#### **Transducers**

# ACUSON Sequoia Ultrasound System

Version 2.0 SW

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ACUSON Sequoia offers 21 transducers leveraging Siemens Healthineers unique new InTune transducer design and architecture for optimal performance.



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### Curved



#### **5C1 Transducer**

Form factor	Curved
Design	1D, Single Crystal
Gesture detection	Yes
Bandwidth	1.0-5.7 MHz
Axial and lateral resolution	0.67 mm and 1.2 mm
Field of view	72 deg
Physical footprint	63.3 x 18.2 mm
Total weight	743 g
Maximum depth	400 mm



#### **7VC2 Transducer**

Form factor	Curved
Design	Volume Transducer
Gesture detection	Yes
Bandwidth	1.8–6.9 MHz
Axial and lateral resolution	0.47 mm and 0.81 mm
Field of view	74 x 90 deg
Physical footprint	70 x 45 mm
Total weight	1200 g
Maximum depth	300 mm



#### **9C2 Transducer**

Form factor	Curved
Design	1D, Single Crystal
Gesture detection	Yes
Bandwidth	1.4–8.5 MHz
Axial and lateral resolution	0.52 mm and 1.02 mm
Field of view	86 deg
Physical footprint	15.5 x 56.2 mm
Total weight	671 g
Maximum depth	300 mm



#### **9C3 Transducer**

Form factor	Curved
Design	1D, Hanafy, Piezoceramic
Gesture detection	Yes
Bandwidth	2.2–9.2 MHz
Axial and lateral resolution	0.56 mm and 0.96 mm
Field of view	79 deg
Physical footprint	69.6 x 20.5 mm
Total weight	780 g
Maximum depth	300 mm



#### 11M3 Transducer

Form factor	Curved
Design	1D, Single Crystal
Gesture detection	No
Bandwidth	2.7–10.7 MHz
Axial and lateral resolution	0.4 mm and 0.8 mm
Field of view	100 deg
Physical footprint	26.5 x 8.15 mm
Total weight	700 g
Maximum depth	140 mm



#### **DAX Transducer**

Form factor	Curved
Design	Multi-D, Piezoceramic
Gesture detection	Yes
Bandwidth	1.0-3.5 MHz
Axial and lateral resolution	0.8 mm and 2.3 mm
Field of view	50 deg
Physical footprint	57.7 x 30.2 mm
Total weight	848 g
Maximum depth	550 mm

## Linear



#### **7L2 Transducer**

Form factor	Linear
Design	1D, Single Crystal
Gesture detection	Yes
Bandwidth	1.7–8 MHz
Axial and lateral resolution	0.3 mm and 0.7 mm
Field of view	42.2 mm
Physical footprint	50 x 16 mm
Total weight	680 g
Maximum depth	200 mm



#### **10L4 Transducer**

Form factor	Linear
Design	Multi-D, Piezoceramic
Gesture detection	Yes
Bandwidth	2.9–9.9 MHz
Axial and lateral resolution	0.3 mm and 0.52 mm
Field of view	38 mm
Physical footprint	49.3 x 18.9 mm
Total weight	723 g
Maximum depth	140 mm



#### 14L5 Transducer

Form factor	Linear
Design	Multi-D, Piezoceramic
Gesture detection	Yes
Bandwidth	4.8–13.6 MHz
Axial and lateral resolution	0.3 mm and 0.38 mm
Field of view	38 mm
Physical footprint	49.6 x 12.9 mm
Total weight	727 g
Maximum depth	80 mm



#### 15L4 Transducer

Form factor	Linear
Design	Multi-D, Piezoceramic
Gesture detection	Yes
Bandwidth	3.5–15.1 MHz
Axial and lateral resolution	0.17 mm and 0.30 mm
Field of view	50 mm
Physical footprint	60 x 17 mm
Total weight	763 g
Maximum depth	80 mm



#### **18H6 Transducer**

Form factor	Linear
Design	1D, Piezoceramic
Gesture detection	No
Bandwidth	5.5–21.10 MHz
Axial and lateral resolution	0.2 mm and 0.23 mm
Field of view	28 mm
Physical footprint	13.6 x 40.4 mm
Total weight	630 g
Maximum depth	60 mm



#### **18L6 Transducer**

Form factor	Linear	
Design	1D, Hanafy, Piezoceramic	
Gesture detection	Yes	
Bandwidth	4.6–17.8 MHz	
Axial and lateral resolution	0.3 mm and 0.43 mm	
Field of view	58 mm	
Physical footprint	69.2 x 16.5 mm	
Total weight	762 g	
Maximum depth	80 mm	

## **Endocavity**



#### **9EC4 Transducer**

Form factor	Curved
Design	1D, Piezoceramic
Gesture detection	Yes
Bandwidth	2.9-8.1 MHz
Axial and lateral resolution	0.46 mm and 0.8 mm
Field of view	176 deg
Physical footprint	17.0 x 22.0 mm
Total weight	700 g
Maximum depth	140 mm



