

SonoRad V10

An All-Rounder Color Doppler
for your **Diagnostic Needs!**

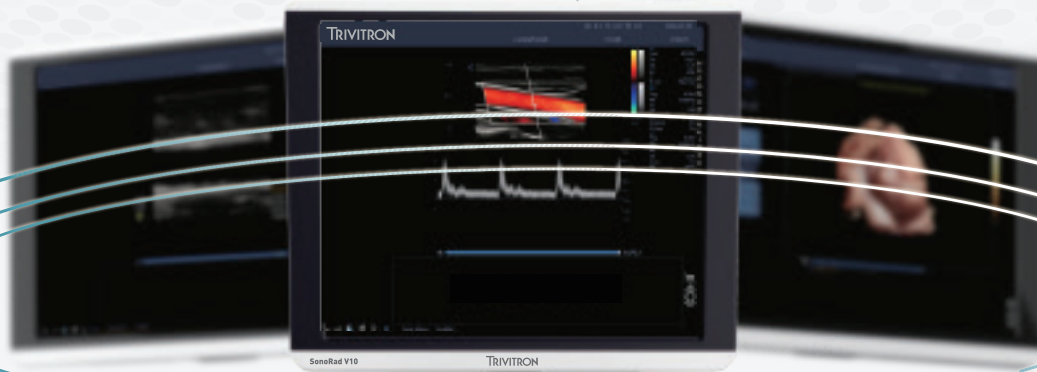


Introducing
SonoRad V10



Excellent Ergonomics

21" Medical Grade
HD LED Monitor



Elegant Control Panel



Gel warmer (Optional)
Temperature Adjustable



Dedicated Video Printer Socket

Front Facing CD/DVD Recorder

Built-in Battery (Optional)

Four Probe Connectors



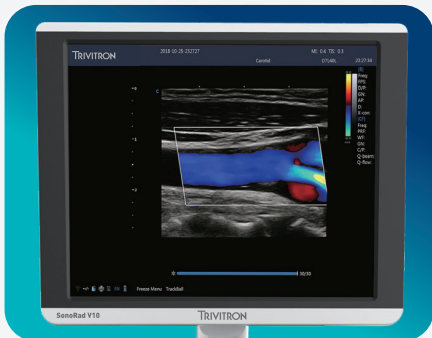
Smart **Standby** Mode
-Smart Backend Management
enables extended battery life
-Instant Power-On



Display Duo

Dual Screen Display for Enhanced Clinical Value

Monitor



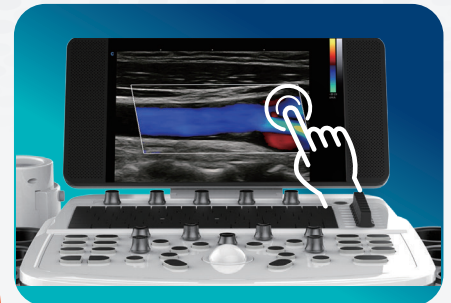
21" Medical Grade HD LED Monitor



- 90% image area
- Full Screen function delivers large size images

Display Duo

10.1 inch HD touch panel



- Super responsive Touch Panel
- Customized layout with one-touch operations for ease of use.



Touch Panel

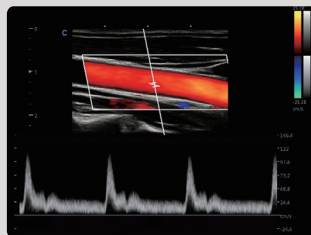
Simplified User Experience

Intelligent Focus



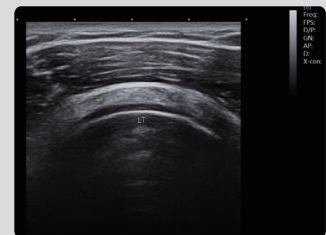
- Detect the focus position automatically according to the depth
- Focus on the interesting area to improve the quality

Intelligent Doppler (Optional)



- Adjust the ROI direction automatically and PFR in color mode and doppler gate in PW mode
- Time saving, efficient and easy for the Sonographer

Raw Data



- Freedom to perform image adjustments
- Faster scanning time

Streamlined Workflow



Superior User Experience

- Dual Screen Image Display
- Intuitive Control Panel & Touch Panel Layout
- 8 TGC Slides for better image settings & adjustment
- Customizable Report & Efficient Patient Data Management



