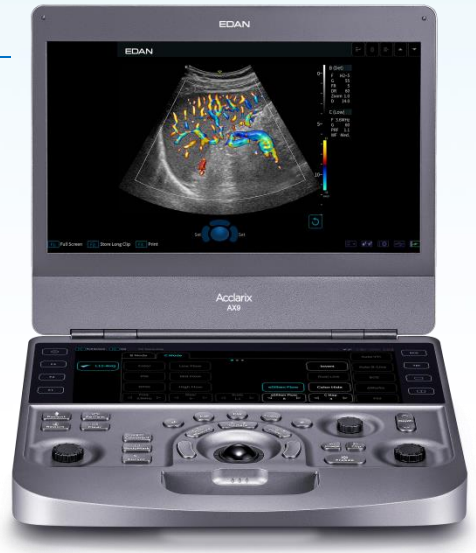
Acclarix AX9 Series

Diagnostic Ultrasound

Version 1.1

Technical Specification

It's the dawning of a new day in the world of compact ultrasound - and it turns out you really can have it all. The remarkable Acclarix AX9 Compact Ultrasound System delivers a powerhouse combination of features in a remarkably small package- making it the ideal choice for tight environments. The Acclarix AX9 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.



Advanced Technique and Features

Synsight(Synthetic Focused Sonography)
TAI-Tissue Adaptive Imaging
Adaptive Doppler imaging
Frequency Compounding Imaging
Spatial Compounding Imaging
Harmonic Imaging
eSRI- Speckle Reduction Imaging
Spectrum Enhancement
Digital Multi-Beam forming
Trapezoid Imaging
Extended FOV
B Steer
Pan Zoom(Digital Zoom)
Auto Trace
HPRF
Linear Anatomic M Mode
Curved Anatomic M mode
Color M mode
Full Screen Zoom
TDI mode-Tissue Doppler Imaging
Physiological Unit Signal(ECG & Respiratory Wave*)
Stress Echo

*Feature is subject to regulatory approval, and may not be available for sale in specific countries.

EDAN

Efficient Workflows

B mode one-key Optimization

Color mode one-key Optimization

PW mode one-key Optimization

TDI mode one-key Optimization

Auto EF & Auto EF(M) *

Auto Strain*

Auto WMSI*

Auto LVOT-D*

Auto VTI*

Auto IVC*

Auto IMT

Auto B-Line*

eDiam. *

eStenosis%*

eVol.Flow

Live VF*

eWorks

eVocal

eDemo

System Architecture

Physical Channels	128
Digital Channels	≤2949120
Gray scale	256
Beam Forming	Max. 128
Processor	i7 with six cores
Memory	32GB
Hard Drive	512GB SSD(Standard)
	1TB SSD (Optional)
Operating System	64 bit Linux
System Boot-up	About 35s
Boot-up from sleep	7s
Shutdown	15s

Dimensions and Weight

Max. Dimension	380mm ± 5mm(W)x380mm ± 5(D)x 63mm±2(H, without cushions)
Net Weight	5.8kg including two batteries (not including power adaptor or transducer)
	4.8 kg without any accessories

Display Monitor

- 15.6'' high resolution LED monitor
- Resolution: 1920 x 1080
- Image Size: 1050*768
- Tilt: 0°-180°
- View angle: right 85°,left 85°,up 85°,down 85°
- Brightness and Contrast adjustable
- Magnetic latch closure

Battery

- Rechargeable Li-ion Battery
- Two batteries, total 13600mAh capacity.
- Removable
- Approximately 2 hours of typical ultrasound exam use.
- Fully charged in about 5 hours in fast-charging mode(in shutdown/ deep sleep state)
- Battery check after startup.
- Battery level icon displayed on the main screen.

Transducer Ports

- One active transducer port
- Three active transducer ports with MTC

AC Power Requirements

Voltage	100 -240 V~
Frequency	50 Hz/60 Hz

Environment Requirements

Operating Environment

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

Storage Environment

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EDAN

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

Language Supported

- English
- Chinese
- German
- Italian
- Spanish
- French
- Russian
- Portuguese
- Polish
- Turkish

I/O Ports

- S-Video port
- USB 3.0 port(Four)
- USB 2.0 port(one)
- Ethernet port
- HDMI port

Other Features

- eLearn instruction tool for basic scanning and nerve blocks.
  - Support instructions for OB&GYN, Nerve block, and GI(ABD, Cardiac, etc) scanning.
  - Provides descriptions of Transducer position, Scan technique, Standard ultrasound image, Anatomy, Needle guide, tips, etc.
  - The illustration pictures can be enlarged to full touch screen display by pressing it.
- One-key full screen zoom(3 levels) by user-defined key F1/F2/F3.
- Built-in stereo speaker
- External microphone(User-buying)

System Ergonomic Design

- Handle--- Provides wrist support during imaging
- Interactive back-lighting
- 3 active transducer ports(with MTC)
- Configurable User interface
- Tiltable display monitor
- Hard Keys provides tactile feedback.
- Touch screen+ trackball for easier operation.
- Configurable Cart MT-818(optional)
  - Height Variable (0~200±10mm)
  - Length 530±5mm, width 570±5mm and height 893±10mm
  - A basket for glossary storage
  - A shelf for Video printer
  - 6 transducer holders with removable silicon cover
  - Cable manager
  - Basket height and position adjustable

