Ultrasound System Specifications

Dedicated premium women healthcare ultrasound system ESE-M86 supports you in clinical decision-making and elevates trust in diagnostic confidence by:
• Premium image quality, thanks to the first RF platform of the world
• New benchmarks in 3D/4D and slice images
• Dedicated obstetrical tools package such as VOCAL, Fetal Heart
• Specific ultra high frequency and wide footprint breast probe
• 21.5" monitor to enlarge multiple images with high quality

System Overview
Architecture

• The revolutionary RF platform, **The First In The World,** allows for more accurate information. This platform transfers all RF data for computing without any information loss. It has a much better advantage in detail imaging than current advanced platforms
• Thanks to the RF platform, it allows the development of many RF-based processing algorithms, which have ultra-premium contrast and resolution imaging
• This unique platform is capable of processing multiple data streams simultaneously
• MLP transmit wave can be encoded in different profile to bring better uniformity and resolution on image

• Zone Imaging technology can obtain high resolution and good penetration in the whole image zone through the adaptive dynamic beam control from the near field to the far field.
• Up to 25MHz next generation digital broadband and high resolution acoustic beamforming
• The new 12 bit, low noise, digital circuitry, with up to 280db dynamic range has improved 2D performance and increased Doppler sensitivity
• Directional-enhanced information compiling for more tissue detail and reduction of angle-generated artifacts
• Next generation adaptive image processing for noise and artifact reduction that improves tissue presentation and edge definition
• Fully independent, triplex multiple mode operation for easy in Doppler procedures
• Multi-processors allow simultaneous mode changes and support for advanced system functionality

- Quick print to B/W and color thermal video printer
- Network storage and printing
- Full measurement and analysis package
- Real time auto wave Doppler track and calculations

Applications

- Abdomen
- Obstetric
- Gynecology
- Cardiology
- Urology
- Vascular
- TCD
- Small Parts
- Pediatrics
- Intra-operative

Imaging features

- 2D grayscale imaging
- Harmonic imaging both in tissue harmonic and pulse inversion harmonic technologies
- VFusion, RF-based directional-enhanced information compounding
- VSpeckle, specialized and adaptive imaging processing to remove speckle noise artifacts and enhance tissue edge for clarity and accuracy
- VTissue, the advanced adaptive image processing to compensate for sound and speed variation in different tissue *
- VFlow,adaptive color flow filter to increase the sensitivity of blood flow
- Auto imaging optimization
- Easy Comparative Function to compare previous exam
- M mode
- Power Doppler imaging

- Pulse wave Doppler imaging
- Duplex 2D/PW Doppler
- Triplex 2D/Color/PW Doppler
- High PRF pulsed wave Doppler
- Continuous wave Doppler
- RF-based Zoom
- FULL screen imaging to enlarge imaging size
- Dual real time imaging without compromising imaging size
- Multi Angle M-mode with 360 degree rotation *(Optional)*
- PView for panoramic imaging *(Optional)*
- TView for trapezoidal imaging
- Free 3D * (optional)
- 3D/4D
- HQ Vivid*(Optional)*
- Spatio Temporal Image Correlation (STIC) *(Optional)**
- Tomographic display (MCUT)
- Inversion mode
- Magic Cut
- Smart Touch 3D/4D operation
- Multiline- Free View
- Volume Contrast Imaging(VCI)
- Niiche view
- Contrast Imaging(CBI)*(Optional)**

Standard features

- Up to 25Mhz high frequency in system platform.
- Up to 23MHz's probes are supported
- RF platform and RF data processing

- Up to 1500 seconds standard cine storage
- 1T HDD
- SSD for quick boot up *(Optional)*
- Integrated DVDRW
- Integrated black/white thermal video printer slot
- Patient information database
- Image archive on hard drive
- Quick store to USB memory stick
- Quick store to hard drive
- Vascular calculations
- Cardiac calculations
- OB calculations and tables
- Gynecological calculations
- Urological calculations
- Renal calculations
- Volume calculations
- Barcode reader for patient information input
- Wireless networking for easy data sharing, storage and printing *(optional)*
- Bluetooth for image data transfer
- Image data transfer directly by E-Mail with network access
- Up-to-date connectivity and data management solutions, wireless *(optional),* LAN, Bluetooth, E-Mail, integrated database
- DICOM compatibility *
- Four active probe ports, plus one dummy probe port
- 5 USB ports
- 8 TGC slides
- Average 4 multiple adjustable frequency in every probe and mode
- Up to 512 line density
- 1 DVI-D interface
- 1 Audio in interface; 1 Audio out interface
- 1 Speaker interface
- 1 RJ45 interface

