHz (probe spec)
Frequency range 5-21 MHz (user selectable)

L3-9i-D Intraoperative Linear Probe

- Applications: Intraoperative

RAB6-D Convex Volume Probe

- Applications: Abdomen, OB, Gynecology, Pediatrics
Bandwidth 2-8 MHz (probe spec)
Frequency range 2-8 MHz (user selectable)
- Biopsy Guide: Multi Angle, disposable with a reusable bracket (H48681ML)

RIC5-9-D Convex Volume Probe

- Applications: OB, Gynecology, Urology
Bandwidth 3-10 MHz (probe spec) Fov 180°
Frequency range 3.6-9 MHz (probe spec)
- Biopsy Guide: Single Angle, Reusable (H46721R)

RSP6-16-D Linear Volume Probe

- Applications: Small Parts, Breast, Musculoskeletal, Vascular

- Biopsy Guide: Single Angle, disposable with a reusable bracket (H46701AD)

6Tc-RS Trans-esophageal Probe

- Applications: Cardiac
- TEE RS-DLP Adapter (H46352LK) required

P2D CW Split Crystal Probe

- Applications: Cardiac, Vascular

P6D CW Split Crystal Probe

- Applications: Cardiac, Vascular

P8D CW Split Crystal Probe

- Applications: Vascular

FibroScan M+ Probe

- Applications: Abdomen, Pediatric

FibroScan XL+ Probe

- Applications: Abdomen

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

- DVI-D signal with HDMI connector
- Ethernet
- Multiple USB2.0 and USB3.0 ports

Safety Conformance

The LOGIQ S8 is:

- Classified to ANSI/AAMI ES60601-1 by a Nationally Recognized Test Lab
- Certified to CAN/CSA-C22.2 NO 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 Medical electrical equipment –Part 1: General requirements for basic safety and essential performance
 - EN 60601-1-1 Medical electrical equipment – Part 1-1 General requirements for safety – Collateral Standard: Safety requirements for medical electrical systems
 - EN 60601-1-2 Medical electrical equipment –Part 1-2 General requirements for basic safety and essential performance – Collateral Standard: Electromagnetic compatibility – requirements and tests
 - EN 60601-1-4 Medical electrical equipment Part 1-4 General requirements for safety – Collateral Standard: programmable electrical medical systems
 - EN 60601-1-6 Medical electrical equipment Part 1-6 General requirements for basic safety and

essential performance – Collateral Standard: Usability

- EN 60601-2-37 Medical electrical equipment – Part 2-37: Particular requirements for the basic safety and essential performance of ultrasonic medical diagnostic and monitoring equipment
- EN 62304 Medical device software - Software life cycle processes
- EN 62366 Medical devices - Application of usability engineering to medical devices
- ISO 10993-1 Biological evaluation of medical devices – Part 1 Evaluation and testing
- NEMA UD2 Acoustic output measurement standard for diagnostic ultrasound equipment
- NEMA UD3 Standard for real time display of thermal and mechanical acoustic output indices on diagnostic ultrasound equipment (MI, TIS, TIB, TIC)
- EMC Emissions Group 1 Class A device requirements as per Sub clause 4.2 of CISPR 11

Supplement: 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 Diameter to AoRoot Diameter Ratio (LA/Ao Ratio)
 - 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 Mass (LVPWd, LVPWs)
 - Left Ventricle Volume, Teichholz/Cubic (LVIDd, LVI Ds)
 - Left Ventricle Internal Diameter (LVIDd, LVI Ds)
 - Left Ventricle Length (LVLd, LVLs)
 - 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 Area, Two Chamber/Four Chamber/Short Axis (LVA (d), LVA (s))
- Left Ventricle Endocardial Area, Width (LVA (d), LVA (s))
- Left Ventricle Epicardial Area, Length (LVAepi (d), LVAepi (s))
- Left Ventricle Mass Index (LVPWd, LVPWs)
- Ejection Fraction, Teichholz/Cube (LVIDd, LVIDs)
- Left Ventricle Posterior Wall Fractional Shortening (LVPWd, LVPWs)
- Left Ventricle Stroke Index, Teichholz/Cube (LVIDd, LVIDs and Body Surface Area)
- Left Ventricle Fractional Shortening (LVIDd, LVIDs)
- Left Ventricle Stroke Volume, Teichholz/Cubic (LVIDd, LVIDs)
- Left Ventricle Stroke Index, Single Plane, Two Chamber, Method of Disk (LVI Dd, LVIDs, LVSD, LVSS)
- Left Ventricle Stroke Index, Single Plane, Four Chamber, Method of Disk (LVI Dd, LVIDs, LVSD, LVSS)
- Left Ventricle Stroke Index, Bi-Plane, Bullet, Method of Disk (LVAd, LVAS)
- Interventricular Septum (IVS)
- Left Ventricle Internal Diameter (LVI D)
- Left Ventricle Posterior Wall Thickness (LVPW)
- Mitral Valve
 - Mitral Valve Annulus Diameter (MV Ann Diam)
 - E-Point-to-Septum Separation (EPSS)
 - Mitral Valve Area Planimetry (MVA Planimetry)
- Pulmonic Valve
 - Pulmonic Valve Area (PV Planimetry)
 - Pulmonic Valve Annulus Diameter (PV Annulus Diam)
 - Pulmonic Diameter (Pulmonic Diam)
- Right Atrium
 - Right Atrium Diameter, Length (RAD Ma)
 - Right Atrium Diameter, Width (RAD Mi)
 - Right Atrium Area (RAA)
 - Right Atrium Volume, Single Plane, Method of Disk (RAAd)
 - Right Atrium Volume, Systolic, Single Plane, Method of Disk (RAAs)
- Right Ventricle
 - Right Ventricle Outflow Tract Area (RVOT Planimetry)
 - Left Pulmonary Artery Area (LPA Area)
 - Right Pulmonary Artery Area (RPA Area)