Easy Data Transfer

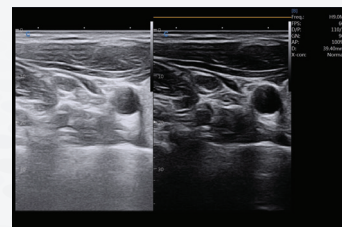
- Large Capacity for Cine Loop, Patient Information & Image Storage
- Multi Image & Video Save Format
- DICOM 3.0
- 6 USB Ports

Image Processing Tools

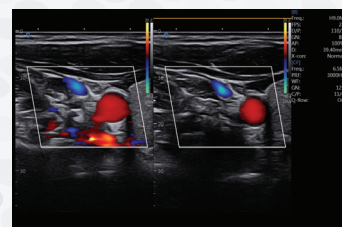
- Speckle Reduction Imaging
- Multiple Compound Imaging
- Tissue Harmonic Imaging
- Beam Steering

Image Optimization

- One Touch Image Optimization
- One Touch Flow Optimization
- One Touch Spectrum Optimization
- One Touch Contrast Adjustment



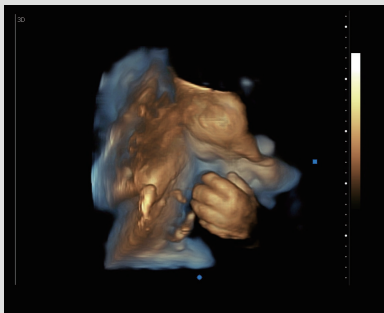
Auto Optimization B-Mode



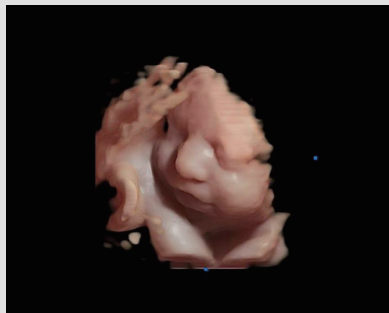
Auto Optimization Color Mode

SonoRad V10 for OB/GYN

4D



Depth View



Virtual HD

Lightweight and Compact Volume probe allows for smooth display of Fetal movements. Highly visible volume data can be obtained easily with the probe. Four dimensional imaging can play a role as a prenatal communication tool connecting mother with her fetus.



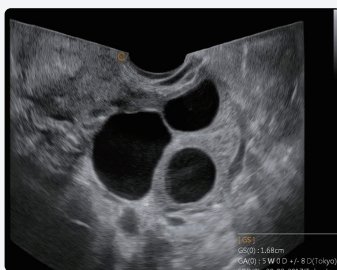
SonoAI - OB



Intelligent software for OB offers High efficiency and precise measurement tools with One step to obtain the results.

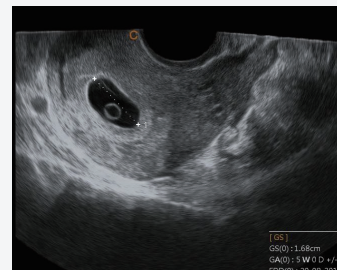
Auto measurements:
BPD, HC, AC, FL, NT, HL

Wide Angle TV Probe



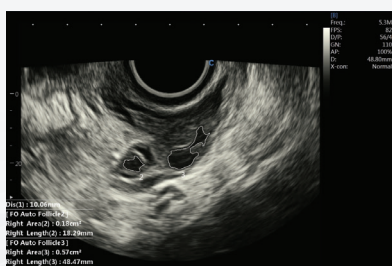
The TV probe with 210° FOV supports precision and safety for biopsy procedures and focuses on improving patient comfort and offers exceptional image quality throughout the wide sector angle.

High Resolution B-Mode



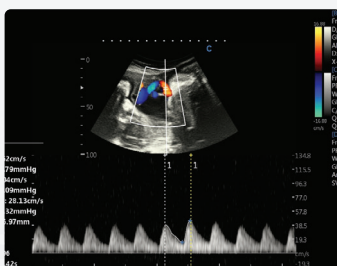
High resolution B-Mode images are essential in an OB fetal ultrasound scan to define pregnancy, observe fetal growth and to exclude anomalies.

Auto Follicular Measurement



Auto follicular Volume Measurement provides quicker analysis of follicular number and size than conventional 2D ultrasound, without any loss in measurement validity. A time saving tool in an extremely tedious procedure of measuring total follicular volume.

