mindray

Datasheet **Z60**

Rev: 1.0
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Diagnostic Ultrasound System

System Description

The Z60 is an ergonomically designed portable and ease-of-use machine for multi-specialty use like adults, pregnant women, pediatric patients and neonates.

Intended Use

- CE Region: It is applicable for adults, pregnant women, pediatric patients and neonates. It is intended for use in gynecology, obstetrics, abdominal, pediatric, small organ, cephalic, transcranial, musculo-skeletal, cardiac, vascular, urology, orthopedics, nerve and intraoperative exams.
- FDA Region: It is applicable for adults, pregnant women, pediatric patients and neonates. It is intended for use in fetal, abdominal, Intra-operative (abdominal, thoracic, and vascular), pediatric, small organ(breast, thyroid, testes), neonatal and adult cephalic, trans-rectal, trans-vaginal, musculo-skeletal(conventional, superficial), adult and pediatric cardiac, peripheral vessel, and urology exam .

General Specification

Dimensions and Weight

- Size: 147±5mm×361±5mm×358±5mm (Depth×Width×Height)
- Net Weight: 8.2±0.5kg (without battery, two probe ports)

Electrical Power

Input power

- Voltage: 100-240V～
- Frequency: 50/60Hz
- Input current: 1.5- 0.8A

Battery

- Lithium-ion Battery Pack: 14.8 V ⎓ , 6600 mAh
- Charge time: < 3 hours (connected on AC power supply, with the system powered off)
- Endurance time: > 100 min

Boot time

- Boot time: >38 s
- Wake up time (from standby): >7 s

Operating Environment

Ambient temperature: 0°C ~ 40°C
Relative humidity: 30% ~ 85% (no condensation)
Atmospheric pressure: 700 hPa ~ 1060 hPa

Storage & Transportation Environment

Ambient temperature: -20°C ~ 55°C
Relative humidity: 30% ~ 95% (no condensation)
Atmospheric pressure: 700 hPa ~ 1060 hPa

Probe

Probe Types

- Convex array
- Linear array
- Phased array

Scanning Methods

- Electronic convex with extend FOV
- Electronic linear with slant scanning and trapezoid
- Electronic sector

Probe Model

C6-2P	Convex
6C2P	Convex
6CV1P	Endocavity
CB10-4P	Bi-plane (convex & convex)
7L4BP	Linear
7L5P	Linear
L14-6P	Linear
V10-4BP	Convex
7LT4P	Linear
6LE7P	Linear
2P2P	Phased
P7-3P	Phased
D6-2P	Volume

Available Needle-guided Bracket for Probe:

- C6-2P NGB-022
- 3C5P NGB-006
- V10-4BP NGB-004
- 6C2P NGB-005
- 7L4BP NGB-007
- 7L4P NGB-007
- 7L5P NGB-007
- 6LE7P NGB-009
- 7LT4P NGB-010
- 2P2P NGB-011
- L14-6P NGB-016

System Configuration

Standard Configuration

- Display
  - 15-inch LCD, LED backlight,High-Resolution 1024 x 768
  - Contrast & Brightness adjustable
  - Screen Saver: Time and picture presettable
  - Angle adjustable: 60°
- Control Panel
  - Alphanumeric Keys
  - Function Keys
  - Knobs
  - User-defined Keys: function presettable
  - 8 segment TGC
  - Trackball: Color & Speed presettable
  - Key Backlight Brightness & Volume presettable
  - Integrated Speakers
- Indicators: Power/Battery/Standby/HDD status
- Handle
- Phase Shift harmonic imaging
- Steer scanning for linear probes (2D Steer)
- iBeam™
- iClear™ (Speckle Suppression Imaging)
- iTouch™
- ExFOV Imaging
- iStation™
- 500GB integrated hard disk
- I/O Interfaces
  - Transducer port: 2 or 3 (optional)
  - Power input port: 1 (Connect to the AC power supply)
  - USB port: 4
  - VGA OUT port: 1
  - Video OUT: 1
  - S-Video OUT: 1 (Separate video output)
  - Ethernet port: 1 (Connect to network)
  - Remote control port: 1
  - Equipotential terminal: 1
- Multi-language screen display and control panel overlay
- Application categories
  - Abdomen
  - Obstetrics
  - Gynecology
  - Cardiology
  - Small Parts
  - Urology
  - Vascular
  - Pediatric
  - Emergency
  - Nerve

Accessories

- Operator’s manual
  - Basic Volume.
  - Advanced Volume
  - Acoustic Output Volume
  - Operation Note
- Gel
- Power cord
  - 3-Flat-Pin Power Cord
  - EU Power Cord
  - US Power Cord
  - UK Power Cord
- Probe holder
- Grounded Cable
- Video Printer Remote Cable

System Language

- Software display and keyboard input available: Chinese/English/Russian/Czech/Polish
- Software display available only German/Spanish/French/Italian/Portuguese/Icelandic/ Norwegian/Swedish/Finnish/Turkish/Danish/ Indonesian
- Control panel overlay available: Chinese/German/Spanish/French/Italian/Portuguese /Russian/Czech/Polish
- Operation manual available: Chinese/English/German/Spanish/French/Italian /Portuguese/Russian/Turkish

