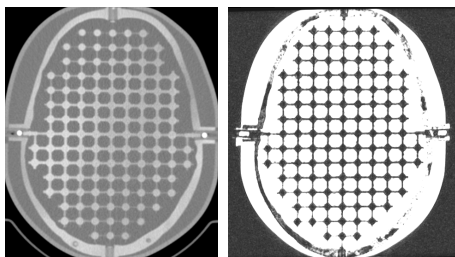
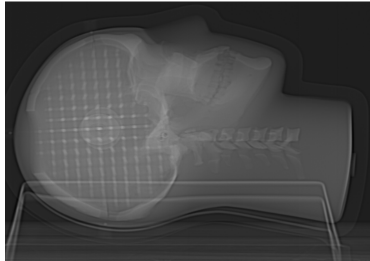


MR Distortion & Image Fusion Head Phantom

Model 603-GS



ASSESS MR DISTORTION AND IMAGE FUSION DURING SRS

CIRS Model 603-GS was designed to assess MR image distortion in Stereotactic Radiosurgery Planning. It's also a useful tool for verifying image fusion and deformable image registration algorithms used in various treatment planning systems. The tissue equivalent, anthropomorphic design closely matches a clinical imaging scenario. The phantom can be imaged using X-ray, Computed Tomography and Magnetic Resonance. It images well with all MRI sequences tested to date, including T1 weighted, T2 weighted, 3D Time of Flight, MPRAGE and CISS.

The skull is manufactured from a plastic-based trabecular bone substitute, and the interstitial and surrounding soft tissues are made from a proprietary signal generating water-based polymer. The entire phantom is encased in a clear plastic shell to protect gel from desiccation. It's supplied with specially designed pads that allow fixation with any stereotactic frame or mounting devices for end-to-end testing. The phantom is also suitable for frameless SRS QA.

The entire inter-cranial portion of the skull volume is filled with an orthogonal 3D grid of 2.5mm diameter cross-like shaped rods spaced 10mm (I-S), 10.5mm (AP) and 11mm (L-R). Extra material added in the grid intersections increase grid signal. Five extended axis-rods intersect at the reference origin of the grid. The end of each extended axis is fitted with CT/MR markers allowing for accurate positioning with lasers

and co-registration of CT and MR image sets.

The phantom includes right and left air voids, 3 mm in diameter by 17 mm long to simulate each ear canal for evaluation of potential distortions commonly found in clinical settings.

For users interested in image fusion studies, the phantom can be purchased as a kit to include a serial-number specific CT DICOM Data set for reference. CIRS can also offer value-added options and services such as attachment of customer specific registration devices and inclusion of special point markers.

Features

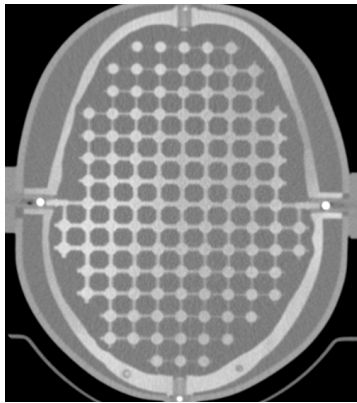
- Provides a realistic anthropomorphic scenario for CT and MR imaging
- Presents simulated bony anatomy as rigid landmarks for image fusion
- Unique inter-cranial 3D grid design used to assess spatial distortion
- Special pads compatible with all fixation frames
- CT/MR markers facilitate positioning and image registration
- 859 control points
- Works with Distortion Check Software

900 Asbury Ave • Norfolk, Virginia 23513 • USA
Tel: 800.617.1177 • 757.855.2765 • Fax: 757.857.0523

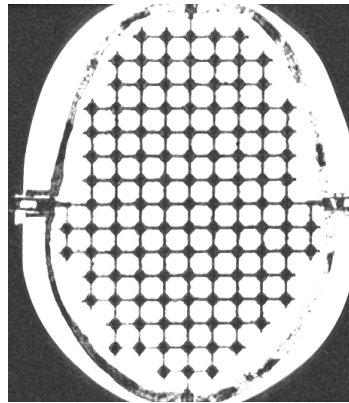
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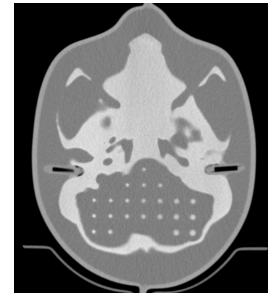
Tissue Simulation & Phantom Technology



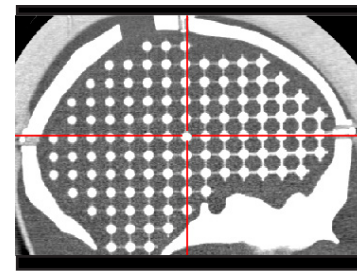
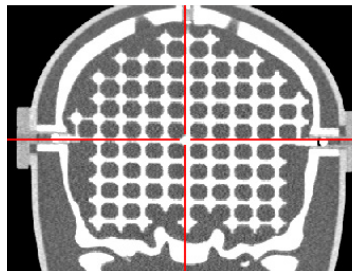
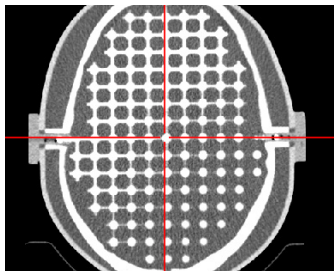
CT



MRI



CT showing ear canal



CT Reconstruction

OVERALL DIMENSIONS	32 cm x 24 cm x 18 cm
WEIGHT	12 lbs (5.5 kg)
MATERIALS	Skull: Plastic-based bone substitute Interstitial/ Soft tissues: Water-base polymer Grid: Reinforced nylon

SOFTWARE OPTIONS

PART NO.	DESCRIPTION
603S	Distortion Check software 2 year renewal license



Model 603-GS in Stereotactic Frame (not included)

MODEL 603-GS INCLUDES

MODEL	QTY	COMPONENT DESCRIPTION
-	1	MR Distortion & Image Fusion Head Phantom
-	1	ABS Cradle
-	-	Unlimited scans using MRI Distortion Check Software for initial 2 year period For instructions on how to create your account, go to https://www.cirsinc.com/software/distortion-check/
-	1	Custom Carry Case
-	1	User Guide
-	-	60-Month Warranty
038-20	1	SRS Frame Support Cups (set of 4)

Model 603-GS-035 Kit includes CT image dataset along with standard 603-GS phantom components listed above. CT image specifications are listed below:

Image Format: DICOM
Slices: Axial
Slice thickness: 0.625 mm with a 0.625 mm slice spacing
Field of view: 250 mm
Image Matrix: 512 x 512
Number of slices: 190-225. Includes entire grid with external markers down to the cervical spine
Energy: 120 kVp at 150 mA minimum
Other: Ships on USB key with a free DICOM reader (Onis 2.6). If using alternative software to read the images, please notify CIRS of any special requirements for making the data compatible with your software (e.g., checks of the DICOM header file or the DICOM directory when loading the image data set)

