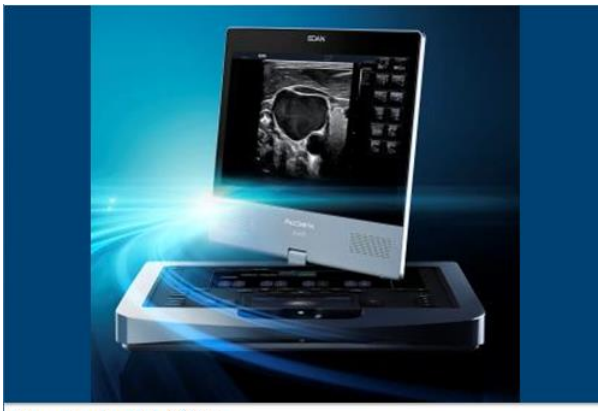
Acclarix AX4

Diagnostic Ultrasound System

Datasheet

For 1.2 Release

EDAN



Product Description

The remarkable Acclarix AX4 Compact Ultrasound System delivers a power house combination of features to meet the demands of point-of-care and general imaging applications. The Acclarix AX4 has been designed from the ground up with a relentless focus on delivering unexpected levels of innovation and performance at a price point that is equally surprising.

1.System Overview

1.1.Application

- Abdomen
- Gynecology
- Obstetrics
- Cardiology
- Small parts
- Urology
- Musculoskeletal
- Vascular
- Intra-operation
- Pediatric
- Neonatal

1.2.Transducer Types

- Convex array
- Linear array
- Phased array
- Endocavity curved array
- Micro-Convex array
- Wobbler

1.3.Imaging Modes

-B-mode

-M-mode

-Anatomical M mode

-Color Doppler

-Power Doppler Imaging/Directional PDI

-Pulsed Wave Doppler

-Continuous Wave Doppler

-HPRF(High Pulse Repetition Frequency)

-Static 3D

-4D

-TDI (including Color-TDI and PW-TDI)

1.4.Imaging Technique&Function

- Tissue Adaptive Imaging
- Frequency Compounding Imaging

-Adaptive Spatial Compounding Imaging

- Harmonic Imaging

-Adaptive Speckle Reduction Imaging (eSRI)

- B mode Auto Optimization
- Digital Multi-Beam Beamforming
- Trapezoid Imaging
- Adaptive Doppler imaging
- Spectrum Enhancement
- B Steer
- Pan Zoom
- Panorama Imaging
- Acclarix Needle Visualization Imaging

1.5.Display Modes

- B
- Dual B
- Quad
- M
- B+M(Anatomic M)
- B/C(PDI, or DPDI)
- Dual B/C(PDI or DPDI)
- B+B/C(PDI or DPDI) dual live
- B+PW (Duplex or independent update)
- B/C(PDI or DPDI)+PW (Triplex or independent update)
- B+CW (CW update)
- B/C(PDI or DPDI)+CW (CW update)
- B/Color-TDI
- B/Color-TDI+ PW-TDI

1.6. System Language Support

- English
- Chinese

- German
- Italian
- Spanish
- French
- Turkish
- Russian
- Portuguese

1.7. Options

- Transducers
- Needle Guide Bracket Kits

-CW(with phased-array transducers)

- Panorama
- HPRF
- Needle Visualization
- Auto IMT
- Anatomic M mode
- TDI
- Auto OB(BPD, HC, FL, HUM)
- Advanced DICOM(Modality Worklist and Structured Report)
- Printers
- Battery
- USB Disk
- Footswitch (single button/double buttons)
- Simple Cart: MT-807
- MTC (Multiple Transducer Connector)
- Suitcase
- External DVD
- Hard drive: 500GB/120GB SSD (configuration in order before shipment only)

2. Physical Specification

2.1. System Architecture

- Physical Channels: 64
- System Frequency range : 1-17MHz
- System dynamic range: 0-264
- Beam forming: Quad beam
- Processor: i7 with quad virtual cores
- Memory: 16GB
- Hard drive: 500GB(standard)/120GB SSD (optional)
- Operation System: 64bit Linux system

2.2. Dimension and weight

- Height: 7.7cm

- Width: 38.8cm
- Depth: 40.7cm
- Weight: 7.50 kg(main unit)
  8.25kg (includes battery)

2.3. Monitor

- 15.6'' high resolution LCD monitor
- Resolution: 1920 x 1080
- Imaging size: 1135*900
- Tilt: 0°-120°
- Swivel: ±60°
- View angle: right 80°,left 80°,up 80°,down 80°
- Magnetic latch closure
- Built-in stereo speaker
- Brightness and Contrast adjustable

