

TE7 ACE

Color Doppler Ultrasound system

Specification



1 System Overview

1.1 Application

- Adult ABD
- Ped-ABD
- Adult Cardiac
- Cardiac Diff
- LVO
- GYN
- OB1
- OB2/3
- Vascular
- Carotid
- Superficial
- Urology
- Thyroid
- Breast
- Testicle
- MSK
- Nerve
- Deep Nerve
- Superficial N
- Orthopedic
- Neonatal Head
- Neonatal Cardiac
- Neonatal ABD
- EM ABD
- EM FAST
- EM OB
- EM Vascular
- EM Superficial
- EM AAA
- EM Cardiac
- TEE Cardiac
- Intraoperative
- TCI
- Lung
- Ocular
- Needle_Viz
- Ped-Cardiac
- Neuromuscular

1.2 Transducer types

- Curved array transducer
- Linear array transducer

- Phased array transducer

1.3 Imaging modes

- B-Mode
- THI and PSH™ (Phase Shift Harmonic Imaging)
- M-Mode/ Color M-mode
- Free Xros M™ (Anatomical M-mode)
- Color Doppler Imaging
- Power Doppler Imaging/Directional PDI
- Pulsed Wave Doppler
- Continuous Wave Doppler
- TDI
- Contrast Imaging
- iScape View

1.4 Standard features

- B-Mode
- THI and PSH™
- M-Mode
- Color Doppler Imaging
- Power Doppler Imaging and Directional PDI
- Pulsed Wave Doppler
- iBeam™ (Spatial Compound Imaging)
- iClear™ (Speckle Suppression Imaging)
- iTouch™ (Auto Image Optimization)
- Smart track
- Zoom/iZoom (Full Screen Zoom)
- FCI (Frequency Compound Imaging)
- B steer
- ExFOV (Extended Field of View)
- Post processing function
- Echo Boost™
- 3 or 1 active universal probe ports
- 128GB SSD
- Built-in wireless adapter
- Built-in battery
- 4 USB 3.0 ports
- Touch Gestures
- iStorage

- MedSight
- MedTouch
- iScanHelper

1.5 Optional features

- Continuous Wave Doppler
- Free Xros M™
- TDI (Include TVI, TVD, TVM, TEI)
- DICOM
- Shared Service Package
- Left Ventricular Opacification
- iNeedle™ (Needle Visualization Enhancement)
- Cart
- Table stand/ Wall mount
- ECG module
- IMT
- AutoEF
- Smart IVC
- Smart VTI
- Smart B-line (Only for CE)
- US eGateway Software
- Smart 3D
- Contrast imaging
- Contrast imaging QA
- iScape View (Only for CE)
- eSpacial Navi
- iWorks
- DVR module
- McAfee
- iVocal

Support voice recognition function by inputting system-recognizable voice commands through microphone

1.6 Language support

- Software: English, Chinese, German, Spanish, French, Italian, Portuguese, Russian, Czech, Polish, Turkish, Norwegian, Serbian, Finnish, Hungarian, Icelandic, Swedish, Danish
- User manual: English, Chinese, Dutch, French, German, Hungarian, Italian, Polish,

Portuguese, Serbian, Spanish, Turkish

- Soft keyboard input: English, Chinese, French, German, Italian, Portuguese, Finnish, Danish, Icelandic, Norwegian, Swedish, Polish, Czech, Hungarian, Serbian, Turkish, Russian, Spanish

2 Physical Specification

2.1 Dimensions and weight

- Dimensions (including probe holder)
 - Depth: 130±10mm
 - Width: 380±10mm
 - Height: 380±5mm
- Weight with three-probe socket configuration: approx. 6.5Kg
Weight with three-probe socket configuration and Battery: approx. 7.4Kg
Weight with one-probe socket configuration: approx. 6.2Kg
Weight with one-probe socket configuration and Battery: approx. 7.1Kg

2.2 Monitor

- 15-inch high resolution color LED monitor
- Resolution: 768*1024
- Viewing angle: 85°left/right; 85°up/down
- Digital on-screen display of brightness and contrast controls
- Frame rate (Hz): 60Hz

2.3 Cart (Option)

- DCU independent tilt of 50 degrees up, 5 degrees down.
- Dimensions and Weight(with DCU)
 - Height: 1266-1556mm
 - Width: 535mm
 - Depth: 620mm
 - Weight: approx. 50Kg
- Wheels

- Diameter: 125mm
 - Castors (4): total lock and break
 - Towelette holster
 - Gel holder
 - Printer holder
 - Storage bin
- 2.4 Table stand (Option)
- DCU independent tilt of 50 degrees up, 5 degrees down.
 - Dimensions and Weight (with DCU)
 - Height: 248mm
 - Width: 196mm
 - Depth: 239mm
 - Weight: approx. 2.5 Kg
- 2.5 Built-in Wireless adapter
- Encryption: WEP, WPA-PSK, WPA2-PSK
 - Max transfer speed: 300Mbps
 - Protocols: 802.11b: 11,5.5,2,1 Mbps; 802.11g: 54,48,36,24,18,12,9,6 Mbps; 802.11n: up to 300Mbps
- 2.6 Built-in Battery
- Replaceable and rechargeable lithium battery
 - Light indicator
 - Full battery lasts more than 22 hours in standby mode
 - Empty battery recharged to full in less than 4 hours
 - Continuous work time: more than 2 hours
 - Lithium-Ion Battery Pack 14.8V, 5800mAh (single battery)
- 2.7 Probe port and holder
- Probe ports: max. 3 active ports
 - Detachable probe holder: 4
- 2.8 Electrical power
- Voltage: 100-240V~
 - Frequency: 50/60 Hz
 - Input current: 3.5A (115VAC)
- 2.9 Operating Environment
- Ambient temperature: 0-40 °C
 - Relative humidity: 30%-85% (no

