



## Tech Note

## NA-100 Neuroamp Extracellular Amplifier

### Overview

The NA-100 Neuroamp Extracellular Amplifier is a high-quality amplifier that is optimized for low-noise extracellular recordings (Figure 1). The NA-100 can be connected to any iWorx recorder that has DIN8 inputs, like the popular iWorx 214. Because the NA-100 can be connected directly to an iWorx recorder, 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 electrode to the NA-100. The ground wire and the input cables are also socketed, making it easy to remove the electrodes connected to the amplifier and replace them with electrodes and lead wires of a suitable type and length for the experiment being conducted.



Figure 1: NA-100 Neuroamp Extracellular Amplifier and shielded input cable.

### Equipment Setup

1. Plug the DIN8 connector of the NA-100 into one of the DIN 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 recording unit with DIN inputs (104, 114, 204, 214):

1. Click the **Windows Start** menu and select **LabScribe2** from the list; or, click on the LabScribe2 icon on the desktop of the computer.
2. When the program opens, select **Preferences** from the **Edit** menu.
3. Select the **Channel** preferences dialogue 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**.
7. If you plan to use these settings again, click on the **File menu** and select **Save As**.  
On the next window, navigate to the folder where you want to save the settings file.  
Change the type of file to be saved to **Settings file (\*.iwxset)**. Name the file and click the **Save button**.
8. To use the same settings file again, click on the **File menu** and select **Open**. On the next window, navigate to the folder where the settings file is located. Change the file type to **Settings (\*.iwxset)**. Find and highlight the settings file and click the **Open button**.

## Experiments

Experiments using the NA-100 Neuroamp Extracellular Amplifier can be found in the iWorx Newsletter archive which is available from the iWorx website:

<http://www.iworx.com/newsletter/>.

## Specifications

Input Connector:	3 Pin XLR
Output Connector:	DIN8
Voltage Gain:	X200
100 Hz High Pass Filter:	2 Pole
20 Hz Low Pass Filer:	2 Pole
Headphone/Speaker Jack:	Mono Phono Connector
Power:	+ 5V at 10 mA
Part Number:	NA-100



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