System Specifications

The Acclarix™ AX8 Compact Ultrasound System redefines innovation through value and performance. Its sleek footprint contains a fully featured, diagnostic ultrasound platform with advanced imaging modes, dual touch screens, a gesture-control user interface and a full suite of next-generation transducers.

The remarkable Acclarix AX8 Compact Ultrasound System delivers a powerhouse combination of features to meet the demands of point-of-care and general imaging applications. The Acclarix AX8 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.
A Clear Vision

Born of a vision to deliver meaningful design innovations that benefit the user, the Acclarix AX8 features a host of design breakthroughs that make day-to-day operation easy, fast and intuitive.

SYSTEM ARCHITECTURE
- 128 channels, transmit and receive
- Quad beam
- i7 processor with quad virtual cores
- 16Gb memory
- 500Gb hard drive storage

SYSTEM DESIGN
- Dimensions: W 38.8cm, D 40.7cm, H 7.7cm
- Weight: 9.25kg (includes battery)
- 15” main screen with HD resolution (1920 x 1080)
  - 120° tilt
  - 60° left or right swivel
- 10.1” gesture-control user interface touch screen
- 5” touch screen houses electronic virtual trackball
- Magnetic monitor latch for secure transport
- Integrated carrying handle also provides wrist support during imaging
- Removable lithium ion battery provides approximately 60 minutes of typical ultrasound exam use
- Touch sensor battery level indicator in two locations
- Completely sealed control panel aids in maintaining infection control
- Multi-transducer connector (option)
  - Provides simultaneous connection for up to three transducers
  - Integrates onto system cart or use stand-alone

B-MODE IMAGING
- Tissue Adaptive Imaging: continuous and automatic optimization including: dynamic range, speckle reduction, spatial compounding and persistence
- Enhanced border detection algorithms
- One-key auto optimization

- Digital zoom with five levels
- Frequency range: Up to three fundamental and two harmonic frequencies per transducer
- Depth: up to 30cm
- Frequency compounding
- Spatial compounding
- Speckle reduction with four levels
- Imaging formats
  - Curved
  - Linear
  - Phased array
  - Trapezoid
  - FOV for increased frame rate
  - Up/Down, Left/Right invert
  - Linear steered
  - Dual
- Additional optimization parameters
  - Gain, TGC, dynamic range (40-96 dB), frame rate, map, tint, persistence, focus position and number
- Cine loop storage: up to 12,285 frames

COLOR DOPPLER
- Adaptive Doppler Imaging automatically and continuously adapts to the flow state to optimize color fill-in, boundary detection and hemodynamic display
- Supported modes:
  - Velocity
  - Power Doppler Imaging (PDI)
  - Directional PDI (DPDI)
- Side-by-side live format B-mode/color Doppler
- Additional optimization parameters
  - Gain, dynamic range (10-70 dB), frame rate, frequency, persistence, smoothing, wall filter, map, steer angle, scale, invert, baseline, threshold
SPECTRAL DOPPLER
- Adaptive PW and CW spectral Doppler: automatically and continuously adapts to flow state to optimize spectral display
- One-key access to either PW or CW
- HPRF
  - Automatic invocation as needed to maintain gate location/scale
- Auto Doppler measurements
  - User selectable sensitivity and direction
- Duplex and Triplex displays
- Additional optimization parameters
  - Scale, gain, dynamic range (10-70 dB), wall filter, sweep speed, baseline, angle, steer, invert, volume, map, tint, frequency, gate size
- Display formats: 1/3 image-2/3 spectral, 1/2 image-1/2 spectral, 2/3 image-1/3 spectral, full screen Doppler trace

M-MODE
- Optimization parameters, independent M-mode:
  - Sweep speed, persist, map, tint, dynamic range
- Optimization parameters, shared with B-mode:
  - Gain and frequency
- Display formats: 1/3 image-2/3 trace, 1/2 image-1/2 trace, 2/3 image-1/3 trace, full screen trace, side-by-side

ADVANCED FEATURES
- Panorama
  - Available on all linear array transducers
- Auto IMT
  - CCA, ICA, Bifurcation
- Needle Visualization
  - Improved needle visualization – even at steep angles
  - Available on linear array transducers

USER INTERFACE
- Touch screen has three levels of access and drag-and-drop functionality for quick customization
  - Core functionality on one page
  - Swipe between pages for second tier controls
  - User created folders store infrequently used controls
- Track pad houses electronic virtual trackball
  - Gesture driven UI
  - Swipe to change gain, scroll cine, etc.
- Hard key access to core controls
  - Provides tactile feedback and landmarks for eyes-up navigation
  - Two programmable hard keys for direct access to most frequently used features
  - Sealed for easy cleaning