- condensation)
- Atmospheric pressure: 700hPa-1060hPa

2.10 Storage & Transportation Environment

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

3 User Interface

3.1 System boot-up

- Boot-up from complete shut-down in about 30 sec
- Shut-down in about 6 sec
- Restore from standby mode: about 3 sec

3.2 Comments

- Supports text input and arrow
- Support freehand marking on touch screen
- Covers various applications
- User customizable

3.3 Body mark

- 144 body marks for versatile application

3.4 Numbers of exam mode presets: 38 system exam modes (unlimited number for user-defined ones)

3.5 Screen information*

- Common info:
 - Mindray logo
 - Hospital name,
 - Acoustic power
 - Mechanical index
 - Tissue thermal index
 - ID, Last name, First Name, Middle initial, Gender, Age
 - Probe model/Transducer SN
 - Operator
 - Focus position
 - Imaging parameters

*Not all items are listed in this part. For

detail information, please refer to the user manual.

4 Imaging Parameters

4.1 Overview

- Echo-enriched Beamforming
- Up to 55296 channels
- Up to 8-beamforming

4.2 B-mode

- Display formats
- iClear™
- iBeam™
- iTouch™
- FCI
- Echo Boost™
- Image quality
- Steer transducers
- ExFOV
- Depth
- A.Power
- TGC
- Dynamic range
- Gain
- Focus number
- Focus position
- FOV Size
- Line density
- Persistence
- H Scale
- L/R flip and U/D flip
- Rotation
- TSI
- Gray Map
- Tint map
- Middle line
- Dual live
- iNeedle
- Patient Temp

4.3 THI and PSH™

- Available on all types of transducer
- Patented PSH™ technology, obtains purer harmonic, better contrast resolution, higher SNR, exceptional high frequency

harmonic

- iClear™ available
- Image quality

4.4 M-mode

- Display formats
- A.Power
- Dynamic range
- Gain
- Speed
- M soften
- Tint map
- Gray Map
- Edge Enhance
- Color M available

4.5 Free Xros M (option)

- Display formats
- 1 line, angle adjustable
- Speed
- Tint
- Tint map
- Gray Map

4.6 Color Doppler Imaging

- Steering
- Image quality
- A.Power
- Gain
- ROI size/position
- Scale
- Baseline
- Wall filter
- PRF
- Packet size
- Flow state
- Smooth
- B/C Align
- Priority
- Color map
- Invert
- Persistence
- Line Density
- Smart Track
- iTouch
- Auto Invert
- Dual Live

4.7 Power Doppler Imaging

- Support directional power doppler
- Image quality
- A.Power
- Dynamic range
- Gain
- ROI size/position
- Scale
- Wall filter
- PRF
- Packet size
- Flow state
- Smooth
- B/C Align
- Priority
- Power map
- Directional power map
- Persistence
- Line density
- Invert
- iTouch
- Smart Track
- Dual Live

4.8 PW/CW-Mode (CW mode is an option)

- Display formats
- Image quality
- Sample volume size
- SV position
- PW Scale
- CW Scale
- Baseline
- PW Steering
- Audio
- PW PRF
- CW PRF
- Gain
- Dynamic range
- Speed
- Wall filter
- Invert
- Auto invert
- Angle
- Quick Angle

- Gray map
- Tint map
- Time/frequency resolution
- Auto Calc
- Auto Calc Cycle
- Trace Area
- Trace Sensitivity
- Trace Smooth
- Duplex/Triplex
- HPRF
- iTouch

4.9 Tissue Velocity/Energy Imaging (included in TDI option)

- Available on phased array transducer
- Dual live
- Max frame rate
- PRF
- A.Power
- Gain
- Dynamic range
- ROI size/position
- Scale
- Baseline
- Wall filter
- Packet size
- Tissue state
- Smooth
- B/C Align
- Priority
- Map
- Invert
- Persistence
- Line density
- Img Quality (IQ)

4.10 Tissue Velocity Doppler (included in TDI option)

- Available on phased array transducer
- A.Power
- Display formats
- Sample volume size
- Sample gate depth
- Scale

- Baseline
 - Audio
 - PRF
 - Gain
 - Dynamic range
 - Speed
 - Wall filter
 - Invert
 - Angle
 - Quick Angle
 - Gray map
 - Tint
 - Tint map
 - Time/frequency resolution
 - Duplex/ triplex
 - iTouch
 - Img Quality (IQ)
- 4.11 Tissue Velocity Motion (included in TDI option)
- Display formats
 - A.Power
 - Gain
 - M sweep speeds
 - M soften
 - Gray Map
 - Edge enhancement
- 4.12 LVO (option)
- Only available on P4-2s and SP5-1s
 - Dedicated left ventricle contrast imaging tool
- 4.13 Smart 3D™ (option)
- Available on linear transducer
 - Reset
 - Inversion
 - Accept VOI
 - Render modes
 - Direction
 - Threshold
 - Opacity
 - Smooth
 - Brightness
 - Contrast
 - Tint
- iClear
 - Rotation control
 - VR Orientation
 - Sync
- 4.14 iScape View (option)
- Acquisition method: B mode
 - Actual Size
 - Fit Size
 - Ruler
 - Tint map
 - Rotation
- 4.15 Contrast Imaging (option)
- Available for C5-1s, C5-2s, 7LT4s, LAP13-4Cs, C9-3Ts and C4-1s on abdominal exam mode.
 - Timer1
 - Timer2
 - Pro capture
 - Retro capture
 - Dual live
 - MFE
 - MFE Period
 - Persistence
 - Gray Map
 - Tint
 - Tint Map
 - FOV Size
 - iClear
 - Line Density
 - Image Quality
 - Mix: Dual Live on: Contrast/C&T; Dual Live off: Contrast/C&T/Tissue
 - Mix Map
 - Destruct
 - Des.Time
 - DestructAP
 - CEUSPos
 - iTouch
 - Gain
 - Focus Position
 - Dyn Ra.
- 4.16 Contrast Imaging QA (option)
- Support Time-Intensity Curve analysis