Options

- IMT (Auto Calculation of Intima-Media Thickness)
- HPRF
- PW mode
- CW mode
- iScape View
- Free Xros M
- Color/Power
- Smart 3D
- 4D module
- iLive
- Smart Face
- Smart OB
- Tissue Doppler Imaging
- Color M
- Natural Touch Elastography
- UWN Contrast Imaging
- iNeedle
- iWorks
- ECG module
- ECG lead
- DICOM basic
  - Task management
  - DICOM storage
  - DICOM print
  - DICOM storage commitment
  - DICOM media storage (including DICOM DIR)
- DICOM Worklist
- DICOM MPPS
- DICOM Query/Retrieve
- DICOM OB/GYN structured report
- DICOM vascular structured report
- DICOM cardiac structured report
- Keys for optional functions
- Battery Pack
- External USB DVD drive
- Footswitch:
  971-SWNOM (2-pedal or 3-pedal)
- Mobile trolley: UMT-150
  - Weight: 22 kg
  - Width: 445 mm
  - Depth: 535 mm
  - Height: selective (not available after installed):
  810 mm, 870 mm, 2 levels
- Mobile trolley: UMT-160
  - Weight: 21 kg
  - Width: 616 mm
  - Depth: 702 mm
  - Height: selective (not available after installed):
  1247 mm, 1147 mm, 2 levels
- Carrying Case
- Probes
- Needle-guided brackets

Peripherals Supported

- Black and White Video Printer
  - SONY UP-X898MD Analog
  - MITSUBISHI P93W-Z Analog
- Color Video Printer
- Graph / text printer
  HP OFFICEJET PRO 8100
- LAN Accessory
  LPA11

Exam Mode

- Adult ABD (Adult Abdomen)
- ABD-Difficult (Abdomen-Difficult)
- Ped-ABD
- GYN (Gynecology)
- OB1
- OB2/3
- Fetal Cardiac
- Kidney
- Urology
- Prostate
- Carotid
- IMT (Intima-Media Thickness)
- Upper Ext Artery
- Lower Ext Artery
- Upper Ext Vein
- Lower Ext Vein
- Thyroid
- Breast
- Testicle
- MSK (Musculoskeletal)
- Nerve
- Superficial
- Orthopedic
- Adult Cardiac
- CAR-Difficult
- TCI
- Ped-cardiac

- Neonatal Head
- Neonatal Cardiac
- EM ABD
- EM FAST
- EM OB
- EM Vascular
- EM Superficial
- CVC (Central Venous Catheterization)
- Vascular Access

Imaging Mode

- B-Mode
  - Tissue Harmonic Imaging
  - Phase Shift Harmonic Imaging
- Slant scanning for linear probes (B, color/power, PW/CW independent)
- ExFOV Imaging for Convex Probe (trapezoid imaging for linear probe)
- M Mode
- Color Mode
- Power Mode
- PW (Pulse Wave Doppler)
- HPRF (High Pulse Repeat Frequency)
- CW (Continuous Wave Doppler)
- Color M Mode (CM)
- Free Xros M Mode
- TDI (Tissue Doppler imaging)
  - TVI (Tissue Velocity Imaging)
  - TEI (Tissue Energy Imaging)
  - TVD (Tissue Velocity Doppler Imaging)
  - TVM (Tissue Doppler Velocity M Mode)
- iScape™ (iScape View)
- 3D/4D
- Natural Touch Elastography
- Contrast Imaging
- Display Mode:
  - Single window
  - B/C/D triplex mode
  - Dual live: B/C, B/TDI, B/Contrast
  - Adjustable time line display format (V1:1, V1:2, V2:1, Full)
  - Dual-split: B/C, B/TDI, B/M, B/PW, B/Free Xros M
  - Quad-split

Imaging Features

- iBeam™ (Spatial Compounding Imaging for Linear and Convex Probe)
- iScape™
- Multi-frequency probes for 2D imaging modes
- iClear™ (adaptive speckle suppression imaging for all probes)
- iTouch™ (B/PW): Auto Optimization
- TSI (Tissue Specific Imaging)
- iZoom™
- Spot Zoom and Pan Zoom

B Mode

- Display Depth
  - Minimum: 0.9 cm
  - Maximum: 38.8 cm
- Frame rate (Max.):
  - B mode: 400 fps (2P2P)
- Adjustable focus number: 4
- Adjustable focus positions (Max.): 16
- Magnification factor:
  - Spot Zoom: continuously adjustable
  - Pan Zoom: 80%-1000%
- iZoom: instant full screen view, two levels
- System dynamic range: 30~220, 5/step
- Gain: 0~100dB, 2/step
- TGC: 8
- Colorize: on/off
- Tint map: on/off, 1~25
- Gray map: 1~25
- FOV: on/ off, continuously adjustable
- ExFOV: on/ off (Trapezoid imaging for linear probe)
- Persistence: 0~7
- Rotation: 0°/90°/180°/270°
- R/L, U/D Flip
- Line Density: L, M, H, UH
- iTouch Bright: -12~12dB, 3db/step
- A.power: 32steps
- TSI: General, Fat, Fluid, Muscle
- Steer: 3 levels, linear probe only
- HScale: on/ off
- Middle line: on/ off
- iClear: on/off, 1~4
- iBeam: on/off
- Gray Invert: on/ off
- Auto Merge: on/ off, linear probe

M Mode

- Speed: 1~6

- Edge Enhance: 0~14
- M Soften: 0~14

Color Mode

- Frame rate (Max.): 405 fps (2P2P)
- PRF (kHz): 0.1 (2P2P)~ 15.5 (L14-6P)
- Flow velocities (cm/s, probe dependent): 1.0 (2P2P)~ 262.9 (2P2P)
- Gain: 0~100, 2/step
- Baseline: -8~8
- Scale: 30 levels
- Persistence: 0~4
- Smooth: 0~4
- ROI adjustment: continuously
- Color Map: V0~V10; VV0~ VV9
- Priority: 0%~100%, 11 levels
- WF: 0~7
- Line Density: L, M, H, UH
- Dual Live: on/ off
- Invert: on/ off
- B/C Align: on/ off
- Packet Size: 0~3