- Right Ventricle Internal Diameter (RVIDd, RVIDs)
- Right Ventricle Diameter, Length (RVD Ma)
- Right Ventricle Diameter, Width (RVD Mi)
- Right Ventricle Wall Thickness (RVAWd, RVAWs)
- Right Ventricle Outflow Tract Diameter (RVOT Diam)
- Left Pulmonary Artery (LPA)
- Main Pulmonary Artery (MPA)
- Right Pulmonary Artery (RPA)
- System
 - Inferior Vena Cava
 - Systemic Vein Diameter (Systemic Diam)
 - Patent Ductus Arteriosus Diameter (PDA Diam)
 - Pericard Effusion (PEs)
 - Patent Foramen Ovale Diameter (PFO Diam)
 - Ventricular Septal Defect Diameter (VSD Diam)
 - Interventricular Septum (IVS) Fractional Shortening (IVSd, IVSS)
- Tricuspid Valve
 - Tricuspid Valve Area (TV Panimetry)
 - Tricuspid Valve Annulus Diameter (TV Annulus Diam)

M-Mode Measurements

- Aorta
 - Aortic Root Diameter (Ao Root Diam)
- Aortic Valve
 - 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
 - Left Ventricle Volume, Teichholz/Cubic (LVIDd, LVI Ds)
 - Left Ventricle Internal Diameter (LVIDd, LVI Ds)
 - Left Ventricle Posterior Wall Thickness (LVPWd, LVPWs)
 - Left Ventricle Ejection Time (LVET)
 - Left Ventricle Pre-Ejection Period (LVPEP)
 - Interventricular Septum (IVS)
 - Left Ventricle Internal Diameter (LVI D)
 - Left Ventricle Posterior Wall Thickness (LVPW)
- Mitral Valve
 - E-Point-to-Septum Separation (EPSS)
 - Mitral Valve Leaflet Separation (D-E Excursion)
 - Mitral Valve Anterior Leaflet Excursion (D-E Excursion)
 - Mitral Valve D-E Slope (D-E Slope)
 - Mitral Valve E-F Slope (E-F Slope)
 - Mitral Annular Plane Systolic Excursion (MAPSE)

- Pulmonic Valve
 - QRS complex to end of envelope (Q-to-PV close)
- Right Ventricle
 - Right Ventricle Internal Diameter (RVIDd, RVIDs)
 - Right Ventricle Wall Thickness (RVAWd, RVAWs)
 - Right Ventricle Outflow Tract Diameter (RVOT Diam)
 - Right Ventricle Ejection Time (RVET)
 - Right Ventricle Pre-Ejection Period (RVPEP)
- System
 - Pericard Effusion (PE (d))
- Tricuspid Valve
 - QRS complex to end of envelope (Q-to-TV close)
 - Tricuspid Annular Plane Systolic Excursion (TAPSE)