- Table display: display data in table
 - ROI Shape Type
 - Up to 8 ROIs
 - Copy ROI
 - Delete all
 - Delete current
 - Export
 - Fit curve
 - Raw curve
 - Show Curve Value
 - Motion tracking: Reduce the effect of tissue movement
 - XScale
- 4.17 iTouch™
- Auto image optimization
 - B-mode
 - Color
 - Power
 - PW
 - iTouch on L12-4s, L9-3s, L11-3VNs, L12-3VNs and L12-3RCs support optimizing Color ROI and PW sampling line under vascular, EM Vas and carotid exam modes
- 4.18 Smart Track
- Continuously track the flow and detect the best color box position and angle in real time scanning
 - All linear probes under vascular, EM Vas and carotid exam modes support the Smart Track function.
- 4.19 Zoom
- Zoom: Pan zoom (read zoom)
 - iZoom: Expand the image to full screen, image operation available
- 4.20 Quick Save
- Create a new exam mode by quickly saving current image parameter settings
- 4.21 iNeedle (option)
- Needle visualization enhancement
 - Available on all linear probes and probes C5-1s and C5-2s
 - Needle steer: angle adjusted

- automatically according to actual angle of needle insertion
- 4.22 eSpacial Navi (option)
- Needle guidance
 - Available on probe L11-3VNs and L12-3VNs
 - Display Favorite Only: on/off
 - Auto Optimize: on/off
 - Calibration: on/off
 - Target Box In-Plane: on/off
 - Position In-Plane: on/off
 - Trajectory In-Plane: on/off
 - Alignment In-Plane: on/off
 - Target Box Out-Plane: on/off
 - Position Out-Plane: on/off
 - Trajectory Out-Plane: on/off
 - Alignment Out-Plane: on/off
- 4.23 Smart VTI (option)
- Edit VTI
 - LVOT Diam
 - Save VTI
 - Graph: On/off
 - Trace Sensitivity
- 4.24 Smart IVC (option)
- Edit Line
 - Trend
 - Resp Time
 - Diagnosis comments
 - Breath type: Spontaneous Breath, Mechanical Ventilation
- 4.25 Smart B-line (Only for CE)
- Auto Calc
 - Scanning areas
 - OverView
 - Image and diagnosis comments

5 Cine Review and Post

Processing

- 5.1 Cine review
- Available in all modes
 - Frame by frame manual cineloop review or auto playback with

- variable speed
- Maximum cine memory up to 32346 frames or 427s (M/PW)
- Retrospective and prospective storage are available and length is pre-settable (Prospective: Max. time 480s; Retrospective: Max. time: 120s)

5.2 Post processing

- B-mode:
 - Dyn Ra.
 - Gray Map
 - Tint Map
 - iClear
 - L/R Flip
 - U/D Flip
 - Rotation
 - H Scale
 - Echo Boost
 - Dual Live
- M-mode:
 - Speed
 - Dyn Ra.
 - Gray Map
 - Tint Map
 - Edge Enhance
- Color:
 - Baseline
 - Smooth
 - Color Map
 - Priority
 - Invert
 - Dual Live
- Power:
 - Smooth
 - Dyn Ra.
 - Color Map
 - Priority
 - Invert
 - Dual Live
- PW:
 - Baseline
 - Audio
 - Angle

- Speed
- Dyn Ra.
- Gray Map
- Tint Map
- Invert
- WF
- Quick Angle
- Auto Calculate
- T/F Res
- Auto Calc Cycle
- Auto Calc Parameter
- Trace Sensitivity
- Trace Smooth
- Trace Area
- CW
 - Baseline
 - Audio
 - Speed
 - Dyn Ra.
 - Gray Map
 - Tint
 - Tint Map
 - Invert
 - WF
 - T/F Res
 - Angle
 - Quick Angle

6 Measurement/Analysis and Report*

6.1 Basic measurements

- Depth
- Distance
- Ellipse
- Trace
- Double Dist
- Trace Len(Spline)
- Parallel
- HR
- Slope
- Time
- Vel
- PS/ED

- D Trace
- D Trace(Cardiac)
- Acceleration
- IMT
- Angle
- Smart Trace
- Volume
- Ratio(D)
- Ratio(A)
 - Area1
 - Area2
- Volume Flow
 - Vas Area
- TAMEAN
- TAMAX

