



**Transducers**

# **ACUSON Redwood Ultrasound System**

Release 2.0

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# Comprehensive suite of transducers

The ACUSON Redwood ultrasound system has a comprehensive suite of over 16 transducers supporting a diverse range of clinical applications



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# Curved



## 5C1 Transducer

|                              |                    |
|------------------------------|--------------------|
| Form factor                  | Curved             |
| Design                       | 1D, Single Crystal |
| Gesture detection            | No                 |
| Bandwidth                    | 1.0–5.7 MHz        |
| Axial and lateral resolution | 0.67 and 1.2 mm    |
| Field of view                | 72 deg             |
| Physical footprint           | 63.3 x 18.2 mm     |
| Total weight                 | 743 g              |



## 7VC2 Transducer

|                              |                  |
|------------------------------|------------------|
| Form factor                  | Curved           |
| Design                       | 1D, Piezoceramic |
| Gesture detection            | No               |
| Bandwidth                    | 1.8–6.9 MHz      |
| Axial and lateral resolution | 2.0 and 3.0 mm   |
| Field of view                | 75 x 90 deg      |
| Physical footprint           | 52.6 x 22.6 mm   |
| Total weight                 | 1200 g           |



**9C3 Transducer**

|                              |                          |
|------------------------------|--------------------------|
| Form factor                  | Curved                   |
| Design                       | 1D, Hanafy, Piezoceramic |
| Gesture detection            | No                       |
| Bandwidth                    | 2.2–9.2 MHz              |
| Axial and lateral resolution | 0.56 and 0.96 mm         |
| Field of view                | 78.6 deg                 |
| Physical footprint           | 69.56 x 20.47 mm         |
| Total weight                 | 780.4 g                  |



**9VE4 Transducer**

|                              |                  |
|------------------------------|------------------|
| Form factor                  | Curved           |
| Design                       | 1D, Piezoceramic |
| Gesture detection            | No               |
| Bandwidth                    | 3.2–9.9 MHz      |
| Axial and lateral resolution | 0.3 and 0.7 mm   |
| Field of view                | 165 x 145 deg    |
| Physical footprint           | 24 x 24 mm       |
| Total weight                 | 1200 g           |

# Linear



## 10L4 Transducer

|                              |                       |
|------------------------------|-----------------------|
| Form factor                  | Linear                |
| Design                       | Multi-D, Piezoceramic |
| Gesture detection            | No                    |
| Bandwidth                    | 2.9–9.9 MHz           |
| Axial and lateral resolution | 0.3 and 0.52 mm       |
| Field of view                | 38.2 mm               |
| Physical footprint           | 49.25 x 18.85 mm      |
| Total weight                 | 723.2 g               |



## 14L5 Transducer

|                              |                       |
|------------------------------|-----------------------|
| Form factor                  | Linear                |
| Design                       | Multi-D, Piezoceramic |
| Gesture detection            | No                    |
| Bandwidth                    | 4.8–13.6 MHz          |
| Axial and lateral resolution | 0.3 and 0.38 mm       |
| Field of view                | 38.2 mm               |
| Physical footprint           | 49.58 x 12.89 mm      |
| Total weight                 | 726.9 g               |



### 18H6 Transducer

|                              |                  |
|------------------------------|------------------|
| Form factor                  | Linear           |
| Design                       | 1D, Piezoceramic |
| Gesture detection            | No               |
| Bandwidth                    | 5.5–21.1 MHz     |
| Axial and lateral resolution | 0.2 and 0.23 mm  |
| Field of view                | 28 mm            |
| Physical footprint           | 13.6 x 40.4 mm   |
| Total weight                 | 630 g            |



### 18L6 Transducer

|                              |                          |
|------------------------------|--------------------------|
| Form factor                  | Linear                   |
| Design                       | 1D, Hanafy, Piezoceramic |
| Gesture detection            | No                       |
| Bandwidth                    | 4.6–17.8 MHz             |
| Axial and lateral resolution | 0.3 and 0.43 mm          |
| Field of view                | 57.5 mm                  |
| Physical footprint           | 69.22 x 16.48 mm         |
| Total weight                 | 761.8 g                  |