CONNECTIVITY
- DICOM
  - Verify SCP
  - Static image store SCU
  - Ultrasound multi-image store SCU
  - Four levels of compression
  - Data transfer options
  - Removable media
  - In-progress network storage
  - Auto-store at exam end
  - Manual-store on demand
- 4 USB ports (2 USB 2.0; 2 USB 3.0).
- Export: DICOM studies, AVI and BMP files, PDF report
- Video out: Display port and S-video
- Ethernet (wired RJ45)

CART SPECIFICATIONS (OPTIONAL)
- Snap-in mechanism anchors laptop into the cart
- Height-adjustable cart with 9” of travel
  - Palm rest to floor distance ranges 31” - 40”
- Fixed deck angle of 15°
- Built-in tray houses printer and other incidentals
- Power converter housing under tray

ENVIRONMENTAL OPERATING REQUIREMENTS
- Ambient temperature: 0° to 40°C
- Relative Humidity: 15% ~ 80% (no condensation)
- Atmospheric pressure: 700hPa-1060hPa
- 110V-240V power supply

PRESETS
- Transducer specific presets
- One-key Quick-Set optimization, all imaging modes
- User customizable presets: Update, Copy, Delete
- Each preset can share annotation, body mark, and measure presets

ANNOTATION AND BODY MARKS
- Annotate live or frozen images
- User-programmable home position
- Multiple arrows with user controlled size and orientation
- Soft keyboard with full support for diacritic characters
- Block move and delete for separate blocks of text
- Smart text replacement for pre-defined text (e.g., Long replaces Trans with one keystroke)

Languages: English, Chinese, German, Italian, French, Turkish, Russian
- Keyboard support: most European character sets

* Requires regulatory clearance.
ANNOTATION AND BODY MARKS
(continued)
- User customizable, pre-defined comment presets:
  - Abdomen
  - Breast
  - Cardiac
  - Carotid
  - Gynecology
  - Hand-wrist
  - Knee
  - Upper and Lower Extremity Vascular
  - Nerve
  - Obstetrics
  - Pediatrics
  - Shoulder
  - Testis
  - Thyroid
  - Urology
- User customizable, pre-defined Body Mark presets:
  - Abdomen
  - Breast
  - Cardiac
  - Carotid
  - Gynecology
  - Nerve/MSK
  - OB and OB first trimester
  - Testis
  - Thyroid
  - Vascular
  - Urology

MEASUREMENTS AND REPORTS
- Predefined measurement packages with dedicated report. (Detailed contents in Appendix)
  - OB and OB first trimester
  - Gynecology
  - Breast
  - Abdomen
  - Carotid
  - Fetal Echo
  - Thyroid
  - Cardiac
  - Urology (includes Renal, Testis and Prostate)
  - Lower extremity arteries/veins
  - Upper extremity arteries/veins
- Generic measurements, up to 5 simultaneous tools
- Application specific results from generic tools:
  - B-mode: distance, area or circumference (ellipse or trace), angle, volume, stenosis
  - Doppler: V1, V2, time, accel, HR, PS, ED, MD, RI, PI, S/D, HR, time, TAMx, TAMn, max PG, mean PG, VTI
  - M-mode: distance, time, slope, HR

Unique, user-customizable dual touch screens streamline procedure workflow by letting you decide which functions are most important.
## Transducers and Applications

The Acclarix AX8 System boasts a new generation of transducers that span point-of-care and general imaging applications. All transducers feature multiple, selectable fundamental and harmonic frequencies to provide exquisite sensitivity, excellent detail and contrast resolution, and image uniformity throughout the field of view so you can appreciate even the smallest details.

*Requires regulatory clearance*

<table>
<thead>
<tr>
<th>Transducer Name</th>
<th>Imaging Format</th>
<th>Footprint or Radius</th>
<th>Fundamental Frequency Range</th>
<th>Harmonic Frequency Range</th>
<th>Applications Supported</th>
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<td>C5-2XQ</td>
<td>Curved linear array</td>
<td>60 mm</td>
<td>2-5 MHz</td>
<td>H2-5 MHz</td>
<td>Abdomen, OB, Gynecology, Spine, Nerve, MSK</td>
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<tr>
<td>C5-2Q*</td>
<td>Curved linear array</td>
<td>60 mm</td>
<td>2-5 MHz</td>
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<td>Micro-convex array</td>
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<td>High-frequency compact linear array</td>
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<td>7-15 MHz</td>
<td>H9 -17 MHz</td>
<td>MSK, Nerve, Vascular, Intraoperative</td>
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</table>
## APPENDIX: Measurement and Report Detail