6.2 Automatic 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

6.3 Clinical option measurement package

- Abdominal

- Liver
- CBD
- CHD
- GB L
- GB H
- GB wall th
- Prox Aorta Diam

- Mid Sup Aorta Diam
- Mid Inf Aorta Diam
- Distal Aorta Diam
- Aorta Bif Diam
- Iliac Diam
- Ureter
- Pleural L
- Pleural H
- Pleural W
- UQ L
- UQ H
- UQ W
- Pelvis L
- Pelvis H
- Pelvis W
- Pericardial Sac L
- Pericardial Sac H
- Pericardial Sac W
- IVC
- Prox ABD Aorta
- Mid Sup ABD Aorta
- Mid Inf ABD Aorta
- Distal ABD Aorta
- Spleen
 - Spleen L
 - Spleen H
 - Spleen W
- Prox Aorta Aneurysm
 - Prox Aorta Aneurysm L
 - Prox Aorta Aneurysm H
 - Prox Aorta Aneurysm W
- Mid Suprarenal Aorta Aneurysm
 - Mid Sup Aorta Aneurysm L
 - Mid Sup Aorta Aneurysm H
 - Mid Sup Aorta Aneurysm W
- Mid Infrarenal Aorta Aneurysm
 - Mid Inf Aorta Aneurysm L
 - Mid Inf Aorta Aneurysm H
 - Mid Inf Aorta Aneurysm W
- Distal Aorta Aneurysm
 - Distal Aorta Aneurysm L
 - Distal Aorta Aneurysm H
 - Distal Aorta Aneurysm W
- Aorta Bif Aneurysm

- Aorta Bif Aneurysm L
- Aorta Bif Aneurysm H
- Aorta Bif Aneurysm W
- Iliac Aneurysm
- Iliac Aneurysm L
- Iliac Aneurysm H
- Iliac Aneurysm W
- Kidney
- Renal L
- Renal H
- Renal W
- Cortex
- Bladder
- Pre-BL L
- Pre-BL H
- Pre-BL W
- Post-BL L
- Post-BL H
- Post-BL W
- Pleural
- Pleural L
- Pleural H
- Pleural W
- UQ
- UQ L
- UQ H
- UQ W
- Pelvis
- Pelvis L
- Pelvis H
- Pelvis W
- Pericardial Sac
- Pericardial Sac L
- Pericardial Sac H
- Pericardial Sac W
- Gynecology
- 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
- Ovary
 - Ovary L
 - Ovary H
 - Ovary W
- 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
- Obstetrics
 - GS
 - Cervix L
 - CRL
 - BPD
 - HC
 - AC
 - FL
 - HUM
 - Sac Diam1
 - Sac Diam2
 - Sac Diam3
 - AF1
 - AF2
 - AF3
 - AF4
 - FHR
 - THD
 - APTD
 - TTD
 - FTA
 - UT L
 - UT H
 - UT W
 - Endo
 - TCD
 - Umb A
 - Ut A
 - Ovarian A
 - Ovarian V
 - Mean Sac Diam
 - EFW
 - EFW2
- TCD/AC
- Uterus
- UT L
- UT H
- UT W
- Endo
- AFI
- AF1
- AF2
- AF3
- AF4
- Cardiology
 - RVAWd(2D)
 - RVAWs(2D)
 - RVDd(2D)
 - RVDs(2D)
 - IVSd(2D)
 - IVSs(2D)
 - LVIDd(2D)
 - LVIDs(2D)
 - LVPWd(2D)
 - LVPWs(2D)
 - RVAWd(M)
 - RVAWs(M)
 - RVDd(M)
 - RVDs(M)
 - IVSd(M)
 - IVSs(M)
 - LVIDd(M)
 - LVIDs(M)
 - LVPWd(M)
 - LVPWs(M)
 - AutoEF
 - A2Cd
 - A2Cs
 - A4Cd
 - A4Cs
 - LVLd apical
 - LVLs apical
 - LVAd apical
 - LVAs apical
 - LVAd sax MV
 - LVAs sax MV
 - LVAd sax PM

- LVAs sax PM
- LV Area(d)
- LV Area(s)
- HR(2D)
- HR(M)
- LVET
- RV Area(d)
- RV Area(s)
- LA Diam(2D)
- LA Diam(M)
- LA Area
- RA Area
- MV EPSS(2D)
- MV EPSS(M)
- MV PHT
- MAPSE
- IVRT
- MV E Vel
- MV A Vel
- MV AccT
- MV DecT
- MV VTI
- MR VTI
- MV Sa(medial)
- MV Ea(medial)
- MV Aa(medial)
- MV ARa(medial)
- MV DRa(medial)
- MV Sa(lateral)
- MV Ea(lateral)
- MV Aa(lateral)
- MV ARa(lateral)
- MV DRa(lateral)
- TAPSE
- TV PHT
- TV E Vel
- TV A Vel
- TV AccT
- TV DecT
- TV VTI
- TR Vmax
- RAP
- LVOT Diam
- Ao Diam(2D)
- Ao Diam(M)
- ACS(2D)
- ACS(M)
- LVOT VTI
- AV AccT
- AV DecT
- AV VTI
- AV HR
- AR DecT
- PV AccT
- PV DecT
- RVOT VTI
- PV VTI
- PR Ved
- Rt DT(Insp)
- Rt DT(Insp M)
- Rt DT(Expir)
- Rt DT(Expir M)
- Lt DT(Insp)
- Lt DT(Insp M)
- Lt DT(Expir)
- Lt DT(Expir M)
- RDE(QB)
- RDE(DB)
- LDE(QB)
- LDE(DB)
- IVC Diam(Insp)
- IVC Diam(Expir)
- IVC Diam(Insp M)
- IVC Diam(Expir M)
- SVC Diam(Insp)
- SVC Diam(Expir)
- IVC Time
- IVC Vel(Insp)
- IVC Vel(Expir)
- LA/Ao(2D)
- LA/Ao(M)
- MVA(PHT)
- MV E/A
- TVA(PHT)
- TV E/A
- Simpson
- A2Cd
- A2Cs

