Acclarix AX3 VET Series

Diagnostic Ultrasound

Version 1.4



Technical Specification

The remarkable Acclarix AX3 VET series Compact Ultrasound System delivers a powerhouse combination of features to meet the demands of point-of-care and general imaging applications. The Acclarix AX3 VET series 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. Dual active transducer ports design enables switching transducer seamlessly at a finger tip. Dual batteries extend the imaging scanning. Extremely light body embodied with brand new EIS operating system empowers smooth system operation and fast system response.

Advanced Technique and Features

TAI-Tissue Adaptive Imaging
eSRI- Adaptive Speckle Reduction Imaging
Frequency Compounding Imaging
Adaptive Spatial Compounding Imaging
Harmonic Imaging
B mode one-key Optimization
PW mode one-key Optimization
Digital Multi-Beam forming
Trapezoid Imaging
Adaptive Doppler imaging
Spectrum Enhancement
Digital Zoom
Full Screen Zoom
Auto Doppler trace
Anatomic M mode
Color M mode

TDI mode-Tissue Doppler Imaging
3D/4D Imaging
Needle Visualization
ECG synchronization
Elastography mode
Panorama

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System Overview

System Architecture

Physical Channels	64
Digital Channels	≤1105920
Gray Scale	256
Beam Forming	Eight beam
Processor	ARM
Memory	2 GB
Gray Scale	256
Hard Drive	120GB/512GB/1TB SSD/2TB SSD
Operating System	Android
System Boot-up	About 30s
Boot-up from sleep	5s(Sleep mode) 8s(Deep Sleep mode)
Shutdown	3s

Dimensions and Weight

Dimension	395 mm×385 mm×64mm（without cushion）
Net Weight	≤4.5kg(no battery and any other accessory)

Monitor

- 15.6'' high resolution LED monitor
- Resolution: 1920 x 1080
- Image Size: 1040*780
- Open angle: 0°-180°
- Magnetic latch closure
- Built-in stereo speaker
- Brightness and Contrast adjustable

Transducer Ports

- Dual active transducer ports
- Single or Dual transducer ports configurable
- One MTC module is supported, and maximum four transducers can be connected simultaneously.

Battery

- Rechargeable Li-ion Battery
- Max. two batteries configurable
- 6800mAh capacity for each battery (two batteries with 6800mAh*2 capacity)
- Approximately 1.5 hour of typical ultrasound exam use for one fully charged battery.
- Approximately 3 hours of typical ultrasound exam use for two fully charged batteries.
- One battery fully charged in about 3.5 hours
- Two batteries fully charged in about 6.5 hours.
- Removable
- Battery indicator on the console near the handle.
- Battery level icon displayed on the main screen.
- Up to 18 hours Standby time(two fully charged batteries) in Deep Sleep mode.

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

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

Language Supported

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

I/O Ports

- S-Video
- USB 3.0
- USB 2.0(two)

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- HDMI
- Ethernet

Options

- Transducers
- Needle Guide Bracket Kits
- Printers
- Battery
- USB Disk
- 512GB/1TB SSD/2TB SSD
- WIFI
- Footswitch
  - Single button/Double buttons
  - User-defined Functions(Freeze, Save, Print)
- Simple Cart: MT-808
  - Height Variable (0~200±10mm)
  - Length 602±5mm, width 600±5mm and height (849~1049)±5mm
  - A drawer for glossary storage
  - A shelf for Video printer
  - 4 transducer holders and 2 gel holders with removable silicon cover
  - Cable manager
  - Drawer height and position adjustable
- Simple Cart MT-818
  - 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
- Suitcase
- MTC module.
- External ECG module
- External DVD drive
- Coupling gel

System Ergonomic Design

Dual Transducer Ports

Dual active transducer ports design enables switching transducer seamlessly at a finger tip, and reduce the workload of disconnecting/connecting transducers during an exam.

Handle

Provides wrist support during imaging.

Magnesium alloy body

Extremely light weight realizes the true portability.

User Interface

Control Panel

- Interactive back-lighting
- Hard Keys provides tactile feedback
- User-defined keys
- Physical trackball

Touch Screen

- 10.1'' Touch screen
- Gesture-control
- Virtual TGC sliders
- Support visual Chinese, English QWERTY keyboard, German QWERTZ keyboard, French AZERTY keyboard and Portuguese keyboard for text input
- Brightness adjustable

Main Screen Display

Information Field

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

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Image Field

- Animal Species
- Mechanical Index (MI)
- Thermal Index (TI)
- Imaging parameters
- Gray Scale bar
- Depth Scale
- Center Mark
- Measured result window
- TGC curve

Measurements Menu Field

- Available generic and application measurements for current exam preset.
- Pre-categorized measurement groups.
- Consistent with the display on Measurement Touch Screen (10.1-inch).