# Endocavity



## 9EC4 Transducer

|                              |                  |
|------------------------------|------------------|
| Form factor                  | Curved           |
| Design                       | 1D, Piezoceramic |
| Gesture detection            | No               |
| Bandwidth                    | 2.9–8.1 MHz      |
| Axial and lateral resolution | 0.46 and 0.8 mm  |
| Field of view                | 176 deg          |
| Physical footprint           | 17.0 x 22.0 mm   |
| Total weight                 | 700 g            |

# Vector



## 4V1 Transducer

|                              |                          |
|------------------------------|--------------------------|
| Form factor                  | Vector                   |
| Design                       | 1D, Hanafy, Piezoceramic |
| Gesture detection            | No                       |
| Bandwidth                    | 1.4–5.1 MHz              |
| Axial and lateral resolution | 0.9 and 1.1 mm           |
| Field of view                | 90 deg                   |
| Physical footprint           | 35.5 x 20.2 mm           |
| Total weight                 | 639 g                    |



## 5V1 Transducer

|                              |                                  |
|------------------------------|----------------------------------|
| Form factor                  | Sector/Vector                    |
| Design                       | 1D, Single Crystal, Piezoceramic |
| Gesture detection            | No                               |
| Bandwidth                    | 1.1–4.9 MHz                      |
| Axial and lateral resolution | 1.06 and 3.72 mm                 |
| Field of view                | 90 deg                           |
| Physical footprint           | 27.2 x 18.7 mm                   |
| Total weight                 | 640 g                            |



### 8V3 Transducer

|                              |                          |
|------------------------------|--------------------------|
| Form factor                  | Sector/Vector            |
| Design                       | 1D, Hanafy, Piezoceramic |
| Gesture detection            | No                       |
| Bandwidth                    | 2.1–8.3 MHz              |
| Axial and lateral resolution | 0.59 and 0.79 mm         |
| Field of view                | 90 deg                   |
| Physical footprint           | 26.9 x 16.6 mm           |
| Total weight                 | 644 g                    |



### 10V4 Transducer

|                              |                  |
|------------------------------|------------------|
| Form factor                  | Sector/Vector    |
| Design                       | 1D, Piezoceramic |
| Gesture detection            | No               |
| Bandwidth                    | 3.4–10.4 MHz     |
| Axial and lateral resolution | 0.22 and 1.18 mm |
| Field of view                | 90 deg           |
| Physical footprint           | 22.6 x 14.3 mm   |
| Total weight                 | 376 g            |

# Pencil



## CW2 Transducer

|                              |        |
|------------------------------|--------|
| Form factor                  | Pencil |
| Design                       | N/A    |
| Gesture detection            | N/A    |
| Bandwidth                    | N/A    |
| Axial and lateral resolution | N/A    |
| Field of view                | N/A    |
| Diameter                     | 17 mm  |
| Total weight                 | N/A    |



## CW5 Transducer

|                              |           |
|------------------------------|-----------|
| Form factor                  | Pencil    |
| Design                       | N/A       |
| Gesture detection            | N/A       |
| Bandwidth                    | N/A       |
| Axial and lateral resolution | N/A       |
| Field of view                | N/A       |
| Diameter                     | 11 x 7 mm |
| Total weight                 | N/A       |

# Transesophageal echocardiography (TEE)



## V5Ms Transducer

|                              |                                        |
|------------------------------|----------------------------------------|
| Form factor                  | Transesophageal echocardiography (TEE) |
| Design                       | 1D, Piezoceramic                       |
| Gesture detection            | No                                     |
| Bandwidth                    | 3.0–7.0 MHz                            |
| Axial and lateral resolution | 0.22 and 1.18 mm                       |
| Field of view                | 90 deg                                 |
| Physical footprint           | 14.8 x 11.6 mm                         |
| Total weight                 | 1800 g                                 |