- A4Cd
- A4Cs
- HR(2D)
- LV(2D)
 - IVSd(2D)
 - LVIDd(2D)
 - LVPWd(2D)
 - IVSs(2D)
 - LVIDs(2D)
 - LVPWs(2D)
 - RVDd(2D)
 - RVAWd(2D)
 - HR(2D)
- LV(M)
 - IVSd(M)
 - LVIDd(M)
 - LVPWd(M)
 - IVSs(M)
 - LVIDs(M)
 - LVPWs(M)
 - RVDd(M)
 - RVAWd(M)
 - HR(M)
- Mod.Simpson
 - LVLd apical
 - LVLs apical
 - LVAd sax MV
 - LVAs sax MV
 - LVAd sax PM
 - LVAs sax PM
 - HR(2D)
- RVSP
 - TR Vmax
 - RAP
- CO(LVOT)
 - LVOT Diam
 - LVOT VTI
 - AV HR
- PAEDP
 - PR Ved
 - RAP
- Urology
 - Ureter
 - Scrotal Wall
- Renal L
- Renal H
- Renal W
- Cortex
 - Prostate L
 - Prostate H
 - Prostate W
 - Testicular L
 - Testicular H
 - Testicular W
 - Epididymis L
 - Epididymis W
 - Epididymis H
 - Pre-BL L
 - Pre-BL H
 - Pre-BL W
 - Post-BL L
 - Post-BL H
 - Post-BL W
 - Testis A
 - Testis V
 - Epididymis A
 - Epididymis V
 - Prostate Vol
 - Renal Vol
 - Pre-BL Vol
 - Post-BL Vol
 - Mictur.Vol
 - Testicular Vol
 - Kidney
 - Renal L
 - Renal H
 - Renal W
 - Cortex
 - Prostate
 - Prostate L
 - Prostate H
 - Prostate W
 - Testis
 - Testicular L
 - Testicular H
 - Testicular W
 - Epididymis
 - Epididymis L

- Epididymis H
- Epididymis W
- Bladder
- Pre-BL L
- Pre-BL H
- Pre-BL W
- Post-BL L
- Post-BL H
- Post-BL W
- Vascular
 - ACA
 - MCA
 - PCA
 - BA
 - Ba V
 - AComA
 - PComA
 - CCA
 - ICA
 - Bulb
 - ECA
 - Vert A
 - CCA IMT
 - Bulb IMT
 - ICA IMT
 - ECA IMT
 - C.Iliac V
 - IIV
 - Ex.Iliac V
 - CFV
 - SFV
 - DFV
 - Saph V
 - Pop V
 - P.Tib V
 - Peroneal V
 - A.Tib V
 - TP Trunk V
 - ICA/CCA
 - Stenosis D
 - Stenosis A
 - Stenosis A
 - A1
 - A2
- IMT
 - CCA IMT
 - Bulb IMT
 - ICA IMT
 - ECA IMT
- Small Parts:
 - Thyroid L
 - Thyroid H
 - Thyroid W
 - Isthmus H
 - Breast Mass1 L
 - Breast Mass1 W
 - Breast Mass1 H
 - Nip.-Mass1 Dist.
 - Skin-Mass1 Dist.
 - Breast Mass2 L
 - Breast Mass2 W
 - Breast Mass2 H
 - Nip.-Mass2 Dist.
 - Skin-Mass2 Dist.
 - Breast Mass3 L
 - Breast Mass3 W
 - Breast Mass3 H
 - Nip.-Mass3 Dist.
 - Skin-Mass3 Dist.
 - Breast Mass4 L
 - Breast Mass4 W
 - Breast Mass4 H
 - Nip.-Mass4 Dist.
 - Skin-Mass4 Dist.
 - Breast Mass5 L
 - Breast Mass5 W
 - Breast Mass5 H
 - Nip.-Mass5 Dist.
 - Skin-Mass5 Dist.
 - Breast Mass6 L
 - Breast Mass6 W
 - Breast Mass6 H
 - Nip.-Mass6 Dist.
 - Skin-Mass6 Dist.
 - Breast Mass7 L
 - Breast Mass7 W
 - Breast Mass7 H
 - Nip.-Mass7 Dist.