Ergonomics

- Unique human oriented design for comfort and convenience
- Fully articulating 21.5-inch high resolution flat panel display with nearly infinite positioning adjustments
- Up to 250mm up/down operation panel, controlled by electric motor
- Fully articulating control panel including height, swivel+(-)90 degree and front-back 150mm slide adjustment
- Integrated footrest
- Integrated foot switch for configurable function, such as Freeze, store etc
- Easy access DVD media drive
- 5 easy access transducer ports
- 5 transducer holders (removable for easy cleaning)
- Automatic warming gel bottle holders
- Integrated touchable alphabetic keyboard
- Simple, easy and effective cable management structure

Keyboard

- Highly sensitive 13 inch capacity touch panel
- Intuitive, configurable and touchable interactive operation interface
- Ergonomic hard keys for general ultrasound operations
- 8 TGC slides, functionality at any depth
- Backlight keys

Image display screen

- 21.5 inch high resolution LED technology, pixel resolution: 1920x1080
- Brightness, contrast and color temperature adjustment

- Adjustable Gamma curve optimization for dedicated applications
- Big angel swivel and tilting capability

Peripherals

- B&W thermal video printer: Sony UP-D897MD (optional)
- Color thermal video printer: Sony UP-D25MD (optional)
- Memory stick (optional)

Dimensions and Weight

- Height: 1320-1570mm
- Width: 605mm
- Depth: 900-1050mm
- Net Weight: 90kg

Electrical Power

- Voltage: 100-240V AC
- Frequency: 50/60Hz
- Power: Max. 600VA for console only

Transducers

Transducer Technology

- Xcen technology for wideband frequency
- Pure wave technology for high resolution imaging
- Unique and high-tech Xcen probe connector to adapt all different type of product models

Transducer types

- Convex array
- Linear array
- Phase array
- 4D probe
- Endocavity probe

- Micro-convex array

Transducer selection

- Electronic switching of transducers
- User customizable imaging presets for each transducer and application
- Automatic dynamic receiving focus in all transducers
- Multiple adjustable transmit focal zone, up to 8 focal zone

G2-5C Broadband Curved Array

- Field of view: 66 degree
- Convex radius: 50mm
- Application: abdomen, OB/Gyn, urology, pediatric
- Frequency range: 1.4 6-6.0MHz
- Pulsed wave Doppler, color Doppler, power Doppler, harmonic
- Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes
- Reusable biopsy guide available

D3-6C broadband curved array volume probe

- Field of view: 75 degree
- Convex radius: 40mm
- Application: abdomen, OB/Gyn, urology
- Frequency range: 1.8 – 6.3MHz
- Pulsed wave Doppler, color Doppler, power Doppler, harmonic, 3D/4D grayscale and 3D color modes
- Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes

D3-6CX broadband curved array volume probe
• Field of view: 75 degree
• Convex radius: 40mm
• Application: abdomen, OB/Gyn, urology
• Frequency range: 1.8 – 7.2MHz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic , 3D/4D grayscale, 3D color
• Multi-imaging frequency setting in 2D, 3D/4D, Harmonic, color Doppler and Wave Doppler modes

G4-9M broadband micro convex array
• Field of view: 136 degree
• Convex radius: 12mm
• Application: pediatric, abdomen, cardiac
• Frequency range: 3.2 – 12.2MHz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes

X4-9E broadband micro convex endocavity array

• Field of view: 180 degree
• Convex radius:8.8 mm
• Application: ob/gyn, urology
• Frequency range:3.4-12.5 MHz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes
• Reusable biopsy guide available

