

Digidata® 1550A Low-Noise Data Acquisition System plus HumSilencer™ Adaptive Noise Cancellation Quick Start Guide

The Digidata 1550A digitizer is a low-noise digitizer plus HumSilencer adaptive noise cancellation system intended for electrophysiology experiments. It is a plug-and-play device that is automatically recognized by the Windows operating system, and supported by the included software, AxoScope Software Version 10.5 (or later), and by the optional pCLAMP Clampex Software Version 10.5. The Analog Input Channel #0 is configurable with the HumSilencer adaptive noise cancellation system to eliminate 50 Hz or 60 Hz line-frequency noises and the associated high-frequency harmonics originating from signal ground noise. This guide provides set up and configuration procedures only. Refer to the Digidata 1550A digitizer and pCLAMP Software Version 10.5 user guides for more details.

Included Components

- Digidata 1550A digitizer
- Power cord
- USB 2.0 cable
- CD-ROM with AxoScope 10.5 Software for Windows
- Printed Quick Start Guide

Recommended Computer System

- PC with a 2 GHz CPU (or faster)
- Windows 7 (32-bit or 64-bit)
- 2 GB RAM (or more)
- 2 GB hard disk (or more)
- 1680 x 1050 (or higher) display system
- 3 High-speed built-in USB 2 ports

Obtaining Support

Refer to the Molecular Devices support web site Knowledge Base www.moleculardevices.com/support.html for technical notes, software upgrades, safety and data sheets. For more help, follow the links to the Technical Support Service Request Form to send an email message.

You can contact Molecular Devices Technical Support by telephone at 800-635-5577 (U.S. only) or +1 408-747-1700. Please have your instrument serial number or Work Order number, and your software version number available when you call.

Uninstalling Software

AxoScope Software Version 10.5 and the pCLAMP Software Version 10.5 only support Digidata 1440A Series digitizers and newer digitizers. The new software and drivers install without removing previously installed software and drivers, allowing you to continue to use any previously installed Digidata 1200, 132x, 1440A, or 1550 Series digitizers with earlier versions of AxoScope software or pCLAMP software. However, if you no longer use older installed digitizers and corresponding software, uninstall them using the Windows Control Panel before you begin the AxoScope Software Version 10.5 or the pCLAMP Software Version 10.5 installation procedure.

The uninstall procedure works similarly for previously installed AxoScope software and pCLAMP software. The file locations are similar, but the **AxoScope** or **pCLAMP** folders are identified by a different version number.

To uninstall the software:

1. Go to Windows **Start > All Programs > Molecular Devices (or Axon Laboratory)**.
2. Open the folder for the software version to be uninstalled, such as **pCLAMP 10.4**.
3. Select the version-appropriate **Uninstall** file, such as **Uninstall pCLAMP 10.4 Software**.
4. Follow the procedures on-screen to finish uninstalling the software.

Installing AxoScope Software or pCLAMP Software

The following procedures install the new software for AxoScope Software Version 10.5 or the pCLAMP Software Version 10.5. The Digidata 1550A digitizer drivers are included in the installation. An AxoScope Software Version 10.5 CD is included. If you have purchased the pCLAMP Software Version 10.5 suite, install it instead of AxoScope Software Version 10.5.

To install AxoScope Software Version 10.5 or pCLAMP Software Version 10.5:

1. Insert the software CD into your computer's CD-ROM drive.
2. The setup dialog is displayed automatically; if not, use Windows Explorer to open the CD directory and double-click the **AxoScope_10_5_0.exe** or **pCLAMP_10_5_0.exe** file. The installation menu appears.
3. Follow the on-screen instruction to install the software.

(pCLAMP Only) Installing the Security Key

If you install the pCLAMP Software Version 10.5, insert the provided pCLAMP 10 security key (dongle) into any USB port on your computer. The dongle must be connected to a USB port on your computer for pCLAMP Software Version 10.5 use. Dongles for any previous versions of the pCLAMP software are invalid.