User Interface

Control Panel

- Interactive back-lighting
- Hard Keys provides tactile feedback
- Programmable store keys
- 36mm Trackball

Touch Screen

- 12.3'' Touch screen
- Gesture-control
- Virtual TGC curve
- Virtual LGC curve
- User configurable UI

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EDAN

- Support visual Chinese, English and French QWERTY keyboard for text input.
- Brightness adjustable

Main Screen Display

Information Field

- EDAN logo
- Hospital name
- Date
- Time
- Patient ID
- Patient Name
- Patient Gender
- Patient Age
- Transducer model
- Preset name
- Exam preset

Image Field

- Mechanical Index (MI)
- Thermal Index (TI)
- Imaging parameters
- Gray Scale bar
- Depth Scale
- Center Mark
- Measurement result window
- TGC curve
- LMP, EDD

Measurements Menu Field

- Available generic and application measurements for current exam preset.
- Pre-categorized measurement groups.
- Consistent with the display on Measurement Touch Screen

Thumbnail Field(Clipboard)

- All captured static images and cine clips
- Shortcut keys for selecting, viewing, deleting, exporting images
- Quick viewing the thumbnail in the image area.
- Images in thumbnail field can be displayed in single/double columns.

User Feedback Field

- Virtual trackball and trackball keys display
- Cine bar
- Current active functions of user custom key F1/F2/F3

Status Bar

- Image Store Icon
- USB Icon
- Printer Icon
- Task Manager Icon
- Hard Drive Icon
- DVD Icon
- Battery Icon
- Wi-Fi Icon

User Login Management

- Supports User Login at boot up.
- Supports user type of Administrator and Operator.
- Supports switching users without powering off the system.
- Support an Emergency user login for emergency use.

Exam Presets

- System pre-defined exam presets include(Transducer specific) :
  - ABD
  - ABD Diff
  - Lung
  - Appendix
  - eFAST
  - Early OB
  - OB
  - GYN

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- Pelvic Floor
- Urology
- Prostate
- Thyroid
- Breast
- Testis
- Carotid
- Vascular
- Lower Extremity Artery
- Lower Extremity Vein
- Upper Extremity Artery
- Upper Extremity Vein
- Vascular Access
- MSK
- Nerve
- Adult Cardiac
- Pediatric Cardiac
- TCCD
- Intervention
- HIP
- Pediatric Abdomen
- Neonatal Abdomen
- Neonatal Head

- User customizable presets: Copy, Delete, Save as and Rename
- Exam presets are configurable in Set-up.
- Supports a second page, up to 30 presets per transducer.
- Each preset can share comment and body mark measure presets.
- Exam mode layout customizable

Annotations

Comments

- User-customizable home position
- Arrow with user controlled orientation
- Arrow size adjustable
- Soft touch keyboard
- Block move and delete for separate blocks of text
- About 554 pre-defined comments for different presets
- User customizable

Body Mark

- Up to 178 Body Mark graphics in library
- Support separate body mark in Dual and Quad
- User customizable

Imaging

Imaging Modes

B-mode

M-mode

- M-mode
- Anatomic M mode(1/2/3-line AMM and Curved AMM)
- Color M mode

Color Doppler

- Velocity-based color Doppler
- PDI
- DPDI

PW Doppler

CW Doppler

TDI mode

- TVI(Tissue Velocity Imaging)
- TEI(Tissue Energy Imaging)
- TVD(Tissue Velocity Doppler)
- TVM(Tissue Velocity Motion Imaging)

Display Modes

Dual Imaging

- Available for B and Color(PDI/DPDI) mode.
- Displays two image side-by-side, two frozen or one active/one frozen.
- Allows to switch between two images
- Measurements and calculations are supported on each image and across the dual images.
- Annotations are supported on each image.

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Quad Imaging

- Available for B and Color(PDI/DPDI) mode.
- Displays images in four quadrants, four frozen or one active/three frozen.
- Allows to switch between four images.
- Measurements and calculations are supported on each image.
- Annotations are supported on each image

Imaging Mode Combinations

- B+M
- B/C(PDIor DPDI), Single
- B/C(PDI or DPDI), Dual
- B+B/C(PDI or DPDI),Dual live
- B+Color(PDIor DPDI)+M
- B+PW (Duplex)
- B+PW (Update)
- HPRF
- B/C(PDI or DPDI)+PW (Triplex)
- B/C(PDI or DPDI)+PW (Update)
- B+CW (Update)
- B/C(PDI or DPDI)+CW (Update)
- B+TVI/TEI (Update)
- B+TVI/TEI (Dual Live)
- B+TVI/TEI +TVD (Update)
- B+TVI/TEI +TVD (Duplex)
- B+TVI/TEI +TVM

Imaging Parameters

B- mode(Live imaging)

