



**DATA SHEET** 

**Model: i9**

**Color ultrasound system**



## **General Informations**

### **Dimensions and Weight**

- Dimensions of main unit (approx.): 850mm x 620mm x 1400mm
- Net weight of main unit (approx.):95kg (no probe included)

### **Electrical Power**

- Power supply voltage: Auto adaptable for AC100V-240V
- Power supply frequency: 50/60 Hz
- Power consumption: 600 VA

## **User Interface**

### **Operation Panel**

- Control panel
- Alphanumeric keyboard
- 8 TGC Slides
- Interactive backlit keys
- Touch screen : 10.4 inch
- Gel warmer
- Up and down
- Left and right

### **Display Screen**

- High resolution color LCD
- Diagonal dimension: 19.0 inch
- Brightness and contrast adjustment





## System Overview

### Applications

- Abdomen
- Gynecology
- Obstetrics
- Urology
- Small Part
- Pediatrics
- Vascular
- Musculoskeletal
- Cardiac

### Scanning Method

- Electronic convex
- Electronic linear
- Electronic micro convex
- Electronic phased array
- Volume convex
- Multi elements probe \*\*

### Transducer Types

- Convex transducers: D3C60L
- Linear transducers: D7L40L, D12L40L,
- Micro convex transducers: D6C12L, D7C10L, D5C20L, D3C20L, D6C15L
- Phased array transducers: D3P64L, D6P64L,
- Pencil probe: D2D16L \*\*
- Volume probe: V4C40L,
- Multi elements probes \*\*

### Image Modes

- B mode
- B steer mode
- THI mode
- M mode
- Free steer M (option)
- B/M mode
- Elastography mode (option)
- PW (Pulse Wave Doppler) mode
- HPRF mode (option)
- CW mode
- CFM mode
- CPA (Power Doppler) mode
- DPD (Directional Power Doppler) mode
- 4D mode (option)
- Trapezoidal imaging mode (only for linear probe)
- B/BC mode
- Panoramic imaging (option)
- TDI mode
- ECG (option)

### Display Annotation

- Institution/Hospital name
- Date/Time
- Patient Name and Patient ID
- System status (real-time or frozen)
- Gray/Color bar
- Cine guide
- Scanning direction
- Measurement summary window
- Measurement results window
- Probe type
- Frequency
- Application name
- Menu indication
- Trackball functions indication
- Imaging parameters displayed on the screen

### Standard Configuration

- High resolution 19 inch LED display
- High resolution 10.4 inch touch screen
- 4 active probe ports
- Pulse Wave Doppler
- Color Doppler Flow Imaging
- Power Doppler Flow Imaging
- Directional Power Doppler Flow Imaging
- ≥250G integrated hard disk
- USB ports: 8 (4 in the control panel, 4 at the rear panel)
- Ethernet port
- S-video out port
- Foot switch
- Audio out port
- Remote
- Video out port
- VGA out port
- HDMI out port
- DVI out port
- General measurement package
- Clinical measurement package
- Multi-language screen display
- EasyView™: image archive system
- Patient information management system
- Building reporting system
- AIO (Automatic Image Optimization)
- Intelligent Zoom
- Speckle Reduction Algorithm (SRA)
- Multiple Compound Imaging (MCI)



### Peripherals

- Video printer: B/W , color video printer
- PC printer

## Imaging Processing and Presentation

### B Mode

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                     |
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| <ul style="list-style-type: none"> <li>• Acoustic power(0~100%)</li> <li>• Gain(0~255)</li> <li>• TGC(8 segments)</li> <li>• Depth(3.70~31.21cm, depend on the probe types)</li> <li>• Frame rate (up to 963 f/s, depend on the probe types)</li> <li>• Focus number (1~4, depend on the compound )</li> <li>• Focus position</li> <li>• Scan width(16 steps)</li> <li>• Line density (Low, High)</li> <li>• Dynamic(60~165dB)</li> <li>• Persistence (0~7)</li> </ul> | <ul style="list-style-type: none"> <li>• Noise rejection (0~255)</li> <li>• Smooth (0~7)</li> <li>• Edge enhancement (0~6)</li> <li>• i-Image™ (0,1,2,3,4)</li> <li>• SRA (On, Off)</li> <li>• Compound (on, off)</li> <li>• Gamma (0~8)</li> <li>• Image rotate (0°, 90°, 180°, 270°)</li> <li>• Flip (left/right, up/down)</li> <li>• Zoom</li> <li>• B steer (-20~20)</li> </ul> |
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### M Mode

- Color Map (10 types)
- Sweep speed (4 steps)
- Layout (UD,LR)
- Steer M (Off,1,2,3)