# Table 1: Selectable frequencies<sup>1</sup>

| Transducer | 2D                                                                          | THI                                                                                      | Color Doppler                                                             | PW Doppler                                                            | CW Doppler                     | Contrast                 |
|------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------|--------------------------|
| 5C1        | Low, Mid, High                                                              | HPen, HLow, HMid, HHHigh                                                                 | Low, Mid, High, Res                                                       | Low, Mid, High, Res                                                   | –                              | Low, Mid                 |
| 7VC2       | Pen, Low, Mid, High                                                         | HPen, HLow, HMid, HHHigh, HRes                                                           | Pen, Low, Mid                                                             | Low, Mid                                                              | –                              | Low, Mid                 |
| 9C3        | Pen, Low, Mid, High                                                         | HPen, HLow, HMid, HHHigh                                                                 | Pen, Mid, Res                                                             | Low, Mid                                                              | –                              | Low, Mid, High           |
| 9VE4       | Low, Mid, High                                                              | HLow, HMid, HHHigh                                                                       | Low, Mid, High                                                            | Low, Mid, High                                                        | –                              | Low, Mid                 |
| 10L4       | Low, Mid, High                                                              | HLow, HMid, HHHigh                                                                       | Pen, Mid, High, Res                                                       | Low, Mid                                                              | –                              | Low, Mid                 |
| 14L5       | on MSK exam only: Low, Mid, High, Res<br>on the other exams: Low, Mid, High | HLow, HMid, HHHigh                                                                       | Pen, Low, Mid, High                                                       | Low, Mid                                                              | –                              | –                        |
| 18H6       | Mid, High                                                                   | HHHigh                                                                                   | Low, Mid, High, Res                                                       | Mid, High                                                             | –                              | Yes                      |
| 18L6       | on MSK exam only: Low, Mid, High, Res<br>on the other exams: Low, Mid, High | HLow, HMid, HHHigh                                                                       | Pen, Mid, Res                                                             | Low, Mid, High                                                        | –                              | –                        |
| 9EC4       | Low, Mid, High                                                              | HLow, HMid, HHHigh                                                                       | Low, Mid, High                                                            | Low, Mid, High                                                        | –                              | Low, Mid, High           |
| 4V1        | Low, Mid, High                                                              | HPen, HLow, HMid, HHHigh                                                                 | Pen, Mid, Res                                                             | Low, Mid, High                                                        | –                              | Low, Mid                 |
| 5V1        | Pen, Low                                                                    | on Cardiac exam only: HLow, HMid, HHHigh<br>on the other exams: HPen, HLow, HMid, HHHigh | Low, Mid, High                                                            | Pen, Low, Mid, High, Res                                              | on Cardiac exam only: Mid on   | Pen, Low, Mid, High, Res |
| 8V3        | Low, Mid, High, Res                                                         | HLow, HMid, HHHigh                                                                       | on Cardiac exam only: Low, Mid<br>on the other exams: Pen, Low, Mid, High | on Cardiac exam only: Low, Mid,<br>on the other exams: Low, Mid, High | on Cardiac exam only: Low, Mid | –                        |

<sup>1</sup> System specific

| Transducer | 2D                  | THI               | Color Doppler  | PW Doppler     | CW Doppler                     | Contrast |
|------------|---------------------|-------------------|----------------|----------------|--------------------------------|----------|
| 10V4       | Low, Mid, High, Res | HLow, HMid, HHIGH | Low, Mid, High | Low, Mid, High | on Cardiac exam only: Low, Mid | –        |
| CW2        | –                   | –                 | –              | –              | Mid                            | –        |
| CW5        | –                   | –                 | –              | –              | Mid                            | –        |
| V5Ms       | Pen, Low, Mid, High | HLow, HMid        | Low, Mid       | Low, Mid       | Low, Mid                       | –        |

**Table 2: Cable length**

| Transducer | Cable length |
|------------|--------------|
| 5C1        | 2.1 m        |
| 7VC2       | 2.1 m        |
| 9C3        | 2.1 m        |
| 9VE4       | 2.5 m        |
| 10L4       | 2.1 m        |
| 14L5       | 2.1 m        |
| 18H6       | 2.1 m        |
| 18L6       | 2.1 m        |
| 9EC4       | 2.2 m        |
| 4V1        | 1.9 m        |
| 5V1        | 2.1 m        |
| 8V3        | 2.2 m        |
| 10V4       | 2.2 m        |
| V5Ms       | 1.9 m        |

**Table 3: Connector type**

| Transducer | Connector type            |
|------------|---------------------------|
| 5C1        | Compact Pinless Connector |
| 7VC2       | Compact Pinless Connector |
| 9C3        | Compact Pinless Connector |
| 9VE4       | Compact Pinless Connector |
| 10L4       | Compact Pinless Connector |
| 14L5       | Compact Pinless Connector |
| 18H6       | Compact Pinless Connector |
| 18L6       | Compact Pinless Connector |
| 9EC4       | Compact Pinless Connector |
| 4V1        | Compact Pinless Connector |
| 5V1        | Compact Pinless Connector |
| 8V3        | Compact Pinless Connector |
| 10V4       | Compact Pinless Connector |
| CW2        | Hirose                    |
| CW5        | Hirose                    |
| V5Ms       | Micro Pinless Connector   |