Image Type	Detail/General/Penetration
One-key Optimization	TGC, Gain
Pan Zoom	x0.7-x2.0, PIP(Picture in Picture) display
Display Depth	1-45cm(Probe dependent)
Frequency	1-17MHz Harmonic(Probe dependent)
eSRI	0,1,2,3,4,5,6,7
FOV	Small, Med, Large, Full
Trapezoid	Off, 1, 2, 3(3 levels for expanded view) Max. expanded angle: 10°(Linear transducer)
Steer	0°, ±10°
Gain	0-100dB
TGC	8 segments
LGC	8 segments
Dynamic Range	40-96 dB, 2dB/step
Line density	Low, Med, High
Frame Rate	Linear Transducer: Max. 409f/s(L12-5HQ,Frequency 5-8, Depth=1cm; FOV=Small; B Line density=Low; Spatial Compounding OFF); Convex Transducer: Max. 194f/s (C5-1Q,Frequency 3-4，Depth=4cm; FOV=Small; B Line density =Low; Spatial Compounding ON); Phased Transducer: Max. 248f/s (P5-1XQ,Frequency 2-5，Depth=4cm; FOV=Small; B Line density =Low).
Map	11 types
Persistence	Off, Low, Med, High
Colorize	On, off
Tint	5 Types
Up/Down Flip	
Left/Right Flip	
Spatial Compounding	On, off (max 3 angles)
Acoustic Power	10%-100%
Quick Rotation	0° ,90° ,180° ,270°

B- mode(Post-processing & retrospective)

- Gain

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- DR
- TGC
- LGC
- Zoom
- eSRI
- Colorize
- Map
- Quick Rotation

M-mode(Post-processing & retrospective)

- Gain
- DR
- TGC
- Colorize
- Map
- Strip size
- Side-by-side

M- mode(Live imaging)

Sweep Speed	Fast/High/Med/Low/ Slow (Corresponds to sweep time of 1s, 2s, 4s, 8s and 12s per screen respectively.)
Line Persist	Off, Low, Med, High
Map	11 types
Colorize	On, off
Tint	5 Types
Gain	0-100dB
Frequency	1-17MHz Max 5 Fundamental &5 Harmonic(Probe dependent)
Dynamic Range	40-96 dB, 2dB/step
Strip size	Full, large, Med., small
Side-by-side	On(Left/Right) Off(Up/Down)
Acoustic Power	10%-100%
Anatomic M	On, Off
	Up to 3 linear sample lines
	Adjustable angle of each sample line
Curved AMM	On, Off
	Free-hand drawing of sample line; Sample line supports edition, deletion and revocation.

Color/PDI/DPDI Mode(Live imaging)

Image Type	High Flow/Mid Flow/Low Flow
Dual Live	B+C(PDI/DPDI)
ROI size/position	Adjustable
Frequency	5 levels(Probe dependent)
Dynamic Range	10-70 dB, 5dB/step (not available in Color mode)
Gain	0-100dB, 1dB/step
Line density	Low, Med, High
Frame Rate	Max. 139f/s, depends on transducer
Persistence	Off, Low, Med, High
Smooth	Off, Low, Med, High
Wall Filter	Low, Med, High
Color Map	10 types
Steer Angle	0°,±10°,±15°,±20°,±30° (linear transducers)
PRF	0.6-11.4KHz
Scale	3-425cm/s(Probe dependent)
Baseline	31 levels (Not available for PDI mode)
Threshold	0-100
Invert	On, off (Not available for PDI mode)
Color Hide	On,Off
Vel Distribution	On, Off
One-key Optimization	Gain, Scale
Acoustic Power	10%-100%

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eSilken	On, Off
	5 levels

Color/PDI/DPDI Mode

(Post-Processing & Retrospective)

- Zoom
- Baseline
- Color map
- Invert
- Color Hide
- VelDistr
- eSilken Flow

PW mode(Live imaging)

Image Type	HighFlow/MidFlow/LowFlow
HPRF	Automatic invocation to maintain gate location/scale
Auto Trace	User selectable trace side
Auto Trace Side	Up, down, both
Duplex	
Triplex	
Frequency	2 levels
PRF	0.9-14.7kHz
Gain	0-100dB, 1dB/step
Dynamic Range	10-70 dB, 5dB/step
Wall Filter	Low, Med, High
Sweep Speed	Fast/High/Med/Low/ Slow (Corresponds to sweep time of 2s, 4s, 6s, 8s and 12s per screen respectively.)
Baseline	9 levels
Angle Correction	-80° to 80°
Quick Angle	-60°/0°/60°
Steer Angle	0°,±10°,±15°,±20°,±30° (linear transducers)
Invert	On, Off
Volume	0-99
Map	11 types
Colorize	On, off
Tint	7 Types
Gate Size	0.5-34 mm
Strip size	Full, large, Med., small
One-key Optimization	Invert, Scale/Baseline, user configurable
Acoustic Power	10%-100%
PW velocity	Max. 1257.67cm/s (correct angle 60°);
	Max. 3621.31cm/s (correct angle 80°)
	Min. 1mm/s (Non-noise signal)

