



## MicroScribe® Medical Applications

*Used as a cost-effective, portable addition to medical supply solutions, the MicroScribe system is an articulated mechanical arm that enables practitioners to construct, manipulate, and interact with detailed three dimensional computer models.*

MicroScribe technology is helping to advance computer-assisted surgery.

In situations that require precise measurements, like prosthetic and orthopedic fittings, the MicroScribe system offers up to six degrees of freedom and can help eliminate the need for corrective fittings and re-sizing. It has been effectively integrated into a range of computerized medical instrumentation systems and used for stereotactic registration. Through its superior design and comprehensive functionality, MicroScribe technology is helping to advance computer-assisted surgery and procedure training.

### Stereotactic Registration

MicroScribe technology can provide the link between 3D radiological images and the patient. Real time position information can be processed by your visualization system to align and correlate physical position with your data sets.

### 3D Ultrasound

3D ultrasound enables new levels of visualization, allowing a practitioner to view an entire volume, rather than a single plane. Immersion customers can select additional degrees of freedom and options for mounting devices to the MicroScribe system.

### Image Guidance

MicroScribe-based systems have been used in conjunction with CT, MRI, Ultrasound, and other imaging systems to enable pre-operative planning and image guided procedures such as biopsy, radiation therapy, and robotic hip replacement.

### Procedures enabled by MicroScribe technology:

- Stereotactic registration
- CT or MRI guided biopsy
- Radiographic image manipulation
- Surgical simulation and training
- Goniometry
- Custom orthopedic braces & prosthetics
- 3D ultrasound
- Cavity preparation training and evaluation



*MicroScribe G2 with spinning stylus option*

Providing the positional tools to help improve patient health and minimize risk through medical assistance and training.



MicroScribe systems are an integral component in medical products from leading manufacturers.

### NOMOS - BAT (B-mode Acquisition and Targeting)

BAT utilizes ultrasound to precisely locate an organ or target prior to radiation therapy treatment and is used in situations where the target may move from one treatment day to the next. Using MicroScribe technology for Intensity Modulated Radiation Therapy (IMRT), the BAT system lets the radiation therapist collect planar views, generate a multiplanar reconstruction of the CT based structures from the treatment planning system, then overlay these structures with the images.

### Philips Medical Systems - Image Guided Biopsy

Philip's frameless stereotaxis (PinPoint) system is an intuitive planning tool for interventional procedures that are guided by computed tomography. Using PinPoint reduces interventional procedure time, minimizes patient table time, provides improved patient throughput and instantaneous identification of the best target organ path thus reducing complications. PinPoint uses MicroScribe technology to provide the radiologist with a means of simulating and initiating interventional procedures by interactively relating the patient's CT image volume to the actual target field.

### CBYON - Image Guided Surgery System

CBYON, Inc. is a medical technology company that develops and manufactures software, enabling surgeons to apply minimally invasive techniques to a variety of surgical procedures. The CBYON Suite uses the MicroScribe articulated arm to enable image-guided surgery. The arm provides the CBYON system with a quantitative method of positioning and tracking surgical tools in surgical space, thus allowing the IGS system to provide surgeons with three-dimensional images of patient-specific internal anatomy beyond the incision site of the surgical tools.

### Integrated Surgical Systems, Inc. - ROBODOC Surgical Assistant System

Integrated Surgical Systems (ISS) provides computer-controlled, image-directed robotic products for surgical applications. The ROBODOC Surgical Assistant System is the ISS flagship product for orthopedic applications. MicroScribe technology enables the ROBODOC system to generate precise femoral positioning coordinates for total hip replacement surgeries.

### Lockheed Martin - Endoscopic Sinus Surgery Simulator

Lockheed Martin has delivered several simulators for training surgeons in endoscopic sinus surgery (ESS) procedures. The ESS simulator uses auditory and haptic feedback, real-time visual cues, and progressive lessons from novice through advanced stages. It uses MicroScribe technology to provide the 3D navigation for anatomical viewing and for instrument placement training.

### About Immersion Corporation

Founded in 1993, Immersion Corporation develops software and hardware technologies that improve the way people interact with digital devices. The Immersion® 3D Capture products enable engineers, animators, and practitioners to quickly create 3D models of physical objects. The 3D Interaction products enable users to interact with virtual 3D objects.