

Axoclamp™

Computer-Controlled Microelectrode Amplifier

Version 1.2.1

Software Release Notes

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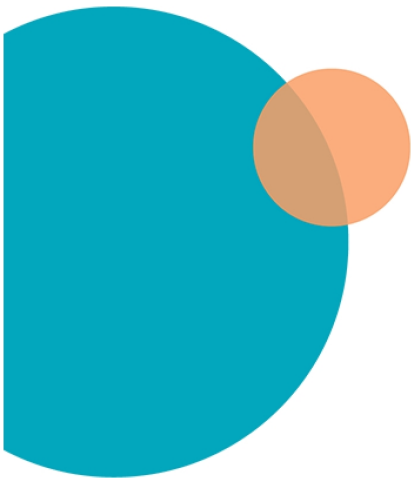


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Chapter 1: Axoclamp Commander Software General Information

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Introduction

The Axoclamp™ 900A Computer-Controlled Microelectrode Amplifier is an analog input/output instrument similar to conventional amplifiers by Molecular Devices. The Axoclamp 900A amplifier contains no front panel knobs and switches. Instead, the instrument is operated using control panel software, the AxoScope Software, which runs on a host computer and communicates with the amplifier via a USB cable.

Computer control of the Axoclamp 900A amplifier means that the knobs, dials and buttons are replaced by an intuitive software control interface. Computer control provides several advantages over conventional amplifiers and makes the Axoclamp 900A amplifier easier to use and enables experiments to last longer. Automation of several standard tasks becomes possible, such as adjustment of Pipette Offset, Bridge Balance, and Pipette Capacitance Neutralization. Oscillations in the measured signal can be detected and suppressed automatically, in less than 1 ms, based on user-selected settings. Instant switching between modes can be automated (I-Clamp to dSEVC or TEVC and back again), with users defining the threshold, timing, and trigger (internal or external) for mode switching. In DCC and dSEVC modes, the monitor signal used for tuning can be displayed on the computer screen as well as on an oscilloscope. Slow current injection can be used in I-Clamp mode to prevent small, slow drifts in the membrane voltage that could end experiments prematurely.

The Axoclamp 900A amplifier interface is completely independent of acquisition software. Thus, the Axoclamp 900A amplifier can be used with any data acquisition package. It is compatible with Digidata® series digitizers (1200 A or newer) and pCLAMP™ Software (version 7 or newer). However, telegraphing is only supported in pCLAMP Software versions 10 and newer. Regarding third-party software, see our webpage “Developer Info” for a detailed Software Development Kit that describes how to read telegraph information.

Software control of an amplifier is an unusual step forward for some users. If computer mouse control is uncomfortable, consider the optional SoftPanel device to control the Axoclamp 900A amplifier. The SoftPanel is a hardware extension of the Axoclamp 900A amplifier. Knobs and buttons replace mouse or keyboard control. For more information, visit our web site or call Molecular Devices Technical Support.

The Axoclamp 900A amplifier is a sophisticated instrument. Experienced and inexperienced researchers alike are advised to read this manual thoroughly and to familiarize themselves with the instrument. The following two chapters provide step-by-step instructions using the CLAMP-1U and MCO-2U model cells.

Check List

The installation procedures require the following:

- Axoclamp 900A amplifier main unit with power cord
- HS-9A headstage with CLAMP-1U model cell
- 2 HL-U electrode holders
- USB (A/B-type) control cable
- Axoclamp 900A Commander Software
- A PC running Windows 7 or Windows 10 operating system. The PC should have up to three spare USB ports: two for the amplifier and one for the optional SoftPanel.
- External oscilloscope