PW Mode (Post-Processing & Retrospective)

- Gain
- DR
- Colorize
- Map
- Baseline
- Angle
- Invert
- Strip size
- Auto trace
- Trace side
- Quick Angle

CW mode(Live imaging)

Image Type	HighFlow/MidFlow/LowFlow
PRF	1-100kHz
Gain	0-100dB,1dB/step
Dynamic Range	10-70 dB, 5dB/step
Wall Filter	Low, Med, High
Sweep Speed	Fast/High/Med/Low/ Slow (Corresponds to sweep time of 2s, 4s, 6s, 8s and 12s per screen respectively.)
Baseline	9 levels
Angle Correction	-80° to 80°

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Quick Angle	-60°/0°/60°
Invert	On, Off
Volume	0-99
Map	11 types
Colorize	On, off
Tint	7 Types
Strip size	Full, large, Med., small
Acoustic Power	10%-100%
CW velocity	Max. 22171.30cm/s (correct angle 80°)
	Min. 1cm/s

CW Mode (Post-Processing & Retrospective)

- Gain
- DR
- Colorize
- Map
- Baseline
- Angle Correct
- Invert
- Strip size
- Quick Angle

TVI(Color-TDI) Mode(Live imaging)

Image Type	HighFlow/MidFlow/LowFlow
Dual Live	B+Color-TDI(TVI)
ROI size/position	Adjustable
Frequency	2 levels
Gain	0-100dB, 1dB/step
Line density	Low, Med, High
Persistence	Off, Low, Med, High
Smooth	Off, Low, Med, High
Wall Filter	Low, Med, High
Color Map	10 types
PRF	0.9-11.4KHz(Probe dependent)
Scale	8-236cm/s (Probe dependent)
Baseline	31 levels (Not available for TEI mode)
Threshold	0-100
Invert	On, off (Not available for TEI mode)
Color Hide	On,Off
Vel Distribution	On, Off
Acoustic Power	10%-100%

TVI(Color-TDI) Mode

(Post-Processing & Retrospective)

- Baseline
- Color map
- Invert
- Gain
- Color Hide

TVD(PW-TDI) mode(Live imaging)

Image Type	HighFlow/MidFlow/LowFlow
Duplex	On, Off
PRF	0.9- 14.7kHz
Frequency	2 levels
Gain	0-100dB, 1dB/step
Dynamic Range	10-70 dB, 5dB/step
Wall Filter	Low, Med, High
Sweep Speed	Fast/High/Med/Low/ Slow (Corresponds to sweep time of 2s, 4s, 6s, 8s and 12s per screen respectively.)
Baseline	9 levels
Angle Correction	-80° to 80°
Quick Angle	-60°/0°/60°
Invert	On, Off
Volume	0-99
Map	11 types
Colorize	On, off
Tint	7 Types
Gate Size	0.5-34 mm

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Strip size	Full, large, Med., small
Acoustic Power	10%-100%
Auto Trace	
Trace Side	Up, down, both

TVD(PW-TDI)(Post-Processing & Retrospective)

- Gain
- DR
- Colorize
- Map
- Baseline
- Angle
- Invert
- Stripe size
- Auto trace
- Trace side
- Quick Angle

Review and Post-Processing functions

Cine Review

- Frame by frame manual review/Auto review
- Start frame and end frame are selectable for cine loop review.
- Maximum cine memory in the cine bar(depending on transducers and image parameters):
  - 41500 frames for B mode
  - 24600 frames for Color mode
  - 148s for M mode
  - 2600s for PW/CW Doppler mode

Raw Data Post-Processing Features

The following Post-Processing features are available when in image/cine review of current exam or the stored exam.

- Adjusting B imaging parameters
- Report edition
- Annotations: Comment and Body Mark
- Storing static image/ cine loop

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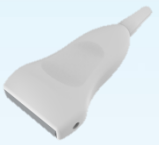
Transducers and Biopsy Guide

Transducer Applications

Transducer		Applications	Transducer		Applications
C5-1Q*		Abdomen Fetal / Obstetrics Urology Gynecology	L12-5HQ*		Peripheral Vascular Musculoskeletal Small Parts Abdominal Fetal / Obstetrics Pediatric
P5-1XQ*		Adult Cardiac Abdominal Pediatric Cardiac Adult Cephalic	MC8-4Q		Pediatric Abdomen Neonatal Peripheral Vascular
C5-2Q*		Abdomen Fetal / Obstetrics Urology Gynecology	L12-4HQ*		Peripheral Vascular Musculoskeletal Small Parts Abdominal Fetal / Obstetrics Pediatric
P5-1Q*		Adult Cardiac Abdomen Pediatric Cardiac Adult Cephalic	L17-7HQ*		Small Parts Peripheral Vascular
E10-3HQ*		Fetal / Obstetrics Gynecology	C5-2XQ		Abdomen Fetal / Obstetrics Urology Gynecology
P7-3Q		Adult Cardiac Pediatric Pediatric Cardiac Neonatal cephalic			