Power Mode

- Dynamic Range: 10~70, 5/step
- Power Map: P0~P3; dP0~dP3

PW/CW Mode

- PRF (kHz)
  - PW: 24.0 (2P2P)
  - CW: 160.0 (2P2P)
- Flow velocities (cm/s, probe dependent):
  - PW: 924 (2P2P)
  - CW: 6160 (2P2P)
- Gain: 0~100, 2/step
- Baseline: -4~4
- PRF/Scale: 30 levels
- Audio volume: 0~100%, 2%/step
- Angle: -89°~89°
- Quick Angle: -60°~60°
- SVD (CW focus depth): continuously
- Speed: 1~6
- iTouch (PW): on/off
- SV:
  - 0.5~3 mm, 0.5 mm/step
  - 3~5 mm, 1 mm/step
  - 5~10 mm, 2.5 mm/step
  - 10~20 mm, 5 mm/step
- Dynamic range: 24~72, 2/step
- Gray map: 1-25, 1/step
- Colorize: on/off
- Tint map: on/off, 1-25, 1/step
- WF: 0~6
- Duplex/Triplex: on/ off
- HPRF: on/ off
- T/F Res: 0~4
- Auto Calc: on/ off
- Auto Calc Cycle: 1~5
- Auto Calc Param: setting auto spectrum calculation results
- Trace Area: Above/ Below/ All

Tissue Velocity/Energy Imaging (included in TDI option)

- Available on phased array transducer
- Dual live: side by side displays B and B+TVI
- Acoustic output power: 32 steps
- Gain: 0-100, 2/step
- Dynamic range: 10-70, 5/step (TEI only)
- ROI size/position: adjustable
- Scale: 30 steps
- Baseline: -8~8, 1/step (TVI only)
- Wall filter: 0-7, 8 steps
- Packet size: 0-3, 4 steps
- Smooth: 0-4, 5 steps
- B/C Align: on/off
- Priority: 0%-100%, 10%/step
- Map: TVI: TVV1-TVV10
  TEI: P0-P3, dP0-dP3
- Invert: on/off
- Persistence: 0-4, 5 steps
- Line density: L/M/H/UH, 4 steps

Tissue Velocity Doppler (included in TDI option)

- Available on phased array transducer
- Display formats: V1:2,V2:1,V1:1,Full
- Duplex/Triplex: on/off
- Sample gate depth: adjustable
- Scale: 30 steps
- Baseline: -4~4, 9 steps
- Audio: 0%-100%, 2%/step
- Gain: 0-100, 2/step
- Dynamic range: 24-72, 2/step
- Speed: 1-6, 6 steps
- Wall filter: 0-6, 7 steps
- Invert: on/off

- Angle: -89°~89°, 1/step
- Quick angle: 0°, -60°, 60°
- Gray map: 1-25
- Tint map: Off; 1-25
- Time/frequency resolution: 0-4, 5 steps

Free Xros M Mode

- Tint map: Off; 1-25
- Gray map: 1-25
- Display format: V1:2,V2:1,V1:1

4D

- Available on volume transducer
- Static 3D and 4D
- 4D frame rate: max. 31.1 vps
- Display formats: Single, Dual, Quad, A4:1
- Reset: Reset ALL, Reset curve, Reset orientation
- Quick Rotation: 0°, 90°, 180°, 270°
- Render type: Gray, Invert
- Accept VOI: on/off
- VOI: on/off
- Render mode: Surface, Max, Min, X-ray, iLive
- Direct: D/U, U/D, L/R, R/L, F/B, B/F (D: down, U: up, L: left, R: right, F: front, B: back)
- Threshold: 0%-100%, 1%/step
- Opacity: 0%-100%, 5 %/step
- Smooth: 0-10
- Bright: 0%-100%, 2%/step
- Contrast: 0%-100%, 2%/step
- Tint: off; 25 types
- Current window: VR, A, B, C
- MPR/VR: MPR, VR
- iClear: Off; On,1-4 steps
- Face+: 0-3

iPage

- Slices number: 3-25
- Spacing: 0.5-10mm
- Ref. Plane: A, B, C
- Display format: 2×2, 3×3, 4×4, 5×5
- Adjust Slice
- Slice Position
- Reset Orientation

iLive

- Light Position: 6
- Render Modes: iLive

Edit

- Rotation control: X, Y, Z axis
- Tool: inside contour, outside contour; inside rect, outside rect
- Other operations: undo, undo all

Smart Face

- Face Contact: -15 – 15
- Quick Rotation: 0°, 90°, 180°, 270°

Natural Touch Elastography Mode

- Available on 7L4P and 7L4BP
- Opacity: 0-5
- Single E: On/Off
- Map: E0-E5
- Smooth: 0-5
- Invert: On/Off

UWN Contrast Imaging

- Available on C6-2P
- Timer 1: on/off
- Timer 2: on/off
- Mix Map: CT1 – CT7
- Dual live: on/off
- Destruct: on/off
- Image position: left/right
- iTouch: on/off
- iClear: on/off, 1-4

Display Annotations

- Manufacturer logo
- Hospital name: up to 64 characters can be displayed
- Exam date: 3 types selectable, YY/MM/DD, MM/DD/YY, DD/MM/YY
- Exam time: 2 formats
- Acoustic output indices: MI, TIC, TIS, TIB
- Freeze icon
- Gender
- Age
- ID: up to 64 characters can be displayed
- Other ID: up to 64 characters can be displayed
- Name: up to 64 characters can be displayed
- Probe model
- Current exam mode
- Accession#
- Operator: up to 64 characters can be displayed
- Menu
- Image
- Probe orientation mark
- Time line
- Coordinate axis, including depth, time, frequency

- TGC curve
- Focus
- Comment
- Body Mark
- Measure caliper
- Gray/color scale bar
- Thumbnail
- Help information
- Status icons
- Biopsy guideline
- Measure result window (up to 8 results can be displayed)
- Image parameters

Comments and Body Mark

Comment

Text comment

- Comment text for all exam modes
- Custom: add/delete/edit comment units in current menu.