- Skin-Mass7 Dist.
- Breast Mass8 L
- Breast Mass8 W
- Breast Mass8 H
- Nip.-Mass8 Dist.
- Skin-Mass8 Dist.
- Breast Mass9 L
- Breast Mass9 W
- Breast Mass9 H
- Nip.-Mass9 Dist.
- Skin-Mass9 Dist.
- Breast Mass10 L
- Breast Mass10 W
- Breast Mass10 H
- Nip.-Mass10 Dist.
- Skin-Mass10 Dist.
- 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
- Testicular L
- Testicular H
- Testicular W
- Epididymis L
- Epididymis H
- Epididymis W
- Scrotal Wall
- Testis A
- Testis V
- Epididymis A
- Epididymis V
- Thyroid Vol
- Testicular Vol
- Thyroid
 - Thyroid L
 - Thyroid H
 - Thyroid W
- 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
- Breast Mass1
 - Breast Mass1 L
 - Breast Mass1 H
 - Breast Mass1 W
- Nip.-Mass1 Dist.
- Skin-Mass1 Dist.
- Breast Mass2
 - Breast Mass2 L
 - Breast Mass2 H
 - Breast Mass2 W
- Nip.-Mass2 Dist.
- Skin-Mass2 Dist.
- Breast Mass3
 - Breast Mass3 L
 - Breast Mass3 H
 - Breast Mass3 W
- Nip.-Mass3 Dist.
- Skin-Mass3 Dist.
- Breast Mass4
 - Breast Mass4 L
 - Breast Mass4 H
 - Breast Mass4 W
- Nip.-Mass4 Dist.
- Skin-Mass4 Dist.
- Breast Mass5
 - Breast Mass5 L
 - Breast Mass5 H
 - Breast Mass5 W
- Nip.-Mass5 Dist.
- Skin-Mass5 Dist.
- Breast Mass6
 - Breast Mass6 L
 - Breast Mass6 H
 - Breast Mass6 W

- Nip.-Mass6 Dist.
- Skin-Mass6 Dist.
- Breast Mass7
 - Breast Mass7 L
 - Breast Mass7 H
 - Breast Mass7 W
- Nip.-Mass7 Dist.
- Skin-Mass7 Dist.
- Breast Mass8
 - Breast Mass8 L
 - Breast Mass8 H
 - Breast Mass8 W
- Nip.-Mass8 Dist.
- Skin-Mass8 Dist.
- Breast Mass9
 - Breast Mass9 L
 - Breast Mass9 H
 - Breast Mass9 W
- Nip.-Mass9 Dist.
- Skin-Mass9 Dist.
- Breast Mass10
 - Breast Mass10 L
 - Breast Mass10 H
 - Breast Mass10 W
- Nip.-Mass10 Dist.
- Skin-Mass10 Dist.
- Thyroid Cyst1
 - Thyroid Cyst1 L
 - Thyroid Cyst1 W
 - Thyroid Cyst1 H
- Thyroid Cyst2
 - Thyroid Cyst2 L
 - Thyroid Cyst2 W
 - Thyroid Cyst2 H
- Thyroid Cyst3
 - Thyroid Cyst3 L
 - Thyroid Cyst3 W
 - Thyroid Cyst3 H
- Testis
 - Testicular L
 - Testicular H
 - Testicular W
- Epididymis
 - Epididymis L
 - Epididymis H
 - Epididymis W
- Vocal Fold
 - Vocal Fold(O)
 - Vocal Fold(C)
- Orthopedics
 - HIP
 - HIP-Graf
 - HIP()
 - HIP()
 - d/D
- Emergency
 - Renal L
 - Renal H
 - Renal W
 - CBD
 - CHD
 - GB wall th
 - Ureter
 - Pre-BL L
 - Pre-BL H
 - Pre-BL W
 - Post-BL L
 - Post-BL H
 - Post-BL W
 - CRL
 - BPD
 - UT L
 - UT H
 - UT W
 - Endo
 - Ovary L
 - Ovary H
 - Ovary W
 - Pleural L
 - Pleural H
 - Pleural W
 - UQ L
 - UQ H
 - UQ W
 - Pelvis L
 - Pelvis H
 - Pelvis W
 - Pericardial Sac L

- Pericardial Sac H
- Pericardial Sac 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 H
 - Ovary W
- Kidney
 - Renal L
 - Renal H
 - Renal W
 - Cortex
- Bladder
 - Pre-BL L
 - Pre-BL H
 - Pre-BL W
 - Post-BL L
 - Post-BL H
 - Post-BL W
- Pleural
 - Pleural L
 - Pleural H
 - Pleural W
- UQ
 - UQ L
 - UQ H
 - UQ W
- Pelvis
 - Pelvis L
 - Pelvis H
 - Pelvis W
- Pericardial Sac
 - Pericardial Sac L

- Pericardial Sac H
- Pericardial Sac W
- FHR

6.4 IMT

- Intima-Media Thickness Measurement
- Automatic detection of IMT when ROI is set
- Support CCA, ICA, ECA, Bulb IMT
- Near wall and far wall detection
- Angle selectable

6.5 Report

- Specific report template by application
- Editable value in report
- Images selectable
- Able to Export as PDF/RTF file

6.6 iWorks

- Auto workflow protocol
- Templates are user configurable
- Functions: repeat, replace, delete, suspend, stop, and insert
- iWorks setup mode: B/ Dual/ B+Color/ B+PW/ B+Color+PW/ B+CW/ B+Color+CW/ B+M
- iWorks setup annotation: support up to 2 annotations, location and font size are configurable.
- iWorks setup bodymark: select existing library
- iWorks setup measurement: select existing measurement library
- Template import and export are available

* Not all measurements are listed in this part; for more detailed information please refer to the Operators' Manual

7 Exam Storage and Management

7.1 Exam storage

- 128GB SSD. More than 74GB internal hard drive for patient data

storage

- Capable of storing up to approximate 354313 single frames
- Direct digital storage of single frame and cine 2D, color and Doppler.