Thumbnail Field

- All captured static images and cine clips
- Quick preview of thumbnails in image area
- Shortcut keys for selecting, viewing, deleting, exporting images.

User Feedback Field

- Virtual trackball and trackball keys
- Cine bar
- Exit icon for exiting RawData review status.
- The active function of user-defined key F1/F2.
- PIP display

Status Bar

- Utility Icon(access to Utilities function)
- Image Store Icon
- USB Icon
- Printer Icon
- WIFI Icon
- Network Transfer Status Icon
- Hard Drive Icon
- Battery Icon
- DVD icon

User Login Management

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

Other Features

- One-key full screen zoom (3 levels) by user-defined key F1 or F2.

Exam Presets

- System pre-defined exam presets include(Transducer specific) :
  - Large Canine ABD
  - Medium Canine ABD
  - Small Canine ABD
  - Large Feline ABD
  - Small Feline ABD
  - Bovine ABD
  - Ovine ABD
  - Equine ABD
  - Others
  - Canine Reproduction
  - Feline Reproduction
  - Bovine Reproduction
  - Ovine Reproduction
  - Equine Reproduction
  - Small Cardiac
  - Large Cardiac
  - Small Parts
  - Vascular
  - Superficial
  - MSK
  - Equine MSK
  - Equine Frog
  - Equine Pastern
  - Equine Tendon Ligament
  - Equine Joint

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- 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, body mark, and measure presets.
- The display order of the exam presets can be adjusted under each transducer.

Annotations

Comments

- User-programmable home position
- Arrow with user controlled orientation
- Seven language soft keyboard: Chinese, English, French, German, Russian, Spanish, Portuguese.
- Block move and delete for separate blocks of text
- Smart text replacement for predefined text (e.g., Long replaces Trans with one keystroke)
- 185 pre-defined comments
- User customizable
- English Comments Library is supported when the system language is not in English.

Body Mark

- Up to 45 Body Mark graphics in library
- Support separate body mark in Dual/Quad mode.

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Imaging

Imaging Modes

B-mode

M-mode

- M-mode
- Anatomic M mode(3-line AMM)
- Curved Anatomic M mode
- Color M mode

Color Doppler

- Velocity-based color Doppler
- PDI
- DPDI

PW Doppler

CW Doppler

TDI mode

- TVI
- TEI
- TVD
- TVM

3D/4D mode

Elastography Mode

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 both images.

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(PDI or DPDI), Single
- B/C(PDI or DPDI), Dual
- B/C(PDI or DPDI), Quad
- B+B/C(PDI or DPDI), Dual live
- B+C (PDI or 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
- B+TVI+TEI
- B+TVI+TVD(Update)
- B+TVI+TVD(Triplex)
- B+TVM(Update)
- B+E

Imaging Parameters

B- mode(Live imaging)

Image Type	Detail/General/Penetration
Auto(one-key optimization)	TGC, Gain
Digital Zoom	x0.8-x2.0
Display Depth	1-45cm
Frequency	1-17MHz Max. 5 fundamental + 5 harmonic (depends on transducer)
Frequency display	Bandwith, Frequency points
eSRI	Off, Low, Med, High
FOV	Small, Med, Large, Full
Steer	0°, ±10°
Gain	0-100dB, 1dB/step
TGC	8 segments
LGC	8 segments

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Dynamic Range	40-96dB, 2dB/step
Line Density	Low, Med, High ≤484 lines
Max. Frame Rate	532f/s, depends on transducer
Map	11 Types
Persistence	Off, Low, Med, High
Focus Position	Max. 16 positions, adjustable
Focus Number	1-3, adjustable
Colorize	On, off
Tint	5 Types
Up/Down Flip	
Left/Right Flip	
Spatial Compounding	On, off (max 3angles)
Trapezoid	8,12,20, off(Linear transducer) Max. 10° left/right extended angle
Acoustic Power	10%-100%, 10%/step
Quick Rotation	0°,90°,180°,270°
Panorama	On, Off
	Real-time speed indicator
	360° rotation of Panoramic image

B- mode(Post-processing & retrospective)

- Gain
- TGC
- LGC
- Zoom
- Dynamic range
- eSRI
- Colorize
- Map
- Up/Down Flip
- Left/Right Flip
- Quick Rotation

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, 1dB/step
Frequency	1-17MHz Max. 5 fundamental + 5 harmonic (depends on transducer)
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%, 10%/step
Anatomic M	On, off
	Up to 3 linear sample lines
	Adjustable angle of each sample line
Curved Anatomic M Mode	On, off
	Free-hand drawing of sample line; Sample line supports edition and deletion.