### Color Mode

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| <ul style="list-style-type: none"> <li>• Gain(0~255)</li> <li>• Frame rate</li> <li>• Steer (-20°~20°, transducer dependent)</li> <li>• PRF (1369Hz~11KHz) (depend on the exam mode types)</li> <li>• Scale (<math>\pm 8.78\text{cm/s} \sim \pm 163.79\text{cm/s}</math>, transducer dependent)</li> <li>• Color Map (10 types)</li> <li>• Wall Filter (0~3)</li> <li>• Flow (Extra Low,Low, Middle, High)</li> </ul> | <ul style="list-style-type: none"> <li>• Color Invert (On, Off)</li> <li>• Density (Low, High)</li> <li>• Persistence (0~7)</li> <li>• Baseline (7 steps)</li> <li>• Wall Thre (0~15)</li> <li>• Packet Size (0~8)</li> <li>• Blood Efection:Smooth,HighRes</li> <li>• Color mode: Velocity, Variance</li> </ul> |
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### CPA/DPD Mode

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| <ul style="list-style-type: none"> <li>• Gain(0~255)</li> <li>• Frame rate</li> <li>• Steer (-20°~20°, transducer dependent)</li> <li>• PRF (456Hz~14.7KHz) (depend on the exam mode types)</li> <li>• Color Map (2 types)</li> <li>• Wall Filter (0~3)</li> </ul> | <ul style="list-style-type: none"> <li>• Flow (Extra Low,Low, Middle, High)</li> <li>• Density (Low, High)</li> <li>• Persistence (0~7)</li> <li>• Wall Thre. (0~15)</li> <li>• Packet Size (0~8)</li> </ul> |
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### PW Mode

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| <ul style="list-style-type: none"> <li>• Gain(0~255)</li> <li>• PRF (2737Hz~15KHz)</li> <li>• Scale (<math>\pm 1.88\text{cm/s} \sim \pm 1039.3\text{cm/s}</math>, transducer dependent)</li> <li>• Invert (On, Off)</li> <li>• Wall Filter (0~3)</li> <li>• Audio (0~100%)</li> <li>• Speed (3 steps)</li> <li>• Baseline (7 steps)</li> <li>• DA (0°~80°)</li> <li>• SV (1~8mm)</li> <li>• Color Map (10 types)</li> </ul> | <ul style="list-style-type: none"> <li>• 2D Map (15 types)</li> <li>• Spectrum Enhance (0~3)</li> <li>• Dynamic Range (46~67)</li> <li>• Triplex (On, Off)</li> <li>• DVmean (On, Off)</li> <li>• DVmax (On, Off)</li> <li>• Auto Cal (On, Off)</li> <li>• DTrace Smooth (0~3)</li> <li>• Threshold (1~5)</li> <li>• TraceArea (All,Above,Below)</li> </ul> |
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### CW Mode

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| <ul style="list-style-type: none"> <li>• Gain(0~255)</li> <li>• PRF (2000Hz~50KHz)</li> <li>• Scale (<math>\pm 7.52\text{cm/s} \sim \pm 5542\text{cm/s}</math>, transducer dependent)</li> <li>• Invert (On, Off)</li> <li>• Wall Filter (0~3)</li> <li>• Audio (0~100%)</li> <li>• Color Map (10 types)</li> </ul> | <ul style="list-style-type: none"> <li>• Speed (3 steps)</li> <li>• Baseline (7 steps)</li> <li>• 2D Map (10 types)</li> <li>• CWDFFT (0~15)</li> <li>• CWDEnhance (0~7)</li> <li>• Dynamic (45~80)</li> <li>• DA (0°~80°)</li> </ul> |
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### Cineloop

- Support 2D, M, PW, CFM, CPA, DPD, CW
- Simultaneous and independent review in duplex mode
- Cineloop auto/manual
- Variable cine playback speed
- User-define start and end frame of cine storage
- User-define start and end frame of cine review
- Permanent storage in hard disk and display in real-time modes
- Slide show: slides show function

### Storage

- $\geq 250\text{GB}$  integrated hard drive
- DVD R/W driver
- USB ports
- Still images storage format: image and DCM
- Still images export format: BMP, JPG, DCM, PNG, TIFF
- Cine loops storage format: Cine and DCM
- Cine loops export format: Avi

### EASYVIEWTM

- |                                                                                                                                                                                                                         |                                                                                                                                                                                                                                  |
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| <ul style="list-style-type: none"> <li>• Image review Layout : 1x1, 2x2</li> <li>• Image management</li> <li>- Delete selected image</li> <li>- Export selected image</li> <li>- Send selected image to demo</li> </ul> | <ul style="list-style-type: none"> <li>- Print selected image by PC printer</li> <li>- Print selected image by DICOM printer</li> <li>- Send selected image by DICOM</li> <li>- Selected all</li> <li>- Selected none</li> </ul> |
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### Exam Review

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| <ul style="list-style-type: none"> <li>• Search Exam</li> <li>• Exam review : patient view, study view</li> <li>• Exam management</li> <li>- Delete selected exam</li> <li>- Export selected exam</li> <li>- Backup selected exam backup</li> </ul> | <ul style="list-style-type: none"> <li>- Selected all</li> <li>- Expand all</li> <li>- Collapse all</li> <li>- Edit selected Exam</li> <li>- Review selected Exam</li> <li>- Continue selected Exam</li> </ul> |
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## Measurement & Calculation