Auto OB Doppler Measurement



Obstetric Doppler measurements with one touch Angle correction and One touch spectrum correction/inversion improves the workflow for the clinicians and reduces the extra burden of additional adjustments

Tissue Harmonic Imaging



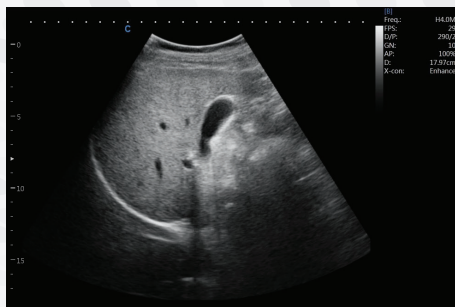
Offers significant improvements in image resolution and structure visualization in obese patients during the 2nd trimester of pregnancy. THI improves signal-to-noise ratio with reduced artifacts

More Clinical Value for Obstetrics & Gynaecology

- Auto angle correction
- Color flow peak velocity capture
- CDFI, Power & Directional Power Flow, PW, HPRF
- Real Time Doppler Auto trace
- Tissue Harmonics

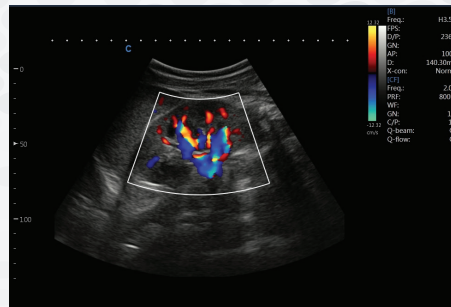
SonoRad V10 for Radiology

High Resolution B-Mode



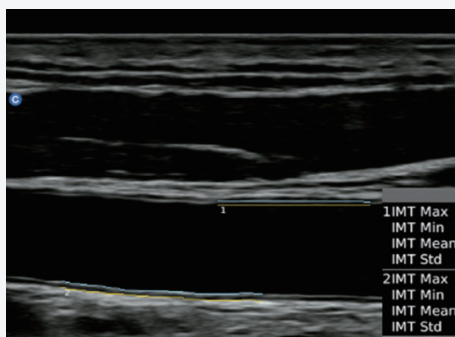
High Resolution B mode image can be obtained with reduced speckle noise with evenly clear edges by selectively emphasizing boundaries

Color Flow



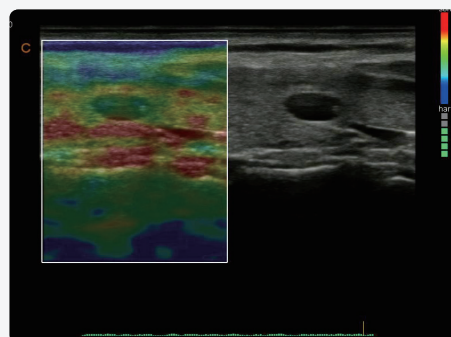
Color Flow is essential for conclusive diagnosis as it provides the path of the blood flow for better visualization of any abnormalities in the particular organ

Auto IMT



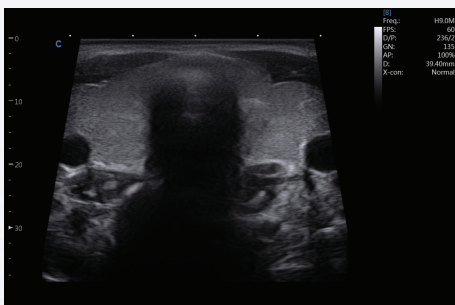
Automatically traces the intima, and measures the thickness of the intima. This allows you to measure the intima faster with more accuracy. By setting an ROI vessel's longitudinal image, max and mean IMT can be computed automatically. This is favourable in determining the extent of plaque build-up in walls of arteries

Quantitative Elastography



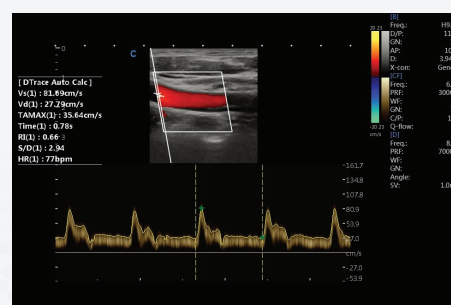
Displays the elasticity of different tissues in different color. Provides more clinical information especially for breast tumor, thyroid, liver and prostate. Strain ratio measurement quantitatively gives the ratio between the average strain of the selected region and the nearby normal tissue region. Available on various probes

Trapezoidal Imaging



Trapezoidal Imaging offers an extended field of view permitting greater understanding of the orientation and size of the target and its surroundings. This is really advantageous in case of examination of appendix/bowel in abdomen study or examination of thyroid in study of small parts

Quadplex Mode



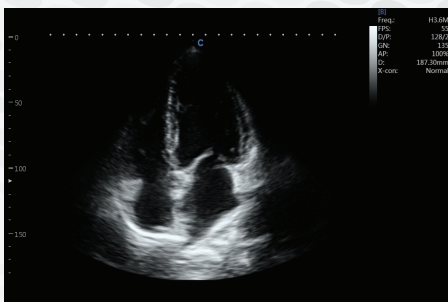
Quadplex Mode: delivers live measurements of Doppler parameters in Triplex Mode. Online estimation without freezing makes workflow faster and helps in clinical decision while exam is on.

