



**FRONT-END
SIGNAL CONDITIONERS**

Getting Started

Overview

Front-ends are ancillary devices connected to the PowerLab recording unit to extend the system's capabilities. They provide additional signal conditioning and other features, and extend the types of experiments that you can conduct and the data you can record.

All ADInstruments front-ends are designed to be operated under full software control. All features, such as gain and filter settings can be controlled without the need for any hardware knobs, dials or switches.

The PowerLab controls front-ends through an expansion connector called the I²C (“eye-squared-see”) bus. This makes it very easy to add front-ends to the system or to transfer them between PowerLabs. Many front-ends can be added to the system by connecting the I²C sockets in a simple daisy-chain arrangement. In general, each front-end requires a separate analog input channel of the PowerLab, although the Stimulus Isolator and similar front-ends use the positive analog output of the PowerLab.

For more information please contact your ADInstruments representative or refer to the detailed Owner's Guide at adi.to/manuals.

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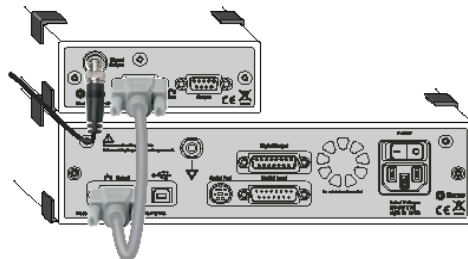
This section describes the general setup for front-ends. Some front-ends (Isolated Stimulator, Stimulator HC) have specialized connection requirements. Refer to the Front-end Owners Guide available at adi.to/manuals.

Connecting to the PowerLab

To connect a front-end to the PowerLab, first ensure that the PowerLab is turned off.

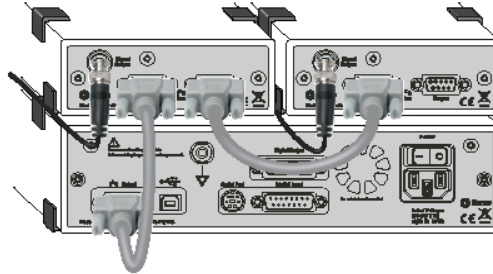
Single Front-ends

Connect the I²C output of the PowerLab to the I²C input of the front-end using the I²C cable provided. Connect the BNC output of the front-end to an Input channel on the front of the PowerLab. For multi-channel front-ends connect each BNC output to a different input on the front of the PowerLab



Multiple Front-ends

The number of normal front-ends that can be connected depends on the number of input channels on the PowerLab, since the BNC cable for each front-end is normally connected to one of the analog input channels of the PowerLab. The initial front-end should be connected with the I²C cable. The remainder are daisy-chained via I²C cables, connecting the I²C output of the last connected front-end to the I²C input of the front-end to be added.



Software Configuration

The functions of the front-end are combined with those of the PowerLab and presented as a single set of software controls, replacing the input amplifier dialogs or the Stimulator dialog depending on the front-end connected.

1. Turn on the PowerLab and start LabChart. The status indicator on the front end should illuminate once LabChart has opened.
2. Create a new document
3. Choose the front-end from the Channel dropdown menu. The name of this menu should reflect the front end you have connected.