7.2 Exam management

- iStation™ workstation dedicated for patient exam management
- Patient exam query/retrieve
- Support review of current and past exam
- New exam, Activate exam, End exam are available
- Support measurements and calculations on archived exam and images
- Export images as (BMP/JPG/FRM/CIN/TIFF/DCM/AVI format)
- Support backup/send to USB devices (hide patient information); support back up to DVD-RW media.
- Support data encryption and transmission encryption

7.3 iScanHelper

- Tutorial function as a guidance to show basic scanning skill with graphic of probe position, schematic of anatomy and example clinical image.
- Support ABD, GYN, OB, SMP, URO and nerve applications

8 Connectivity

8.1 Ethernet Network Connection

- Cable connection
- Wireless connection: built-in wireless adaptor

8.2 DICOM 3.0

- DICOM basic (option)
 - Verify (SCU, SCP)
 - Print

-Store

-Storage Commitment

-Media Exchange

- DICOM Worklist (option, HL7 supported)
- DICOM Query/Retrieve (option)
- DICOM Modality Performed Procedure Step - MPPS (option)
- DICOM OB/GYN structure report (option)
- DICOM Cardiac structure report (option)
- DICOM Vascular structure report (option)
- DICOM Breast Report (option)

8.3 iStorage (included in UltraAssist)

- Direct network storage tool between ultrasound system and personal computer

8.4 eGateway Query/Store (option)

8.5 Hotspot support

- For Medsight and MedTouch use: connect mobile phone to TE7 ACE product directly

8.6 MedSight

- DICOM Basic is mandatory
- Needs to be installed on mobile terminal
- Support IOS 5.0 or above mobile terminal
- Transfer PC format images or clips from system to mobile terminal through WiFi

8.7 MedTouch

- Connect Ultrasound machine to smart devices based on Android and iOS system, such as tablet PC or mobile phone. Remote control of Ultrasound machine, review of patient information, and tutorial software iScanHelper study on smart devices
- Support Android and iOS powered smart devices

- Android 4.0 and above
- iOS 7.0 and above
- DICOM Basic is not necessary

8.8 Anti-virus Software

- McAfee
- Windows Defender

9 Transducers

9.1 Curved array

- C5-2s
 - Application: Gynecology, Obstetrics, Abdomen, Vascular, Pediatric, Thoracic/Pleural
 - Bandwidth: 1.3-5.7MHz
 - FOV (max): 75°
 - Biopsy Guide: NGB-015, multi angle, reusable; CIVCO 658-002, disposable
- C11-3s
 - Application: Abdomen, Vascular, Small Parts, Musculo-skeletal, Pediatric, Cardiac, Thoracic/Pleural
 - Bandwidth: 2.6-12.8MHz
 - FOV (max): 101°
 - Biopsy Guide: NGB-018, multi angle, reusable
- V11-3Ws
 - Application: Obstetrics, Gynecology, Urology
 - Bandwidth: 2.6-12.8MHz
 - FOV (max): 173°
 - Biopsy Guide: NGB-004, single angle, reusable; CIVCO 610-543, disposable; CIVCO 610-1274, disposable
- C5-1s
 - Application: Gynecology, Obstetrics, Vascular, Pediatric, Thoracic/Pleural
 - Bandwidth: 1.0-5.7MHz
 - FOV (max): 61°
 - Biopsy Guide: NGB-022, multi angle, reusable

- C4-1s
 - Application: Obstetrics, Gynecology, Abdomen, Cardiac, Thoracic/Pleural
 - Bandwidth: 1.0-4.5MHz
 - FOV (max): 56°
 - Biopsy Guide: NGB-036, multi angle, reusable; CIVCO 698-019, disposable; CIVCO 698-013, disposable
- LAP13-4Cs (only for CE)
 - Application: Abdomen, Intraoperative
 - Bandwidth: 2.6-12.8 MHz
 - FOV (max): 31°
 - Biopsy Guide: not available
- C9-3Ts (only for CE)
 - Application: Abdomen, Obstetrics, Intraoperative, Musculo-skeletal, Vascular, Small Parts
 - Bandwidth: 2.6-9.0 MHz
 - FOV (max): 67°
 - Biopsy Guide: not available

9.2 Linear

- L9-3s
 - Application: Abdomen, Pediatric, Small Parts, Musculo-skeletal, Vascular, Nerve, Obstetrics, Thoracic/Pleural
 - Bandwidth: 2.5-9.0 MHz
 - FOV (max): 43.7 mm
 - Biopsy Guide: NGB-034, multi-angle, reusable
- L12-4s
 - Application: Small Parts, Vascular, Musculo-skeletal, Abdomen, Pediatric, Ocular, Thoracic/Pleural
 - Bandwidth: 3.0-13.0 MHz
 - FOV (max): 38.1 mm
 - Biopsy Guide: NGB-007, multi angle, reusable; CIVCO 658-001, disposable
- L14-6Ns
 - Application: Breast, Musculo-