More Clinical Value for Radiology

- Auto angle correction
- Color flow peak velocity capture
- Power & Directional Power Flow, PW, HPRF
- Real Time Doppler Auto trace
- Color Doppler flow imaging

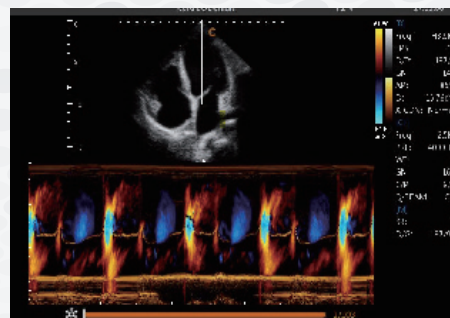
SonoRad V10 for Cardiology

High Resolution B-Mode



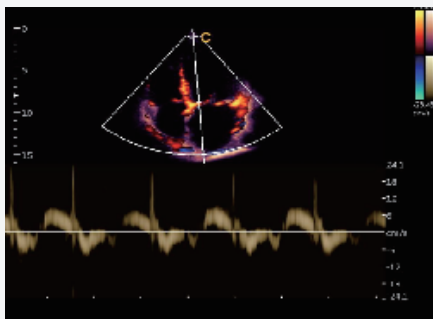
High resolution B mode image provides clarity in imaging that contributes to reduced examination time and improved workflow. Improved contrast, along with reduction in speckle and acoustic noise improve the diagnostic value of echocardiography images.

Color M-Mode



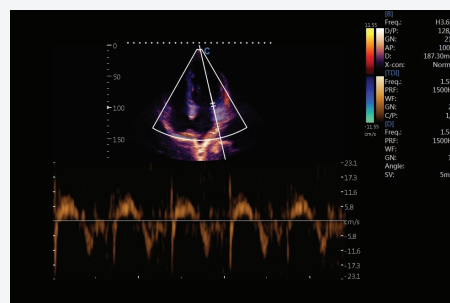
Color M-Mode helps to evaluate the myocardium and blood flow to provide a robust analysis of the cardiac rhythm for the evaluation of cardiovascular risk at an early stage. This helps in the assessment of LV Function or fetal arrhythmias.

Tissue Doppler Imaging



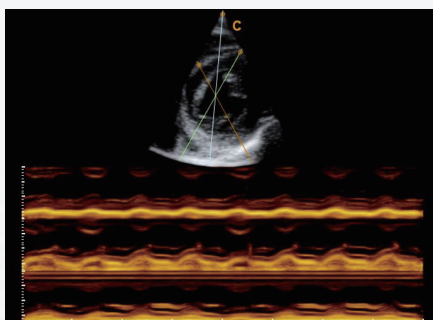
Tissue Doppler Imaging allows truly quantitative measurement of regional myocardial function. It helps in diagnosis of diastolic left ventricular dysfunction, Right ventricular function, intracardiac and pulmonary artery pressures, transplant rejection and intraventricular dyssynchrony.

Tissue Doppler Velocity



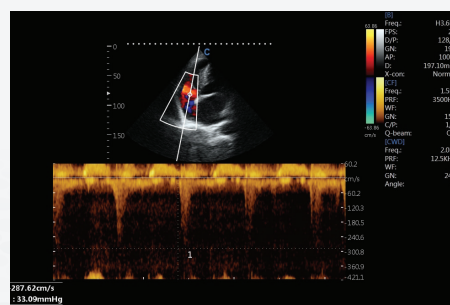
This technique helps in evaluating the time motion display of the functional cardiac structures. This is done to analyse the presence of deformation and or to analyse the myocardial velocity in order to evaluate the functioning of heart.

Free Steering M-Mode



High resolution analysis of myocardial functions of a fetal heart using 3 different axes is possible. The cursor can be placed optimally to examine the heart function accurately irrespective of the direction. In a single heart beat cardiac wall motion in multiple areas and valves can be compared.

Continuous Wave Doppler



CW Doppler study allows high velocity blood flows to be observed and measured accurately. The high sensitivity continuous wave Doppler with waveform smoothing provides a continuity of display.