### Package | B-mode | M-mode | Doppler
--- | --- | --- | ---
B | BPD, OFD, HC, AC, FL, TAD, APAD, CER, HUM, RAD, TIB, FIB, APTD, TTD, FTA, THD, NF, ULNA, Foot, AF, AFI (Q1, Q2, Q3, Q4), EFW | Fetal heart rate | Middle cerebral artery*, Umbilical artery*, Placenta artery*, Ductus venosus, Fetal heart rate

### OB PACKAGE
- Multiple fetuses (up to four)
- Growth Curves

### OB FIRST TRIMESTER PACKAGE
- GS, YS, CRL, NT, BPD, FL, HUM, AF

### GYNECOLOGY PACKAGE
- Multiple follicles (up to four)
  - Uterus length
  - Uterus width
  - Uterus height
  - Uterus volume
  - Endometrium thickness
  - Cervix
  - Uterus length/cervix
  - Ovary length
  - Ovary width
  - Ovary height
  - Ovary volume
  - Follicle length
  - Follicle width
  - Follicle height
  - Follicle volume

### BREAST PACKAGE
- Left and right breast (up to five each)
  - Breast lesion 1
  - Breast lesion 2
  - Breast lesion 3
  - Breast lesion 4
  - Breast lesion 5
<table>
<thead>
<tr>
<th>Package</th>
<th>B-mode</th>
<th>M-mode</th>
<th>Doppler</th>
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</thead>
</table>
| **ABDOMEN PACKAGE** | • Liver length  
• Liver width  
• Liver height  
• Portal vein  
• Common hepatic duct  
• Gallbladder length  
• Gallbladder height  
• Gallbladder wall thickness  
• Common bile duct  
• Pancreatic body  
• Pancreatic duct  
• Pancreatic head  
• Pancreatic tail  
• Spleen length  
• Spleen height  
• Renal length  
• Renal width  
• Renal height  
• Renal volume  
• Renal cortex thickness  
• Aorta diameter | | • Abdominal aorta*  
• Inferior mesenteric artery*  
• Superior mesenteric artery*  
• Hepatic artery*  
• Splenic artery*  
• Renal artery*  
• Portal vein  
• Inferior vena cava  
• Main portal vein  
• Hepatic vein  
• Middle hepatic vein  
• Splenic vein  
• Inferior mesenteric vein  
• Superior mesenteric vein  
• HR |
| **FETAL ECHO PACKAGE** | • RV diameter  
• RA diameter  
• RVOT diameter  
• LV diameter  
• LA diameter  
• LVOT diameter  
• Ascending aorta diameter  
• Aorta arch diameter  
• Aorta isthmus diameter  
• Descending aorta diameter  
• Main PA diameter  
• Ductus arteriosus diameter  
• Cardiothoracic area ratio | | • Main PA diameter  
• Ductus arteriosus diameter  
• Cardiothoracic area ratio  
• Fetal aorta*  
• Descending aorta*  
• Mitral valve  
• Tricuspid valve  
• Main pulmonary vein  
• Uterine artery*  
• Ovarian artery*  
• Fetal heart rate  
• Ductus venosus  
• Middle Cerebral Artery  
• Umbilical artery  
• Placental artery |
| **CAROTID DOPPLER PACKAGE** | • Auto IMT  
.CCA, ICA, Bifurcation  
.Left, Right  
.Far, Near  
.Proximal, Mid, Distal | | • Common carotid artery*  
• External carotid artery*  
• Internal carotid artery*  
• Vertebral artery*  
• Subclavian artery*  
• HR |
| **THYROID PACKAGE** | • Thyroid length  
• Thyroid width  
• Thyroid height  
• Thyroid volume  
• Isthmus | | • Superior thyroid artery*  
• Inferior thyroid artery*  
• HR |
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## APPENDIX: Measurement and Report Detail  (continued)

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</tbody>
</table>

*These measurements can be done with calipers, trace or Auto trace; depending on the tool, the following may be provided: PS, ED, MD, RI, S/D, TAMax, TAMean, PI, HR.

### REGULATORY APPROVALS

- FDA Class II Device
- CE/MDD Class IIa
- IEC 60601-1: Medical Equipment Safety
- IEC 60601-1-2: Medical Device Electromagnetic Safety
- IEC 60601-2-37: Ultrasound 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
- NEMA UD 2: Output Measurement for Diagnostic Ultrasound Equipment
- NEMA UD 3: Display of Thermal and Mechanical Acoustic Output Indices on Diagnostic Ultrasound Equipment

*Features and specifications are subject to change without prior notice*  
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