M- mode(Post-processing & retrospective)

- Gain
- TGC
- Dynamic range
- Colorize
- Map
- Stripe Size
- Side-by-side

Color/PDI/DPDI Mode(Live imaging)

Image Type	HighFlow/MidFlow/LowFlow
Dual Live	

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ROI size/position	Adjustable
Frequency	Max. 5 levels (depends on transducer)
Gain	0-100dB, 1dB/step
Line Density	Low, Med, High
Dynamic Range	10-70 dB, 5dB/step Not available for Color mode
Max. Frame Rate	260f/s, depends on transducer
Persistence	Off, Low, Med, High
Smooth	Off, Low, Med, High
Wall Filter	Low, Med, High
Color Map	8 Types
Steer Angle	0°,±10°, ±20°(L12-5Q) 0°, ±15°, ±30°(L12-5Q, small canine, large feline, small feline, feline OB, SMP, others) 0°,±10°,±20°(L17-7HQ)
PRF	0.6- 11.4kHz
Baseline	25 levels (Not available for PDI mode)
Threshold	0-100
Invert	On, off (Not available for PDI mode)
Acoustic Power	10%-100%, 10%/step
Color Hide	
Panorama	On, Off
	Real-time speed indicator
	360° rotation of Panoramic image

Color/PDI/DPDI Mode (Post-Processing & Retrospective)

- Zoom
- Color map
- Invert (Not available for PDI mode)
- Baseline
- Color Hide
- Velocity Distribution

PW mode(Live imaging)

Image Type	HighFlow/MidFlow/LowFlow
HPRF	Automatic invocation to maintain gate location/scale
Auto Trace	
Trace Side	Up, down, both
Duplex	Max. FR: 43f/s, depends on transducer
Triplex	Max. FR: 11f/s, depends on transducer
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, 3s, 4s, 6s and 8s per screen respectively.
Baseline	9 levels
Angle Correction	-80°to 80°
Quick Angle	-60°/-45°/-30°/-15°/0°/15°/30°/45°/60°o
Steer	0°,±10°, ±20°(L12-5Q) 0°, ±15°, ±30°(L12-5Q, small canine, large feline, small feline, feline OB, SMP, others) 0°,±10°,±20°(L17-7HQ)
Invert	
Volume	0-99
Map	11 Types
Colorize	On, off
Tint	5 Types
Gate Size	0.5-40 mm
Strip size	Full, large, Med., small
Auto(One-key	Gain, DR or Scale/Baseline, user configurable

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Optimization)	
Acoustic Power	10%-100%, 10%/step
PW velocity	Max. 4.5m/s (correct angle 60°); Max. 13m/s (correct angle 80°)
	Min. 2mm/s (Non-noise signal)
Side-by-side	On(Left/Right) Off(Up/Down)

PW Mode (Post-Processing & Retrospective)

- Gain
- Dynamic Range
- Colorize
- Map
- Baseline
- Angle Correct
- Invert
- Strip size
- Auto trace
- Trace side
- Side-by-side

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, 3s, 4s, 6s and 8s per screen respectively.
Baseline	9 levels
Angle Correction	-80°to 80°
Quick Angle	-60°/-45°/-30°/-15°/0°/15°/30°/45°/60°
Invert	
Volume	0-99
Map	11 Types
Colorize	On, off
Tint	5 Types
Strip size	Full, large, Med., small
Acoustic Power	10%-100%, 10%/step
CW velocity	Max. 72m/s Min. 1cm/s
Auto Trace	
Trace Side	Up, down, both
Side-by-side	On(Left/Right) Off(Up/Down)

CW Mode (Post-Processing & Retrospective)

- Gain
- Dynamic Range
- Colorize
- Map
- Baseline
- Angle Correct
- Invert
- Strip size
- Auto trace
- Trace side
- Quick Angle
- Side-by-side

TVI Mode (Live imaging)

Image Type	HighFlow/MidFlow/LowFlow
Dual Live	B+ 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	8 types
PRF	0.6- 3.5kHz
Baseline	25 levels

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Threshold	0-100
Invert	On, off
Acoustic Power	10%-100%, 10%/step
Color Hide	On, off

TVI Mode (Post-Processing & Retrospective)

- Zoom
- Baseline
- Color map
- Invert
- Color Hide

TVD mode (Live imaging)

