

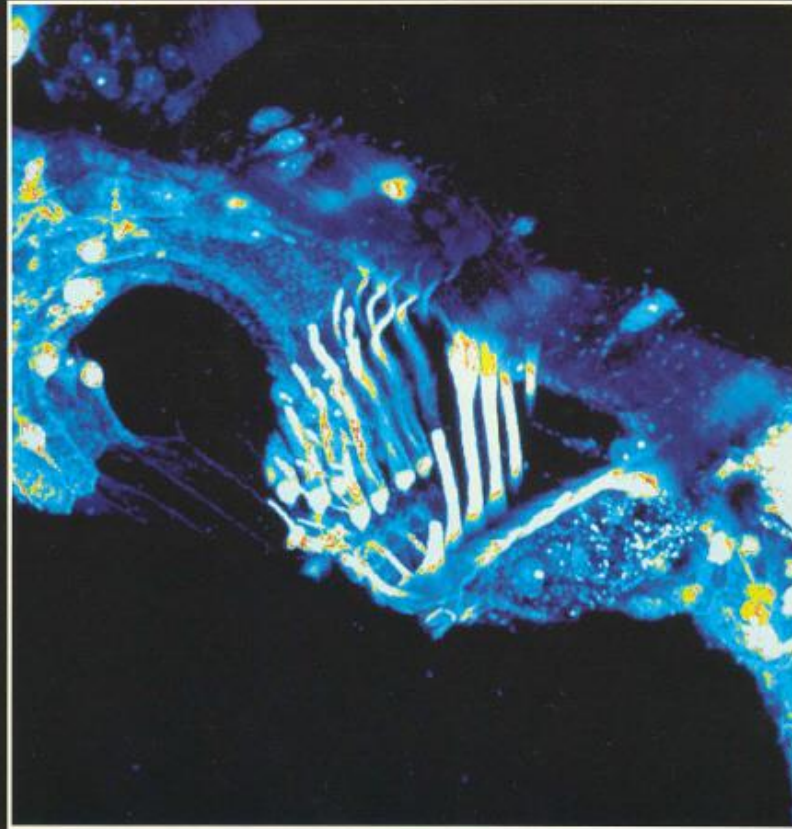


# Sarastro

## *Brochure*

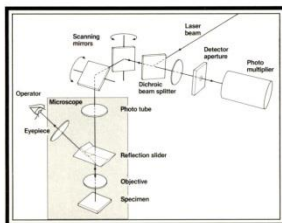
For further information on this collateral, contact:  
Barbara Foster  
The Microscopy & Imaging Place, Inc.  
(972)924-5310    [bfoster@the-mip.com](mailto:bfoster@the-mip.com)

# SARASTRO



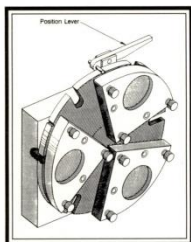
Confocal Laser Scanning Microscope





### A BREAKTHROUGH IN MICROSCOPY

Engineered to withstand years of use by multiple users, the Sarastro CLSM 1000 features a short, efficient light path coupled with optimized signal collection that produces sharp, noise-free images with full 256 grey level resolution. You benefit from fewer scans, faster total scanning time, less photobleaching, and less processed, more reliable data.

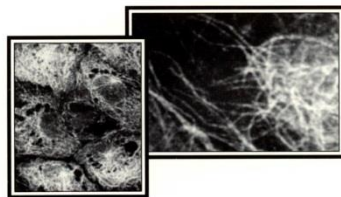


### IDEAL FOR THE MULTI-USER/MULTIPLE APPLICATION LABORATORY

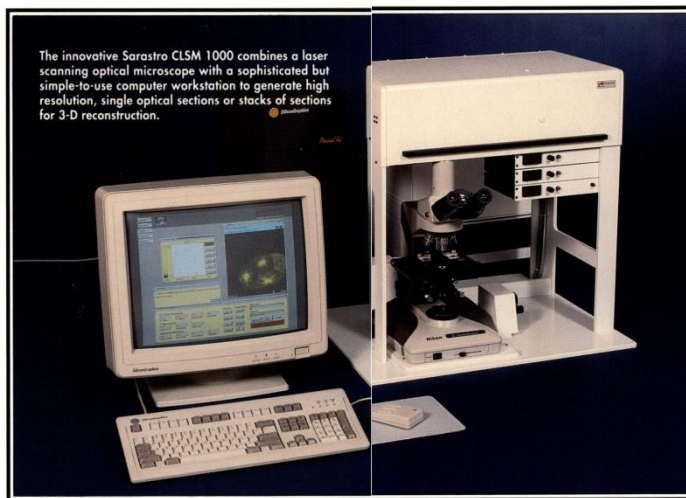
Sarastro CLSM 1000 controls are all within easy reach, offering infinite choices for filtration, power, and sensitivity. Multiple, pre-aligned apertures are engineered for the physics of the objectives to give the best signal/confocal relationship and precise return to exactly the same setting. Modularity is key to both the Sarastro CLSM 1000 hardware and software. The standard configuration provides a second port for an auxiliary laser and can be fitted to either an upright or inverted microscope of your choice.