Arrow

- Arrow size
- Arrow position
- Arrow orientation

Body Mark

Application package

- Body marks for all exam modes:
- Custom: import/delete body marks

Storage/ Connection

- 500G integrated hard disk
- External DVD-R/W
- 4 USB ports
- Image archive on hard disk, DVD, Medsight, network storage (iStorage) or temporary saving in cine memory
- Clipboard
- Thumbnail
- Single-frame image formats: BMP, JPG, TIFF, DCM, FRM (supports off-line analysis)
- Multi-frame images formats: AVI, DCM, CIN, (supports off-line analysis)
- Storage area:
  - Image area: 640*522
  - Standard area: 800×600
  - Full-screen: 1024×768
- iVision: Demo player
- Cine review: Auto, Manual (auto review segment can be set), supports linked cine review for 2D, M/D images.
- Cine memory capacity (Max.)
  - Clip length presettable: 1-60s
  - B mode: 6197 frames
  - M mode: 90.5 s
  - PW/CW: 84.8 s
  - Color: 1744 frames
- Max. frames in HDD (B mode)
  - BMP: 197887
  - FRM: 57847
- iStorage
- DICOM:
  - DICOM Basic
    - Task management
    - DICOM storage
    - DICOM print
    - DICOM storage commitment
    - DICOM media storage (including DICOM DIR)
  - DICOM Worklist
  - Query/ Retrieve
  - Structured Report (SR)
  - MPPS
- MedSight
  - An interactive app that lets you transfer clinical images straight from Mindray Ultrasound system to a smart device, such as mobile phone or tablet PC.
  - Needs to be installed on mobile terminal
  - Transfer images or clips from system to mobile terminal through WiFi
  - Support Android/iOS powered system.

iStation™

Intelligent patient data management system

- Integrated search engine for patient data
- Detailed patient information view
- Intelligent data backup/ restore
- Patient data/ image sending
- Patient data deleting
- Exam managing: create new exam, activate exam and continue exam
- Recycle Bin

- Task manager

Measure/Calc/Study

Caliper

B-mode

Distance
Ellipse
Trace
Spline
Cross
Angle
Double Dist
Trace Len
Trace Len(Spline)
Parallel
B-Profile
B-Hist(Ellipse)
B-Hist(Trace)
B-Hist(Spline)
B-Hist(Rectangle)
Depth
Color Vel
Color Vel Profile
IMT

Volume
    Volume
    Volume(Ellipse)
    Volume(E+Dist.)
Ratio(A)
    Ratio(Trace)
    Ratio(Ellipse)
    Ratio(Spline)
    Ratio(Cross)
Volume Flow
    Vas Area
    TAMEAN
    TAMAX

M-mode

HR
Slope
Distance
Time
Velocity

Doppler mode

PS/ED
Vel
HR
Time
Acceleration
D Trace

Volume Flow
    Vas Area
    TAMEAN
    TAMAX

Application

Abdomen

B-Mode
    Liver
    Renal L
    Renal H
    Renal W
    Cortex
    Adrenal L
    Adrenal H
    Adrenal W
    CBD
    Portal V Diam
    CHD
    GB L
    GB H
    GB wall th
    Panc duct
    Panc head
    Panc body
    Panc tail
    Spleen
    Aorta Diam
    Aorta Bif
    Iliac Diam
    Pre-BL L
    Pre-BL H
    Pre-BL W
    Post-BL L
    Post-BL H
    Post-BL W
    Ureter

    Renal Vol
    Pre-BL Vol

- Post-BL Vol
- Mictur.Vol
- ----------
- Kidney
  - Renal L
  - Renal H
  - Renal W
  - Cortex
- Bladder
  - Pre-BL L
  - Pre-BL W
  - Pre-BL H
  - Post-BL L
  - Post-BL W
  - Post-BL H
- Adrenal
  - Adrenal L
  - Adrenal W
  - Adrenal H

D-Mode

- Ren A Org
- Arcuate A
- Segment A
- Interlobar A
- Renal A
- M Renal A
- Renal V
- Aorta
- Celiac Axis
- SMA
- C Hepatic A
- Hepatic A
- Splenic A
- IVC
- Portal V
- M Portal V
- Hepatic V
- Lt Hepatic V
- Rt Hepatic V
- M Hepatic V
- Splenic V
- SMV

Obstetrics

B-Mode

- GS
- YS
- CRL
- NT
- BPD
- OFD
- HC
- AC
- FL
- TAD
- APAD
- TCD
- CM
- LVW
- HW
- OOD
- IOD
- HUM
- Ulna
- RAD
- Tibia
- FIB
- CLAV
- Vertebrae
- MP
- Foot
- Ear
- APTD
- TTD
- FTA
- THD
- HrtC
- TC
- Umb VD
- F-kidney
- Mat Kidney
- Cervix L
- AF
- NF
- Orbit
- PL Thickness
- Sac Diam1
- Sac Diam2
- Sac Diam3
- AF1
- AF2
- AF3
- AF4