Installing the Commander Software

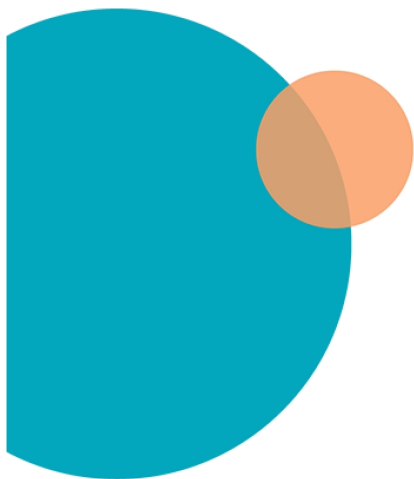
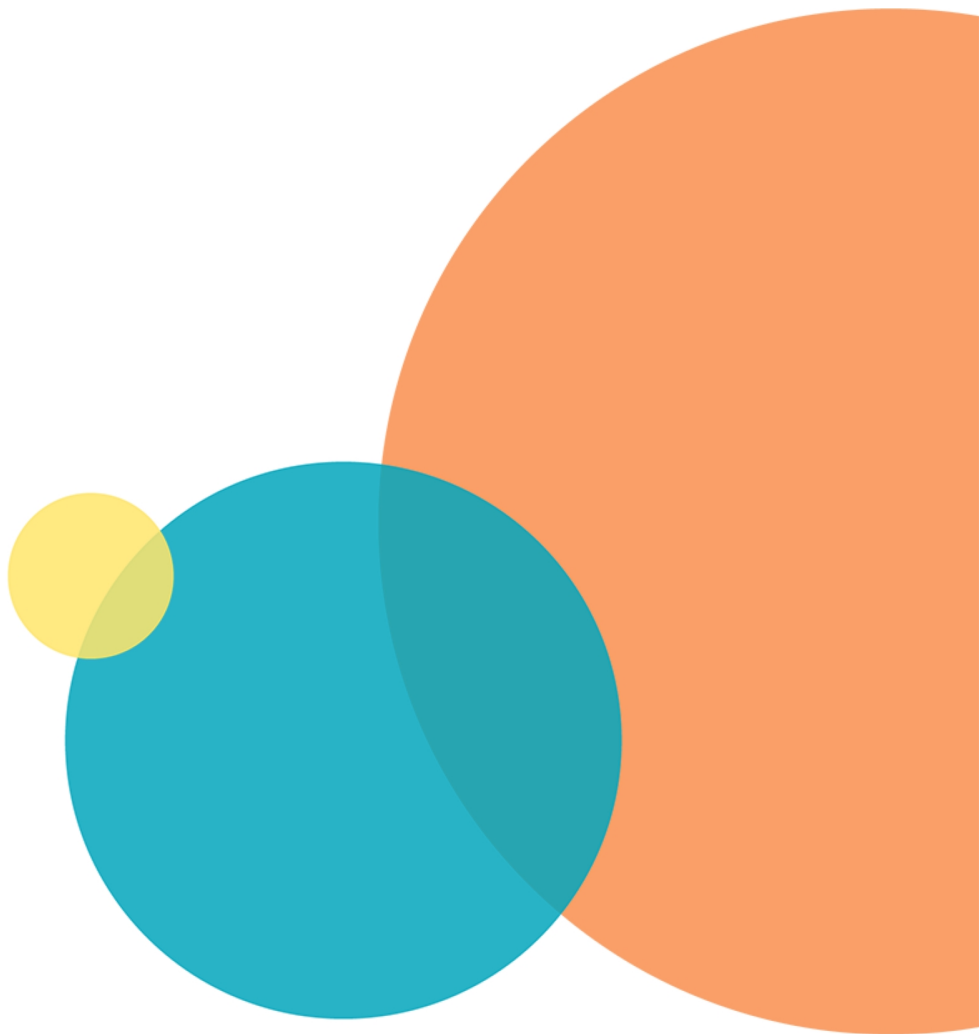
1. Run the Axoclamp 900A Commander Software installer from the installation file downloaded from the Molecular Devices web site. This installs all necessary files and generates a shortcut for **Axoclamp 900A** on your desktop.
2. Run Axoclamp 900A Commander Software by double-clicking on the **Axoclamp 900A** desktop icon.
3. When you see the **Select Device** dialog, in the **Axoclamp** tab, select **Axoclamp Hardware**, then click the **Scan** button. The amplifier serial number is identified in the list when the instrument is successfully recognized.
4. If the software is unable to find a valid serial number, check that the Axoclamp 900A amplifier is switched on and that the USB cable is connected properly.
5. If you are using the optional SoftPanel device, click on the **SoftPanel** tab and click the **Scan** button. After this device is recognized, click the **OK** button.
6. When the main Axoclamp 900A Commander Software window appears, if installed correctly, the Axoclamp serial number appears in the software window heading. If the optional SoftPanel is configured correctly, the Configure SoftPanel icon is enabled.

Obtaining Support

Molecular Devices is a leading worldwide manufacturer and distributor of analytical instrumentation, software, and reagents. We are committed to the quality of our products and to fully supporting our customers with the highest level of technical service.

Our Support website, www.moleculardevices.com/service-support, has a link to the Knowledge Base, which contains technical notes, software upgrades, safety data sheets, and other resources. If you still need assistance after consulting the Knowledge Base, you can submit a request to Molecular Devices Technical Support.

Please have your instrument serial number or Work Order number and your software version number available when you call.



Chapter 2: Axoclamp Commander Software Version 1.2.1 Release Notes

The Axoclamp Commander Software version 1.2.1 update is a minor release. The following is a summary of the changes incorporated in this revision as compared to version 1.2, the last general release of the Axoclamp Commander Software.

