

Therapy Imaging Probe System

A turnkey solution for all pre-clinical research using therapeutic ultrasound

The Therapy and Imaging Probe System (TIPS) is a general purpose tool that allows scientists to perform pre-clinical research using high-intensity focused or therapeutic ultrasound in the areas of:

- Site-targeted drug delivery
- HIFU / Ablation
- Ultrasound mediated gene therapy / transfection
- Sonothrombolysis
- Acoustic radiation force imaging
- Ultrasound mediated immunotherapy

Site-targeted delivery

TIPS can deliver focused ultrasound energy non-invasively within a target. When TIPS is connected to a compatible ultrasound imaging system, image guidance can be used to localize and target the regions of interest.

With powerful procedure planning and execution tools, procedure monitoring tools, and a versatile acoustic coupler designed for both small and large animal models. TIPS allows scientists to concentrate on the experiment, rather than on the device technology.

Pre-clinical research

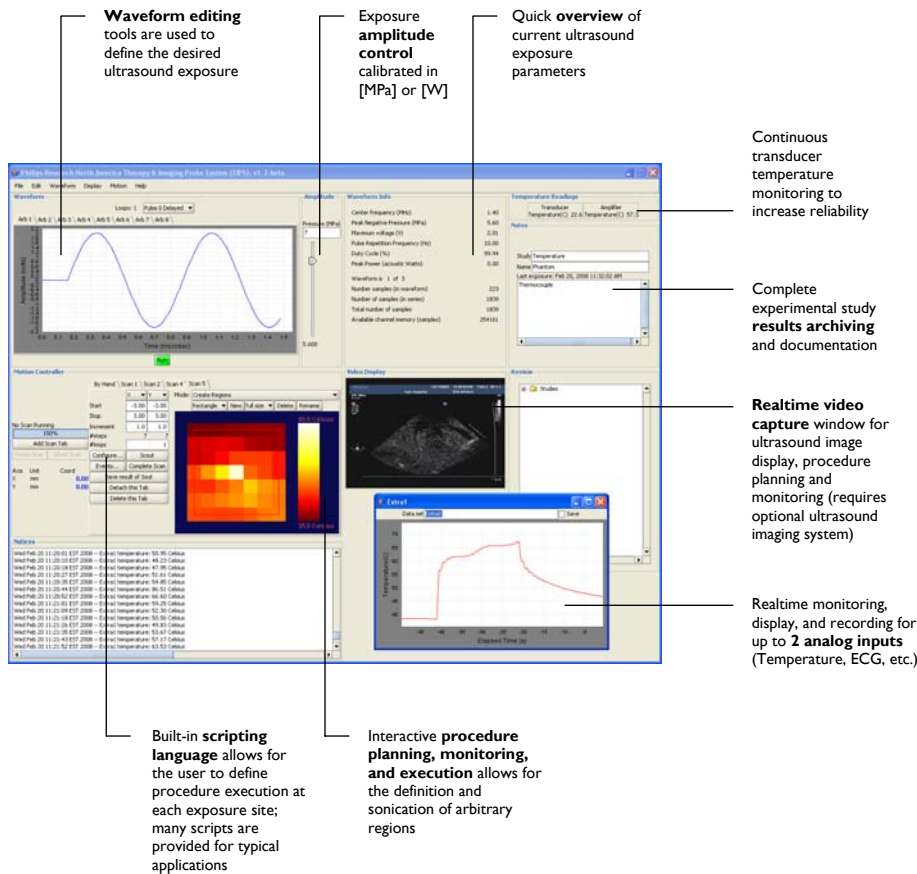
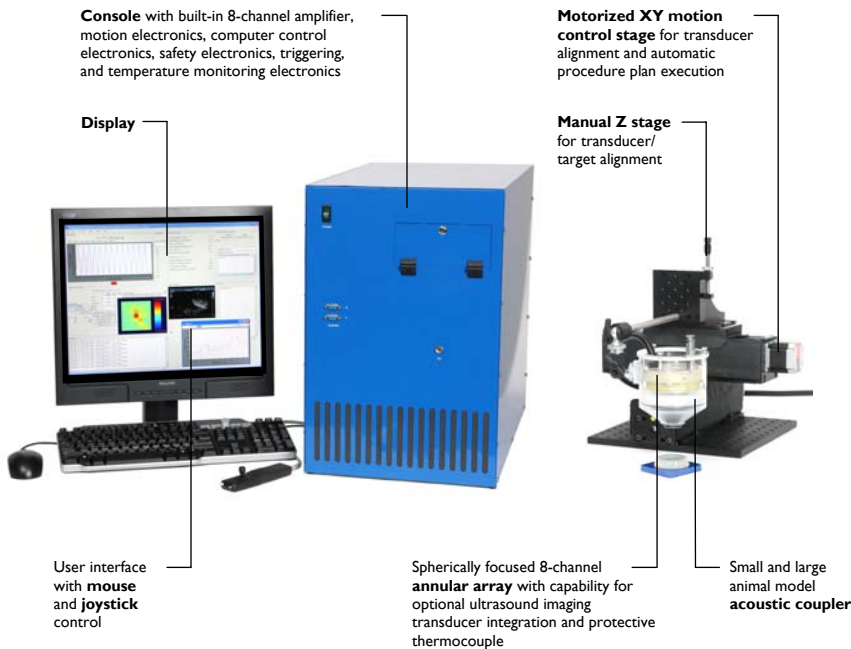
Studies on animal models involving the use of microbubbles and nanoparticles for drug delivery and treatments involving genetic material, siRNA, and liposomes are currently being conducted worldwide.

In these studies, high intensity focused ultrasound has been used in efforts to increase targeted drug uptake, increase local transfection efficiencies, enhance local deposition of agents, and stimulate the adaptive immune system.

TIPS is an indispensable pre-clinical research tool that enables scientists to investigate and develop all potential therapies through either the pressure- or temperature-mediated mechanisms provided by high-intensity focused ultrasound.

PHILIPS

Technical specifications



TIPS features

- 1 x 1 x 6 mm Focal zone for localized effect
- Automated procedure planning and execution for sonicating volumes of arbitrary size and shape
- Full control of ultrasound exposure parameters: frequency, amplitude, duty cycle, number of pulses, dwell time, focus location, pulse sequences, etc.
- General-purpose acoustic coupling to small and large animal models
- Realtime procedure temperature feedback (via T-type thermocouples)
- Powerful scripting / event handling for experiment execution and data recording
- Optional realtime ultrasound imaging for precise procedure planning, monitoring, and 3D volume acquisition
- Integrated application program
- Mouse and joystick user interface
- 8-Channel annular HIFU array
- 1.0 – 1.7 MHz Operating frequency
- Electronic focal zone placement in depth (Z): 65 to 95 mm
- Computer controlled and manual mechanical focal zone placement (XY): +/- 40 mm
- Focal intensity: >1000 W/cm²
- Acoustic pressure: >9 MPa

TIPS is not for use in humans. Use in animal models should comply with all applicable laws and standards.

Contact

For further information about TIPS please contact:
 Philips Research North America
 345 Scarborough Road
 Briarcliff Manor, NY 10510, USA
 Phone: (914) 945-6188
www.research.philips.com/TIPS



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