Hardware Overview

The following illustrates the main sections of the digitizer that you will use.

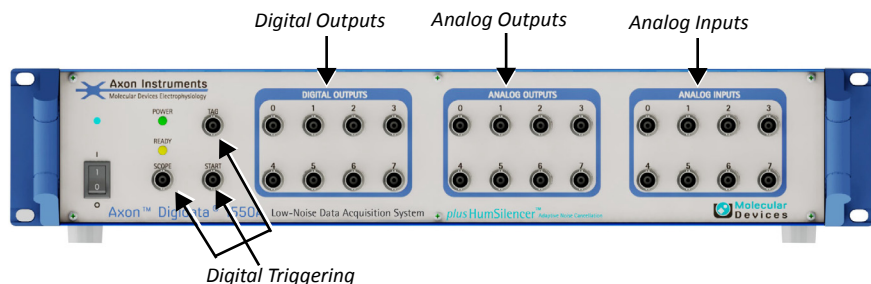


Figure 1-1: Front panel of the Digidata 1550A digitizer.

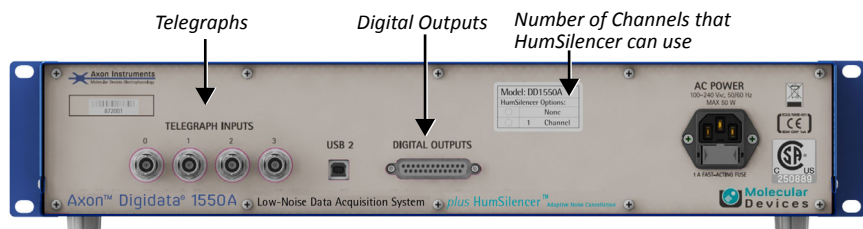


Figure 1-2: Rear panel of the Digidata 1550A digitizer.

Installing the Digidata 1550A Digitizer

1. Connect the power cord to the wall, and then to the Digidata 1550A digitizer rear panel **AC POWER** input connector.
2. Attach the USB 2.0 cable to a **USB 2** or **USB 3** port on your computer, and to the digitizer.
3. Switch on the power on the Digidata 1550A digitizer.
The green **POWER** light is continuously on only when the digitizer is powered on and the USB cable is connected to a running computer.
Windows automatically finds the new hardware, and installs the drivers.
4. Let the Digidata 1550A digitizer warm up for one hour before performing experiments.
5. Configure AxoScope Software Version 10.5 or pCLAMP Software Version 10.5 for use with the Digidata 1550A digitizer.

Configuring Software for Digidata 1550A Digitizer Use



CAUTION! After the unit is powered on, the first time it is initialized by the pCLAMP software, the analog output channels send out a brief negative spike (~ -10 V/25 ms and -5 V/270 ms). Make sure that the analog outputs are not connected to any equipment that can be damaged by such voltages during the startup period.

This configuration procedure applies to AxoScope Software Version 10.5 and pCLAMP Clampex Software Version 10.5. By default the Demo configuration is active.

1. Run AxoScope Software or Clampex Software by double-clicking on the icon on the Windows desktop.
2. Click **Configure > Digitizer** to open the **Digitizer** dialog, then click **Change**.
3. Select **Digidata 1550A Series** from the **Digitizer Type** list.
4. Click the **Scan** button to detect the digitizer. The first detected digitizer is assigned **0** and listed as **Available**. The **Configuration** information changes from **Not present** to reporting the selected digitizer model number, serial number, firmware version, HumSilencer channel availability (1 = available), and the **OK** button is enabled.
5. Click **OK** to exit the dialog, then click **OK** to exit the **Digitizer** dialog.

The front panel yellow **READY** light is continuously on only when the software connects to the digitizer. After warming up (allow one hour), the Digidata 1550A digitizer is ready for experiments.

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