### WYSIWYG (What you see is what you get)

Maximum engineering in the Sarastro CLSM 1000 means minimum effort in your laboratory. The parallel light path from the scanner provides an unlimited capacity to switch from one optical set-up to another without realignment. Look through the microscope. What you see is what you'll scan. A touch of a button allows you to zoom from full field to magnified partial field, before or after scanning.



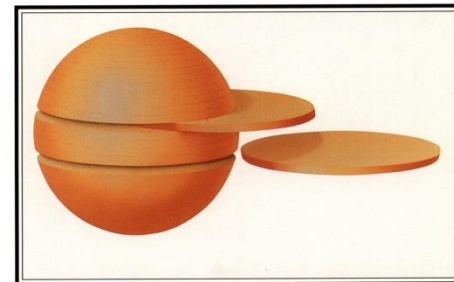
The maximum engineering concept carries through to the software. One main menu provides interactive, dynamic, graphic access to a full library of data acquisition and display, including 3-D constructions. Integration of the rugged, stable optics and mechanics with sophisticated software produces precise, reproducible scans, even for ultra-high resolution 1024 x 1024 images.



The innovative Sarastro CLSM 1000 combines a laser scanning optical microscope with a sophisticated but simple-to-use computer workstation to generate high resolution, single optical sections or stacks of sections for 3-D reconstruction.

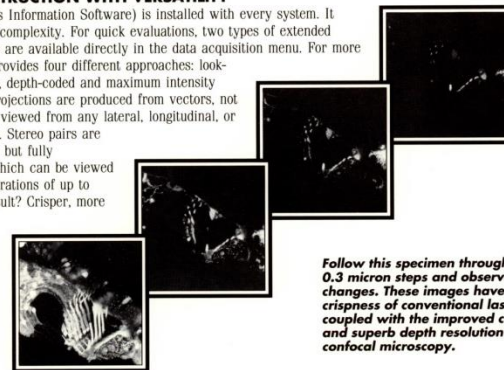
### A REVOLUTIONARY STEP INTO 3-D

Adding a motor to the microscope fine focus opens microscopy the world of 3-D. Sarastro's patented Opto-digital Microtome optically cuts the specimen and digitally processes the information. There are none of the artifacts associated with physical cutting and no loss in orientation.



### FULL 3-D RECONSTRUCTION WITH VERSATILITY

VANIS (Volume Analysis Information Software) is installed with every system. It delivers power without complexity. For quick evaluations, two types of extended look-through projections are available directly in the data acquisition menu. For more detailed work, VANIS provides four different approaches: look-through, surface-shaded, depth-coded and maximum intensity projections. All these projections are produced from vectors, not just voxels, and can be viewed from any lateral, longitudinal, or rotational vantage point. Stereo pairs are not simply plane-shifted but fully reconstructed images which can be viewed at user-determined separations of up to +/- 45 degrees. The result? Crisper, more realistic images than ever before.

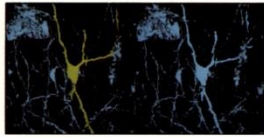


Follow this specimen through several 0.3 micron steps and observe real confocal changes. These images have all the crispness of conventional laser scanning coupled with the improved contrast and superb depth resolution of true confocal microscopy.

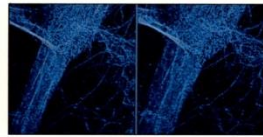
### ...AND SPEED

When the data is imperfect, VANIS produces smoother surfaces with Gaussian filters and improved geometry with fractional pixel interpolation between sections, all with the speed of the Silicon Graphics® graphics engine. Need to continue collecting data while you are number crunching or transferring data? The Silicon Graphics workstation is multi-tasking. Do the intensive calculations and data transfer in the background while you continue scanning on the main screen. In every respect, the Sarastro CLSM 1000 is powerful and versatile, easy to learn, and easy to use.

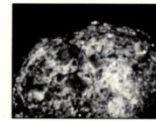
# WHEN YOU NEED: EASE, VERSATILITY, POWER...CALL SARASTRO



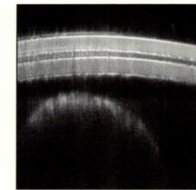
**Nerves stained with Golgi stain.** Reflected light CLSM stereo pair. Sample and image courtesy Dr. Ross Smith, New York University.



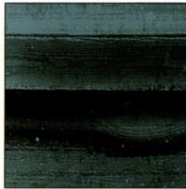
**Bubbles in synthetic rock.** Transmitted light CLSM stereo pair. Constructed from 125 sections separated by 0.5 micron steps. 40x/0.95 objective.