LVIDd
LVIDs
LV Diam
LA Diam
RVIDd
RVIDs
RV Diam
RA Diam
IVSd
IVSs
IVS
LV Area
LA Area
RV Area
RA Area
Ao Diam
MPA Diam
LVOT Diam
RVOT Diam
Facial Angle
HrtA
MV Diam(Z-Score)
PV Diam(Z-Score)
Ao Asc Diam(Z-Score)
Ao Desc Diam(Z-Score)
Duct Art Diam(Z-Score)
TV Diam(Z-Score)
LPA Diam(Z-Score)
RPA Diam(Z-Score)
IVC Diam(Z-Score)
AV Diam(Z-Score)
MPA Diam(Z-Score)
RV Diam(Z-Score)
LV Diam(Z-Score)
RV Area(Z-Score)
LV Area(Z-Score)
RVIDd(Z-Score)
LVIDd(Z-Score)
AC(c)

Mean Sac Diam
AFI
EFW
EFW2
HC/AC(Campbell)
FL/AC
FL/BPD
AXT
CI
FL/HC(Hadlock)
HC(c)
HrtC/TC
TCD/AC
LVW/HW
LVD/RVD
LAD/RAD
AoD/MPAD
LAD/AoD
MAD

AFI
AF1
AF2
AF3
AF4

M-Mode
FHR
LVIDd
LVIDs
RVIDd
RVIDs
IVSd
IVSs
RVIDd(Z-Score)
LVIDd(Z-Score)

D-Mode
Umb A
Duct Veno
Placenta A
MCA
Fetal Ao
Desc Aorta
Ut A
Ovarian A
FHR

Cardiology
B-Mode
LA Diam(2D)
LA Major

LA Minor
RA Major
RA Minor
LV Major
LV Minor
RV Major
RV Minor
LA Area
RA Area
LV Area(d)
LV Area(s)
RV Area(d)
RV Area(s)
LVIDd(2D)
LVIDs(2D)
LVIDd(Teich-2D)
LVIDs(Teich-2D)
LVIDd(Cube-2D)
LVIDs(Cube-2D)
LVIDd(Gibson-2D)
LVIDs(Gibson-2D)
RVDd(2D)
RVDs(2D)
LVPWd(2D)
LVPWs(2D)
RVAWd(2D)
RVAWs(2D)
IVSd(2D)
IVSs(2D)
Ao Diam(2D)
Ao Arch Diam(2D)
Ao Asc Diam(2D)
Ao Desc Diam(2D)
Ao Isthmus(2D)
Ao st junct(2D)
Ao Sinus Diam(2D)
Duct Art Diam
Pre Ductal
Post Ductal
ACS(2D)
LVOT Diam(2D)
AV Diam
AVA
PV Diam
LPA Diam(2D)
RPA Diam(2D)
MPA Diam(2D)
RVOT Diam(2D)
MV Diam
MVA
MCS(2D)
MV EPSS(2D)
TV Diam
TVA
IVC Diam(Insp)
IVC Diam(Expir)
SVC Diam(Insp)
SVC Diam(Expir)
LCA Diam
RCA Diam
VSD Diam
ASD Diam
PDA Diam
PFO Diam
PEd(2D)
PEs(2D)
Diastole(Teich-2D)
Systole(Teich-2D)
Diastole(Cube-2D)
Systole(Cube-2D)
Diastole(Gibson-2D)
Systole(Gibson-2D)
HR(Teich 2D)
HR(Cube 2D)
HR(Gibson 2D)

LA/Ao(2D)
Ao/LA(2D)

S-P Ellipse
    LVLd apical(SP Ellipse)
    LVAd apical(SP Ellipse)
    LVLs apical(SP Ellipse)
    LVAs apical(SP Ellipse)
    HR(SP Ellipse)
B-P Ellipse
    LVIDd(BP Ellipse)
    LVIDs(BP Ellipse)
    LVAd sax MV(BP Ellipse)
    LVAs sax MV(BP Ellipse)
    LVAd apical(BP Ellipse)
    LVAs apical(BP Ellipse)

- HR(BP Ellipse)
- Bullet
  - LVLd apical(Bullet)
  - LVLs apical(Bullet)
  - LVAd sax MV(Bullet)
  - LVAs sax MV(Bullet)
  - HR(Bullet)
- Mod.Simpson
  - LVLd apical(Simp)
  - LVLs apical(Simp)
  - LVAd sax MV(Simp)
  - LVAs sax MV(Simp)
  - LVAd sax PM(Simp)
  - LVAs sax PM(Simp)
  - HR(Mod Simp)
- Simp SP(A2C)
  - EDV(Simp SP-A2C)
  - ESV(Simp SP-A2C)
  - HR(Simp SP A2C)
- Simp SP(A4C)
  - EDV(Simp SP-A4C)
  - ESV(Simp SP-A4C)
  - HR(Simp SP A4C)
- Simpson BP
  - EDV(Simp BP-A2C)
  - ESV(Simp BP-A2C)
  - EDV(Simp BP-A4C)
  - ESV(Simp BP-A4C)
  - HR(Simp BP)
- Cube(2D)
  - LVIDd(Cube-2D)
  - LVIDs(Cube-2D)
  - HR(Cube 2D)
- Teichholz(2D)
  - LVIDd(Teich-2D)
  - LVIDs(Teich-2D)
  - HR(Teich 2D)
- Gibson(2D)
  - LVIDd(Gibson-2D)
  - LVIDs(Gibson-2D)
  - HR(Gibson 2D)
- LA Vol(A-L)
  - LA Diam(LA Vol A-L)
  - LAA(A2C)
  - LAA(A4C)
- LA Vol(Simp)
  - LA Vol(A2C)
  - LA Vol(A4C)
- RA Vol(Simp)
  - RA Vol(A4C)
- LV Mass(Cube-2D)
  - IVSd(LV Mass Cube-2D)
  - LVIDd(LV Mass Cube-2D)
  - LVPWd(LV Mass Cube-2D)
- LV Mass(T-E)
  - LVAd sax Epi(LV Mass T-E)
  - LVAd sax Endo(LV Mass T-E)
  - a
  - d
- LV Mass(A-L)
  - LVAd sax Epi(LV Mass A-L)
  - LVAd sax Endo(LV Mass A-L)
  - LVLd apical(LV Mass A-L)
- MVA(VTI)
  - LVOT Diam(MVA VTI)
  - LVOT VTI(MVA VTI)
  - MV VTI(MVA VTI)
- AVA(VTI)
  - LVOT Diam(AVA VTI)
  - LVOT VTI(AVA VTI)
  - AV VTI(AVA VTI)
- Qp/Qs
  - AV Diam(Qp/Qs)
  - AV VTI(Qp/Qs)
  - AV HR(Qp/Qs)
  - PV Diam(Qp/Qs)
  - PV VTI(Qp/Qs)
  - PV HR(Qp/Qs)
- PISA MR
  - MR Rad
  - MR Als Vel
  - MR VTI(PISA MR)
- PISA AR
  - AR Rad
  - AR Als Vel
  - AR VTI(PISA AR)
- PISA TR
  - TR Rad
  - TR Als Vel
  - TR VTI(PISA TR)
- PISA PR
  - PR Rad