Available with
**ECG Module | Continuous Wave Doppler
Cardiac Software Package**

More Clinical Value for Cardiology

CDFI, Power & Directional Power
Flow, PW, HPRF

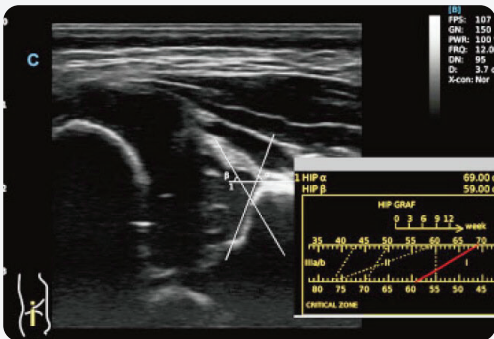
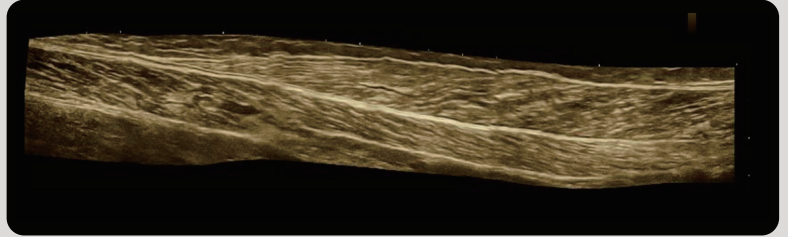
• Duplex, Triplex, Quadplex
modes available

• Real Time Doppler Auto trace
• Color Doppler Flow Imaging

Superior Clinical Value

Real Time Panoramic

Panoramic Imaging can be used to examine larger organs and vessels and big structures, by stitching the images together, which are otherwise not covered by the probe completely. This is advantageous in finding abnormalities in thyroid, to examine muscle atrophies, diagnose fluid collection in joints, or to diagnose and confirm larger cysts etc.



Smart HIP

- Graph Display for hip orthotics diagnosis helps clinicians to provide accurate diagnosis during the paediatric hip scanning.
- Different angles indicate various levels of hip deformity which is easier and more obvious to view with the aid of the graph. (I, II, D, IIIa, IIIb).



HD CZoom

- Zoom the color information with high resolution.
- Important for the small vessel blood information detection, especially for the fetal heart diagnosis.



Virtual Convex

- Enlarge the scanning area in convex probe as same as convex trapezoid
- Better for large organs display, especially liver, kidney through the rib space