D4-9E broadband micro convex 4D endocavity array
• Field of view: 141 degree
• Convex radius: 10mm
• Application: Ob/Gyn, urology
• Frequency range: 3.1-12 MHz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic , 3D/4D grayscale, 3D color
• Multi-imaging frequency setting in 2D, 3D/4D, Harmonic, color Doppler and Wave Doppler modes

X4-12L broadband linear array
• Fine pitch, high resolution
• Applications: vascular, small parts
• Frequency range: 3.3 -12.6MHz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes

X6-16L broadband linear array
• Fine pitch, high resolution
• Applications: vascular, small parts
• Frequency range: 5.05 -15.50MHz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes

U5-15L broadband linear array

• Fine pitch, high resolution
• Applications: small parts, specially for breast, vascular
• Frequency range: 2.2 -14.0Mhz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes

G1-4P phased array

• Applications: cardiac, abdomen, Ob/Gyn, Urology
• Field of view 90 degree
• Frequency range: 1.09-4.18Mhz
• Pulsed wave Doppler, continuous wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes

S1-6P phased array

• Single Crystal technology
• Applications: cardiac, abdomen, Ob/Gyn, Urology
• Field of view 90 degree
• Frequency range: 1.0-5.5Mhz
• Pulsed wave Doppler, continuous wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes

S1-8C broadband curved array *

• Single Crystal technology
• Field of view 60 degree
• Convex radius: 60mm
• Application: abdomen, OB/Gyn, urology, pediatric
• Frequency range: 1 - 6.2MHz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes
• Reusable biopsy guide available

F2-5C Broadband Curved Array
• Field of view: 59 degree
• Convex radius: 60mm
• Application: abdomen, OB/Gyn, urology, pediatric
• Frequency range: 1.6-5.3MHz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes
• Reusable biopsy guide available

G4-9E broadband micro convex endocavity array

• Field of view: 136degree
• Convex radius: 12mm
• Application: Ob/Gyn, urology
• Frequency range: 3.2 – 12.5MHz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler
• Reusable biopsy guide available

X9-22L broadband linear array

• Fine pitch, high resolution
• Applications: msk,nerve,small parts
• Frequency range:5.0-22.0

X10-23L broadband linear array

• Fine pitch, high resolution
• Applications: small parts
• Frequency range: 7.0- -23.0MHz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes

I7-18L broadband linear array (Hock stick)

• Fine pitch, high resolution
• Applications: vascular, small parts, Hock stick
• Frequency range: 4.2-15.0 Mhz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes

G3-10PX phased array

• Application: pediatric cardiology, abdomen,
•Field of view: 90 degree
• Frequency range: 2.0-8.0Mhz
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes

S2-9C Broadband Curved Array

• Field of view: 60 degree
• Convex radius: 60mm
• Application: abdomen, ob/gyn, urology, pediatric
• Frequency range: 1.2-5.2MHz
• Pulsed wave Doppler, color Doppler, power Doppler, harmonic
• Multi-imaging frequency setting in 2D, Harmonic, color Doppler and Wave Doppler modes

Advanced Imaging controls

VFusion

• Available on all transducers and for 2D, 3D/4D (except phase array probe)
• Up to 5 levels of directional imaging fusion to enrich information
• Operate in conjunction with VSpeckle, harmonic imaging

VSpeckle

• Available on all transducers and for 2D, 3D/4D
• Virtually eliminate speckle noise artifact and dynamically enhances tissue margins
• Selectable multiple levels of speckle noise reduction and smoothing
• Operates in conjunction with VFusion and harmonic imaging

VTissue *

• Advanced imaging processing to adapt to the speed of the ultrasound variation in different tissue
• Improved detail resolution and conspicuity of lesions
• Presentable sound and speed in different applications
• One touch operation to ease diagnosis

3D/4D HQ Vivid *(Optional)*

• Amazing high image quality
• Extreme realistic rendering images
• Similar operation as normal rendering

Spatio-Temporal Image Correlation (STIC) *(Optional)*

• Visualize the fetal heart or an artery
• One complete heart cycle represented
• Using 3D static acquisition

Inversion mode

• This render mode is used to display anechoic structures such as vessels
• It invert the gray values of the rendered image, such as black image information become white and vice versa

Magic Cut

• Ability to edit images, make possible to cut away structure obstructing the view in the ROI
• Several cutting methods available

Smart Touch 3D/4D Operation

• Fully utilize touch panel possibility for easy operation, such as rotation 3D rendering image, move ROI, create line by finger

Advanced Imaging controls (cont.)