- PR Als Vel
- PR VTI(PISA PR)

M-Mode
- LA Diam(M)
- LVIDd(M)
- LVIDs(M)
- LVIDd(Teich-M)
- LVIDs(Teich-M)
- LVIDd(Cube-M)
- LVIDs(Cube-M)
- LVIDd(Gibson-M)
- LVIDs(Gibson-M)
- RVDd(M)
- RVDs(M)
- LVPWd(M)
- LVPWs(M)
- RVAWd(M)
- RVAWs(M)
- IVSd(M)
- IVSs(M)
- Ao Diam(M)
- Ao Arch Diam(M)
- Ao Asc Diam(M)
- Ao Desc Diam(M)
- Ao Isthmus(M)
- Ao st junct(M)
- Ao Sinus Diam(M)
- LVOT Diam(M)
- ACS(M)
- LPA Diam(M)
- RPA Diam(M)
- MPA Diam(M)
- RVOT Diam(M)
- MV E Amp
- MV A Amp
- MV E-F Slope
- MV D-E Slope
- MV DE
- MCS(M)
- MV EPSS(M)
- PEd(M)
- PEs(M)
- LVPEP(M)
- LVET(M)
- RVPEP(M)
- RVET(M)
- Diastole(Teich-M)
- Systole(Teich-M)
- Diastole(Cube-M)
- Systole(Cube-M)
- Diastole(Gibson-M)
- Systole(Gibson-M)
- HR(Teich M)
- HR(Cube M)
- HR(Gibson M)
- HR
- ----------
- LA/Ao(M)
- Ao/LA(M)
- ----------
- LV Tei Index(M)
  - MV C-O dur(M)
  - LVET(LV Tei Index-M)
- Cube(M)
  - LVIDd(Cube-M)
  - LVIDs(Cube-M)
  - HR(Cube M)
- Teichholz(M)
  - LVIDd(Teich-M)
  - LVIDs(Teich-M)
  - HR(Teich M)
- Gibson(M)
  - LVIDd(Gibson-M)
  - LVIDs(Gibson-M)
  - HR(Gibson M)
- LV Mass(Cube-M)
  - IVSd(LV Mass Cube-M)
  - LVIDd(LV Mass Cube-M)
  - LVPWd(LV Mass Cube-M)

D-Mode
- MV Vmax
- MV E Vel
- MV A Vel
- MV E VTI
- MV A VTI
- MV VTI
- MV AccT
- MV DecT
- IVRT
- IVCT
- MV E Dur

MV A Dur
LVOT Vmax
LVOT VTI
LVOT AccT
AAo Vmax
DAo Vmax
AV Vmax
AV VTI
LVPEP(Doppler)
LVET(Doppler)
AV AccT
AV DecT
RVET(Doppler)
RVPEP(Doppler)
TV Vmax
TV E Vel
TV A Vel
TV VTI
TV AccT
TV DecT
TV A Dur
RVOT Vmax
RVOT VTI
PV Vmax
PV VTI
PV AccT
MPA Vmax
RPA Vmax
LPA Vmax
PVein S Vel
PVein D Vel
PVein A Vel
PVein A Dur
PVein S VTI
PVein D VTI
PVein DecT
IVC Vel(Insp)
IVC Vel(Expir)
SVC Vel(Insp)
SVC Vel(Expir)
MR Vmax
MR VTI
MS Vmax
dP/dt
AR Vmax
AR VTI
AR DecT
AR PHT
AR Ved
TR Vmax
TR Vmax(RVSP)
TR VTI
PR Vmax
PR VTI
PR PHT
PR Ved
RAP
VSD Vmax
ASD Vmax
PDA Vel(d)
PDA Vel(s)
Coarc Pre-Duct
Coarc Post-Duct
Ea(medial)
Aa(medial)
ARa(medial)
DRa(medial)
Sa(medial)
Ea(lateral)
Aa(lateral)
ARa(lateral)
DRa(lateral)
Sa(lateral)
HR
AV HR
MV HR
TV HR
PV HR
LVOT HR
RVOT HR

MV E/A
MVA(PHT)
TV E/A
TVA(PHT)

MVA(VTI)
    LVOT Diam(MVA VTI)
    LVOT VTI(MVA VTI)
    MV VTI(MVA VTI)
AVA(VTI)
    LVOT Diam(AVA VTI)