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Transducer Specifications

Transducer	L12-5HQ*	P5-1XQ*	C5-1Q*
Transducer Type	Linear	Phased	Convex
Bandwidth@ -6dB	5-12MHz	1-5MHz	1-5MHz
Bandwidth@ -6dB(H)	H6-12MHz	H1-5MHz	H2-7MHz
Elements	192	80	160
Footprint	38mm	20mm	NA
Convex Radius	NA	NA	50mm
FOV	NA	90°	64°
Display Depth	11cm	30cm	45cm
Biopsy Guide	Yes	Yes	Yes
Cable Length	2.0m	2.0m	2.0m
Insertion Length	/	/	/

Transducer	C5-2Q*	L12-4HQ*	P5-1Q*	L17-7HQ*	E10-3HQ*
Transducer Type	Convex	Linear	Phased	Linear	Intra-cavity
Bandwidth@ -6dB	2-5MHz	5-11MHz	1-5MHz	6-15MHz	4-9MHz
Bandwidth@ -6dB(H)	H2-	H6-12MHz	H1-5MHz	H9-17MHz	H4-9MHz
Elements	128	192	80	192	192
Footprint	NA	38mm	16mm	38mm	NA
Convex Radius	60mm	NA	NA	NA	10mm
FOV	64°	NA	90°	NA	200°
Display Depth	45cm	11cm	30cm	11cm	14cm
Biopsy Guide	Yes	Yes	Yes	Yes	Yes
Cable Length	2.0m	2.0m	2.0m	2.0m	2.0m

Transducer	C5-2XQ	P7-3Q	MC8-4Q
Transducer Type	Convex	Phased	Micro Convex
Bandwidth@ -6dB	2-5 MHz	3-7MHz	4-8MHz
Bandwidth@ -6dB(H)	H2-7MHz	H3-7MHz	H4-9MHz

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EDAN

Elements	128	96	128
Footprint	NA	15 mm	NA
Convex Radius	60mm	NA	15mm
FOV	60°	90°	100°
Display Depth	45cm	18cm	15cm
Biopsy Guide	No	No	Yes
Cable Length	2.0m	2.0m	2.0m

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Biopsy Guide

- **Needle Guide**
  - Supports guide lines of multiple angles
  - Supports single and parallel guide line
  - Supports guide line calibration
- **Center Line**
  - Center Line is a vertical dotted line displayed at the middle of the image field, representing the middle of ultrasound beam. It helps to locate the position and depth of a target disease focus for out-of-plane biopsy, lithotripsy and etc..
- **Supported Needle Guided Brackets**

Model	Type	Angle/Depth	Description
BGK-009*	In-plane	14°,20°, 32°	For use with the C5-1Q* Supports:14G-23G
BGK-021	In-plane	36°,48°,60°	For use with the L12-5HQ* Supports:11G-23G
BGK-022	Out-of-plane	1.0cm,1.5cm,2.0cm	For use with the L12-5HQ* Supports:21G
BGK-P5-1X	In-plane	15°, 25°	For use with the P5-1XQ* Supports:11G-23G
BGK-002	In-plane	38°, 46°, 58°	For use with the L12-4HQ*/L17-7HQ* Supports:14G-23G
BGK-003	Out-of-plane	1.0cm,1.5cm,2.0cm	For use with the L12-4HQ*/L17-7HQ* Supports:21G
BGK-006	In-plane	1°	For use with the E10-3HQ* Supports:16G, 18G
BGK-007	In-plane	18° , 25° , 35°	For use with the C5-2Q* Supports:14G-23G
BGK-012	In-plane	11°,20°,37°	For use with the MC8-4Q Supports:14G-23G
BGK-027*	In-plane	12° , 22°	For use with the P5-1Q* Supports:14G-23G

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Measurements

- Default measurement unit options
  - Distance: mm, cm
  - Area: mm^2 , cm^2
  - Volume: mm^3 , cm^3
  - Velocity: cm/s, m/s
- Caliper Size: switch automatically according to the distance (3 sizes)
- Dynamic display of measurement results
- Reposition caliper
- Pre-categorized measurement groups based on clinical applications; Configurable in Measure Preset. Measured results of each measurement is configurable in Measure Preset.
- Measurements displayed on main screen and touch screen are consistent.

General Measurements

B-mode

- Distance(Dist. 2point, Dist. 2Line, Length Trace, Ratio D1/D2, Stenosis %Dist)
- Circ/Area (Area Ellipse, Area Trace, Area Spline, Ratio A1/A2, Stenosis % Ellipse, Stenosis % Trace, Stenosis % Spline)
- Angle(Angle 3Point,Angle 2Line)
- Volume(Volume 3Dist., Ellipse 1Dist)
- Vessel(Diam. 2point, Diam. Ellipse, Stenosis %Diam., Stenosis %Area, IMT)
- VF Area

M-mode

- Distance
- Time
- Slope
- HR

Doppler mode

- PS,ED,RI,S/D
- PS
- ED
- RI
- PI
- Auto Trace(measured results is configurable)
- Manual Trace
- Spline Trace
- Time
- HR
- Velocity
- PGMax
- PGMean
- Volume Flow
- TEI index: COT, ET