Free View
• Provide any plane view to visualize the internal tissue information
• Improve the contrast resolution to facilitate the detection of diffuse lesions in organs

Auto NT (Nuchal Translucency) measurement

• Automatically detect Nuchal Translucency in interest box
• Automatically report thickness result of NT

Next generation RF-based image processing
• Available on all imaging transducers in 2D grayscale modes
• Virtually eliminates speckle noise artifact and dynamically enhance tissue edge
• Operates with other real-time processing algorithms

Smart 3D Volume Measurement(Optional) *
• Trace the margin of the irregular circle in different slices of volume data in irregular shape
• Automatically report the volume of the irregular object

Auto Follicle(2D/3D)
• Just click on the area of follicle in B mode, the area of this follicle will be reported automatically
• Report the area of different follicle in the volume data automatically

Imaging modes

2D Imaging

• Pre-defined ATGC (adaptive temporal gain compensation) curves optimized for consistently excellent imaging
• B/M acoustic output: 0-100%
• Depth: able to adjust from 1 to 36cm
• Select between 1 to 8 transmit focal zones
• Reverse function: on/off
• VFusion function
• VSpeckle function
• Harmonic imaging both tissue harmonic and phase inversion
• Cineloop image review
• Selectable 2D line density
• Dual imaging with independent cineloop
• 256(8 bit) gray level
• Multiple color maps with chroma imaging
• FULL screen imaging to larger image size
• Multi frequency: probe dependent
• Up to 8 focus zone adjustable
• Gray filter: 6 steps
• Persistence: 8steps
• Selectable image angles, probe dependent
• Gain: 0-100%
• Dynamic range: 30-280 db
• VSharpen to enhance edge contrast
• Smooth to improve spatial resolution
• EdgeEnhance to improve detail information and contrast
• VNear to enhance SNR of near field

Harmonic Imaging

• Supports both tissue harmonic and phase inversion imaging (transducer and frequency dependence)
• Second harmonic processing to reduce artifacts and improve image clarity
• Maximize detail resolution and enhance contrast
• Available on all imaging transducers
• Extends high performance imaging capabilities to all patient body types

M mode

• Selectable sweeping rates
• Time marks: 0.025 – 0.5 second
• Selectable display format prospective or retrospective (1/3-2/3, 1/2-1/2, 2/3-1/3, side by side 1/2-1/2, side by side 1/3-2/3, full screen)
• Chroma colorization with multiple color maps
• Cineloop review for retrospective analysis of M-mode data
• 256 gray levels

3D/4D

• 3D/4D rotation
• Grayscale imaging controls
• Selectable rendering approaches
• Unique high quality rendering algorithm
• Selectable gray maps
• Multi slide cutting(MCUT)
• Cineloop 3D
• Review volume

Color Doppler mode

• Available on all imaging transducers
• Automatically adapts transmit and receive bandwidth processing based on the color box position
• Cineloop review with full playback control
• Steering on linear array transducers
• Color flow M mode display for tissue motion and flow velocity*(optional)*
• Selectable in baseline, line density, flash reduction, persistence, maps, frequency, PRF, wall filter, packet size, color level, sensitivity, focus position, acoustic power, and smooth
• Color gain
• Region of interest
• Baseline invert
• Simultaneous mode during PW mode
• Smoothing
• Wall filter
• Zoom

Power Doppler mode

• High sensitive mode for small vessel visualization
• Available on all transducers
• Cineloop review
• Multiple color maps
• Individual controls for gain
• Selectable baseline, line density, flash reduction, persistence, maps, frequency, PRF, wall filter, packet size, color level, sensitivity, focus position, acoustic power, and smooth
• Adjustable region of interest