- skeletal, Nerve, Small Parts (Superficial), Vascular (Superficial), Pediatric hip, Ocular, Thoracic/Pleural
 - Bandwidth: 3.5-16.0 MHz
 - FOV (max): 38mm
 - Biopsy Guide: NGB-007, multi angle, reusable; CIVCO 658-001, disposable
 - L14-6s
 - Application: Small Parts, Vascular, Musculo-skeletal, Pediatric, Thoracic/Pleural
 - Bandwidth: 3.5-16.0 MHz
 - FOV (max): 25mm
 - Biopsy Guide: NGB-016, multi angle, reusable
 - L7-3s
 - Application: Small Parts, Vascular, Musculo-skeletal, Abdomen, Pediatric, Thoracic/Pleural
 - Bandwidth: 2.7-8.3 MHz
 - FOV (max): 38.1 mm
 - Biopsy Guide: NGB-007, multi angle, reusable
 - 7LT4s
 - Application: Intraoperative (Abdomen, Cardiac, Vascular), Small Parts, Vascular, Musculo-skeletal, Abdomen, Pediatric
 - Bandwidth: 3.5-13.5MHz
 - FOV (max): 40.1 mm
 - Biopsy Guide: NGB-010, multi angle, reusable
 - L16-4Hs (only for CE)
 - Application: Musculo-skeletal, Nerve, Small Parts, Vascular, Pediatric hip
 - Bandwidth: 3.5-16.0 MHz
 - FOV (max): 25.3 mm
 - Biopsy Guide: not available
 - L14-5sp (only for FDA)
 - Application: Abdominal, Intraoperative, Pediatric, Small Organ, Neonatal Cephalic, Musculo-skeletal, Peripheral vessel
 - Bandwidth: 4.0-14.0 MHz
 - Field of View (max): 25.3 mm
 - Biopsy Guide: CIVCO 698-006, disposable
 - L20-5s
 - Application: Abdomen, Small Parts, Musculo-skeletal, Vascular, Nerve, Ocular
 - Bandwidth: 6.0-23.0 MHz
 - FOV (max): 28.5 mm
 - Biopsy Guide: not available
 - L11-3VNs
 - Application: Small Parts, Vascular, Musculo-skeletal, Abdomen, Pediatric, Ocular, Thoracic/Pleural
 - Bandwidth: 3.0-11.0 MHz
 - FOV (max): 38.1 mm
 - Biopsy Guide: not available
 - L12-3RCs
 - Application: Small Parts, Vascular, Musculo-skeletal, Abdomen, Pediatric, Ocular, Thoracic/Pleural, Nerve
 - Bandwidth: 3.0-11.0 MHz
 - FOV (max): 38.1 mm
 - Biopsy Guide: NGB-043, multi-angle, reusable; NGB-044, multi-depth, reusable
 - L12-3VNs (only for CE)
 - Application: Small Parts, Vascular, Musculo-skeletal, Abdomen, Pediatric, Ocular, Thoracic/Pleural
 - Bandwidth: 3.0-11.0MHz
 - FOV (max): 38.1 mm
 - Biopsy Guide: not available
- 9.3 Phased array
- SP5-1s
 - Application: Abdomen, Cardiac, Vascular, Cephalic, Obstetrics, Thoracic/Pleural
 - Bandwidth: 1.0-5.0 MHz

- FOV (max): 90°
- Biopsy Guide: NGB-011, multi angle, reusable
- P4-2s
 - Application: Cardiac, Abdomen, Cephalic, Pediatric, Obstetrics, Thoracic/Pleural
 - Bandwidth: 1.5-4.5 MHz
 - FOV (max): 90°
 - Biopsy Guide: NGB-011, multi angle, reusable
- P10-4s
 - Application: Abdomen, Pediatric, Cardiac, Nerve, Cephalic
 - Bandwidth: 3.0-11.4MHz
 - FOV (max): 90°
 - Biopsy Guide: not available
- P7-3s
 - Application: Cardiac, Abdomen, Cephalic, Pediatric, Thoracic/Pleural
 - Bandwidth: 2.3-7.2MHz
 - FOV (max): 90°
 - Biopsy Guide: not available
- P7-3Ts
 - Application: Cardiac
 - Bandwidth: 2.3-7.2MHz
 - FOV (max): 90°
 - Biopsy Guide: not available

10 Peripheral Devices and

Accessories (Option)

- 10.1 Black/white digital video printer
 - MITSUBISHI P95DW-N
 - SONY UP-D898MD
 - SONY UP-X898MD
- 10.2 Digital graph/text printer
 - HP OFFICEJET PRO 8100
- 10.3 Color digital printer
 - SONY UP-D25MD
- 10.4 Footswitch
 - USB port: 971-SWNOM (2-pedal)

- USB port: 971-SWNOM (3-pedal)
- 10.5 Barcode reader
 - Laser barcode scanner
Model: SYMBOL LS2208, and DS4308
 - JADAK Barcode reader
Model: HS-1M and HS-1R (supporting RFID)
 - iVocal Microphone (including wireless receiver, wireless headset, and USB connecting wire)
Model: SAMSON XPD1 Headset, SAMSON XPD1 Presentation, and PYLE PUSBMIC43
- 10.6 ECG module
 - ECG lead port: 6 pin, IEC&AHA, for 3-lead wires

11 System Inputs and Outputs

- HDMI: 1 port
- ECG connector: 1 port
- USB: 4 USB 3.0 ports
- Ethernet: 1 port

12 Safety and Conformance

- 12.1 Quality standards
 - ISO 9001
 - ISO 13485
- 12.2 Design standards
 - EN 60601-1 and IEC 60601-1
 - EN 60601-1-2 and IEC 60601-1-2
 - EN 60601-1-6 and IEC 60601-1-6
 - EN 60601-2-37 and IEC60601-2-37
 - EN 62304 and IEC 62304
 - EN 62366 and IEC 62366
 - EN ISO 17664 and ISO 17664
- 12.3 CE declaration

TE7 ACE system is fully in conformance with the Council Directive 93/42/EEC Concerning Medical Devices. The number adjacent to the CE marking (0123) is the code of the EU-notified body that certified meeting the requirements of Annex II excluding (4). of the Directive.

Notice:

Not all features or specifications described in this document may be available in all probes and/or modes. Mindray reserves the right to make changes in specifications and

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