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(Shown with optional camera and objectives not included)

SOM®
Simple Moving Microscope

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The Son of MOM® (SOM®) is a small, simple microscope designed to allow a single experimental setup to be used for both *in vivo* and *in vitro* experimentation. As in our two-photon Movable Objective Microscope (MOM), positioning over the sample and focusing is accomplished robotically. This removes the need for the large translators and stages that normally limit the available space beneath the objective for *in vivo* experimentation. For example, the SOM would allow for whole-cell patch recordings from neurons *in vivo* on one day followed by multi-cell recordings in slices on the next.

SOM opens up experimental possibilities that otherwise might be limited by the ever growing space constraints in modern laboratories. The SOM is designed to take full advantage of our free Multi-Link™ software program for micromanipulator positioning.

For instance, during whole-cell patch recording in slices, it is commonly necessary to search over a large area of tissue to find neurons appropriate to your experiment. With the SOM, you simply translate over your

sample to search for your target. The software programs will then retrieve your recording and stimulation pipettes so that you can begin recording immediately. Moreover, if you then find you need to stimulate a region outside of the current objective's field of view, the programs will allow you to lock the position of your recording pipette and reposition the objective and stimulating pipette(s) to their required positions.

An optional Oblique Coherent Contrast (OCC) condenser that is illuminated with an LED is also available. The condenser translates with the microscope in the X & Y axes, which allows for consistent illumination during re-positioning of the SOM over the sample.

How it Works:
The SOM is designed to take advantage of the high-quality images that can be obtained with a simple IR LED-based transmitted light source combined with an IR capable CCD camera. This combination is sufficient for the majority of *in vitro* electrophysiology needs. The SOM is also designed with a two-position filter cube to allow for identification of fluorescently-tagged cells for recording or for photostimulation. If you populate both of the filter cube positions, one of the filter sets will need to pass IR to allow for transmitted light imaging. As many filter combinations will pass IR, transmitted light imaging can generally be done in either of the two filter positions.

The fluorescence excitation port of the microscope has C-mount threading as well as mounting holes for standard cage components. This allows for customization by the user to various experimental needs. For instance, multiple light sources can be coupled to the excitation port with small cage assemblies.

FEATURES

- Simple moving microscope based on an MP-285/MPC-385 motorized micromanipulator
- X, Y and Z axes of manipulator used to position microscope over the sample and focus. No need for large translators or moving stages
- Optimized to allow *in vivo* and *in vitro* experimentation on one setup
- Standard configuration accepts RMS thread objectives - Contact Sutter for additional options
- Free Multi-Link™ software coordinates movement with micropipette positioning of MPC-200
- Transmitted IR and EPI fluorescent imaging modes
- Flexible excitation port allows easy addition of secondary sources for photostimulation
- MPC-200 controller with USB interface and open source commands

TECHNICAL SPECIFICATIONS

Travel
25 mm on all three axes

Resolution

MP-285 controller
Low: 0.2 µm/step
High: 0.04 µm/step

MPC-200 controller
0.0625 µm/step

Maximum Speed

MP-285 controller
2.9 mm/sec

MPC-200 controller
5.0 mm/sec

Drive Mechanism
Precision worm gear capstan drive

Communication

MP-285
RS-232 Serial
MPC-200
USB

Electrical
115/230 Volts
50/60 Hertz power line

RoHS Compliant

US PRICES > SOM
International prices vary by country. Please contact your local distributor or Sutter Instrument for a quotation. Prices subject to change without notice.

Catalog Number	Description	Price
SOM-T	SOM Microscope mounted on tall MT-75T tower with MPC-200 controller and ROE	**$ 15,920**
SOM-XT	SOM Microscope mounted on extra tall MT-75XT tower with MPC-200 controller and ROE	**$ 15,920**

US PRICES > SOM BUNDLED SYSTEMS
All Bundles include: SOM, TLED+ white LED light source with 50/50 beam splitter, one micromanipulator, gantry stand, and P-1000 Micropipette puller

Catalog Number	Description	Price
SOM-T-QUAD	SOM-T with QUAD® 4-axis micromanipulator	**$ 36,355**
SOM-T-285	SOM-T with MP-285 mechanical micromanipulator	**$ 33,185**
SOM-T-225	SOM-T with MP-225 mechanical micromanipulator	**$ 32,390**
SOM-XT-QUAD	SOM-XT with QUAD® 4-axis micromanipulator	**$ 36,355**
SOM-XT-285	SOM-XT with MP-285 mechanical micromanipulator	**$ 33,185**
SOM-XT-225	SOM-XT with MP-225 mechanical micromanipulator	**$ 32,390**

ACCESSORIES

Catalog Number	Description	Price
SOM-COND	SOM OCC condenser with TLED	**$ 4,515**
OBJ-522	4X-UPLFLN4X;U PLAN FLUORITE 4X OBJECTIVE;NA 0.13, WD 17mm	**$ 436**
OBJ-524	10X-UPLFLN10X2;U PLAN FLUORITE 10X OBJECTIVE;NA 0.3, WD 10mm	**$ 436**
OBJ-587	40X-LUMPLFLN40X/W;U M PLAN FLN 40X/W OBJ;NA 0.8, WD 3.3mm, IR, ECO	**$ 2,556**
OBJ-592	60X-LUMPLFLN60X/W;U M PLAN FLN 60X/W OBJ;NA 1.0, WD 2.0mm, IR, ECO	**$ 3,007**
OBJ-672	L60X-LUMFLN60X/W;NA 1.1, WD 1.5mm, 25 ANGLE, IR.CC, ECO	**$ 9,267**
TLED-CT	Lambda TLED for transmitted light with C-mount for SOM	**$ 2,035**

PRODUCT INFORMATION
Download Sales Flyer