Image Type	HighFlow/MidFlow/LowFlow
Triplex	B+TVI+TVD
PRF	0.9- 5.9kHz
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, 3s, 4s, 6s and 8s per screen respectively.)
Baseline	9 levels
Angle Correction	-80°to 80°
Quick Angle	-60°/-45°/-30°/-15°/0°/15°/30°/45°/60°
Invert	On, Off
Volume	0-99
Map	11 types
Colorize	On, off
Tint	5 Types
Gate Size	0.5-40 mm
Strip size	Full, large, Med., small
Acoustic Power	10%-100%, 10%/step
Auto Trace	
Trace Side	Up, down, both
Side-by-side	On(Left/Right) Off(Up/Down)

TVD (Post-Processing & Retrospective)

- Gain
- Dynamic Range
- Colorize
- Map
- Baseline
- Angle
- Invert
- Quick Angle
- Auto trace
- Trace side
- Side-by-side

3D/4Dmode (Live imaging)

Acquisition modes	3D, 4D
Visualization modes	Volume rendering, Multi-Slice
Multi-Slice	Max. 21 slices can be displayed on the same screen; Distance between each slice is 0.5-10.0mm
VOI size/Position	Adjustable
Render modes	Surface, Max.
3D clip	
Cut tools	Trace, Box, Eraser
Cut functions	Undo, Undo all, Redo
Display formats	Single 3D, Dual(A-plane + 3D), Quad(A/B/C Planes + 3D)
3D parameters	Threshold, Smooth, Brightness, Contrast, Tint
eFace	EDAN auto show face

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Elastography mode (Live imaging)

Opacity	1, 2, 3, 4 levels
Smooth	Off, Low, Med., High
Persistence	Off, Low, Med, High
Map	0-6
DR	0-5
Invert	On, Off

Elastography Mode (Post-Processing & Retrospective)

- Opacity
- Map
- DR
- Invert

Review and Post-Processing functions

Cine Review

- Frame by frame manual review
- Auto playback with 6-level speed adjustable
- Start frame and end frame are selectable for cine loop review
- Independent cine review in Dual/Quad mode.
- Maximum cine memory depends on transducers and image parameters:
  - 100000 frames for B mode
  - 30000 frames for Color mode
  - 180s for M mode
  - 240s for PW/CW Doppler mode

Post-Processing Features

All the image/cine are stored in Raw Data format in local disk. The following Post-Processing features are available when in image/cine review of current exam or the stored exam.

- Adjusting imaging parameters
- Measurements
- Annotations
- Storing static image/ cine loop

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Transducers and Biopsy Guide

Transducer Applications

Transducer		Applications	Transducer		Applications
C5-2Q		Abdominal Obstetrics Reproduction Musculoskeletal	L12-5Q		Abdominal Reproduction Obstetrics Small parts Vascular Musculoskeletal
L17-7HQ		Abdominal Small Parts Vascular Musculoskeletal	P5-1Q		Cardiac Abdominal
P7-3Q		Cardiac Abdominal	MC8-4Q		Abdominal Obstetrics Cardiac Reproduction Musculoskeletal
MC9-3TQ		Abdominal Obstetrics Cardiac Reproduction Musculoskeletal	VEL12-5Q		Reproduction Obstetrics Musculoskeletal
VEL8-3WQ		Reproduction Obstetrics Musculoskeletal	C6-2MQ		Reproduction Obstetrics
P12-5Q		Cardiac	C5-2XQ		Abdominal Reproduction Musculoskeletal

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Transducer Specifications

Transducer	C5-2Q	P5-1Q	L12-5Q	L17-7HQ	P7-3Q
Transducer Type	Convex	Phased	Linear	Linear	Phased
Bandwidth@ -6dB	2-5MHz	1-5MHz	5-12MHz	7-17MHz	3-8MHz
Centeral Frequency	3.8MHz	2.7MHz	8.0MHz	12.0MHz	4.9MHz
B Harmonic Frequencies(MHz)	H2~4/H3~5 /H2~5	H2~4/H3~5	H6~10/H7~12	H9~13/ H10-17	H5~7/H6~8
B Fundamental Frequencies(MHz)	2~4/3~5/2~5	1~3/2~4/2~5	5~8/6~10/7~11	7~11/8~13/9~15	3~5/4~6/ 5~7
Spectrum Doppler Frequencies(MHz)	2.3/3.0	2.0/2.2	4.7/5.7	6.7/8.0	2.7/3.8
Color Doppler Frequencies(MHz)	2.2/2.7/3.2	2.0/2.5	5.2/5.9	6.7/8.0	2.7/3.8
Elements	128	64	128	192	96
Footprint	NA	16 mm	38mm	38mm	15 mm
Convex Radius	60mm	NA	NA	NA	NA
FOV	60°	90°	NA	NA	90°
Display Depth	45cm	30cm	11cm	11cm	18cm
Biopsy Guide	Yes	Yes	Yes	Yes	No
Cable Length	2.0m	2.0m	2.0m	2.0m	2.0m

