

## Model 3800

# The MultiStim

## 8-Channel Programmable Stimulator



The Model 3800 MultiStim 8-Channel Programmable Stimulator is a multichannel programmable stimulator designed for a wide variety of applications. It is highly flexible, being capable of simultaneously delivering up to eight different series of pulse trains comprised of monophasic or biphasic pulses. In addition, the unit can produce trains of stepped pulses or paired pulses with easy to use built-in protocols.

Complicated stimulus trains can be generated by summing any channel's own output with the outputs of up to seven other channels. Timing on each channel may be initiated manually or upon receiving a trigger signal from 8 channel specific triggers, 3 non-specific triggers, any of the MultiStim's other channels, the supplied PC-compatible software, or from a separate instrument or computer. All channels can be gated using either internal or external commands. Sync pulses are available for use by other instruments and can track either train duration or pulse width.

The Model 3800 MultiStim 8-channel Programmable Stimulator can produce pulses ranging in duration from one microsecond to 12 days. Amplitudes can be set to range from  $-10\text{ V}$  to  $10\text{ V}$ , with  $1\text{ mV}$  resolution. When combined with the Model 3820 External SIU, the voltage pulse can be scaled and converted into constant current, with output ranges of up to  $20\text{ mA}$  on each SIU channel.

The Model 3800 MultiStim 8-channel Programmable Stimulator is controlled by a front panel touch screen or an easy-to-use software program. LabVIEW and MATLAB® drivers and applications are available. Program parameters can be stored onboard the instrument for later recall, or can be stored online.

Common applications for the Model 3800 8-Channel Programmable Stimulator include, but are not limited to:

- Long Term Potentiation / Depression
- Classical Conditioning
- Patch Clamping
- Evoked Potentials
- Master timing device used to trigger other instrumentation

**The Model 3800 MultiStim 8-channel Programmable Stimulator is not approved for clinical or operating room experiments in human subjects.**



Model 3820 Stimulus Isolation Unit

- 8 Stimulators in single instrument
- Channels can operate independently or can sum/trigger/gate each other
- Ultra-Fast!  $1\ \mu\text{s}$  pulses every  $3\ \mu\text{s}$
- Paired Pulse or Stepping Pulse Protocols
- Controlled via front-panel touch screen or free Windows-compatible program
- Complete triggering and gating, including 8 channel specific BNC triggers
- Biphasic pulses can have independent phase amplitudes, or interphase periods
- Store programs on board or offline.
- LabVIEW and MATLAB® interfaces supplied.
- 3-year warranty

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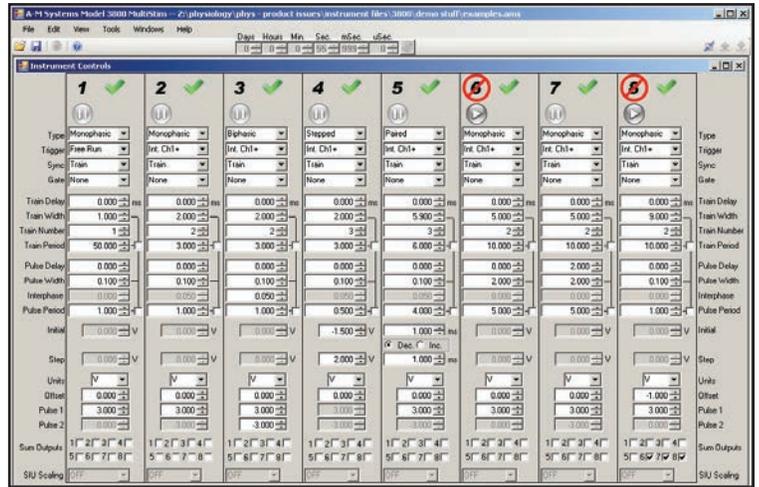
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#### Software

In addition to the easy-to-use touchscreen interface on the Model 3800's front panel, the instrument can also be controlled by a free Windows-compatible application. This program controls all aspects of the stimulator, including channel settings and program names. MATLAB® and LabVIEW drivers and applications are available for incorporation into your programming environment. Multiple Model 3800's can be controlled by a single application.



Windows is a registered trademark of Microsoft Corporation in the United States and other countries. MATLAB® and LabVIEW are registered trademarks of MathWorks, Inc., and National Instruments Corporation, respectively.

#### Specifications

Timing Range	1 $\mu$ s to 250 Hours
Minimum Pulse Duration	1 $\mu$ s monophasic; 2 $\mu$ s biphasic
Minimum Pulse Interval	1 $\mu$ s monophasic; 2 $\mu$ s biphasic
Timing Accuracy	Better than 0.02%
Output	$\pm 10$ V; $\pm 20$ mA, with 1mV resolution
With Optional SIU	$\pm 60$ V; $\pm 10$ mA, with selectable AC coupling; 500kHz bandwidth
Built-in Stimulus Protocols	Monophasic, Biphasic, Paired Pulse, and Stepped pulse
Triggering	8 Channel-specific rear panel BNCs; 3 non-specific front panel BNCs that can be assigned to any single or set of channels; Interchannel triggering
Gating	3 non-specific front panel BNCs that can be assigned to any single or set of channels; Interchannel gating
Control	Via Front Panel touch screen or free PC compatible software application. Software programming guide is available (Serial communication over USB).

#### Ordering Information

For use on 220 V / 50 Hz power systems: Product #710005 (Country-specific power cords are not supplied.)

For use on 110 V / 60 Hz power systems: Product #710000

Optional Stimulus Isolation Unit:

Model 3820 SIU: Product #710500

All units include a product manual and rack mounts.

#### Distributed By:

**A-M Systems**  
131 Business Park Loop  
PO Box 850  
Carlsborg, WA 98324  
USA

Toll-free: **800-426-1306 (USA)**  
Phone: **360-683-8300**  
FAX: **360-683-3525**  
E-Mail: **sales@a-msystems.com**  
Website: **www.a-msystems.com**