

### BSLCBL10 CURRENT VOLTAGE DRIVE & MONITOR CABLE

Use this current/voltage drive and monitor cable with an MP3X to perform ion transport experiments. This cable uses the output from the MP3X to drive a set of stimulation electrodes and also monitors the stimulation current.

The BSLCBL10 allows the MP3X to perform in a current or voltage clamping mode:

- To operate as a current clamp, the user must hold the stimulator current constant.
- To use as a voltage clamp, the user must hold the membrane voltage constant.



The maximum recordable current is  $\pm 50\mu\text{A}$ ; see the Current Measurement table below for ranges. The maximum resistance measurable at  $50\mu\text{A}$  is  $50\text{K}\Omega$ .

The feedback voltage needs to be 2.5 volts or less to be within the common mode range of the input amp. The output of the BSLCBL10 is half that of the stated value as measured with a voltmeter, i.e. if 4 volts is set on the analog output only 2 volts are delivered.

The MP3X uses the “Manual Control” function of the BSL *PRO* software to provide the drive voltage, which eliminates the need for an additional power supply. The Manual Control function provides online control of the output voltage.

*The BSLCBL10 provides an elegant solution to a somewhat complicated experiment...* Typically, this experiment requires an ammeter to monitor the current, but the BIOPAC solution allow for recording the current as well--this makes the experiment much easier for students because they only have one interface to focus on.

It also simplifies setup because the equipment interface options are very limited and straightforward.

The cables terminate in a standard mini-grabber connector. Use with the BSLCBL8 high-impedance cable and mini-grabber leads to interface with Ag/AgCl electrodes.

### Specifications

#### BSLCBL10 Current Measurement

Range	MP3X Gain	Resolution
0-50 $\mu\text{A}$	x200	.05 $\mu\text{A}$
0-20 $\mu\text{A}$	x500	.02 $\mu\text{A}$
0-10 $\mu\text{A}$	x1,000	.01 $\mu\text{A}$
0-5 $\mu\text{A}$	x2,000	.005 $\mu\text{A}$
0-2 $\mu\text{A}$	x5,000	.002 $\mu\text{A}$
0-1 $\mu\text{A}$	x10,000	.001 $\mu\text{A}$
Compliance:	2.5V maximum	
Resistance:	Max resistance measurable @ $50\mu\text{A}$ = 50 $\text{K}\Omega$	
Interface:	Use with BSLCBL8 for best results	

Discontinued Product: BSLCBL10 was discontinued effective September 2010.