Transducer	MC8-4Q	MC9-3TQ	C6-2MQ	VEL8-3WQ	VEL12-5Q
Transducer Type	Micro Convex	Micro Convex	Wobbler	Linear	Linear
Bandwidth@ -6dB	4-10MHz	3-9MHz	2-6MHz	3-8MHz	5-12MHz
Central Frequency	6.5MHz	6.5MHz	4.11MHz	5.5MHz	8.0MHz
B Harmonic Frequencies(MHz)	H4~7/H5~7/H5 ~8/ H5~10/H6~10	H5~8/H6~9	H2~4/H3~5/ H2~5	H5~7/H6~8	H6~10/H7~12
B Fundamental Frequencies(MHz)	4~5/4~6/4~7/ 5~8/6~9	3~6/4~7/5~9	2~4/3~5/2~5	3~5/4~6/6~8	5~8/6~10/7~11
Spectrum Doppler Frequencies(MHz)	4.2/5.0	3.6/4.5	2.6/3.0	3.2/4.0	5.2/5.9

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Color Doppler Frequencies(MHz)	4.2/5.0	3.6/4.5	2.6/3.0/3.3	3.2/4.0	4.7/5.7
Elements	128	128	128	128	128
Footprint	NA	NA	NA	57mm	38mm
Convex Radius	15mm	10mm	40mm	NA	NA
FOV	100°	150°	64°	NA	NA
Display Depth	15cm	15cm	30cm	18cm	11cm
Biopsy Guide	Yes	Yes	No	No	No
Cable Length	2.0 m/4.0m	2.0m	2.0m	2.5 m/4.0m	2.5 m/4.0m

Transducer	**P12-5Q**	**C5-2XQ**
Transducer Type	Phased	Convex
Bandwidth@ -6dB	4~11	2-5
Central Frequency	7.6	3.4
B Harmonic Frequencies(MHz)	H8-10/H9-11/H9-12/H10-12	H2~4/H3~5/H2~5/H3~4
B Fundamental Frequencies(MHz)	6-9M/7-9M/7-10M	2~4/3~5/2~5
Spectrum Doppler Frequencies(MHz)	5.0/6.0	2.3/3.0
Color Doppler Frequencies(MHz)	5.3/5.6/5.8/6.6/7.8	2.2/2.7/3.2
Elements	96	128
Footprint	10mm	NA
Convex Radius	NA	60mm
FOV	90°	60°
Display Depth	11cm	45cm
Biopsy Guide	No	Yes
Cable Length	2m	2m

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EDAN

Biopsy Guide

- **Needle Guide**
  - Supports guide lines of multiple angles.
  - Supports single and parallel guide line.
  - Supports depth and length mark on guide line.
  - Support guide line calibration.
- **Need Visualization**
  - Supports three needle inserted angles for linear transducers
- **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-002	In-plane	38°, 46°, 58°	For use with the L12-5Q/L17-7HQ, Supports: 14G-23G
BGK-003	Out-of-plane	1.0cm, 1.5cm, 2.0cm	For use with the L12-5Q/L17-7HQ, Supports: 21G
BGK-004	In-plane	12°, 20°	For use with the MC9-3TQ, Supports: 14G-23G
BGK-007	In-plane	18°, 25°, 35°	For use with the C5-2Q, Supports: 14G-23G
BGK-008	In-plane	12°, 22°	For use with the P5-1Q Supports: 14G-23G
BGK-012	In-plane	11°, 20°, 37°	For use with the MC8-4Q Supports: 14G-23G

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Measurements

- Default measurement unit options
  - Distance: mm, or cm
  - Area: mm2, or cm2
  - Volume: mm3, or cm3
  - 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 are configurable in Measure Preset.
- Measurements displayed on main screen and touch screen are consistent.