### General Measurement Package

- Software packages for various specific clinical use
- Comprehensive analysis methods
- Clinical analysis reports
- AUTO measurement: AUTO IMT, AUTO TRACE in FREEZE and UNFREEZE PW mode
- **General measurement package**
- General B mode measurement
  - Distance
  - Length\_Area(Ellipse)
  - Length\_Area(Trace)
  - Volume(1 Distance)
  - Volume(2 Distance)
  - Volume(3 Distance)
  - Volume(1 Ellipse)
  - Volume(2 Ellipse)
  - Volume(1 Distance 1 Ellipse)
  - Ratio
  - Angle
- General M mode measurement
  - Mdistance
  - MTime
  - Velocity
  - Heart\_Rate
- General PW mode measurement
  - Velocity
  - Peak
  - Full trace / Manual Trace
  - StD%
  - StA%
  - ICA/CCA
  - Flow Volume
  - HR

### Clinical Analysis Packages

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| <ul style="list-style-type: none"> <li>• Obstetrics</li> <li>-Distance</li> <li>-FetalBiometry</li> <li>-FetalLongBones</li> <li>-Fetal Cranium</li> <li>-OB Others</li> <li>-AFI</li> <li>-FBP</li> <li>-FetalSelect</li> <li>-Ductus Venosus</li> <li>-CX_L</li> <li>-Aorta</li> <li>-Descending Aorta</li> <li>-Umb A (Umbilical Artery)</li> <li>-MCA (Middle Cerebral Artery)</li> <li>-Uterin Artery</li> <li>-Pulmonary Artery</li> <li>• GYN</li> <li>-Distance</li> <li>-UT</li> <li>-Cervix Vol.</li> <li>-ENDO</li> <li>-Left_OV_Volume</li> <li>-Right_OV_Volume</li> <li>-Left_FO_D</li> <li>-Right_FO_D</li> <li>-Uterine Artery</li> <li>• Pediatrics</li> <li>-HIP</li> </ul> | <ul style="list-style-type: none"> <li>• Urologic</li> <li>-Distance</li> <li>-Residual Vol.</li> <li>-Prostate Vol.</li> <li>-Left Kidney</li> <li>-Right Kidney</li> <li>-T-Zone Vol.</li> <li>-Bladder Vol.</li> <li>-StA%</li> <li>-StD%</li> <li>-Vessel Area</li> <li>-Vessel Dis</li> <li>• Cardiac</li> <li>-SinglePlane</li> <li>-BiPlane</li> <li>-bullet_Volume</li> <li>-Modi_Simpson</li> <li>-Teichholz</li> <li>-Cube</li> <li>-LV</li> <li>-LVSHORT</li> <li>-AV</li> <li>-AVSHORT</li> <li>-MV</li> <li>-PV</li> <li>-TV</li> <li>• Vessel</li> <li>-ICA</li> <li>-ECA</li> <li>-CCA</li> </ul> | <ul style="list-style-type: none"> <li>-Vertebral A</li> <li>-INT ITL</li> <li>-EXT IL</li> <li>-ILIAC</li> <li>-CFA</li> <li>-ProFun</li> <li>-LTCIR</li> <li>-SFA</li> <li>-POP A</li> <li>-ATA</li> <li>-PTA</li> <li>-PERON</li> <li>-DRPED</li> <li>• Abdomen</li> <li>-CBD</li> <li>-GB Wall</li> <li>-Liver Length</li> <li>-Aorta</li> <li>-Spleen</li> <li>-Renal Vol.</li> <li>-ILIAC</li> <li>• Carotid</li> <li>-Subclavian A</li> <li>-CCA</li> <li>-Bulb</li> <li>-ICA</li> <li>-ECA</li> <li>-Vertebral A</li> <li>-General Measurement</li> <li>-Flow Volume</li> </ul> |
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## System Setup

By using system Setup, users could

- Customize hospital information
- Customize language
- Customize fast storage time
- Customize color map
- Assign functions to "PRINT" button on control panel and foot switch
- Customize comment library
- Customize report

### User Define Functions

By user-define function, users could customize user-define preset, including

- Applications name, Presets name, User defined name
- Applications exam type
- Imaging parameters

### Multi-language

- English
- Chinese
- Polish
- Portuguese
- Russian
- Spanish
- Danish
- German
- French

## Inputs & Outputs

### Input/Output

- AC power in: 1
- Audio : L, R
- S-video : 1
- Video out : 1
- VGA out : 1
- USB port : 8
- Ethernet : 1
- Remote control : 1
- Footswitch port : 2
- Ground pole : 1
- Power button : 1
- HDMI : 1
- DVI : 1

## Operating Conditions

### Operating Conditions

- Ambient temperature: 10°C to 40°C
- Relative humidity: 30% to 85% (no condensation)
- Atmospheric pressure: 700 hPa to 1060 hPa

## Storage Conditions

### Storage conditions

- Ambient temperature: -5°C to 45°C
- Relative humidity: 30% to 85% (no condensation)
- Atmospheric pressure: 700 hPa to 1060 hPa

Not all features or specifications described in this document may be available in all probes and/or modes