## Table 4: Needle guide

| Transducer | Product description                       | Guidance angle selection – depth |
|------------|-------------------------------------------|----------------------------------|
| 5C1        | Verza™ needle guidance system             | 1 – 2.2 cm                       |
|            |                                           | 2 – 3.8 cm                       |
|            |                                           | 3 – 6.1 cm                       |
|            |                                           | 4 – 9.9 cm                       |
|            |                                           | 5 – 15.0 cm                      |
| 7VC2       | N/A                                       | N/A                              |
| 9C3        | Ultra-Pro II™ needle guide                | A – 5 cm<br>B – 10 cm            |
| 9VE4       | Under development                         | N/A                              |
| 10L4       | Verza needle guidance system              | 1 – 2.2 cm                       |
|            |                                           | 2 – 3.6 cm                       |
|            |                                           | 3 – 5.6 cm                       |
|            |                                           | 4 – 8.6 cm                       |
|            |                                           | 5 – 13 cm                        |
| 14L5       | Verza needle guidance system              | 1 – 1.8 cm                       |
|            |                                           | 2 – 3.0 cm                       |
|            |                                           | 3 – 4.3 cm                       |
|            |                                           | 4 – 6.4 cm                       |
|            |                                           | 5 – 8.9 cm                       |
| 18H6       | N/A                                       | N/A                              |
| 18L6       | Ultra-Pro II needle guide                 | A – 2.1 cm<br>B – 5.4 cm         |
| 9EC4       | Disposable Endocavity Guide Kit – 24 pack | 1° Needle Path angle             |
| 9EC4       | Reusable Endocavity Guide                 | 1° Needle Path angle             |
| 4V1        | Ultra-Pro II needle guide                 | A – 5 cm                         |
|            |                                           | B – 10 cm                        |

## Table 5: Advanced applications

| Transducer | Strain Elastography | Point Shear Wave Elastography | 2D Shear Wave Elastography | Contrast Imaging | Fusion Imaging | Freehand 3D |
|------------|---------------------|-------------------------------|----------------------------|------------------|----------------|-------------|
| 5C1        | N/A                 | Yes                           | N/A                        | Yes              | N/A            | N/A         |
| 7VC2       | N/A                 | N/A                           | N/A                        | N/A              | N/A            | N/A         |
| 9C3        | N/A                 | N/A                           | N/A                        | Yes              | N/A            | N/A         |
| 9VE3       | N/A                 | N/A                           | N/A                        | N/A              | N/A            | N/A         |
| 10L4       | Yes                 | Yes                           | Yes                        | Yes              | N/A            | N/A         |
| 14L5       | Yes                 | N/A                           | N/A                        | N/A              | N/A            | N/A         |
| 18H6       | N/A                 | N/A                           | N/A                        | N/A              | N/A            | N/A         |
| 18L6       | Yes                 | N/A                           | N/A                        | N/A              | N/A            | N/A         |
| 9EC4       | Yes                 | N/A                           | N/A                        | Yes              | N/A            | Yes         |
| 4V1        | N/A                 | Yes                           | N/A                        | Yes              | N/A            | N/A         |
| 5V1        | N/A                 | N/A                           | N/A                        | Yes              | N/A            | N/A         |
| 8V3        | N/A                 | N/A                           | N/A                        | N/A              | N/A            | N/A         |
| 10V4       | N/A                 | N/A                           | N/A                        | N/A              | N/A            | N/A         |
| CW2        | N/A                 | N/A                           | N/A                        | N/A              | N/A            | N/A         |
| CW5        | N/A                 | N/A                           | N/A                        | N/A              | N/A            | N/A         |
| V5Ms       | N/A                 | N/A                           | N/A                        | N/A              | N/A            | N/A         |

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We are a team of 66,000 highly dedicated employees across more than 70 countries passionately pushing the boundaries of what's possible in healthcare to help improve people's lives around the world.

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