

Multi-Purpose Phantom

Performance measures:

- Uniformity
- Depth of Penetration
- 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

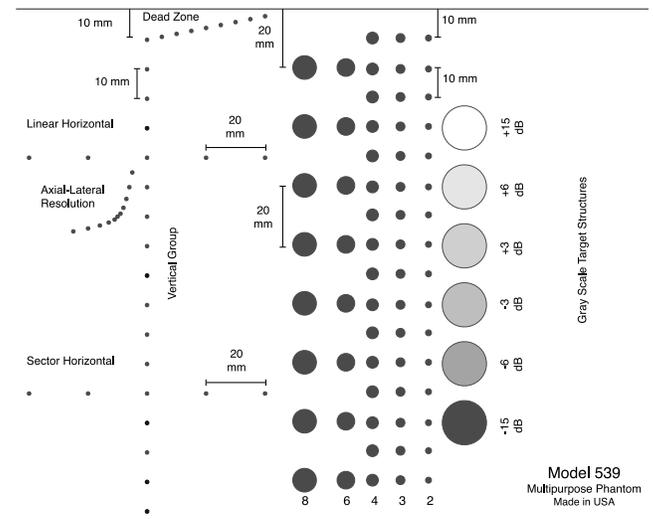


Evaluate Full Range of Clinical Imaging Frequencies

The CIRS Model ATS 539 Multi-Purpose Phantom is an easy, comprehensive means of evaluating imaging systems over the full range of clinical imaging frequencies (2 MHz to 18 MHz).

The phantom is designed with a combination of monofilament line targets for distance measurements and tissue mimicking target structures of varying sizes and contrasts. 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.

Target Schematic



Specifications

Dimensions	23.4 cm x 20.5 x 9.5 cm (9" x 8" x 4")
Weight	7 lbs (3.1 kg)
Housing Material	PVC
Wall Thickness	1.0 cm
Scan Surface Dimensions	(2) 15.5 x 7.5 cm; (2) 14.0 x 7.5 cm
Tissue-Mimicking Material	Urethane Rubber
Urethane Properties	Freezing Point: < -40° C Melting Point: Above 100° C Speed of Sound: 1450 m/s ±1.0% at 23° Attenuation: 0.5 dB/cm/MHz ± 10%
Line Targets	Material: Monofilament nylon Diameter: 0.12 mm

Items Included with CIRS Model ATS 539

Quantity	Description
1	Multi-Purpose Phantom
1	Carry Case
1	User Guide
-	Certificate of Compliance

Vertical Distance Group (17 targets)

Depth range 1 - 18 cm

Spacing 1 cm

Horizontal Distance Group: Linear Probes (5 targets)

Depth from scan surface 5 cm

Spacing 2 cm

Horizontal Distance Group: Sector Scanning Probes (5 targets)

Depth from scan surface 13 cm

Spacing 2 cm

Dead Zone Group (9 targets)

Depth range 20 - 100 mm

Spacing 1 cm

Axial and Lateral Resolution Groups (11 targets)

Lateral displacement 1 mm

Spacing 4, 3, 2, 1, 0.5, & 0.25 mm

Depth range 7, 11, 4, 16 cm

Contrast Targets (Cysts) (5 groups)

Type Non-echogenic, cylindrical

Group 2, 3, 4 (17 targets)

Diameter 2, 3, 4 mm

Depth 1 - 17 cm

Spacing 1 cm

Group 6, 8 (8 targets)

Diameter 6, 8 mm

Depth 1 - 17 cm

Spacing 2 cm

Grayscale Targets (6 targets)

Type Echogenic, cylindrical

Spacing 2 cm (center to center)

4 cm
Depth Contrast contrast: +15,+6, +3,-3,-6, -15 dB with respect to background