Application Measurements/calculations

Abdomen

B-mode:

- Liver
  - Length, Width, Height
  - Portal Vein Diameter
  - Common Hepatic Duct
- Gallbladder
  - Length, Height
  - Gallbladder Wall Thickness
  - Common Bile Duct
- Pancreas
  - Duct,Head, Body, Tail
- Spleen
  - Length, Height
- Renal
  - Length, Width, Height
  - Volume(calculation)
  - Renal Cortex Thickness
- Aorta Diameter

PW mode:

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- Portal V
- HA
- Splenic A
- SMA
- AA
- Hepatic A
- M Portal V
- Splenic V
- IMA
- HR
- M Hepatic V
- SMV
- Renal A
- IMV
- Time

M-mode:

- IVC-DI
- IVC-CI

Gynecology

B-mode:

- Uterus
  - Length, Width, Height
  - Endometrium Thickness
  - UT Cavity
  - UT-L/CX-L(calculation)
- Cervix
  - Length, Width, Height
  - UT-L/CX-L(calculation)
- Ovary
  - Length, Width, Height
  - Volume(calculation)
- Follicle
- Cyst
- Fluid POD
- Fibroid
- Mass
- Pelvic Floor
  - BSD(R)
  - BSD(S)
  - RVA(R)
  - RVA(S)
  - UTA(R)
  - UTA(S)
  - URA
  - DWT
  - Residual urine
  - BWD
  - UD
  - RAD
  - Rectocele Depth
  - Anal rectum Angle
  - LH Area
  - LH AP Diam
  - LH Lateral Diam
  - LUG

PW mode:

- Uterine Artery
- Ovary Artery
- Time
- HR

Obstetrics

B-mode:

• Fetal Biometry	BPD, HC, AC, FL, HUM, CER, OFD, NF, TAD, APAD, THD, APTD, TTD, FTA,
• Early Gest	CRL, BPD, FL, HUM, NT, GS, YS, AF
• Long Bones	HUM, ULNA, RAD, TIB, FIB, Foot
• Fetal Cranium	CER, NT, NF,CM,LVW,NB

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• AFI	Q1, Q2,Q3,Q4

PW mode:

- MCA
- Umb. A
- Planenta A
- Ovary A
- Ut. A
- Ductus V
- FHR
- Time

M-mode:

- FHR
- IVC-DI
- IVC-CI

Cardiac

B-mode:

• LV Simpson	A4C Dias., A4C Sys., A2C Dias., A2C Sys.
• RV Simpson	A4C Dias., A4C Sys., A2C Dias., A2C Sys.
• A/L(LV)	LVd, LVs
• Simp(LA)	LA A4Cs, LA A2Cs
• Simp(RA)	RA A4Cs
• LVM(A/L)	LVAd Sax Epi, LVAd Sax Endo, LVAd Apical
• LV	LVPWd, LVPWs, LVIDd, LVIDs
• RV	RVAWd、RVAWs、RVIDd、RVIDs
• LV Study	IVSTd, LVIDd, LVPWd, IVSTs, LVIDs, LVPWs
• LA/Ao	LA Diam, AoD
• AO	AoD, Ao Asc,Desc Ao Diam
• Dimensions	RVOT Diam, LVOT Diam, MV Diam, MVA, MPA Diam, PV Diam, TV Diam, IVC Diam, RVDs, AVA
• LA/RA	RA length, RA Width, LA length, LA width, LA Dimen
• PISA	MR Rad, MR Als. Vel, AR Rad, AR Als. Vel, TR Rad, TR Als. Vel, PR Rad, PR Als. Vel
• PE	PE to Sept Wall, PE to Lat Wall, PE to Ant Wall, PE to Inf Wall, PE to RV, PE to RA
• Auto EF(B)	4CH, 2CH
• LVM(T-E)	LVAd Sax EPi, LVAd Sax Endo, a, d
• LVM(Cube)	IVSTd,LVIDs,LVPWd

Color mode:

• PISA	MR Rad, MR Als. Vel, AR Rad, AR Als. Vel, TR Rad, TR Als. Vel, PR Rad, PR Als. Vel

PW mode:

• MV	MV E Vel, MV A Vel, MV PHT, MV VTI, IVRT, MV E Dur, MV A Dur, MV DecT, MR Vmax, MR VTI，dp/dt
• MVA(VTI)	LVOT VTI, MV VTI
• LV TEI	MV C-O Dur, LVET
• TV	TV E Vel , TV A Vel , TV VTI, TV Vmax
• RV TEI	TV C-O Dur, RVET
• RVSP	TR Vmax,RA Pressure
• AV	LVOT VTI, LVOT Vmax, LVOT Accel Time, AV VTI, AV Vmax,