Wide Range of Probes



2.0 MHz-6.8 MHz
Convex D3C60L



7.0 MHz-18.0 MHz
(With FHI) Linear D12L40L



4.0 MHz-15.0 MHz
Linear D7L40L



2.0 MHz-6.8 MHz
Volume V4C40L



4.0 MHz-15.0 MHz
Transvaginal
D7C10L



4.0 MHz-12.0 MHz
Transvaginal D6C12L



1.5 MHz-5.3 MHz
Phased array D3P64L



2.0 MHz-8.0 MHz
Phased array D5P64L

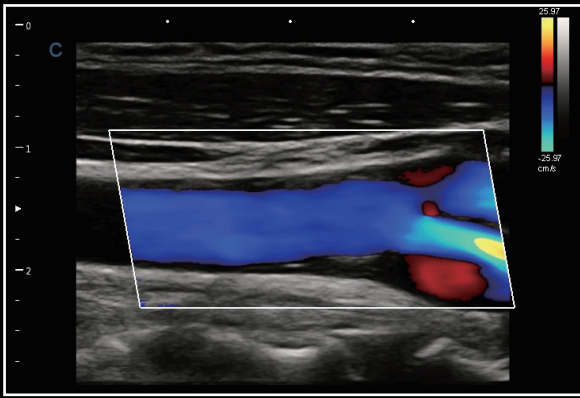


2.0 MHz-6.8 MHz
Micro-Convex D3C20L

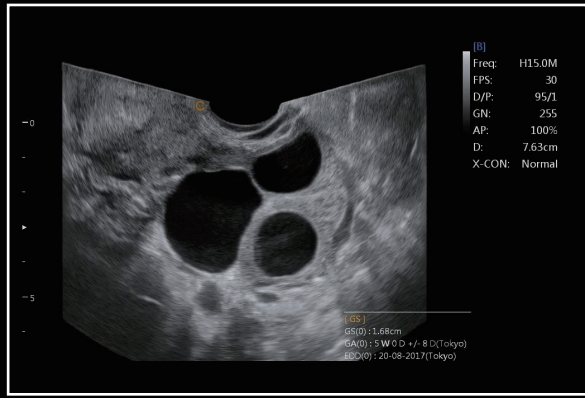


4.0 MHz-12.0 MHz
Micro-Convex D6C15L

Extraordinary Clinical Value



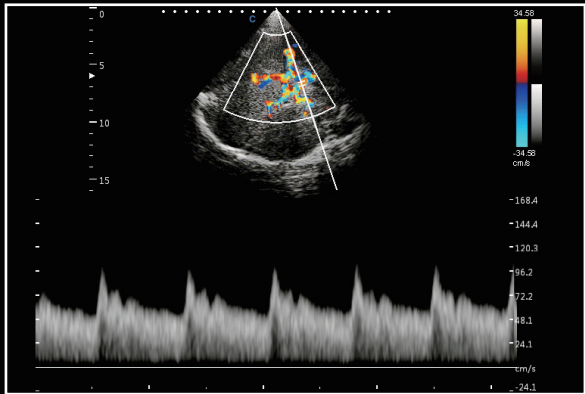
Carotid Plaque, C Mode



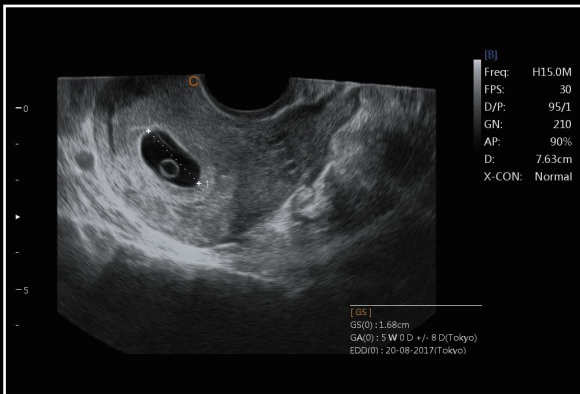
Follicles, B Mode



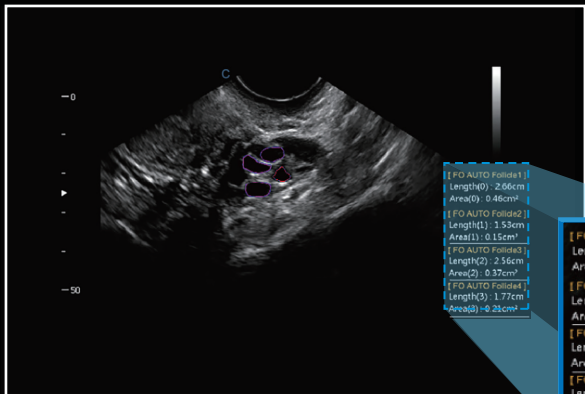
Fetal Face, Virtual HD



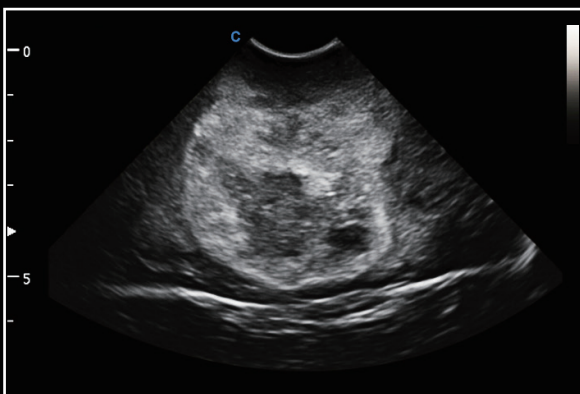
Transcranial, PW Mode



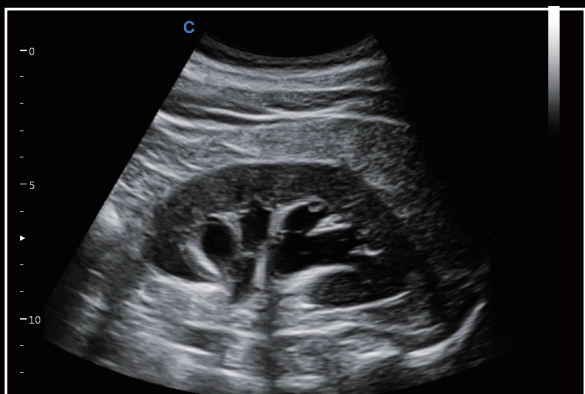
Pregnant Bursa, B Mode



Auto Follicle Detection, B Mode



Paediatric Cerebral Tumor, B Mode



Hydronephrosis, B Mode

TRIVITRON

HEALTHCARE

speaking your language

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SonoRad V10

Color Doppler Diagnostic Ultrasound System

Technical Specification V2.0



SonoRad V10

General Information

Dimensions and Weight

- Dimensions of main unit (approx.): 806mm(Depth)*518mm(Width)*1462mm(Height)
- Net weight of main unit (approx): 51kg (no probe included)