2.4. Handle

- Provides wrist support during imaging

2.5. Transducer port

- 1 active port, 3 active ports with MTC
- 1 pencil probe port(inactive)

2.6. Battery

- Rechargeable lithium ion battery
- Capacity: 6150mAh
- Removable
- Approximately 75 minutes of typical ultrasound exam use
- Empty battery recharged to full in 2.5 hours
- Touch sensor battery level indicator in two locations: console panel and battery,5 level
- Battery level check support on power on and off

2.7. Electrical Power

- Voltage: 100-240VAC
- Frequency: 50/60 Hz

2.8. Environmental operating requirements

- Ambient temperature: 0° to 40°C
- Relative Humidity: 15%~95% (no condensation)
- Atmospheric pressure 气压: 86kPa-106kPa

2.9. Environmental storage requirements

- Ambient temperature: -20° to 55°C
- Relative Humidity: 15%~95% (no condensation)
- Atmospheric pressure: 70kPa-106kPa

3. User Interface

3.1. Control Panel

- Interactive back-lighting
- Hard Keys provides tactile feedback
- Sealed, rubberized overlay for easy cleaning
- Programmable store keys

3.2. Touch Screen

- 10.1'' Touch screen
- Gesture-control
- Virtual TGC curve
- User configurable
- Support QWERTY keyboard for text input
- Brightness adjustable

3.3. Touch Pad

- 5.0'' Touch Screen
  The 5" touchscreen now shows some function-specific labels for set and enter buttons
- Gesture-control
- Support: electronic virtual trackball
- Unique "Swipe" function to quickly change gain, scroll cine, cine speed.
- Brightness adjustable

3.4. System boot-up

- Boot up from complete shut-down in about 60 seconds or 40 seconds(with SSD hard drive)
- Shut-down in about 18 sec

3.5. Comments

- User-programmable home position
- Arrow with user controlled orientation
- Arrow size adjustable: three size
- Soft keyboard with full support for diacritic characters
- Block move and delete for separate blocks of text
- Smart text replacement for predefined text (e.g., Long replaces Trans with one keystroke)
- 266user-defined comments in pre-defined presets
- User customizable

3.6. BodyMark

- Up to 100 Body Mark graphics in library
- Support separate body mark in Dual and Quad
- User customizable

3.7. Screen Information

- EDAN logo

- Hospital name
- Date
- Time
- Patient ID
- Patient Name
- Patient Gender
- Patient Age
- transducer model
- Preset name
- Mechanical Index (MI)
- Thermal Index (TI)
- Imaging parameters
- Gray Scale bar
- Depth Scale
- Thumbnail
- Mini Report

Not all the items are listed in here, please refer to the User Manual.

4. Imaging Parameters

4.1. B-Mode

- Simple preset: Detail/General/Penetration
- Auto optimization: Gain and TGC
- Digital Zoom:x0.7-x2.0(available on live and freeze state)
- PIP (Picture in Picture) for zoom
- Depth: 1.0- 30.0cm
- Frequency: 1.0-17.0MHz(3 fundamental &2 harmonic frequencies)
- eSRI : Off, Low, Med, High
- FOV: Small, Med, Large, Full
- B steer: 0°, ±10°
- Gain: 0-100dB, 1dB/step
- TGC: 8 segments
- Dynamic range: 40-96 dB, step 2dB/step (Max up to: 40-264)
- FR(frame rate): Low, Med, High
- Max Frame rate: >= 227f/s (depending on transducers)
- Map: 0-10 (Max up to 20 types)
- Persistence: Off, Low, Med, High
- Focus position adjustable
- Focus Number: 1-3
- Colorize: on/off
- Tint: 5 types, Gold, Sepia, Blue, Ice, Clear (Max up to 20 types)
- Up/Down flip
- Left/Right flip

- Spatial compounding: on/off (max 3 angles)
- Trapezoid Imaging: on/off
- Panorama Imaging: on/off (max length: 1.2m)
- Needle Need Vis.: 3 angles
- Needle Guide
- Display format: single(B),dual(B+B), Quad(4B)
- Acoustic Power: 10%-100%, step 10%