Pulsed Wave (PW) Doppler

• Ultra high resolution spectral FFT rate
• Angle correction with automatic velocity scale adjustment
• Normal, invert display around horizontal zero line
• Selectable gray filter, dynamic range, frequency, PRF, wall filter, baseline, angel correct, sample volume
• Selectable sweep speeds: 8 steps
• Maximum velocity range: 12m/s
• PW acoustic output: 0-100%
• Selectable low frequency signal filtering with adjustable wall filter settings
• Selectable grayscale curve for optimal display
• Selectable chroma colorization maps
• Selectable display format prospective or retrospective (1/3-2/3, 1/2-1/2, 2/3-1/3, side by side 1/2-1/2, side by side 1/3-2/3, full screen)
• Auto function to optimize spectral Doppler display.
• Digitally enhanced stereo output
• 256 gray levels
• Post-processing in frozen mode includes map, baseline, invert and chroma
• Simultaneous or duplex mode of operation
• Simultaneous 2D, color Doppler, pulsed Doppler
• High PRF capability in all modes including duplex and triplex

Elastography imaging*(Optional)*
• Shows the spatial distribution of tissue elasticity properties in a region of interest to estimate the strain before and after tissue distortion caused by external force

• The strain estimation is scaled by color to have smooth distribution display
• Have quality index to indicate if there is proper external force

Contrast imaging*(Optional)*
• Support contrast imaging in both 2D and 3D volume
• By contrast agent, imaging is enhanced within vessel which agent flow
• Have one button push to destroy the agent. Useful in the bubble wash-in characteristics of anatomy being scanned

Continuous Wave Doppler (CWD)
• Cardiac sector array transducer only
• Maximum velocity range: 19m/s

PView
• Real time extended field of view composite imaging
• Ability to back up and realign the image during acquisition
• Full zoom, cineloop review and image rotation capabilities
• User can measure distance and area
• Measurement can be made on individual frames during cineloop review
• Available on linear transducers

TView
• Expand view of scanning
• Available on linear transducers

Auto
• Intelligent one button automatic optimization in 2D and Doppler modes
• Automatically adjust PRF and baseline in Doppler

Touch Panel Interface

2D mode

- New patient
- BodyPattern
- Archive
- Comments
- End exam
- Sys setting
- Probe&App
- Pview
- Tview
- Fullscreen
- L/R
- U/D
- Center line
- VTissue *
- VSpeckle
- VFusion
- Gray Filter
- Persistence
- Display Format
- Image reference
- Maps
- Frequency
- Focus position
- Focus #
- Dynamic Range
- Line density
- VSharpen
- Biopsy
- Image angle
- Focus width
- Smooth
- Acoustic power
- Contrast imaging
- Elastosonography
- EdgeEnhance
- Vnear

- NeedleEnhance
- SGC

M Mode

- New patient
- BodyPattern
- Archive
- Comments
- End exam
- Sys setting
- Probe&App
- L/R format
- U/D format
- Maps
- Dynamic range
- Acoustic power
- Sweep speed
- Gray filter
- VSharpen

CF mode

- New patient
- BodyPattern
- Archive
- Comments
- End exam
- Sys setting
- Probe&App
- Invert
- Full Screen
- L/R
- U/D
- Baseline
- Flash Reduction
- Line density
- Persistence
- Display format
- Sync display
- Transparency

- Image reference
- Maps
- Frequency
- PRF
- Wall filter
- Packet size
- Colorlevel
- Sensitivity
- Focus position
- Acoustic power
- Smooth

PW/CW mode

- New patient
- BodyPattern
- Archive
- Comments
- End exam
- Sys setting
- Probe&App
- Invert
- Triplex
- Display format
- Sweep speed
- Gray filter
- Dynamic range
- Trace sensitive
- Auto trace
- Mode/direction
- Maps
- Frequency
- PRF
- Wall filter
- Baseline
- Steer

- Sample volume
- Volume
- Spectrum optimize
- Acoustic power

3D mode

- Comments
- BodyPattern
- Back to 2D
- Start3D
- ROI shape
- Render resolution
- Render
- Display format
- Image reference
- View
- Gray map
- VSpeckle
- Quality
- Threshold
- Transparency
- Volume angle
- Auto rotate (after data acquisition)
- Movement step (after data acquisition)
- Slice position(after data acquisition)
- Speed(after data acquisition)
- HQ Vivid Light(after data acquisition)
- Rotation angle (after data acquisition)
- Rotation direction (after data acquisition)
- 3DMcut(after data acquisition)
- Magic Cut (after data acquisition)
- Free View(after data acquisition)
- Smart Touch 3D/4D operation(after data acquisition)