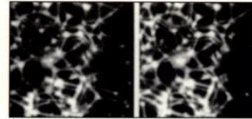
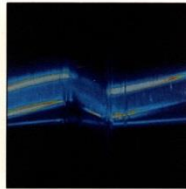
**Microcapsule of Inderal® (Long acting).** Extended focus confocal image. Constructed from 50 sections separated by 10 micron steps. Autofluorescence. 10x/0.45 objective. Sample courtesy of Dorothy Paterno, CRADEG/Aberdeen Proving Ground.



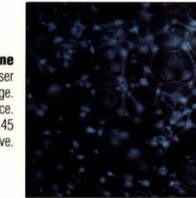
**Contac® cold capsule.** Non-destructive confocal cross section through capsule showing overlap of the two gel caps with microcapsule of medication below. Autofluorescence. 10x/0.45 objective.



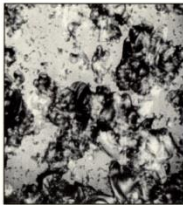
**Polyethylene packaging film showing edge crimp.** Left image shows surface of the film; right image shows a non-destructive cross-section of same film. Autofluorescence. 40x/0.95 objective.



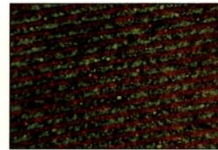
**Polyurethane foam.** Stereo pair. Constructed from 30 sections separated by 50 microns each. Autofluorescence. 10x/0.45 objective.



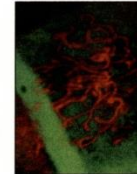
**Polyurethane foam.** Laser scanning image. Autofluorescence. 10x/0.45 objective.



**Ink and surface of thermal printer paper.** High resolution (1024 x 1024) confocal image. Reflected light. 20x/0.75 objective.



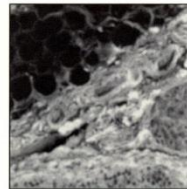
**Polaroid® Polacolor® film.** Dual channel confocal image. Autofluorescence. 20x/0.75 objective.



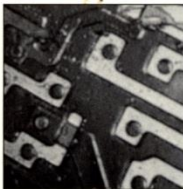
**Plant chromosomes**  
(Left) Dual channel image of chromosomes from onion root tip. Fluorescence. 60x/1.4 oil immersion objective.



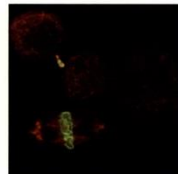
(Above) Three dimensional reconstruction of chromosomes taken from same sample.



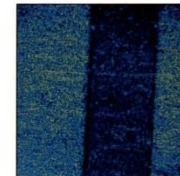
**Kidney.** Super high resolution (1024 x 1024) confocal image. Fluorescence. Hemotoxylin and eosin. 60x/1.4 NA objective. Sample courtesy of Jan MacMillan, University of Arizona.



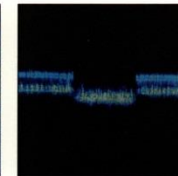
**Electronic circuitry.** Reflected light confocal image of surface. 40x/0.95 objective.



**Dividing cell.** Dual channel 3-D reconstruction of plant cells showing formation of cell plate during division. Fluorescence. 60x/1.4 NA objective.



**Copper on Silicon.** The right image shows the surface view; the left shows the non-destructive cross-section, illustrating the height and shape of the copper wall. Reflected light confocal image. 40x/0.95 objective.



## OFFICES:

SARASTRO, INC.  
21 BERKSHIRE BLVD., BETHEL, CT 06801  
(800) 635-2873 (203) 730-0941  
FAX: (203) 730-0945  
6660 CRANE RD., YPSILANTI, MI 48197  
(313) 434-4393

SARASTRO AB  
BJÖRNÄSVÄGEN 12, S-113 47 STOCKHOLM  
SWEDEN  
46(8)15 01 50  
FAX: 46(8)16 61 51

## REPRESENTATIVES:

**UNITED KINGDOM:** AMS ANALYTICAL MEASURING SYSTEMS  
LONDON ROAD, PAMPISFORD, CAMBRIDGE CB2 4EF, ENGLAND  
TEL. 44(223)836 001 TELEFAX 44(223)837 417 TELEX 817824 MICROM G

**ISRAEL:** EL DAN ELECTRONICS INSTRUMENT CO. LTD.  
16 OHOLIAV ST., JERUSALEM 94467, ISRAEL  
TEL. 972(2)528 211 TELEFAX 972(2)534 289 TELEX 25231 EL DAN IL

**FRANCE:** SARASTRO  
6, RUE LÉON PIOLET, F-78860 SAINT-NOM-LA-BRETECHE, FRANCE  
TEL. 33(1)34 62 51 14 TELEFAX 33(1) 30 56 68 98 TELEX 697385 ESSEM