4.2. M-Mode

- Sweep speed: 1s, 2s, 4s, 8s, 13s
- Line Persist: Off, Low, Med, High
- Map: 0-10 (Max up to 20 types)
- Colorize: on/off
- Tint: Gold, Sepia, Blue, Ice, Clear (Max up to 20 types)
- Gain: 0-100dB, 1dB/step
- Frequency: 1.0-17.0MHz(3 fundamental and 2 harmonic frequencies)
- Dynamic range: 40-96 dB, step 2 dB/step (Max up to: 40-264)
- Display formats: 1:2,1:1,2:1(up: down),1:1(left: right), full screen
- Acoustic Power: 10%-100%, step 10%

4.2.1 Anatomic M mode

- Available on live and freeze

4.3. Color Doppler

- Simple preset: HighFlow/MidFlow/LowFlow
- Dual live（B/B+C）
- ROI size/position: adjustable
- Frequency: 2.0-8.0 MHz
- Gain: 0-100dB, 1dB/step
- FR(frame rate): Low, Med, High
- Max Frame rate: >= 157f/s (depending on transducers)
- Persistence: Off, Low, Med, High
- Smoothing: Off, Low, Med, High
- Wall filter: Low, Med, High
- Color map: 0-7 (Max up to 20 types)
- Steer angle:
  0°,±5°,±10° (L17-SQ)
  0°,±10°,±20° (L12-5Q)
- PRF: 0.6- 11.4kHz
- Scale: 2.8-210 cm/s
- Baseline: -120-120, 10/step
- Threshold: 0-100, 5/step
- Invert: on/off
- Auto optimization: Gain and Scale

- Acoustic Power: 10%-100%, step 10%

4.4. Power Doppler Imaging

- Simple preset: High Flow/Mid Flow/Low Flow
- Dual live（B/B+PDI, B/B+DPDI）
- Directional Power Doppler Imaging(DPDI)
- ROI size/position: adjustable
- Frequency: 2.0-8.0 MHz
- Dynamic range: 10-70 dB, 5dB/step
- Gain: 0-100dB, 1dB/step
- FR(frame rate): Low, Med, High
- Max Frame rate: >= 157f/s (depending on transducers)
- Persistence: Off, Low, Med, High
- Smoothing: Off, Low, Med, High
- Wall filter: Low, Med, High
- Color map: 0-7
- Steer angle:
  0°,±5°,±10° (L17-7SQ)
  0°,±10°, ±20° (L12-5Q)
- PRF: 0.6- 11.4kHz
- Baseline: -120-120, 10/step(only available on DPDI)
- Threshold: 0-100, 5/step
- Invert: on/off (available on DPDI)
- Acoustic Power: 10%-100%, step 10%

4.5. Pulsed Wave Doppler

- Simple preset: High Flow/Mid Flow/Low Flow
- HPRF(Automatic invocation as needed to maintain gate location/scale)
- Auto Trace: Auto Doppler measurements, User selectable direction
- Duplex and Triplex displays
- Frequency: 2.0-8.0 MHz
- PRF: 0.9-14.7kHz
- Gain: 0-100dB, 1dB/step
- Dynamic range: 10-70 dB, 5dB/step
- Wall filter: Low, Med, High
- Sweep speed: 2s, 4s, 6s, 8s, 12s
- Baseline: -4-4, 1/step
- Angle correction: -80° -80°, 1°/step
- Quick Angle: -60°/0°/60°
- Steer:(available on linear transducers)
  0°,±5°,±10° (L17-7SQ)
  0°,±15°, ±20° (L12-5Q)
- Invert
- Volume: 0-99, 1/step
- Map: 0-10 (Max up to 20 types)

- Colorize: on/off
- Tint: Gold, Sepia, Blue, Ice, Clear (Max up to 20 types)
- Gate size: 0.5-20 mm
- Display formats: 1:2,1:1,2:1(up: down),full screen
- Auto optimization: Gain or DR or Scale/Baseline
- Acoustic Power: 10%-100%, step 10%

4.6. Continuous Wave Doppler

- Simple preset: High Flow/Mid Flow/Low Flow
- Frequency: 2.0 MHz
- PRF: 1- 89.3kHz
- Gain: 0-100dB, 1dB/step
- Dynamic range: 10-70 dB, 5dB/step
- Wall filter: Low, Med, High
- Sweep speed: 2s, 4s, 6s, 8s, 12s
- Baseline: -4-4, 1/step
- Angle correction: -80° -80°, 1° /step
- Quick Angle: -60° /0° /60°
- Invert
- Volume: 0-99, 1/step
- Map: 0-10 (Max up to 20 types)
- Colorize: on/off
- Tint,5 types: Gold, Sepia, Blue, Ice, Clear (Max up to 20 types)
- Display formats: 1:2, 1:1, 2:1(up: down),full screen