4D mode

- Comments
- Body Pattern
- Back to 2D

- Start 4D
- Auto Cine
- Movement step
- Rotation direction
- Render
- Display format
- Image reference
- View
- Gray map
- VSpeckle
- Quality
- Threshold
- Transparency
- Volume angle
- Slice position(after data acquisition)
- 3DMcut(after data acquisition)
- Smart Touch 3D/4D operation(after data acquisition)

System Feature

Display modes

- Simultaneous capability
  - 2D/PW/CW
  - 2D/CF or PDI
  - 2D/M
  - Dual, 2D/2D
  - Dual, 2D/2D+CF or PDI
  - Dual, duplex and triplax
  - Duplex and Triplex mode
  - Quad display in 3D/4D application
  - 9 slice images display in 3D/4D application
- Time line display
  - Independent dual 2D/PW or CW
  - Timed based sweep update mode

Display annotation

- Institution/hospital name
- Date: 2 types selectable, YY/MM/DD, MM/DD/YY
- Time: 2 types selectable, 24hours and 12 hours
- Operator identification
- Patient name, first, last
- Patient identification: 30 characters
- Gestational age from LMP/EDC/GA/BBT
- Image symbol: Ginkgo leaf
- Power output index
  - MI: mechanical index
  - TIS: thermal index soft tissue
  - TIC: thermal index cranial (Bone)
  - TIB: thermal index bone
- Probe orientation marker: coincide with a probe orientation marking on the probe
- Gray/color bar
- Measurement result window
- Probe type
- Application name
- Image depth
- Imaging parameters by mode
  - 2D/M mode: acoustic power output, gain, frequency, frame rate, dynamic range
  - Color mode: color acoustic power output, color gain, color flow frequency, PRF, wall filter
  - PW/CW mode: Doppler acoustic power output, Doppler gain, Doppler frequency, PRF, wall filter, sample depth
- Scanline Gain Compensation(SGC) with 6 slides adjustment
- Focus zone marker
- Body pattern
- PW and CW scale markers: time/speed
- M scale markers: time/depth, time

- System measurement display
- System message display
- Biopsy guide line
- Heart rate

Simple User Operation Interface

- Simple user interface and easy workflow, allows one step on probe & application switch, and intuitive user parameter control

Cineloop

- Acquisition, storage in memory and display of up to 15000 frames, 1500 seconds long of 2D, color and PW/CW images for review
- Acquisition, storage and replay of Doppler audio

Compare

- Flexibly compare live imaging with stored imaging by one key

Quick save feature

- The system provides quick save function through USB stick, internal/external HDD, DVD during or after exam
- Configurable saving file format, VRD (Raw Data), DICOM, PNG,BMP,JPG and AVI

Archive

- Patient data input which include patient ID, name, nationality, birth date, sex, exam physician, quality check, exam operator
- Physical data such as weight, height
- Patient exam management
- Patient exam images storage and management

- Import VRD format data into the system from outside media, such as USB stick, external HDD, DVD
- Export patient data into outside medias

Report

- Automatically pull patient data into the report
- Automatically load measurement worksheet into the report
- Pull related exams' images into the report
- Write comments in the report
- Print report through network or local printer

Connectivity

- Standard connectivity features
  - Local print to on-board or off-board video printers through USB port
  - Page report print
  - Image export to removable media (DVD, external HDD, USB stick)
- Network linkage
  - Image export to network storage servers*
  - DICOM export and retrieve *
- Mobile data transfer solution by
  - Blue tooth*(Optional)
  - email*(Optional)
  - Hot point connection
- VCloud * (Optional)
- Integrated DVDRW
  - Support standard DVD media
  - Data storage formats include VRD, DICOM,JPG,BMP, PNG, AVI
  - VRD and DICOM images stored in disc can be recalled on the system
  - JPG,BMP,PNG and AVI images can be played on normal computers

