MiniDigi 2-Channel Digitizer Setup Guide

MiniDigi Digitizer

The optional accessory MiniDigi 2-Channel Digitizer is a low-noise, two-channel digitizer, designed to function with AxoScope software as a simple digital chart recorder. It has two independent, 16-bit analog inputs, each of which provides digitization at up to 1 kHz. The MiniDigi™ digitizer communicates with the host computer through a USB interface that also provides power to the digitizer.

Note: pCLAMP software version 11.x does not support the MiniDigi Model 1A Digitizer. Contact Molecular Devices Technical Support to purchase a replacement MiniDigi Model 1B Digitizer. See www.moleculardevices.com/service-support.

Filtering

The MiniDigi digitizer uses your choice of minmax or analog-like filtering. If you select minmax, both the minimum and maximum values in each sample period are sent to the computer.

The analog-style filter is a low-pass, anti-aliasing filter with a cutoff frequency one fifth of the sampling rate.

Interface Description

The front panel of the MiniDigi digitizer has two BNC connectors for analog input channels 0 and 1. The back panel contains a USB connector and an LED to indicate power-on status. The LED slowly blinks to indicate communication with the software driver.

Specifications

Table 1-1: MiniDigi Specifications (analog input)

Item	Specification
Number of input channels	2 single-ended
Resolution	16-bit (1 in 65536)
Acquisition rate (per channel)	1 kHz
Input range	–10.000 V to +10.000 V
Maximum allowable input range	–50 V to +50 V
Input resistance	1 MΩ
Gain value	1
Anti-alias filter (per channel)	Three-pole, 1.5 kHz Bessel

USB Interface

The MiniDigi digitizer has a low-power (< 100 mA), Universal Serial Bus (USB) 1 device to interface with the computer.

5046262 B
January 2021

MiniDigi Digitizer Installation

The optional accessory MiniDigi™ digitizer works with AxoScope software only. Clampex software does not support the MiniDigi digitizer.

To configure the MiniDigi digitizer in AxoScope software:

1. Run the pCLAMP 11.2 installer before you connect the MiniDigi digitizer to the computer.
2. After pCLAMP has been installed, connect the USB cable to the USB port on the computer and to the MiniDigi digitizer.
3. In the **Windows Found New Hardware Wizard**, follow the instructions until Windows has installed the digitizer.
4. Start AxoScope software by clicking **Start** > **All Programs** > **Molecular Devices** > **pCLAMP 11.2** > **AxoScope 11.2**.
5. Open the **Configure > Digitizer** dialog and click **Change**.
6. In the **Change Digitizer** dialog, select **MiniDigi** from the **Digitizer Type** field.
7. Click **Scan** to detect the digitizer. **Available** is displayed, and **OK** is enabled.
8. Click **OK** to exit this dialog.
9. Click **Configure** to open the **Configure MiniDigi** dialog.
10. Select the style of filtering to use.
    - **Analog filtering** applies a low-pass, anti-aliasing filter with a cutoff frequency one fifth of the sampling rate.
    - **MinMax filtering** takes the minimum and maximum samples in every n samples, where n is determined by the sampling rate.
11. To calibrate the MiniDigi digitizer, attach a grounding plug to the Channel 0 BNC, and then click **Start**.
12. Repeat for Channel 1.
13. Click **OK** to exit this dialog.

The MiniDigi digitizer is now ready to do experiments.

Product manufactured by Molecular Devices, LLC.
3860 N. First Street, San Jose, California, 95134, United States of America.
Molecular Devices, LLC is ISO 9001 registered.