4.7. Tissue Imaging Doppler(TDI)

4.7.1 Color TDI

- Simple preset: High Flow/Mid Flow/Low Flow
- Dual live
- ROI size/position: adjustable
- Frequency
- Gain: 0-100, 1/step
- FR(frame rate): Low, Med, High
- Max Frame rate: >= 100 f/s
- Persistence: Off, Low, Med, High
- Smoothing: Off, Low, Med, High
- Wall filter: Low, Med, High
- Color map: 0-7
- Scale: 6-80cm/s
- PRF: 0.6-11.4KHz
- Baseline: -120-120, 10/step
- Threshold: 0-100, 5/step
- Invert: on/off

- Acoustic Power: 10%-100%, step 10%

4.7.2 PW TDI

- Simple preset: High Flow/Mid Flow/Low Flow
- Invert
- Duplex and Triplex displays
- Frequency: 2 levels
- Gain: 0-100dB, 1dB/step
- PRF: 0.9-14.7KHz
- Wall filter: Low, Med, High
- Dynamic range: 10-70 dB, 5dB/step
- Sweep speed: 2s, 4s, 6s, 8s, 12s
- Baseline: -4-4, 1/step
- Angle correction: -80° -80°, 1° /step
- Quick Angle: -60° /0° /60°
- Volume: 0-99, 1/step
- Map: 0-10
- Colorize: on/off
- Tint: Gold, Sepia, Blue, Ice, Clear
- Gate size: 0.5-20 mm
- AT Side: Both, Up, Down
- Display formats: 1:2, 1:1, 2:1(up: down), full screen
- Acoustic Power: 10%-100%, step 10%

5. Cine Review and Post-Processing

5.1. Cine Review

- Frame by frame manual review
- Auto playback with 8 speeds
- Start frame and end frame are selectable for cine loop review
- Maximum cine memory is up to (depends on transducers and image parameters

  Up to 10000 frames for B mode

  Up to 10000 frames for Color mode

  Up to 100s for M mode

  Up to 1000s for PW/CW Doppler mode

5.2. Post-Processing

- B Mode: gain, TGC, zoom, dynamic range, eSRI, colorize, map
- M Mode: gain, TGC , dynamic range, colorize, map
- Color Mode: zoom, color map, invert
- PW/CW: gain, dynamic range, colorize, map, baseline, angle, invert

Not available on the stored image sand clips in Review

6. 3D/4D (Optional)

- Acquisition Modes: 4D, Static 3D
- Visualization Modes: 3D Rendering, 3 Sectional Planes, Mult-Slice
- VOI adjustable: curve cut plane
- Render Modes: Surface, MIP, X-Ray
- 3D Clip (2D capture of 3D images)
- Cut

  -Cut tool: trace, box, erase

  -Function: undo, undo all, redo
- Display formats: Single 3D, Dual (A-plane + 3D), Quad (A/B/C Planes + 3D)
- Parameters for 3D: Threshold, Smooth, Brightness, Contrast, Tint
- eFace: Edan Auto show face
- Save and edit volume data set
- MPR measurements (Demo version only)

7. Imaging Storage and Exam Database

6.1. Imaging Storage

- 500 GB hard drive, 400 GB for data storage
- Storage up to approximately >110,000 lossless single frames
- Compression types of static image and clip: lossless, high, mid, low
- Maximum clip is up to:

  250 frames for B/Color mode

  10 s (250 frames) for M/PW/CW mode

6.2. Exam Database

- Support exam storage without patient information
- Support exam query
- Support review current exam or prior exam
- Support review images and report of an exam
- Support export images as BMP , AVI or DCM format to removable disk
- Support export images as DCM format to DVD-R/RW
- Support import/export exams(including patient information, images, measurement results)
- Support comments, body mark and measurements in review

8. Connectivity

- DICOM Storage:

  Verify SCP

  Static image store SCU

  Ultrasound multi-image store SCU

  Four levels of compression

Data transfer options

Removable media

In-progress network storage in background

Auto-transfer in background at exam end

Manual-transfer in background on demand

- 4 USB Ports (2 USB 2.0 and 2 USB 3.0)
- Video out:

  Display port (a digital display interface, has more transmission bandwidth than HDMI)

  S-video: PAL/NTSC
- Ethernet
- ECG port (inactive)
- External DVD-R/RW
- Wi-Fi
- DICOM Modality Worklist DICOM
- DICOM Structured Report: OB, GYN, Cardiac, and Vascular
- DICOM store to multiple networks
- Non-DICOM network transfer(FTP transfer) in background
- Transfer management UI: review transfer task status, delete a transfer task