General Measurements

B-mode

- Distance (2-point)
- Circumference/Area (Ellipse, Trace, Spline)
- Angle(3-point, Angle 2-line)
- Volume(3-distance, Ellipse+ 1 distance)
- Stenosis
  - %Dist Stenosis (Distance)
  - % Area Stenosis (Ellipse, Trace, Spline)
- Vessel
  - Vessel Diamemter(2-point, Ellipse)
  - Volume flow area
  - IMT

M-mode

- Distance
- Ratio D1/D2(2-point method)
- Time
- Slope
- HR
- Tei index: COT, ET

Doppler mode

- PS
- ED
- RI
- PI
- PS,ED,RI,S/D
- Time
- HR
- Manual Trace
- Spline Trace
- Auto Trace(Max. 15 measured results are configurable)
- Velocity
- PGMax
- PGMean
- Volume Flow
- Tei index: COT, ET
- dp/dt

Elastography mode

- Eratio(Ellipse, Trace)

Application Measurements/calculations

Abdomen

B-mode:

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

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- Length, Height

- Renal
  - Length, Width, Height
  - Volume(calculation)
  - Renal Cortex Thickness
- Aorta Diameter
- Bladder
  - Pre-void bladder (Length, Width, Height)
  - Post-void bladder Length, Width, Height)
- Gastroin
  - Stomach
  - Doudenum
  - Jejunum
  - Ileum
  - Colon
  - Cecum
- Adrenal
  - Adrenal Length
  - Adrenal Cranial Pole Width
  - Adrenal Caudal Pole Width
- Lymph Node
  - Hepatic Lymph node
  - Splenic Lymph node
  - Gastric Lymph node
  - Pancreaticoduodenal Lymph node
  - Jejunal Lymph node
  - Colic Lymph node
  - Lumbar Lymph node
  - Superficial Iliac Lymph node
  - Medial Iliac Lymph node
- Focal Area
  - Length, Height, Width

PW mode:

- 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

M mode:

- IVC-CI

Reproduction

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
- Follicle
- Cyst
- Fluid POD
- Pelvic Floor
  - BSD(R)
  - BSD(S)

PW mode:

- Uterine Artery
- Ovary Artery

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Obstetrics

B-mode:

• Canine	CRL, GSD, HD, BD, HD&BD, BPD
• Feline	HD, BD
• Bovine	CRL, TD, HD
• Ovine	CRL, BPD
• Equine	GSD-H, GSD-V
Fetal Echo	
• Chamber	LV Diam, LA Diam, RV Diam, RA Diam
• LVOT/AO	LVOT Diam, Ao Asc, Ao Arch, Ao Isthmus, Desc Ao
• RVOT/PA	RVOT Diam, MPA Diam, Ductus A
• CTAR	Area 1, Area 2

M-mode:

• Canine	FHR
• Feline	FHR

PW mode:

- MCA
- Umb. A
- Planenta A
- Ovary A
- Ut. A
- Fetal Ao
- Desc Aorta
- Ductus V
- FHR
- MV
- TV
- MPV
- Ductus A

Cardiac

B-mode

• LV Simpson	A4C Dias., A4C Sys., A2C Dias., A2C Sys. (Cals:SV, EF, CO, SI, CI)
• LV Study	LVSTd, LVIDd, LVPWd, IVSTs, LVIDs, LVPWs
• LV/RV	LVIDd, LVIDs, RVAWd, RVIDd
• Aorta	Ao Asc, AoD
• RVOT	RVOT Diam
• LVOT	LVOT Diam
• PV	PV Diam
• RVDs	RVDs
• LA/RA	RA length, RA Width, LA length, LA width
• LVM(A-L) (Left Ventricular Mass)	LVAd Sax Epi, LVAd Sax Endo, LVAd Apical
• LVM (T-E) (Left Ventricular Mass)	LVAd Sax Epi, LVAd Sax Endo, a, d
• LVM (Cube)(Left Ventricular Mass)	LVSTd, LVIDd, LVPWd
• RPA	RPA min, RPA max
• LA Area	LAA(A4C), LAA(A2C)
• LA Vol	LA Vol(A4C), LA Vol(A2C)

M-mode:

• LV Study	LVSTd, LVIDd, LVPWd, IVSTs, LVIDs, LVPWs, LVIDdN(Cal)

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• LV/RV	LVIDd, LVIDs, RVAWd, RVIDd
• Time	LVET, LV PEP, RV PEP
• Mitral Valve	MV D-E Exc, MV D-E Slope, E-F Slope, EPSS, MV E-E Sep, MV A-C Interval, MAPSE
• TAPSE	TAPSE
• LA/Ao	LA, AoR Diam, RVOT Diam,ACS
• HR	HR
• LVM (Cube)(Left Ventricular Mass)	LVSTd, LVIDd, LVPWd
• IVC-CI	IVCmax, IVCmin

PW mode:

