

# Small Parts Phantom

## Model ATS 551



Model 551 provides a comprehensive means of evaluating the performance of higher frequency (approximately 7.5- 20 MHz) ultrasound systems designed to detect small anatomic features.

Our Small Parts Phantom is designed with a combination of monofilament line targets and tissue mimicking cylindrical targets of varying sizes and contrasts. The monofilament line targets have a diameter of 0.08 mm, to optimize the displayed image at frequencies of 7.5 MHz or greater. Four groups of line targets are provided to evaluate the vertical and horizontal calibration measurements, dead zone and axial-lateral resolution. The model 551 provides enhanced axial-lateral resolution targets (down to 0.25mm spacing) over the standard axial-lateral targets over the 551.

The Model 551 is constructed of our rubber-base tissue mimicking material to provide a phantom which is accurate, durable and maintenance free. All ATS urethane phantoms are guaranteed for the useful life of the phantom, defined as 10 years.

### Key Tests with Model ATS 551

- Uniformity
- Beam Profile/ Focal Zone/ Lateral Response Width
- Vertical Distance Measurement
- Horizontal Distance Measurement
- Axial and Lateral Resolution
- Elevational Resolution
- Contrast Resolution
- Grayscale Contrast Sensitivity
- Dead Zone Assessment

**CIRS**

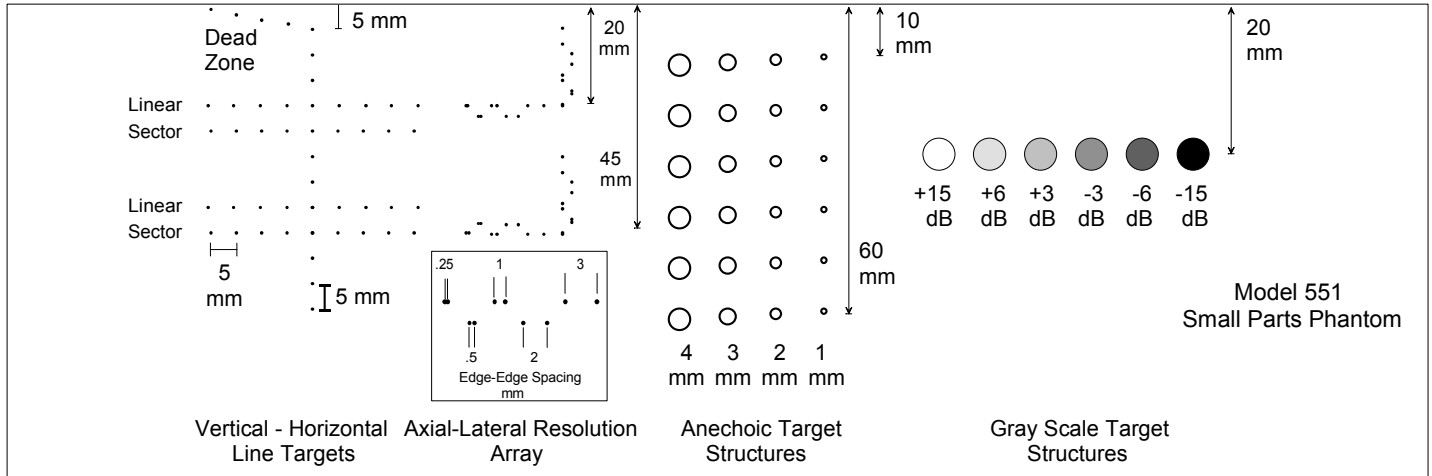
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SPECIFICATIONS

<b>DIMENSIONS</b>	8 x 11 x 11 cm (3" x 4" x 4")
<b>PHANTOM WEIGHT</b>	7 lbs. (3.1 kg)
<b>HOUSING MATERIALS</b>	PVC
<b>SCAN SURFACES</b>	1
<b>SCAN SURFACES DIMENSIONS</b>	25 cm x 8 cm
<b>TISSUE-MIMICKING MATERIAL</b>	Urethane Rubber

MODEL ATS 551 INCLUDES

QTY	COMPONENT DESCRIPTION
1	Small Parts Phantom
-	10-Year Warranty
-	User Guide
-	Certificate of Compliance

URETHANE PROPERTIES

Freezing point: < -40°C  
 Melting point: Above 100° C  
 Speed of Sound: 1450 m/s at 23°  
 Attenuation Coefficient: 0.5 dB/cm/MHz (measured at 3.5 MHz)

LINE TARGETS

Material: Monofilament nylon  
 Diameter: 0.08 mm

VERTICAL DISTANCE GROUP

Number of targets: 10  
 Depth range: 0.5 to 5.0 cm  
 Spacing: 0.5 cm

HORIZONTAL DISTANCE GROUP

Number of groups: 2  
 Depths: 2.0 & 4.0 cm  
 2.5 & 4.5 cm  
 Spacing: 0.5 cm

DEAD ZONE GROUP

Lateral Displacement : 5.0 mm  
 Depth range: 2.0 cm & 4.5 cm  
 Spacing: 0.25, 0.5, 1, 2, 3 mm (edge to edge)

AXIAL-LATERAL RESOLUTION GROUPS

Number of targets: 2  
 Targets sets per depth: 10  
 Spacing: 0.5, 1, 2, 3 mm  
 Depth: 5, 30 mm

ANECHOIC STEPPED CYLINDERS

Type: Non-echogenic, cylindrical

Number of Groups: 4  
 Number of targets: 6  
 Diameter: 1, 2, 3, 4 mm  
 Spacing: 1 cm center to center  
 Depth: 1 to 6 cm

GRAY SCALE TARGETS

Type: Echogenic, Cylindrical  
 Number of Targets: 6  
 Diameters: 6.0 mm  
 Spacing: 1 cm center to center  
 Depth: 2.0 cm  
 Contrast (dB): -15, -6, -3, +3, +6, +15