9. Preset

- Transducer specific presets:

  ABD

  Abd Diff

  Early OB

  OB

  Fetal Echo

  GYN

  Renal

  Aorta

  Spine

  Prostate

  Thyroid

  Breast

  Testis

  Carotid

  Low Ext A (Lower Extremity Artery)

  Low Ext V (Lower Extremity Vein)

  Up Ext A (Upper Extremity Artery)

  Up Ext V (Upper Extremity Vein)

  Nerve

  Sup Nerve (Superficial Nerve)

  MSK

Sup MSK (Superficial MSK)

Knee

Shoulder

Vascular

Adult Card(Adult Cardiac)

Ped Card (Pediatric Cardiac)

Intra-Op (Intra-operative)

Ped Abd

Neo Abd

Neo Head

TCD(Transcranial Doppler)

Vasc Acc(Vascular Access)

Lung

IVF

- User customizable presets: Copy, Delete,

  Save, Save as

  Supports a second page, up to 30 presets per transducer.
- Each preset can share comment, body mark, and measure presets

10. Peripheral

- Black/white Digital/Analog Video printer

  SONY UP-X898MD
- Color Digital video printer

  SONY UP-D25MD
- Color Analog video printer

  SONY UP-25MD
- Graph/text printer

  HP OfficeJet Pro 251dw

  HP LaserJet Pro 200 M251n

  HP Laserjet CP1525n Color

  HP Deskjet Ink Advantage 2010

  HP Deskjet 1010 color

  HP Deskjet 1510 color

  HP Deskjet Pro 400

  HP Deskjet Pro M401d

  Canon PIXMA E518

  Canon iP2780

  HP Deskjet 2029

  HP Deskjet 1112

  EPSON L310

  HP DeskJet 1050

  HP DeskJet 2050

  HP DeskJet M252n

The printers listed above are the recommended printer which were verified. More compatible printers which were not verified can be found at https://developers.hp.com/hp-linux-imaging-and-printing/supported_devices/index, or at http://gimp-print.sourceforge.net/p_Supported_Printers.php.

11. Measurement and Report

- Set and Enter workflow options
- Default measurement unit options:

  Distance: mm, or cm

  Area: mm^2, or cm^2

  Volume: mm^3, or cm^3
- Option to disable swipe in measurement
- Caliper Size: switch automatically according to the distance (3 sizes)

11.1. General Measurement

- **B Mode**
  - Distance
  - Circumference(Ellipse, Trace, and Spline)
  - Area(Ellipse, Trace, and Spline)
  - Angle
  - Volume
  - %Dist Stenosis(Caliper)
  - %Area Stenosis (Ellipse, Trace, and Spline)
- **M Mode**
  - Distance
  - Time
  - Slope
  - HR
- **Doppler**
  - Auto & Manual Trace: PS, ED, MD, RI, PI, S/D, HR, Time, TAMax, TAMean, VTI, AT, DT, PGmax, PGmean
  - Trace(Draw or Spline): PS, ED, MD, RI, PI, S/D, Time, TAMax, VTI, AT, DT, PGmax, PGmean
  - Caliper: V1, V2, Acceleration, Time, RI, S/D, ΔV, PG1, PG2, PHT
  - RI: PS, ED, RI, S/D
  - HR

11.2. Application Measurement

- **Abdomen**
  - Liver: Length, Width, Height
  - Portal Vein Diameter
  - Common Hepatic Duct
  - Gallbladder: Length, Height, Wall Thickness
  - Common Bile Duct
  - Pancreas: Head, Body, Tail, Duct
  - Spleen: Length, Height
  - Aorta Diameter
  - Abdominal Aorta

- Superior Mesenteric Artery
- Inferior Mesenteric Artery
- Hepatic Artery
- Splenic Artery
- Renal Artery
- Portal Vein
- Inferior Vena Cava
- Main Portal Vein
- Hepatic Vein
- Middle Hepatic Vein
- Splenic Vein
- Superior Mesenteric Vein
- Inferior Mesenteric Vein