• Mitral Valve	E/A, MV HR ,MV PHT, MV VTI, IVRT, MV A Duration, MV DecT, MR Vmax, MR VTI, MV E Duration, dp/dt
• Tricuspid Valve	TV VTI, TV Vmax, TV E/A, TV HR, TR Vmax
• AV	LVOT VTI, LVOT Vmax, AV VTI, AV Vmax, AV Accel Time, AV Decel Time, AR VTI, AR Vmax, AR Accel Time, AR PHT, AR Decel Time, AV HR
• PV	PV VTI, PV Vmax, PR Vmax, PV Accel Time, PV HR, PV Dur Time
• PV Vein	PVein S Vel, PVein D Vel, PV A Vel, PV A Dur
• Hep Veins	Hep S Vel, Hep D Vel, Hep A Vel, Hep A Dur
• TDI	S Medial, E'Medial,A'Medial
	S Lateral ,E'Lateral,A'Lateral
• CO(LVOT)	LVOT VTI, AV HR
• RVSP	TR Vmax, RA Pressure
• AVA(VTI)	LVOT VTI,AV VTI
• Qp/Qs	LVOT VTI,RVOT VTI
• PISA	MR Trace, AR Trace, TR Trace, PR Trace
• PEP/LVET	PEP, LVET

C mode:

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

Urology

B-mode:

- Renal
  - Length, Width, Height
  - Renal Cortex Thickness
- Bladder
  - Pre-void Bladder (Length, Width, Height, volume)
  - Post-void Bladder (Length, Width, Height, volume)
- Prostate
  - Length, Width, Height
- Seminal
  - (Length, Width, Height
- Testis
  - Length, Width, Height

PW mode:

- Renal Artery
- Arcuate Artery
- Segmental Artery
- Interlobar Artery

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Small Parts

B-mode:

- Thyroid
  - Length, Width, Height
  - Thyroid Isthmus
- Breast
  - Lesion1, Lesion2, Lesion3, Lesion4, Lesion5
- Testis
  - Length, Width, Height

PW mode:

- Superior Thyroid Artery
- Inferior Thyroid Artery

Vascular

• Carotid	**B-mode:** Common Carotid Artery Intima-Media Thickness, Internal Carotid Artery Intima-Media Thickness, Carotid Artery Bifurcation Intima-Media Thickness **PW mode:** Common Carotid Artery, External Carotid Artery, Internal Carotid Artery, Vert Artery, Subclavian Artery, HR
• Upper Extremity Artery	**PW mode:** Subclavian Artery, Axillary Artery, Brachial Artery, Ulnar Artery, Radial Artery, HR
• Upper Extremity Vein	**PW mode:** Subclavian Vein, Axillary Vein, Brachial Vein, Cephalic Vein, Basilic Vein, Ulnar Vein, Radial Vein, Median Cubital Vein
• Lower Extremity Artery	**PW mode:** 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, Dorsalis Pedis Artery, HR
• Lower Extremity Vein	**PW mode:** 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
• Volume Flow	**B mode:** Volume Flow Area **PW mode**: Volume Flow (TAMean, TAMax)
• Stenosis%	**B mode:** Stenosis% Distance Stenosis% Area (Ellipse, Trace, Spline)

Reports

- Editable worksheet
- The appearance of worksheet can be toggled between dark and light modes.
- 15 Report types: ABD, GYN, Fetal Echo, Canine OB, Feline OB, Bovine OB, Ovine OB, Equine OB, URO, VAS, SMP, CARD, MSK, Nerve, and Other.
- Comments/Findings section
- User-imported Report Header

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- User-defined hospital logo
- Multiple number of selected images and support add all images into the report with one click selection
- Multiple layouts of image in report.
- Report Layout supports auto adjust.
- Support zoom in preview
- Support Export as PDF format
- Support print by report printer.
- Support custom report information

Image Storage & Exam Archiving

Image Storage

- Static image/Cine clip is stored in local disk in RawData format.
- Two dedicated hard keys on the console for capturing static image and cine clips respectively.
- Cine clips supports prospective and retrospective storing.
- The length of cine clip is configurable.
- Prospective storing: max. 2 min length of clip can be stored in real-time scanning.
- Retrospective storing: all the clip data in the cine buffer can be stored in cine review mode, max.2 min.
- Supports up to 30,000(for 120GB hard disk) or 150,000(for 512GB hard disk) or350,000(for ITB hard disk) lossless single frames
- Supports cine clips exported to USB disk of :
  - Up to 100000 frames for B mode
  - Up to 30000 frames for Color mode
  - Up to 180s for M
  - Up to 240s for PW/CW mode

Exam Database

- Support exam storage without patient information
- Support exam query
- Support review current exam or prior exam
- Support review images of an exam
- Support review report of an exam
- Support export images as BMP, JPEG, TIFF, Raw Data or DICOM format
- Support export cine clip as AVI, MP4, WMV, Raw Data or DICOM format
- Support export Report as PDF format
- Support export exams(including patient information, images)
- Support compare images
- Support Data Masking

Examlist

- Support for historical exam search and automated information entry.