- On-board patient exam storage
  - Direct digital storage of static image or cineloop images to internal hard disk drives
- Fully integrated user interface

Probes/application

- Selectable multiple applications
- Edit exist application preset
- Edit user defined preset
- Rename preset
- Return to factory preset
- Quick save user defined parameters in related application

Safety Conformance

- Regulatory Notice:
This device is tested to meet all applicable requirements in relevant. According to 93/42 EEC, it is class IIa medical device.
- Conformity to Standards:
- IEC 60601-1 : 2012 Medical electrical equipment - Part 1: General requirements for basic safety and essential performance
- IEC 60601-1-2:2007 Electromagnetic compatibility - Requirements and tests
- IEC 60601-1-6:2010 Usability
- IEC 60601-2-37:2007 Medical electrical equipment - Particular requirements for the safety of ultrasonic medical diagnostic and monitoring equipment
- IEC 61157:2007 Declaration of acoustic output parameters
- ISO 10993-1:2009 Biological evaluation of medical devices
- IEC 62304:2006 Medical device software –Software life cycle processes

- IEC 62366:2007 Medical devices - Application of usability engineering to medical devices
- Council Directive 93/42/EEC on Medical Device
- WEEE according to 2012/19/EU
- RoHS according to 2011/65/EU

Measurement and Analysis

Generic Measurement in 2D mode

- Depth
- Distance
- Perimeter
  - Length and width method
  - Ellipse method
  - Polygon method
  - Spline method
  - Tracing method
- Area
  - Length and width method
  - Ellipse method
  - Polygon method
  - Spline method
  - Tracing method
- Volume
  - Single line method
  - Dual line method
  - Triple line method
  - Single ellipse method
  - Single ellipse and single line method
- Angle

- Stenosis
  - Diameter method
  - Square meter method
- A and B ratio
  - Diameter ratio
  - Square meter ratio

Generic Measurement in CFM mode
- CFV
  - point
  - profile

Generic Measurement in M mode

- Depth
- Distance
- Time
- Speed
- Heart rate
- Stenosis
- A and B ratio
  - Diameter ratio
  - Time ratio
  - Speed ratio

Generic Measurement in PW mode

- Speed (include PV (Peak Velocity))
- Time (include AT (Accelerate Time))
- Acceleration
- PS (Peak Speed in systole period)
- ED (The speed in the end of diastole period)
- MD (Minimum speed in diastole period)
- TAMAX (maximum speed in time average)
- TAMEAN (mean speed in time average)
- TAMIN (minmum speed in time average)
- PI (Pulsatility Index)
- RI (Resistance Index)
- PS and ED ratio
- ED and PS ratio

- A and B ratio (A/B ratio)
  - Speed ratio
  - Time ratio
  - Acceleration ratio
- FLOWVOL (Flow Volume)
- MaxPG (maximum pressure gradient)
- MeanPG (Mean pressure gradient)
- SV (Stroke Volume)
  - Each volume diameter cardiac

  - Time mean speed in each stroke volume
  - Cardiac output
- Heart rate

Abdominal Measurement

- General abdomen
- Difficult abdomen
- Kidney
- Renal vessel
- Abdominal trauma

Small Part Measurement

- Thyroid
- Breast
- Testis
- Musculoskeletal
- Upper and lower extremity joint
- Nerve block

Vessel Measurement

- Carotid artery
- Upper artery
- Upper vein
- Lower artery
- Lower vein
- Vessel puncture
- Transcranial Doppler

Gynecology Measurement

- Uterus and Plevis
- Follicle

Urology Measurement

- Bladder
- Prostate
- Renal
- Kidney and ureter
- Pelvic Floor dysfunction

Pediatric Measurement

- Neonatal Head
- Neonatal Abdomen
- Pediatric Abdomen
- Pediatric Hip
- FAST

Obstetrics Measurement

- OB Early
- OB Mid
- OB Late
- Fetal Heart

Cardiac Measurement

- General
- LV
- MV
- Ao
- AV
- LA
- RV
- TV
- PV
- RA
- System