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	AV Accel Time, AV Decel Time, AR VTI, AR Vmax, AR Accel Time, AR PHT, AR Decel Time
• AVA(VTI)	LVOT VTI, AV VTI
• AVA(Vmax)	LVOT Vmax, AV Vmax
• CO(LVOT)	LVOT VTI, HR-AV
• PV	PV VTI, PV Vmax, PV Accel Time, PR Vmax
• PVA(Vmax)	RVOT Vmax, PV Vmax
• PVA(VTI)	RVOT VTI, PV VTI
• CO(RVOT)	RVOT VTI, HR-PV
• Pulm&Hep Veins	Pulm S Vel, Pulm D Vel, Pulm A Vel, Pulm A Dur, Hep S Vel, Hep D Vel, Hep. A Vel, Hep A Dur
• HR	
• PISA	MR Trace, AR Trace, TR trace, PR Trace
• TDI	Sa Medial, Ea Medial, Aa Medial, Sa Lateral, Ea Lateral, Aa Lateral
• Qp/Qs	LVOT VTI，RVOT VTI

M- mode:

• LV	LVPWd, LVPWs, LVIDd, LVIDs
• RV	RVAWd、RVAWs、RVIDd、RVIDs
• LV Study	IVSTd，LVIDd，LVPWd，IVST s，LVIDs，LVPWs
• Time	LVET, LV PEP, RV PEP
• MV	MV D-E Exc, MV D-E Slope, E-F Slope, EPSS, MV E-E Sep, MV A-C Interval, MAPSE
• TV	TAPSE
• LA/Ao	LA Diam, AoR Diam, RVOT Diam，ACS
• HR	
• LVM(Cube)	IVSTd，LVIDd，LVPWd
• IVC-DI	
• IVC-CI	

Small Parts

B-mode:

- Thyroid
  - Length, Width, Height
  - Volume(calculation)
  - Thyroid Isthmus
- Breast
  - Lesion1, Lesion2, Lesion3, Lesion4, Lesion5
- Testis
  - Length, Width, Height
  - Volume(calculation)
  - HR
  - Time

PW mode:

- Superior Thyroid Artery
- Inferior Thyroid Artery
- HR
- Time

Urology

B-mode:

- Renal
  - Length, Width, Height

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- Volume(calculation)
- Renal Cortex Thickness

- Bladder
  - Pre-void Bladder (Length, Width, Height, volume)
  - Post-void Bladder (Length, Width, Height, volume)
  - Urinary Volume(calculation)
- Prostate
  - Length, Width, Height
  - Volume(calculation)
- Seminal
  - (Length, Width, Height
- Testis
  - Length, Width, Height
  - Volume(calculation)

PW mode:

- Renal Artery
- Arcuate Artery
- Segmental Artery
- Interlobar Artery
- HR
- Time

Vascular

B-mode:

Carotid	
• CCA	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• ECA	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• ICA	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• Vert A	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• SUBC A	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• BIF	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area
UEA	
• SUBC A	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• Axill A	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• Brach A	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• Ulnar A	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• Radial A	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
LEA	
• CIA	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• EIA	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• IIA	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• CFA	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis

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	Area, VF Area
• DFA	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• SFA	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• Pop A	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• ATA	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• PTA	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• Peron A	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
• DPA	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area, VF Area
LEV	
• CIV	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area
• EIV	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area
• IIV	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area
• CFV	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area
• DFV	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area
• SFV	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area
• Saph V	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area
• Pop V	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area
• Peron V	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area
• PTV	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area
• ATV	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area
• SSV	IMT Far, IMT Near, Diam., Area, Stenosis Diam., Stenosis Area

PW mode:

Carotid	
• CCA	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• ECA	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• ICA	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace,

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	Spline Trace, PI, Vol.Flow, eVol.Flow
• Vert A	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• SUBC A	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• HR	
• Time	
UEA	
• SUBC A	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• Axill A	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• Brach A	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• Ulnar A	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• Radial A	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• HR	
• Time	
LEA	
• CIA	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• EIA	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• IIA	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• CFA	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• DFA	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• SFA	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• Pop A	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• ATA	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• PTA	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• HR	

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• Peron A	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• DPA	Auto Trace, PS, ED, RI, PS,ED,RI,S/D ,Manual Trace, Spline Trace, PI, Vol.Flow, eVol.Flow
• Time	
LEV	
• CIV	
• EIV	
• IIV	
• CFV	
• DFV	
• SFV	
• Saph V	
• Pop V	
• Peron V	
• PTV	
• ATV	
• SSV	

- PFD

Pediatrics

B-mode:

- Neo-Head
  - LLV
  - RLV
  - LT Tri
  - RT Tri
- HIP
  - HIP Angle
  - HIP d/D
  - Femoral Head-L
  - Femoral Head-W

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Reports

- Editable worksheet
- Report type: ABD, GYN, OB, URO, VAS, SMP, CARD, Pediatric
- Findings/Comments section
- Supports fetal growth curve and grow bar display; supports data display of max. 4 fetus
- User-imported Report Header
- User-defined hospital logo
- Multiple number of selected images, support select all images to add into the report in one key
- Support zoom in preview
- Support print by report printer.
- Supports custom report information
- Support display the time of system's first use displayed in the report
- Support display BMI and BSA
- Supports clear all exam information in one key.