- **Gynecology**
  - Uterus: Length, Width, Height, Endometrium Thickness,UT Cavity
  - Cervix: Length, Width, Height, UT-L/CX-L
  - Ovary: Length, Width, Height
  - Follicle: D1, D2, D3, Fol-Mean(Calc)
  - Cyst: D1, D2, D3
  - Fluid POD
  - Uterine Artery
  - Ovary Artery
- **Obstetric**
  - Early OB: GS ,YS, CRL, NT, NF, BPD, FL, HUM, AF, FHR, Ductus Venosus, Ovary Artery, Uterine Artery
  - OB: BPD, OFD, HC, AC, FL, TAD, APAD, CER, HUM, ULNA, RAD, TIB, FIB, APTD, TTD, FTA, THD, Foot, AF,AFI, FHR, MCA, Umbilical Artery, Placenta Artery, Ductus Venosus
  - Fetal Echo: RV Diam, RA Diam, RVOT Diam, LV Diam, LA Diam, LVOT Diam, Ao Asc, Ao Arch Diam, Ao Isthmus, Desc Aorta, MPA Diam, Ductus A, CTAR,HR, MCA, Umb. Artery, PlanentaArtery, Ductus Venosus, MV, TV, MPV, Ovary Artery, Uterine Artery, Fetal Aorta
  - Gestational Age
  - Fetal Growth
  - Estimated Fetal Weight (EFW)
  - Multi-gestational Measurement.
  - Auto OB(BPD, HC, FL, HUM)
- **Cardiac**
  - LV Simpson: A4C Dias., A4C Sys., A2C Dias., A2C Sys., SV, EF, CO, SI, CI
  - Vent. Dim: RVAWd, RVIDd, IVSTd, LVIDd, LVPWd, IVSTs, LVIDs, LVPWs, SV, EF, CO, SI, CI
  - HR
  - PV Diam
  - RVDs
  - RA: Length, Width
  - LA: Length, Width
  - Ao Asc
  - AoD

- LVOT Diam
- RVOT Diam
- LVET
- LA/AO: LA, AoD, RVOT Diam
- MV: E/A, E-F Slope, EPSS, MV PHT, MV Trace, IVRT, MV A Dur,MV DecT
- TV: TV trace, TV Max
- AoV: LVOT Trace, LVOT Vmax, AoV Trace, AoVVmax
- PV: PV trace, PV Max
- Pulmonic Vein: PVein S Vel, PVein D Vel, PV A Vel
- PISA: MR Rad, MR Als. Vel, AR Rad, AR Als. Vel, TR Rad, TR Als. Vel, PR Rad,PRAls. Vel, MR Trace, AR Trace, TR Trace, PR Trace

- **Urology**
  - Renal: Length, Width, Height, Cortex
  - Pre-void Bladder: Length, Width, Height
  - Post-void Bladder: Length, Width, Height
  - Prostate: Length, Width, Height
  - Seminal: Length, Width, Height
  - Testis: Length, Width, Height
  - Renal Artery
  - Arcuate Artery
  - Segmental Artery
  - Interlobar Artery
- **Small Part**
  - Thyroid: Length, Width, Height, Isthmus, Superior Thyroid Artery, Inferior Thyroid Artery
  - Breast: Lesion1, Lesion2, Lesion3, Lesion4, Lesion5
- **Vascular**
  - Carotid:Common Carotid Artery, External Carotid Artery, Internal Carotid Artery, Vert Artery, Subclavian Artery
  - Upper Extremity Artery: Subclavian Artery, Axillary Artery, Brachial Artery, Ulnar Artery, Radial Artery
  - Upper Extremity Vein: Subclavian Vein, AxillaryVein, Brachial Vein, Cephalic Vein, Basilic Vein, Ulnar Vein, Radial Vein, Median Cubital Vein
  - Low Extremity Artery: Common Femoral Artery, Deep Femoral Artery, Superficial Femoral Artery, Common Iliac Artery, External Iliac Artery, Internal Iliac Artery, Popliteal Artery, Peroneal Artery, Posterior Tibial Artery, Anterior Tibial Artery, DorsalisPedis Artery
  - Low Extremity Vein: Common Femoral Vein, Deep Femoral Vein, Superficial Femoral Vein, Common Iliac Vein, External Iliac Vein, Internal Iliac Vein,Great Saphenous Vein, Popliteal Vein, Peroneal Vein, Posterior Tibial Vein, Anterior Tibial Vein, Small Saphenous Vein
  - IMT(Auto, Caliper) : Common Carotid Artery Intima-Media Thickness, Internal Carotid Artery Intima-Media Thickness, Carotid Artery Bifurcation Intima-Media Thickness
  - Volume Flow: Volume FlowArea, Volume Flow Time Average Mean Velocity
- **Pediatric**
  - Neo-Head : Left lateral ventricle, Right lateral ventricle, Left trigone, Right trigone
  - HIP: angle α and β

For more measurement information, please refer to the User Manual.

