The Model 1800 AC Microelectrode Amplifier is a two-channel, differential amplifier configured for use with headstage probes. The instrument is intended for extracellular recording and/or stimulating in conjunction with high impedance metal microelectrodes. Ideal for single-cell spike recordings, it can also be used in a number of research or teaching applications requiring extracellular neurophysiological recording from excitable tissue such as nerve, muscle (EMG), EEG, EKG, and ERG recordings.

Each channel of the Model 1800 contains a high-gain, low-noise differential amplifier stage followed by low-frequency, high-frequency, and notch filters. Three operating modes are available to accommodate recording, stimulating, and verification of electrode impedance. Multiple gain settings and simultaneous current measurements during stimulation are provided. An internally calibrated current source allows in situ verification of electrode impedance.

The Model 1800 Headstage includes a mounting rod and bracket for a standard micromanipulator and a complete set of miniature electrode cables.

Common applications for the Model 1800 Microelectrode AC Amplifier include, but are not limited to:

- Single Cell Action Potentials
- EEG / EMG / EKG / ERG recordings
- Evoked Potentials
- Multiple-Unit Recordings
- Long-term Potentiation
- Waveform Sorting

The Model 1800 Microelectrode AC Amplifier is designed for research grade recording quality, with a straightforward interface that also makes it ideal for teaching applications.

- Two amplifiers in one instrument
- Can record from or stimulate through electrodes without changing connections
- Fixed Gain: x100, x1000, or x10,000
- Low noise
- Notch filter for power line frequency
- In situ electrode impedance measurement
- Current monitor during stimulation
- Includes rack mount hardware
- 3-year warranty
The Model 1800 Microelectrode AC Amplifier was designed to record from two different electrodes simultaneously. Recently, many users have requested the ability to record both spikes and EEG/Evoked potentials from the same electrode simultaneously. A-M Systems can modify the Model 1800 circuitry to accomplish this task. The output from the Channel 1 headstage is routed internally to the input to the Channel 2 circuitry. The same signal can then be filtered at different settings by the Channel 1 and 2 filter stages. Contact A-M Systems, or your distributor, for more information.

### Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain</td>
<td>x100, x1000, x10000</td>
</tr>
<tr>
<td>High Pass Filter</td>
<td>0.1, 1.0, 10, 100, and 300 Hz; -40 dB / decade</td>
</tr>
<tr>
<td>Low Pass Filter</td>
<td>500, 1000, 5000, 10000, and 20000 Hz; -40 dB / decade</td>
</tr>
<tr>
<td>Notch Filter</td>
<td>&gt;-25dB at 50 or -30dB at 60 Hz.</td>
</tr>
<tr>
<td>Noise</td>
<td>1.0 microvolt p-p typical (10 Hz to 10,000 Hz)</td>
</tr>
<tr>
<td>Common Mode Rejection</td>
<td>&gt; 80 dB</td>
</tr>
<tr>
<td>Input Impedance</td>
<td>&gt;100,000 megohms</td>
</tr>
<tr>
<td>Low Input Bias Current</td>
<td>(± 3 pA typical)</td>
</tr>
<tr>
<td>Other Features</td>
<td>Can pass stimulation current direct to electrodes</td>
</tr>
<tr>
<td></td>
<td>Built-In current monitor during stimulation</td>
</tr>
<tr>
<td></td>
<td><em>In-situ electrode impedance measurement (up to 40 megohms)</em></td>
</tr>
</tbody>
</table>

* Can customize these values for an additional fee. Contact A-M Systems or your distributor for information.

### References


### Ordering Information

- For use on 220 V / 50 Hz power systems: Product 700005 *Country-specific power cords are not supplied.*
- For use on 110 V / 60 Hz power systems: Product 700000
- Two Product 700500 Headstage probes must be purchased at time of ordering for proper operation of the instrument.
- All units include a product manual and rack mounts.

### Distributed By:

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