

# General & Small Parts Phantom

## Model ATS 549



The Model 549 General & Small Parts phantom combines a 30cm depth of field needed to test lower-frequency imaging probes (2-7.5 MHz) with small features in the first 6 cm to test small parts probes (7.5-20 MHz). The scanning wells when filled with water provide an ideal means to evaluate endoscopic probes. Simply lie the active area of the transducer onto the surface of the phantom. The procedure is the same as for any standard linear transducer.

The Model 549 is designed with a combination of monofilament line targets for distance measurements and tissue mimicking target structures of varying sizes and contrasts. One hundred and twenty (120) cystic-like target structures are positioned in-line vertically, thereby permitting an entire target group to be displayed in one view. Due to the acoustic similarity of the background material and the target structures, artifacts caused by distortion, shadowing or enhancement have been eliminated.

Six gray scale targets ranging in contrast from +15 to -15 dB are provided to evaluate the system's displayed dynamic range and gray scale processing performance.

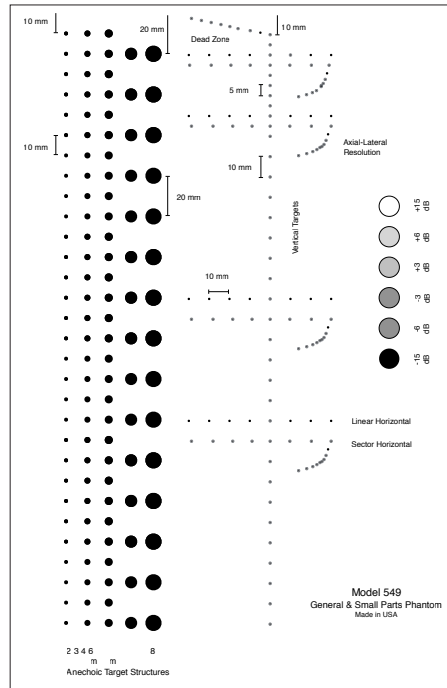
All ATS urethane phantoms are guaranteed for the useful life of the phantom, defined as 10 years.

### Key Tests with Model ATS 549

- 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 & Displayed Dynamic Range
- Dead Zone Assessment

# CIRS

900 Asbury Ave • Norfolk, Virginia 23513 • USA • Tel: 757-855-2765 • [WWW.CIRSINC.COM](http://WWW.CIRSINC.COM)



SPECIFICATIONS

<b>DIMENSIONS</b>	36.5 x 25.7 x 9.5 cm (14" x 10" x 4")
<b>PHANTOM WEIGHT</b>	15.5 lbs. (7.1 kg)
<b>HOUSING MATERIALS</b>	PVC
<b>WALL THICKNESS</b>	1 cm
<b>SCAN SURFACES</b>	4
<b>SCAN SURFACES DIMENSIONS</b>	21.0 x 7.0 cm 31.5 x 7.0 cm
<b>TISSUE-MIMICKING MATERIAL</b>	Urethane Rubber

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 Hz)

LINE TARGETS

Material: Monofilament nylon  
 Diameter: 0.08 mm & 0.12 mm

VERTICAL DISTANCE GROUP

Depth range: 1.0 - 30.0 cm  
 Spacing:  
 Depth 1.0– 6.0 cm: .5 cm  
 Depth 6.0 – 30.0 cm: 1cm

HORIZONTAL DISTANCE GROUP

Number of groups: 8  
 Depths:  
 Linear Array Group: 2.0, 5.0, 14.0, 20.0 cm  
 Sector/Convex Array Group: 2.5, 5.5, 15.0, 21.0 cm  
 Spacing: 1.0 cm

DEAD ZONE GROUP

Lateral Displacement : 5.0 mm  
 Depth range: 2.0 - 10.0 mm  
 Spacing: 1 mm

MODEL ATS 549 INCLUDES

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

AXIAL-LATERAL RESOLUTION GROUPS

Spacing: 0.5, 1, 2, 3, 4 mm  
 Depth:  
 Scan surface 1: 2.5, 5.5, 15, 21.0 cm  
 Scan surface 2: 7.0 cm  
 Scan surface 4: 13, 19, 28.5, 31.5 cm

ANECHOIC STEPPED CYLINDERS

Group 2, 3, 4 mm  
 Type: Non-echogenic, cylindrical  
 Targets in each group: 30  
 Diameter: 2.0, 3.0, 4.0 mm  
 Spacing: 1 cm center to center  
 Depth: 1.0 - 30.0 cm

Group 6, 8 mm

Type: Non-echogenic, cylindrical  
 Targets in each group: 15  
 Diameter: 6.0, 8.0 mm  
 Spacing: 2 cm center to center  
 Depth: 2.0 - 30.0 cm

GRAY SCALE TARGETS

Type: Echogenic, Cylindrical