Image Storage

- Static image/Cine clip is stored in ultrasound system in DICOM format.
- Two dedicated hard keys on the console for capturing static image and cine clips respectively.
- Supports up to 110,000 lossless single frames.
- Compression types of static image and clip: lossless, high, mid, low
- Support one-key export of image/cine clip to USB disk
- Support storing long clip in B mode through the user-defined key F1/F2/F3, maximum length 30min.
- Supports cine clips export to USB disk.

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, JPEG, TIF, DICOM or RawData format

Support export cine clip as AVI, WMV or DICOM format

Support import/export exams(including patient information, images, etc).

Support export exam in the background

Support image compare

Exam Archiving

All Clips and Static images stored on the system can be archived to other storage device for long-term storage as described below.

- Archived to DICOM server.
- Archived to USB device.
- Archived to FTP server
- Archived to DVD drives.
- Sent to Mobile devices

Connectivity

Network

- Wired network connection
- Wi-Fi connection

DICOM 3.0 Service

- DICOM Storage
  - Connectivity to PACS system for storage of all static image or cine clips with patient information.
  - DICOM store to multiple networks
  - Manual-Transfer in background on Demand

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- In-progress network storage in background
- Auto-transfer in background at exam end
- Transfer management UI for viewing transfer task status, retransferring a task or deleting a transfer task.
- Transfer process encrypted.
- Supports Structured Report transferring: OB, GYN, Cardiac, Vascular, ABD and Breast.
- Supports setting the image compression ratio when exporting images
- Supports exports DICOM files to USB/DVD

- **DICOM Modality Worklist**
  - Enables query of the patient worklist schedule from hospital information system to the ultrasound system via DICOM network connection.
  - Query of worklist on demand or on start of exam.
  - Populates the Patient Information screen with patient demographic information automatically when one patient is selected.

- DICOM MPPS
  - The MPPS service enables the ultrasound system sending the exam status to Worklist server automatically when starting or ending an exam.
- DICOM Print
  - Prints the images remotely via a DICOM printer which connects to a DICOM server.
  - Multiple parameters for printing are configurable.
  - Supports multi-image printing
  - Supports color printing
- DICOM Storage Commitment
  - Enables the function to confirm whether the DICOM transfer task to the DICOM server is successful.
  - supports the establishment of a new association for receiving storage commitment information
- DICOM Query/Retrieve
  - Supports entering key words for query prior exams from DICOM server.
  - Supports download a queried exam to local disk for reviewing.
- IHE Certification

FTP Network Store Service

- Supports to transfer exams to FTP servers for storage in the background.
- Transfer management UI for viewing transfer task status, retransferring a task or deleting a transfer task.
- A PDF report can be sent to FTP server together with the exam.

Scan Transfer

- Supports sending image/clips to mobile devices by Cloud Share and WLAN direct connection functions.

Printers

- Video printers
  - SONY UP-X898MD
  - SONY UP-25MD
  - Mitsubishi P95
- Local report printer
  - HP Officejet Pro 251dw
  - HP LaserJet Pro 200 color M251n
  - HP LaserJet CP1525n Color
  - HP Deskjet Ink Advantage 2010
  - HP Deskjet 1510
  - HP LaserJet 400 M401d
  - HP DeskJet Ink Advantage Ultra 2029
  - HP DeskJet 1112

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- Canon iP2780
- HP LaserJet Pro MFP M126nw
- HP DeskJet 1050
- HP DeskJet 2050
- HP LaserJet M252n
- HP Color Laser 150a
- HP Color Laser 150nw
- HP Laser 103a

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.

Safety and Regulatory

The Acclarix AX9 series Diagnostic Ultrasound System have been designed, manufactured and tested to comply with the following internationally recognized standards:

- IEC 60601-1: Medical Equipment Safety
- IEC 60601-1-2: Medical Device Electromagnetic Safety
- IEC 60601-2-37: Ultrasonic Medical Equipment Safety
- IEC 62304: Medical Device Software Life-cycle Process
- IEC 62366: Medical Device Usability Engineering
- EN ISO 14971: Medical Device Risk Management
- ISO 10993-1: Biological evaluation of medical devices — Part 1:Evaluation and testing within a risk management process sheet

Device Classification:

- FDA Class II Device
- CE/MDR Class IIa Device

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Revision History

Version	Revisions	Date
1.0	Initial release.	2023-09-16
1.1	Updated for V3.21 release.	2023-11-14

This datasheet applies to Acclarix AX9 series Diagnostic Ultrasound Systems, including Acclarix AX9 Basic, Acclarix AX9, Acclarix AX9 Exp, Acclarix AX9 Super, Acclarix AX85 and Acclarix AX88 models.

The configuration difference between each model listed in the following table.

Models	Configuration Difference			
	Feature 1	Feature 2	Feature 3	Feature 4
	Seminal Vesicle Meas.	Testis Meas.	Pouch of Douglas Fluid Meas.	Single Button Footswitch
Acclarix AX9 Basic	×	×	√	×
Acclarix AX9	×	√	√	×
Acclarix AX9 Exp	√	×	×	√
Acclarix AX9 Super	√	√	√	×
Acclarix AX85	×	√	×	√
Acclarix AX88	√	×	√	×

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