

NA-100 Neuroamp Extracellular Amplifier

Technical Note



NA-100

Overview

The NA-100 Neuroamp Extracellular Amplifier is a high-quality amplifier that is optimized for low-noise extracellular recordings. The NA-100 can be connected to any iWorx data acquisition unit that has DIN8 transducer inputs. Because the NA-100 can be connected directly to an iWorx data acquisition unit, LabScribe2 software can be used to manage the recording and the data analysis. For additional noise rejection, all the cables of the NA-100 are shielded, including the ground wire and the input cables that connect the electrodes to the NA-100. The ground wire and the input cables are also socketed, making it easy to exchange electrodes and lead wires of a suitable type and length for the experiment being conducted.

How to Use the NA-100

Equipment Setup

- 1) Plug the DIN8 connector of the NA-100 into one of the DIN8 transducer inputs of an iWorx data acquisition unit.
- 2) Plug the XLR connector of the input cable into the NA-100.
- 3) Plug the lead wires of the electrodes into the sockets on the input and ground cables. The recording electrode is connected to the red input, the reference electrode to the black input, and the ground electrode is connected to the green input.



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Start the Software

When using an iWorx data acquisition unit with DIN8 transducer inputs:

- 1) Open LabScribe2 by clicking on the LabScribe2 icon on the computer desktop.
- 2) When the program opens, select **Preferences** from the Windows **Edit** menu, or from the **LabScribe2** menu on a Macintosh.
- 3) Select the **Channel** preferences dialog window.
- 4) Select and name the channel to which the NA-100 is connected.
- 5) Set the **Mode/Function** for this channel to **DIN8**.
- 6) Set the sampling rate and display time. Click **OK**.

Experiments

LabScribe2 experiments using the NA-100 Neuroamp Extracellular Amplifier include:

- **Experiment AN-7: Cockroach Cercal Sense Organs** (found in the **Animal Nerve** category of the LabScribe2 **Settings** menu as **CockroachCerci**)
- **Experiment AN-8: Frog Sciatic Nerve Compound Action Potential** (found in the **Animal Nerve** category of the LabScribe2 **Settings** menu as **CAP-NA100**)

Technical Data and Specifications

| SPECIFICATIONS | |
|--------------------------|----------------------|
| Input Connector: | 3 Pin XLR |
| Output Connector: | DIN8 |
| Voltage Gain: | X200 |
| 100 Hz High-pass Filter: | 2 Pole |
| 20 Hz Low-pass Filter: | 2 Pole |
| Headphone/ Speaker Jack: | Mono Phono Connector |



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