Doppler Mode Measurements

- Aortic Valve
 - Aortic Insufficiency Mean Pressure Gradient (AR Trace)
 - Aortic Insufficiency Peak Pressure Gradient (AR Vmax)
 - Aortic Insufficiency End Diastole Pressure Gradient (AR Trace)
 - Aortic Insufficiency Mean Velocity (AR Trace)
 - Aortic Insufficiency Velocity Time Integral (AR Trace)
 - 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 Peak Velocity at Point E (AV Vmax)
 - Aorta Proximal Coarctation (Coarc Pre-Duct)
 - Aorta Distal Coarctation (Coarc Post-Duct)
 - Aortic Valve Insufficiency Pressure Half Time (AR PHT)
 - Aortic Valve Flow Acceleration (AV Trace)
 - Aortic Valve Pressure Half Time (AV Trace)
 - Aortic Valve Acceleration Time (AV Acc Time)
 - Aortic Valve Deceleration Time (AV Trace)
 - Aortic Valve Ejection Time (AVET)
 - Aortic Valve Acceleration to Ejection Time Ratio (AV Acc 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 Mean Velocity (LVOT Trace)
- Left Ventricle Outflow Tract Velocity Time Integral (LVOT Trace)
- Left Ventricle Ejection Time (LVET)
- Mitral Valve
 - Mitral Valve Regurgitant Flow Acceleration (MR Trace)
 - 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)
 - 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 Velocity Peak E' Septal (MV E' Septal Velocity)
 - Mitral Valve Velocity Peak E' Lateral (MV E' Lateral Velocity)
 - Mitral Valve Velocity Peak E' Medial (MV E' Medial Velocity)
 - Mitral Valve Area according to PHT (MV PHT)
 - Mitral Valve Flow Deceleration (MV Trace)
 - Mitral Valve Pressure Half Time (PV PHT)
 - Mitral Valve Flow Acceleration (MV Trace)
 - 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 Ejection Time (MV Trace)
 - Mitral Valve A-Wave Duration (MV A Dur)
 - Mitral Valve Time to Peak (MV Trace)
 - Mitral Valve Acceleration Time/Deceleration Time Ratio (MV Acc/Dec Time)
 - Stroke Volume Index by Mitral Flow (MVA Planimetry, MVTrace)
- Pulmonic Valve
 - Pulmonic Insufficiency Peak Pressure Gradient (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)
 - 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)
 - Tricuspid Regurgitant Mean Velocity (TR Trace)
 - 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)
 - Stroke Volume by Tricuspid Flow (TV Planimetry, TV Trace)
 - Tricuspid Valve E-Peak to A-Peak Ratio (TV E/A Velocity)

Color Flow Mode Measurements

- Aortic Valve
 - Proximal Isovelocity Surface Area: Regurgitant Orifice Area (AR Radius)
 - Proximal Isovelocity Surface Area: Radius of Aliased Point (AR Radius)
 - 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 Orifice Area (MR Radius)
 - Proximal Isovelocity Surface Area: Radius of Aliased Point (MR Radius)
 - 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 Root Diam, LVOT Vmax, AV Vmax)
 - Aortic Valve Area by Continuity Equation by Peak Velocity (Ao Root 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 Root Diam, LVOT Vmax, AV Trace)
- Left Atrium
 - Left Atrium Stroke Volume, Bi-Plane, Method of Disk (LAA(d), LAA(s), 2CH, 4CH)
 - Left Atrium Volume, Bi-Plane, Method of Disk (LAA(d), LAA(s), 2CH, 4CH)
- Left Ventricle
 - Cardiac Output, Teichholz/Cubic (LVIDd, LVIDs, HR)
 - Cardiac Output Two Chamber, Single Plane, Area-Length/ Method of Disk (Simpson) (LVAd, LVAs, HR)
 - Cardiac Output Four Chamber, Single Plane, Area-Length/ Method of Disk (Simpson) (LVAd, LVAs, HR)
 - Ejection Fraction Two Chamber, Single Plane, Area-Length/ Method of Disk (Simpson) (LVAd, LVAs)
 - Ejection Fraction Four Chamber, Single Plane, Area-Length/ Method of Disk (Simpson) (LVAd, LVAs)
 - Left Ventricle Stroke Volume, Single Plane, Two Chamber/Four Chamber, Area-Length (LVAd, LVAs)
 - Left Ventricle Stroke Volume, Single Plane, Two Chamber/Four Chamber, Method of Disk (Simpson) (LVIDd, LVIDs, LVAd, LVAs)
 - Left Ventricle Volume, Two Chamber/Four Chamber, Area-Length (LVAd, LVAs)
 - Ejection Fraction, Bi-Plane, Method of Disk (LVAd, LVAs, 2CH, 4CH)
 - Left Ventricle Stroke Volume, Bi-Plane, Method of Disk (LVAd, LVAs, 2CH, 4CH)
 - Left Ventricle Volume, Bi-Plane, Method of Disk (LVAd, LVAs, 2CH, 4CH)
 - Left Ventricle Stroke Index, Single Plane, Two Chamber/Four Chamber, Area-Length (LVSD, LVSS and BSA)
 - Left Ventricle Volume, Single Plane, Two Chamber/Four Chamber, Method of Disk (LVAd, LVAs)
 - Left Ventricle Volume, Apical View, Long Axis, Method of Disk (LVAd, LVAs)
- Mitral Valve
 - Stroke Volume by Mitral Flow (MVA Planimetry, MV Trace)
 - Cardiac Output by Mitral Flow (MVA Planimetry, MV Trace, HR)
- Pulmonic Valve

- Stroke Volume by Pulmonic Flow (PV Planimetry, PV Trace)
- Cardiac Output by Pulmonic Flow (PV Planimetry, PV Trace, HR)
- Tricuspid Valve
 - Cardiac Output by Tricuspid Flow (TV Planimetry, TV Trace, 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

- Stroke Volume (SV)
- Cardiac Output (CO)

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