Exam Archiving

All Clips and Static images stored on the system are stored internally in Raw Data format. They can be archived to other storage device for long-term storage as described below.

- Archived to DICOM server.
- Archived to FTP server.
- Archived to USB device.

  Note: If a clip length exceeds 3s, when selecting to export in DICOM format to a DICOM server or USB stick, only the last 3s of the clip will be exported for this release.
- Burned to DVD disk
- Sent to mobile devices.

Connectivity

Network

- Wired network connection
- Wi-Fi connection

DICOM 3.0 Service

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- DICOM Storage
  - Connectivity to DICOM server for storage of all static images or cine clips with patient information.
  - Manual-Transfer in background on Demand
  - Auto-Transfer when store or 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: Reproduction, Cardiac and Vascular.
- 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.
  - Displays/hides the ended exams in the worklist
  - Query conditions can be configured to quickly filter exam information.
- MPPS
  - The MPPS service automatically sends the exam status to the MPPS server at the start and the end of the ultrasound exam.
  - Displays Additional Materials item on patient information page.
- Storage Commitment
  - Supports using the port information of the storage commitment server to receive storage commitment information
  - Supports the establishment of a new association for receiving storage commitment information
- DICOM Print
  - Prints the images remotely via a DICOM printer.
  - Multiple parameters for printing are configurable.

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.

CloudShare

- Supports sending image/clips to mobile devices by scanning the QR code on main screen when CloudShare icon is clicked.

Time Synchronization

Sets the system time to synchronize with the network time

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Supported Peripherals

Printers

The system supports the connection of Video printers and report printers. The report can be connected locally via USB connector or remotely via network connection. Printer drivers can be imported to the system for the support of more report printers.

- Video printers
  - SONY UP-X898MD
  - SONY UP-D25MD
  - SONY UP-25MD
- Graph/text printer
  - HP Officejet Pro 251dw
  - HP LaserJet Pro 200 color M251n
  - HP LaserJet CP1525n Color
  - HP Deskjet Ink Advantage 2010
  - HP Deskjet 1010
  - HP Deskjet 1510
  - HP LaserJet 400 M401d
  - HP DeskJet Ink Advantage Ultra 2029
  - HP DeskJet 1112
  - Canon E518
  - Canon iP2780
  - HP LaserJet Pro MFP M126nw
  - EPSON L310
  - HP DeskJet 1050
  - HP DeskJet 2050
  - HP LaserJet M252n
  - EPSON L130
  - HP Color LaserJet Pro M254nw
  - HP Color Laser 150a
  - HP Color Laser 150nw
  - HP Laser 103a
  - EPSON L3118
  - EPSON L805
  - HP Laser 1008a
- Network report printer
- Photo Printer
  - Canon CP1500
  - Medion Healthcare GRAPIX

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Revision History

Version	Revisions	Date
1.0	Initial release	2019-7-3
1.1	Updated for R1.1 release. See the changes highlighted with blue color.	2019-11-12
1.2	Updated for V2.0 release. See the changes highlighted with blue color.	2021-06-24
1.3	Updated for V2.1 release. See the changes highlighted with blue color.	2022-06-16
1.4	Updated for V2.2 release. See the changes highlighted with blue color.	2024-06-07

This datasheet applies to Acclarix AX3 VET series Veterinary Diagnostic Ultrasound Systems, including Acclarix AX3 VET, Acclarix AX3 Exp VET, Acclarix AX3 Super VET, Acclarix AX25 VET, Acclarix AX28 VET, Acclarix AX2 VET, Acclarix AX2 Exp VET, Acclarix AX2 Super VET, Acclarix AX15 VET and Acclarix AX18 VET models. The configuration difference between each model is listed in the following table. .

Models	Configuration Difference			
	Feature1	Feature2	Feature3	Feature4
	Seminal Vesicle Meas.	Testis Meas.	Single Button Footswitch	Socket Number
Acclarix AX3 VET	√	√	√	Double
Acclarix AX3 Exp	√	X	√	Double
Acclarix AX3 Super	X	X	√	Double
Acclarix AX25 VET	X	√	√	Double
Acclarix AX28 VET	√	X	X	Double
Acclarix AX2 VET	√	√	√	Single
Acclarix AX2 Exp	√	X	√	Single
Acclarix AX2 Super	X	X	√	Single
Acclarix AX15 VET	X	√	√	Single
Acclarix AX18 VET	√	X	X	Single

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