

WHAT IS A SCRAMBLER SYSTEM?

The Light Scrambler Input Module, serves as the light collector and attaches to the lamphouse which has been detached from the microscope. The Input Module houses a collector type lens and has a focus knob and X and Y adjusters for precisely aligning the Fiberoptic. The Input Module is finned to aid in dissipating lamphouse heat.

The pure fused silica Fiberoptic light carrier has optically polished receiving and transmitting ends. It is usually 1.5M long. A 2.5M version is available for removing the arc lamp well away from the specimen area and for isolating RFI as in studies requiring a Faraday cage. The Fiberoptic has a special device which significantly lowers the temperature at the Input end. It is also provided with a device called a curve calibrator rod that assures that the Fiberoptic is curved to a specific radius in two planes perpendicular to each other. This further flattens the illumination.

The Light Scrambler Output Module is fitted to the microscope port. It houses a relay lens, has a focus knob and X and Y adjusters for precisely aligning the Fiberoptic.

Optional Scrambler accessories include:

Stand for supporting the Input Module/Arc Lamphouse assembly.

Digital Multi-meter required for setting up the Light Scrambler.

Dual Fiber Switch for multi-illumination systems.

Diaphragm for controlling light output.

See [Other Products](#) and [Custom Products](#)

A COMPLETE SCRAMBLER SYSTEM will consist of the following:

LAMP END:

Input Module with **collector lens** & heat filter to focus light onto the fiberoptic tip. **Tripod stand** supports Input Module and Lamphouse. Heavy filter wheels require separate support.

Optically polished **quartz fiberoptic**, 1.5 meters long, with **curve calibrator rod** that curves fiber through two planes at 90° and microbends fiber for more uniform illumination. Provides virtually uniform light to the condenser, making it possible to utilize fully the computer-designed optics of Zeiss microscopes.

Light output photodiode facilitates maximum light throughput by measuring light intensity at the output tip of fiber. Simplifies installation.

MICROSCOPE END:

Output Module with appropriate **relay lens** to expand and project the scrambled light into microscope. Auxiliary lens, 1x extender, delrin holder, as needed.

DUAL SCRAMBLER SYSTEM

A precision manual **dual fiber switch** holds and positions one or the other of two fibers at the focal point

of the Input Module lens. One lamphouse can then provide light to two fibers, and thence to two Output Modules, one to the epi port and the other to the transmitted port, *or* to two different microscopes. Can be retrofit to all Scrambler Systems. A computer controlled DFS is also available.

TRIPLE LAMP MOUNT Our Triple Lamp Mount accommodates three illumination sources. This could be three Zeiss lamphouses, or two Scrambler Output Modules and one lamphouse, for instance. It comes in a manual operated model or a computer controlled model and allows the operator to easily select one of three illumination sources. (See Custom Illumination System on our website for typical setup).

FOR YOUR INFORMATION:

An *arc lamp* with its appropriate collector lens and a 100 W mercury, or 75 W Xenon bulb are recommended for *optimal* lateral and axial resolution at high magnifications for Video Microscopy, Place *filter wheels* and *electronic shutters* between the lamphouse and Scrambler Input. *Custom Scrambler* configurations can be designed to meet your requirements.

Please visit our website: www.technicalvideo.com for other fine products for video microscopy.

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