Electrical Power

- Power supply voltage: Auto adaptable for AC100-240V
- Power supply frequency: 50-60 Hz
- Power consumption: 600 VA

User Interface

Operation Panel

- Control panel
- 10.1 inch Touch screen
- Alphanumeric keyboard
- 8 TGC Slides
- Interactive backlit keys
- High resolution color LED 1920*1080
 - Diagonal dimension: 21 inch
 - Brightness and contrast adjustment
- Integrated speaker
 - Volume adjustable

System Architecture

- Dynamic range: 250db
- Digital processing channels: 52,00,000
- Frame rate: 600 frames/sec (probe dependent)
- Colour doppler frame rate: 350 frames/sec (probe dependent)

System Overview

Applications

- Abdominal (Gynecology & Urology)
- Fetal/OB
- Small Organ (Breast, Testes, Thyroid)

SonoRad V10

- Pediatric
- Peripheral Vascular
- Musculo-skeletal Conventional & Superficial
- Cardiac (adult & pediatric)
- Transvaginal

Scanning Method

- Electronic convex
- Electronic linear
- Electronic micro convex
- Electronic phased array
- Volume convex

Transducer Types

- Convex transducer: D3C60L (2.0MHz-6.8MHz)
- Linear transducer: D7L40L (4.0MHz-15.0MHz)
- Linear transducer: D12L40L (7.0MHz-18.0MHz)
- Trans-vaginal transducer: D6C12L (4.0MHz-12.0MHz)
- Trans-vaginal transducer: D7C10L (4.0MHz-15.0MHz)
- Phased array transducer: D3P64L (1.5MHz-5.3MHz)
- Phased array transducer: D5P64L (2.0MHz-8.0MHz)
- Volume transducer: V4C40L (2.0MHz-6.8MHz)
- Micro convex transducer: D6C15L (4.0MHz-12.0MHz)
- Micro convex transducer: D3C20L (2.0MHz-6.8MHz)

Image Modes

- B Mode
- B/M mode
- M mode
- 2B Mode
- 4B Mode
- CFM Mode
- Full Screen Image Mode

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- 2D Steer
- PD Mode
- DPD Mode
- PW Mode
- B/BC Mode
- Triplex
- Quadplex
- CW Mode
- Free Steering M Mode
- TDI
- Color M Mode
- Curved Panoramic Imaging
- Trapezoidal imaging
- Compound
- SRA
- Elastography
- ECG
- Super Needle
- 4D
- Virtual HD
- FHI mode
- AIO

Display Mode

- Quad/Dual display
- Duplex mode
- Triplex mode
- Quadplex mode

Display Annotation

- Hospital name
- Date/Time

SonoRad V10

- Patient Name and Patient ID
- System status
- Gray/Color bar
- Cine guide
- Scanning direction
- Measurement summary window
- Measurement results window
- Transducer type
- Frequency
- Application name
- Menu indication
- Trackball functions indication
- Imaging parameters displayed on the screen

Standard Configuration

- 21 inch medical grade HD LED Monitor
- 10.1 inch touch screen
- 4 active transducer ports
- 1TB integrated hard disk
- DVD-R/W
- USB ports:6
- 4D module
- CW module
- TGC, LGC
- B, 2B, 4B, B/M, B/BC, CFM, PW, Power Doppler/Directional PD, Instant Triplex, Duplex, Quadplex, Trapezoidal, Chroma B&M&PW, Full Screen
- Automatic PW trace and measurement in real time
- Super Image module: FHI, Multiple Compound Imaging, SRA (Speckle Reduction Algorithm), AIO
- Q-Image (intelligent image optimization), X-contrast, Q-beam, Q-Flow
- Measurement & calculation software packages: General, OB&GYN, Cardiac
- 2D Steer
- Cardiovascular: CW, TDI, IMT
- Multi frequency probes with THI frequencies

Software Options

- Virtual HD/Depth View
- Niche/ Smart Volume Slice
- Free NT
- Elastography
- Super Needle
- Curved Panoramic
- Extended Cardiac Package: ECG Software, Free Steering M, Color M
- DICOM 3.0
- WIFI Function
- Biopsy kit: for convex/linear/TV/3.0 MHz Micro-Convex probe respectively