11.3. Report

- Editable worksheet
- Report type: ABD, GYN, OB, URO, VAS, SMP, FETAL, CARD, PED
- Multiple number of selected images
- Support zoom in preview
- Export as PDF format
- Findings section
- User-imported Header
- User-defined hospital logo

12. Transducers (Optional)

- **C5-2Q**
  - Imaging Format: convex array
  - Number of elements: 128
  - Convex Radius: 60 mm
  - FOV: 60°
  - Bandwidth: 2-5MHz
  - Fundamental Frequency: 2-4MHz, 3-5MHz,2-5MHz
  - Harmonic Frequency: H2-4MHz, H3-5MHz
  - Color Doppler Frequency: 2.5MHz, 3.0MHz
  - PW Frequency PW: 2.3MHz, 3.0MHz
  - Focus Position: 11 positions adjustable
  - Depth: 40-300mm, 10 mm/step
  - PW velocity: max 4.75m/s(±60°)
  - Exam Presets: ABD, Abd diffcult, Early OB, Fetal Echo, GYN, Renal, Aorta, Spine, MSK, Nerve.
  - Applications: Abdomen, OB, Gynecology, MSK, Urology
  - Needle Guide: available, BGK-C5-2, Supports16G, 18G, 20G, 22G
- **L12-5Q**
  - Imaging Format: general linear array
  - Number of elements: 128
  - Footprint:38 mm
  - Bandwidth: 5-12MHz
  - Fundamental Frequency: 5-8MHz, 6-1MHz, 7-11MHz
  - Harmonic Frequency: H6-10MHz, H7-12MHz
  - Doppler Frequency:4.7MHz, 5.7MHz
  - Focus Position: 11 positions adjustable
  - Depth: 10-110mm, 5 mm/step
  - PW velocity: max 2.38m/s(±60°)
  - Exam Presets: Thyroid, Breast, Carotid, Lower Extremity Artery, Lower Extremity Vein, Upper Extremity Artery, Upper Extremity Vein, MSK, Superficial MSK, Nerve, Superficial Nerve, Testis, Shoulder, Vascular Access, Lung.
  - Applications: Small parts, MSK, Vascular

- Needle Guide: available, L40UB Needle Guide Bracket Kit. Supports: 16G, 18G, 20G, 22G.

- **E8-4Q**
  - Imaging Format: endocavity micro convex array
  - Number of elements: 128
  - Convex Radius: 10 mm
  - FOV: 150°
  - Bandwidth: 4-8MHz
  - Fundamental Frequency: 4-6MHz, 4-7MHz, 5-8MHz
  - Harmonic Frequency: H5-7MHz, H5-8MHz
  - Doppler Frequency: 4.4MHz, 5.3MHz
  - Focus Position: 11 positions adjustable
  - Depth: 15-110mm, 5 mm/step
  - PW velocity: max 2.53m/s(±60°)
  - Exam Presets: Early OB, GYN, Prostate, IVF
  - Applications: OB, Gynecology, Urology
  - Needle Guide: available, BGK-CR10UA, Supports16G
- **P5-1Q**
  - Imaging Format: phased array
  - Number of elements: 64
  - Footprint: 16 mm
  - FOV:90°
  - Bandwidth: 1-5MHz
  - Fundamental Frequency: 1-3MHz, 2-4MHz, 2-5MHz
  - Harmonic Frequency: H2-4MHz, H3-5MHz
  - Doppler Frequency: 2.0MHz, 2.5MHz
  - CW Frequency: 2.0MHz
  - Focus Position: 11 positions adjustable
  - Depth: 40-300mm, 10 mm/step
  - PW velocity: : max 10m/s(±60°)
  - CW velocity: max 64m/s(±60°)
  - Exam Presets: ABD, Abd Difficult, Adult Cardiac, Pediatric Cardiac.
  - Applications: Adult Cardiac,Pediatric Cardiac, ABD
  - Needle Guide: not available
- **L17-7SQ**
  - Imaging Format: compact linear array
  - Number of Elements: 128
  - Footprint: 26mm
  - Bandwidth:7-17MHz
  - Fundamental Frequency: 7-11MHz, 8-13MHz, 9-15MHz
  - Harmonic Frequency: H9-13MHz, H10-17MHz
  - Doppler Frequency: 6.7MHz, 8.0MHz
  - Focus Position: 11 positions adjustable
  - Depth: 10-110mm, 5 mm/step
  - PW velocity: max 1.68m/s(±60°)