- LVOT VTI(AVA VTI)
- AV VTI(AVA VTI)
- LV Tei Index(Doppler)
  - MV C-O dur(Doppler)
  - LVET(LV Tei Index-Doppler)
- RVSP
  - TR Vmax(RVSP)
  - RAP
- PAEDP
  - PR Ved(PAEDP)
  - RAP
- RV Tei Index
  - TV C-O dur
  - RVET(RV Tei Index)
- Qp/Qs
  - AV Diam(Qp/Qs)
  - AV VTI(Qp/Qs)
  - AV HR(Qp/Qs)
  - PV Diam(Qp/Qs)
  - PV VTI(Qp/Qs)
  - PV HR(Qp/Qs)
- PISA MR
  - MR Rad
  - MR Als Vel
  - MR VTI(PISA MR)
- PISA AR
  - AR Rad
  - AR Als Vel
  - AR VTI(PISA AR)
- PISA TR
  - TR Rad
  - TR Als Vel
  - TR VTI(PISA TR)
- PISA PR
  - PR Rad
  - PR Als Vel
  - PR VTI(PISA PR)

Vascular

B-Mode

- CCA IMT
- Bulb IMT
- ICA IMT
- ECA IMT
- ----------
- Stenosis D
- Stenosis A
- ----------
- IMT
  - CCA IMT
  - Bulb IMT
  - ICA IMT
  - ECA IMT

D-Mode

- CCA
- Bulb
- ICA
- ECA
- Vert A
- Innom A
- Subclav A
- Axill A
- Brachial A
- Ulnar A
- Radial A
- Subclav V
- Axill V
- Cephalic V
- Basilic V
- Ulnar V
- Radial V
- C.Iliac A
- Ex.Iliac A
- CFA
- SFA
- Pop A
- TP Trunk A
- Peroneal A
- P.Tib A
- A.Tib A
- Dors.Ped A
- C.Iliac V
- Ex.Iliac V
- Femoral V
- Saph V
- Pop V
- TP Trunk V
- Sural V
- Soleal V
- Peroneal V
- P.Tib V
- A.Tib V
- ACA

MCA
PCA
AComA
PComA
BA
IIA
DFA
Ba V
Brachial V
IIV
CFV
SFV
DFV
SSV
ASP
BSP

ICA/CCA

ABI
ASP
BSP

Gynecology

B-Mode

UT L
UT H
UT W
Cervix L
Cervix H
Cervix W
Endo
Ovary L
Ovary H
Ovary W
Follicle1 L
Follicle1 W
Follicle1 H
Follicle2 L
Follicle2 W
Follicle2 H
Follicle3 L
Follicle3 W
Follicle3 H
Follicle4 L
Follicle4 W
Follicle4 H
Follicle5 L
Follicle5 W
Follicle5 H
Follicle6 L
Follicle6 W
Follicle6 H
Follicle7 L
Follicle7 W
Follicle7 H
Follicle8 L
Follicle8 W
Follicle8 H
Follicle9 L
Follicle9 W
Follicle9 H
Follicle10 L
Follicle10 W
Follicle10 H
Follicle11 L
Follicle11 W
Follicle11 H
Follicle12 L
Follicle12 W
Follicle12 H
Follicle13 L
Follicle13 W
Follicle13 H
Follicle14 L
Follicle14 W
Follicle14 H
Follicle15 L
Follicle15 W
Follicle15 H
Follicle16 L
Follicle16 W
Follicle16 H

Ovary Vol
UT Vol
UT SUM
UT-L/CX-L
Follicle1
Follicle2
Follicle3
Follicle4
Follicle5

Follicle6
Follicle7
Follicle8
Follicle9
Follicle10
Follicle11
Follicle12
Follicle13
Follicle14
Follicle15
Follicle16

Uterus
- UT L
- UT H
- UT W
- Endo

Uterine Cervix
- Cervix L
- Cervix H
- Cervix W

Ovary
- Ovary L
- Ovary W
- Ovary H

Follicle1
- Follicle1 L
- Follicle1 W
- Follicle1 H

Follicle2
- Follicle2 L
- Follicle2 W
- Follicle2 H

Follicle3
- Follicle3 L
- Follicle3 W
- Follicle3 H

Follicle4
- Follicle4 L
- Follicle4 W
- Follicle4 H

Follicle5
- Follicle5 L
- Follicle5 W
- Follicle5 H

Follicle6
- Follicle6 L
- Follicle6 W
- Follicle6 H

Follicle7
- Follicle7 L
- Follicle7 W
- Follicle7 H

Follicle8
- Follicle8 L
- Follicle8 W
- Follicle8 H

Follicle9
- Follicle9 L
- Follicle9 W
- Follicle9 H

Follicle10
- Follicle10 L
- Follicle10 W
- Follicle10 H

Follicle11
- Follicle11 L
- Follicle11 W
- Follicle11 H

Follicle12
- Follicle12 L
- Follicle12 W
- Follicle12 H

Follicle13
- Follicle13 L
- Follicle13 W
- Follicle13 H

Follicle14
- Follicle14 L
- Follicle14 W
- Follicle14 H

Follicle15
- Follicle15 L
- Follicle15 W
- Follicle15 H

Follicle16
- Follicle16 L
- Follicle16 W

Follicle16 H

Urology

B-Mode
- Renal L

Renal H
Renal W
Cortex
Adrenal L
Adrenal H
Adrenal W
Prostate L
Prostate H
Prostate W
Seminal L
Seminal H
Seminal W
Testicular L
Testicular H
Testicular W
Ureter
Pre-BL L
Pre-BL H
Pre-BL W
Post-BL L
Post-BL H
Post-BL W
Prostate Mass1 d1
Prostate Mass1 d2
Prostate Mass1 d3
Prostate Mass2 d1
Prostate Mass2 d2
Prostate Mass2 d3
Prostate Mass3 d1
Prostate Mass3 d2
Prostate Mass3 d3
Testicular Mass1 d1
Testicular Mass1 d2
Testicular Mass1 d3
Testicular Mass2 d1
Testicular Mass2 d2
Testicular Mass2 d3
Testicular Mass3 d1
Testicular Mass3 d2
Testicular Mass3 d3