Hardware Option

- Footswitch
- ECG Lead
- GEL WARMER

Peripherals

- SONY UP-X898MD B&W Video Printer

Imaging Processing & Presentation

B Mode

- Gain
- Compound
- SRA
- Focus Number
- Focus Position
- Full Screen
- X-contrast
- Persistence
- Density
- 2D Map

SonoRad V10

- Noise Reject
- Scan Width
- Image Rotate
- Gamma
- Smooth
- Edge enhance
- A.power
- Frequency
- Dynamic
- Depth 4 - 41.5 cm
- Pan Zoom (Live & freeze image)
- TGC
- Scanning direction
- Center Line
- Trapezoidal Mode
- Biopsy
- Super Needle (Enhance Needle Vision)
- Elastography
- 2D steer

M Mode

- Gain
- Layout
- Display Format
- Chroma
- Free M Mode
- Color Map
- Dynamic
- Speed

Color Mode

- Gain
- 3D visualization
- Color Map

SonoRad V10

- Color Invert
- Q-flow
- Q-beam
- Persistence
- Color Mode: Velocity, Variance
- Wall Filter
- Density
- Wall Thre
- Blood Efection
- B/BC
- Frequency
- Baseline
- Scale
- Steer
- PRF

CPA/DPD Mode

- Gain
- Wall Filter
- Blood Efection
- Q-beam
- Q-flow
- Wall Threshold
- Persistence
- Frequency
- PRF
- Steer
- Color Map

PW Mode

- Gain
- 2D Map
- Wall Filter

SonoRad V10

- Spectrum Enhance
- Dynamic Range
- Auto Cal Parameter
- DTrace Smooth
- Threshold
- DVmean
- DVmax
- Trace area
- Layout
- Audio
- Color Map
- Quick Angle
- Auto Cal
- Freq.
- Baseline
- PRF
- Steer
- Speed

CW Mode

- Gain
- 2D Map
- Spectrum Enhance
- Dynamic
- Audio
- Wall Filter
- Color Map
- Quick Angle
- Layout
- Baseline
- PRF
- Speed

SonoRad V10

Cine loop

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

Storage

- 1TB integrated hard disk
- DVD-R/W driver
- USB ports
- Still images storage format: IMAG
- Still images export format: BMP, JPG, DCM,PNG,TIFF
- Cine loops storage format: CINE
- Cine loops export format: AVI
- Fast storage setting

EasyView

- Image review Layout:1×1,2×2
- Image management

Exam Review

- Search Exam
- Exam review: patient view, study view
- Exam management
 - Delete selected exam
 - Export selected exam
 - Backup selected exam
 - Recover from the backup exam

- Selected all
- Expand all
- Collapse all
- Edit selected Exam
- Review selected Exam
- Continue selected Exam

Measurement & Calculation

General Measurement Package

- Software packages for various specific clinical use
- Comprehensive analysis methods
- Clinical analysis reports

General measurement package

- B mode normal 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
 - Strain Ratio
- M mode normal measurement
- PW mode Normal measurement

Auto Measurement Packages (Optional)

- Auto OB
- Auto NT
- Auto follicle
- Auto IMT

Clinical Analysis Packages

- OB
- GYN
- URO

SonoRad V10

- Cardiac
- Vessel
- Small parts
- Pediatrics
- TCD
- Breast

System Setup

By using system setup, users could

- Customize hospital information
- Customize language
- Customize fast storage time
- Customize color map
- Customize functions to Footswitch,P1 key, Print key
- Customize functions to alphanumeric 0~9
- Customize PC and Video Print Option
- Customize Measure
- Customize Comment library
- Customize Report

User Define Functions

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

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

Multi-language Display Interface

- English
- Chinese
- Other languages

For more info on other languages, Please Contact Kiran Medical Systems.

Inputs & Outputs

- AC Power In: 1
- AC power Out: 1
- Power Button: 1
- USB Port: 6

SonoRad V10

- Ethernet: 1
- Remote Control: 1
- S-Video Out: 1
- Audio: L,R
- DVI: 1
- VGA Out: 1
- Video Out: 1
- Footswitch Port: 2
- Ground pole: 1

Operating Conditions

- Ambient temperature: 10°C to 40°C
- Relative humidity: 30% to 75% (no condensation)
- Atmospheric pressure: 700 hPa to 1060 hPa

Storage & Transport Conditions

- Ambient temperature: -5°C to 40°C
- Relative humidity: ≤80% (no condensation)
- Atmospheric pressure: 700 hPa to 1060 hPa

Not all features or specifications described in this document may be available.

Kiran Medical Systems reserves the right to make changes in specifications and features shown herein, or discontinues the product at any time without notice or obligation. For the most current information, Contact Kiran Representative.