- Exam Presets: MSK, Nerve, Intra-operative, Vascular, Vascular Access.
- Applications: MSK, Vascular, Intra-operation
- Needle Guide: not available

- **MC8-4Q**
  - Imaging Format: micro convex array
  - Number of elements: 128
  - Convex Radius:15mm
  - Bandwidth: 4-8.0MHz
  - Fundamental Frequency: 4-6MHz, 4-7MHz, 5-8MHz
  - Harmonic Frequency: H4-7MHz, H5-8MHz
  - Doppler Frequency: 4.2MHz, 5.0MHz
  - Focus Position: 11 positions adjustable
  - Depth: 10-110mm, 5 mm/step, 110-150mm, 10 mm/step
  - PW velocity: max 2.68m/s(±60°)
  - Exam Presets: Nerve, Pediatric Abdomen, Neonatal Abdomen, Neonatal Head, Vascular
  - Applications: Neonate, Pediatric, Abdomen, MSK, Vascular
  - Needle Guide: available, BGK-R15UB, Supports16G, 18G, 20G, 22G
- **MC9-3TQ**
  - Imaging Format: micro convex array
  - Number of elements: 128
  - Convex Radius:10mm
  - Bandwidth:3-9MHz
  - Fundamental Frequency: 4-6MHz, 4-7MHz, 5-8MHz
  - Harmonic Frequency: H5-8MHz, H6-9MHz
  - Doppler Frequency: 3.6MHz, 4.5MHz
  - Focus Position: 11positions adjustable
  - Depth: 10-110mm, 5 mm/step, 110-150mm, 10 mm/step
  - PW velocity: max 6m/s(±60°)
  - Exam Presets: Nerve, Pediatric Abdomen, Neonatal Abdomen, Neonatal Head, Vascular.
  - Applications: Neonate, Pediatric, Abdomen, MSK, Vascular
  - Needle Guide: unavailable
- **C5-2MQ**
  - Imaging Format: convex Wobbler array
  - Number of Elements: 128
  - Convex Radius: 40 mm
  - FOV：69°
  - Bandwidth: 2-5MHz
  - Fundamental Frequency: 2-4MHz, 3-5MHz, 2-5MHz
  - Harmonic Frequency: H2-4MHz, H3-5MHz
  - Doppler Frequency: 2.3MHz, 3.0MHz
  - Focus Position: 11 positions adjustable
  - Depth: 40-300mm, 10 mm/step
  - PW velocity: max 4.75m/s(±60°)
  - Exam Presets: ABD, Early OB, OB, Fetal Echo, GYN

- Applications: Fetal/OB, Abdomen, Gynecology.
- Needle Guide: not available

13. Trolley Cart MT-807 (Optional)

- Snap-in mechanism anchors laptop into the cart
- Adjustable height(fixed-height configured at time of cart assembly), 9'' of travel
- Palm rest to floor distance ranges 31''- 40''
- Fixed deck angle of 15°
- Power converter built under tray
- Built-in tray houses printer and other incidentals

14. Multi-Transducer Connector (Optional)

- Allows up to three transducers to be connected to the system

15. Footswitch (Optional)

- Model (USB Port) USB:FS-81-SP(Twin)-USB, or FS-81-SP-USB
- Support User-definable functions (Freeze, Save, Print)

16. External DVD(Optional)

- Model (USB Port):
  SAMSUNG SE-218GN, SAMSUNG SE-208GN, LENOVO DB75, ASUS SDRW-08D2S-U or PIONEER DVR-XU01C

17. Regulatory approvals

- FDA Class IIa Device
- CE/MDD Class IIa Device
- CFDA: ‖

18. Standard Conformance

- IEC 60601-1: Medical Equipment Safety
- IEC 60601-1-2: Medical Device Electromagnetic Safety
- IEC 60601-2-37: Ultrasonic Medical Equipment Safety
- IEC 60601-1-6: Medical Equipment Usability Safety
- IEC 62133: Battery Safety

- IEC 62304: Medical Device Software Life-cycle Process
- IEC 62366: Medical Device Usability Engineering
- EN ISO 14971: Medical Device Risk Management
- ISO 10993: Medical Device Biocompatibility

19. Regulatory Approval Remarks

The following features are subject to regulatory approval. They are allowed to sale after CE, FDA and Brazil registration are cleared.

- Color Auto Optimization
- Auto OB measurements
- TDI
- Anatomic M mode
- Transducer MC9-3TQ

Acclarix AX4 system is restricted to sale in Canada until Canadian registration cleared.

The features approved to sale depend on the final regulatory approval result.

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