#### **9VE4 Transducer**

Form factor	Curved
Design	Volume Transducer
Gesture detection	Yes
Bandwidth	3.2–9.9 MHz
Axial and lateral resolution	0.3 mm and 0.7 mm
Field of view	165 x 145 deg
Physical footprint	24 x 24 mm
Total weight	1200 g
Maximum depth	160 mm



#### **10EV3 Transducer**

Form factor	Curved
Design	1D, Single Crystal
Gesture detection	Yes
Bandwidth	2.7–9.9 MHz
Axial and lateral resolution	0.30 mm and 0.78 mm
Field of view	160 deg
Physical footprint	25.1 x 20.1 mm
Total weight	800 g
Maximum depth	160 mm

## **Vector**



#### **4V1 Transducer**

Form factor	Vector
Design	1D, Hanafy, Piezoceramic
Gesture detection	N/A
Bandwidth	1.4–5.1 MHz
Axial and lateral resolution	0.9 mm and 1.1 mm
Field of view	90 deg
Physical footprint	35.5 x 20.2 mm
Total weight	639 g
Maximum depth	300 mm



#### **5V1 Transducer**

Form factor	Vector
Design	1D, Single Crystal
Gesture detection	Yes
Bandwidth	1.1–4.9 MHz
Axial and lateral resolution	1.06 mm and 3.72 mm
Field of view	90 deg
Physical footprint	27.2 x 18.7 mm
Total weight	640 g
Maximum depth	300 mm



#### **8V3 Transducer**

Form factor	Vector
Design	1D, Hanafy, Piezoceramic
Gesture detection	N/A
Bandwidth	2.1-8.3 MHz
Axial and lateral resolution	0.59 mm and 0.79 mm
Field of view	90 deg
Physical footprint	26.9 x 16.6 mm
Total weight	644 g
Maximum depth	240 mm



#### **10V4 Transducer**

Form factor	Vector	
Design	1D, Hanafy, Piezoceramic	
Gesture detection	N/A	
Bandwidth	3.4-10.4 MHz	
Axial and lateral resolution	0.34 mm and 0.62 mm	
Field of view	90 deg	
Physical footprint	22.6 x 14.3 mm	
Total weight	585 g	
Maximum depth	140 mm	

## 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
Physical footprint	17.0 mm
Total weight	185 g



#### **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
Physical footprint	11.3 mm
Total weight	191 g

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

Transducer	2D Fundamental	ТНІ	<b>Color Doppler</b>	PW Doppler	Contrast
5C1	Pen, Low, Mid, High	H Pen, H Low, H Mid, H High	Pen, Low, Mid, High, Res	Low, Mid	Low, Mid, High
7VC2	High, Mid, Low	H High, H Mid, H Low, H Pen	High, Mid, Low	High, Mid, Low	High, Low
9C2	High, Mid, Low	H High, H Mid, H Low	High, Mid, Low	High, Mid, Low	High, Mid, Low
9C3	Low, Mid, High	H Low, H Mid, H High	Pen, Mid, Res	Low, Mid, High	Low, Mid
11M3	Low, Mid, High	H Low, H Mid, H High	Low, Mid, High	Low, High	Low, High
DAX	Pen, Low, Mid	H Pen, H Low, H Mid	Pen, Mid, Res	Pen, Low	Pen, Mid, High
7L2	Low, Mid, High	H Low, H Mid, H High	Pen, Low, Mid, High	Low, Mid	Pen, Low, Mid, High
10L4	Low, Mid, High	H Low, H Mid, H High	Pen, Mid, High, Res	Low, Mid	Low, Mid, High
14L5	Low, Mid, High	H Low, H Mid, H High	Pen, Mid, Res	Low, Mid	Low, Mid
15L4	High, Mid, Low	H High, H Mid, H Low	High, Mid, Low	High, Mid, Low, Pen	High, Mid, Low
18H6	Mid, High	H High	Mid, High, Res	Mid, High	Low, Mid
18L6	Low, Mid, High	H Low, H Mid, H High	Pen, Mid, Res	Low, Mid, High	Low, Mid
9EC4	Low, Mid, High	H Low, H Mid, H High	Pen, Mid, High, Res	Low, Mid, High	Low, Mid
9VE4	Low, Mid, High	H Low, H Mid, H High	Low, Mid, High	Low, Mid	Low, Mid, High
10EV3	Res, High, Mid, Low, Pen	H High, H Mid, H Low	High, Mid, Low	Mid, Low	Low, Mid, High
4V1	Low, Mid, High	H Low, H Mid, H High	Pen, Mid, Res	Low, Mid	Low, Mid, High
5V1	Pen	H Low, H Mid, H High	Pen, Mid, Res	Low	Pen, Low, Mid
8V3	Low, Mid, High, Res	H Mid, H High	Pen, Mid, High, Res	Low, Mid, High	Low, Mid, High
10V4	Low, Mid, High	H Low, H Mid	Low, Mid, High	Low, Mid, High	Low, Mid, High

