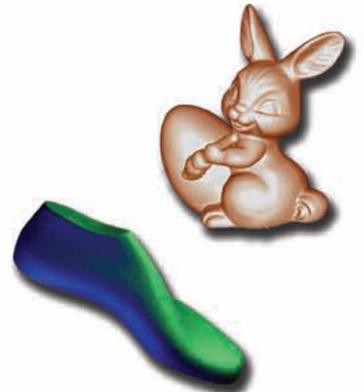


# MicroScan 3D

## RSI's new Laser Sensor



Craft and  
Artwork



Archaeology



Design

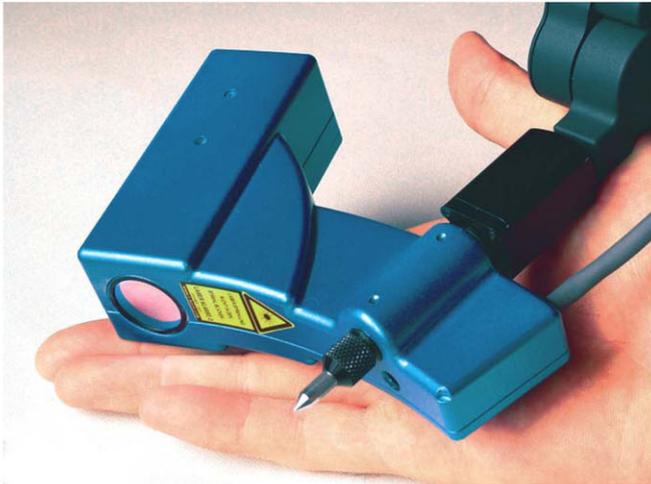


Reverse  
Engineering

- easily attaches to the MicroScribe
- adds precision surface scanning
- offers two workspace sizes
- requires no external devices

## MicroScan: High Quality and Affordable 3D Laser Scanning

As an add-on to the popular MicroScribe desktop digitizer, RSI's new MicroScan laser-based sensor head easily attaches to the digitizer's touch probe (6DOF version). For the first time now users who are looking for a powerful but cost-effective 3D scanning solution are provided with a real alternative to existing products which normally require considerably higher budgets.



Mechanical scanners based on the combination of an articulated arm and a laser head have been available for some time now. Using optical triangulation, object shapes are captured in 3D by sweeping a laser profile across the surface. Although a very attractive idea, the adaption of this method to the most popular MicroScribe family of desktop digitizers was not successful in the past. This was due to a number of issues such as shape, size, and handling of the sensor head, overall system resolution and accuracy, other technical problems, and total cost of development. By presenting MicroScan for the MicroScribe, RSI has overcome these problems now. For the first time a scanning solution is available which not only is well balanced in performance and price but also meets higher demands for result quality and user comfort. While the MicroScribe is well established in 3D measurement and object reconstruction based on points and lines, MicroScan now adds capturing of complex shapes with high level of detail, fast and easily. Two lasers for two different workspace sizes are incorporated, and extensive and user friendly software support for data acquisition and model processing is included.

Among the typical application fields the MicroScribe & MicroScan combination is ideally suited for are industrial and creative design, architecture, medical applications, food industry, textile, footwear, and sports industry, film and game developing industry, product presentation, marketing, advertising, and related areas.

### Technical specifications and features

#### Sensor

- detail accuracy 0.008 – 0.012 " (0.2 - 0.3 mm) (depending on MicroScribe base model)
- two workspace depths: 2 / 4.3 " (50 / 110 mm) (freely switchable)
- scanning rate: up to 60 profiles/second (28.000 data points/second)
- nearly independent from most object material and surface properties (plastic, wood, textiles, human skin, metal, stone, rubber, a.m.o.)

### Advantages beyond the standards

#### Application

- absolutely portable, compatible, and independent scanning solution, small footprint
- data acquisition with visual feedback in real-time
- high flexibility and versatility
- fits seamlessly into existing hardware and software environments
- no time consuming recalibration needed for repositioning relative to the object
- captures surfaces, points and (contour) lines
- exports results in industrial standard formats
- powerful and comfortable software support included

#### Software

- provides real-time preview of scanned data
- extends working space beyond the MicroScribe's reach
- accurately aligns data taken from different perspectives or workspaces
- converts scanned data (point clouds) to watertight 3d meshes (polygon models)
- enables comfortable polygon post processing (smooth, decimate, repair, trim, a.o.)
- exports points (in ASCII txt format) and polygon meshes (in .stl, .dxf, and .vrmf format)

#### Technology

- compact, small-sized, and handy sensor head
- incorporates miniaturized state-of-the-art components (lasers and camera)
- calibration of entire MicroScribe and sensor system
- ideally supplements well-known MicroScribe desktop digitizers (G2 and MX series)
- easy mounting (also as an upgrade option to existing 6DOF systems)
- connects to the MicroScribe accessory port, no external power supply needed
- runs on standard Microsoft Windows XP Pro desktop and notebook computers

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