Renal Vol
Prostate Vol
Testicular Vol
Pre-BL Vol
Post-BL Vol
Mictur.Vol

Kidney
    Renal L
    Renal H
    Renal W
    Cortex
Adrenal
    Adrenal L
    Adrenal W
    Adrenal H
Prostate
    Prostate W
    Prostate H
    Prostate L
Seminal Vesicle
    Seminal L
    Seminal W
    Seminal H
Testis
    Testicular L
    Testicular W
    Testicular H
Bladder
    Pre-BL L
    Pre-BL W
    Pre-BL H
    Post-BL L
    Post-BL W
    Post-BL H
Prostate Mass1
    Prostate Mass1 d1
    Prostate Mass1 d2
    Prostate Mass1 d3
Prostate Mass2
    Prostate Mass2 d1
    Prostate Mass2 d2
    Prostate Mass2 d3
Prostate Mass3
    Prostate Mass3 d1
    Prostate Mass3 d2
    Prostate Mass3 d3
Testicular Mass1
    Testicular Mass1 d1
    Testicular Mass1 d2
    Testicular Mass1 d3

- Testicular Mass2
  - Testicular Mass2 d1
  - Testicular Mass2 d2
  - Testicular Mass2 d3
- Testicular Mass3
  - Testicular Mass3 d1
  - Testicular Mass3 d2
  - Testicular Mass3 d3

Small Parts

B-Mode

- Thyroid L
- Thyroid H
- Thyroid W
- Isthmus H
- Testicular L
- Testicular H
- Testicular W
- Breast Mass1 d1
- Breast Mass1 d2
- Breast Mass1 d3
- Breast Mass2 d1
- Breast Mass2 d2
- Breast Mass2 d3
- Breast Mass3 d1
- Breast Mass3 d2
- Breast Mass3 d3
- Thyroid Mass1 d1
- Thyroid Mass1 d2
- Thyroid Mass1 d3
- Thyroid Mass2 d1
- Thyroid Mass2 d2
- Thyroid Mass2 d3
- Thyroid Mass3 d1
- Thyroid Mass3 d2
- Thyroid Mass3 d3
- ----------
- Thyroid Vol
- ----------
- Thyroid
  - Thyroid L
  - Thyroid W
  - Thyroid H
- Testis
  - Testicular L
  - Testicular W
  - Testicular H
- Breast Mass1
  - Breast Mass1 d1
  - Breast Mass1 d2
  - Breast Mass1 d3
- Breast Mass2
  - Breast Mass2 d1
  - Breast Mass2 d2
  - Breast Mass2 d3
- Breast Mass3
  - Breast Mass3 d1
  - Breast Mass3 d2
  - Breast Mass3 d3
- Thyroid Mass1
  - Thyroid Mass1 d1
  - Thyroid Mass1 d2
  - Thyroid Mass1 d3
- Thyroid Mass2
  - Thyroid Mass2 d1
  - Thyroid Mass2 d2
  - Thyroid Mass2 d3
- Thyroid Mass3
  - Thyroid Mass3 d1
  - Thyroid Mass3 d2
  - Thyroid Mass3 d3

D-Mode

- STA
- ITA

Orthopedics

B-mode

- HIP
- HIP-Graf
- HIP(α)
- HIP(β)
- d/D

Emergency

B-Mode

- Renal L
- Renal H
- Renal W
- CBD
- Portal V Diam
- CHD
- GB wall th
- Aorta Diam
- Aorta Bif
- Ureter

Pre-BL L
Pre-BL H
Pre-BL W
Post-BL L
Post-BL H
Post-BL W
GS
YS
CRL
BPD
UT L
UT H
UT W
Endo
Ovary L
Ovary H
Ovary W

Renal Vol
Pre-BL Vol
Post-BL Vol
Mictur.Vol
Ovary Vol
UT Vol
UT SUM

Uterus
    UT L
    UT H
    UT W
    Endo
Ovary
    Ovary L
    Ovary W
    Ovary H
Kidney
    Renal L
    Renal H
    Renal W
    Cortex
Bladder
    Pre-BL L
    Pre-BL W
    Pre-BL H
    Post-BL L
    Post-BL W
    Post-BL H

M-Mode
    FHR

D-Mode
    FHR

Auto Calculation

PS
ED
MD
PPG
TAMAX
Vol Flow(TAMAX)
TAMEAN
Vol Flow(TAMEAN)
DT
MPG
MMPG
VTI
AT
S/D
D/S
PI
RI
PV
HR

Diagnostic Report

- View/add images
- Data edit
- Print
- Save/ load comment
- export (to PDF/RTF file)
- View history report
- Obstetric analysis
- Fetal growth curve

Safety & Conformance

Quality Standards

- ISO 9001:2008
- ISO 13485:2003

Design Standards

- EN 60601-1 and IEC 60601-1
- EN 60601-1-2 and IEC 60601-1-2
- EN 60601-2-37 and IEC60601-2-37
- EN ISO 14971 and ISO 14971

- EN ISO10993-1 and ISO10993-1
- EN 62366 and IEC 62366
- EN 62304 and IEC 62304
- EN ISO 17664
- EN 1041
- EN 980
- IEC 60878

CE Declaration

The ultrasound system is fully in conformance with the Council Directive 93/42/EEC Concerning Medical Devices, as amended by 2007/47/EC. The number adjacent to the CE marking (0123) is the number of the EU-notified body that certified meeting the requirements of the Directive.

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