<sup>&</sup>lt;sup>1</sup> System specific

## Table 2: Cable Length

Transducer	Cable Length
5C1	2.1 m
7VC2	2.1 m
9C2	2.1 m
9C3	2.1 m
11M3	2.4 m
DAX	2.7 m
7L2	2.3 m
10L4	2.1 m
14L5	2.1 m
15L4	2.1 m
18H6	2.1 m
18L6	2.1 m
9EC4	2.2 m
9VE4	2.5 m
10EV3	2.2 m
4V1	1.9 m
5V1	2.1 m
8V3	2.2 m
10V4	2.2 m
CW2	1.88 m
CW5	2.1 m

## Table 3: Connector Type

Transducer	Connector
5C1	Compact pinless connector
7VC2	Compact pinless connector
9C2	Compact pinless connector
9C3	Compact pinless connector
11M3	Compact pinless connector
DAX	Compact pinless connector
7L2	Compact pinless connector
10L4	Compact pinless connector
14L5	Compact pinless connector
15L4	Compact pinless connector
18H6	Compact pinless connector
18L6	Compact pinless connector
9EC4	Compact pinless connector
9VE4	Compact pinless connector
10EV3	Compact pinless connector
4V1	Compact pinless connector
5V1	Compact pinless connector
8V3	Compact pinless connector
10V4	Compact pinless connector
CW2	Hirose
CW5	Hirose

## Table 4: Needle Guide

Transducer	Product Description	Guidance Angle Selection – Depth			
		1 – 2.2 cm			
		2 – 3.8 cm			
5C1	Verza™ needle guidance system	3 – 6.1 cm 4 – 9.9 cm			
		5 – 15.0 cm			
9C2		1 – 1.8 cm			
		2 – 3.3 cm			
	Verza needle guidance system	3 – 5.2 cm			
		4 – 8.2 cm			
		5 – 12.1 cm			
9C3	Ultra-Pro II™ needle guide	A – 5 cm			
903	ottra-110 ii - freedre guide	B – 10 cm			
		1 – 2.4 cm			
		2 – 4.1 cm			
DAX	Verza needle guidance system	3 – 6.4 cm			
		4 – 9.9 cm			
		5 – 15 cm			
		1 – 2.26 cm			
		2 – 3.6 cm			
7L2	Verza needle guidance system	3 – 5.4 cm			
		4 – 8.4 cm			
		5 – 12.5 cm			
		1 – 2.2 cm			
		2 – 3.6 cm			
10L4	Verza needle guidance system	3 – 5.6 cm			
		4 – 8.6 cm			
		5 – 13 cm			
		1 – 1.8 cm			
		2 – 3.0 cm			
14L5	Verza needle guidance system	3 – 4.3 cm			
		4 – 6.4 cm			
		5 – 8.9 cm			
		1 – 2.0 cm			
15L4		2 – 3.3 cm			
	Verza needle guidance system	3 – 4.8 cm			
		4 – 7.0 cm			
		5 – 9.3 cm			
18L6	Ultra-Pro II needle guide	A – 2.1 cm			
	onda from needie guide	B – 5.4 cm			
9EC4	Disposable endocavity needle guide – 24 pack	1° Needle Path angle			
9EC4	Reusable endocavity needle guide	1° Needle Path angle			
9VE4	Disposable endocavity needle guide – 24 pack	2° Needle Path angle			
10EV3	Disposable endocavity needle guide – 24 pack	0° Needle Path angle			
		A – 5 cm			
4V1	Ultra-Pro II needle guide	B – 10 cm			

## Table 5: Fusion - Needle Tracking

#### **Product Description**

CIVCO eTRAX™ needle tip tracking guidance system – 12 GA
CIVCO eTRAX needle tip tracking guidance system – 14 GA
CIVCO eTRAX needle tip tracking guidance system – 16 GA
CIVCO eTRAX needle tip tracking guidance system – 18 GA

## **Table 6: Advanced Applications**

Transducer	Strain Elastography	Point Shear Wave Elastography	2D Shear Wave Elastography	Contrast Imaging	Fusion Imaging	Ultrasound Derived Fat Fraction	Auto Point Shear Wave Elastography
5C1	-	Yes	Yes	Yes	Yes	-	_
7VC2	-	-	-	Yes	_	-	_
9C2	-	Yes	Yes	Yes	_	Yes	Yes
9C3	-	-	-	Yes	_	-	_
11M3	-	-	_	Yes	_	-	_
DAX	_	Yes	Yes	Yes	Yes	Yes	Yes
7L2	_	_	_	Yes	_	_	_
10L4	Yes	Yes	Yes	Yes	Yes	_	_
14L5	Yes	_	_	Yes	_	_	_
15L4	Yes	_	Yes	Yes	_	-	_
18H6	-	-	-	Yes	_	-	_
18L6	Yes	-	Yes	Yes	_	-	_
9EC4	Yes	-	-	Yes	_	-	_
9VE4	-	-	-	Yes	_	-	_
10EV3	-	-	-	Yes	_	_	_
4V1	-	Yes	-	Yes	Yes	-	_
5V1	-	-	-	Yes	_	-	_
8V3	-	-	-	Yes	_	-	_
10V4	-	_	_	Yes	_	_	_

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