- [Issues Addressed in Axoclamp Commander Software Version 1.2.1](#)

Issues Addressed in Axoclamp Commander Software Version 1.2.1

The following are issues addressed in Axoclamp Commander Software version 1.2.1.

Settings for TEVC Mode Channel 1 Not Telegraphed

Tracking ID: 5349

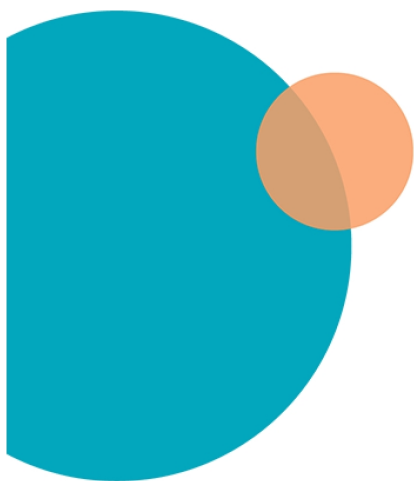
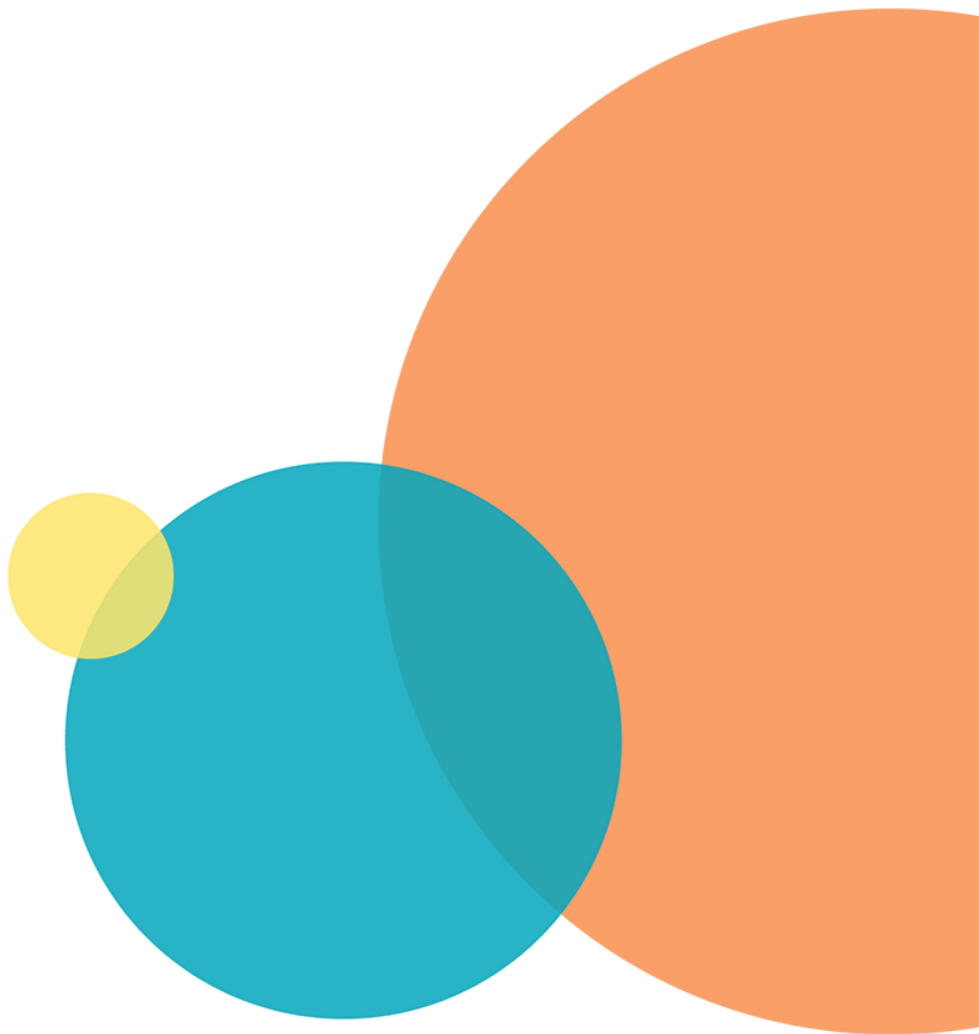
In TEVC mode, channel 1 is not telegraphed when connected to pCLAMP Data Acquisition and Analysis Software.

Resolution:

In TEVC mode, channel 1 settings now update in the digitizer.

Impact of fix:

This fix has no impact on current workflow or data.



Chapter 3: Axoclamp Commander Software Version 1.2 Release Notes

The Axoclamp Commander Software version 1.2 update is a minor release. The following is a summary of the changes incorporated in this revision as compared to version 1.1, the last general release of the Axoclamp Commander Software.

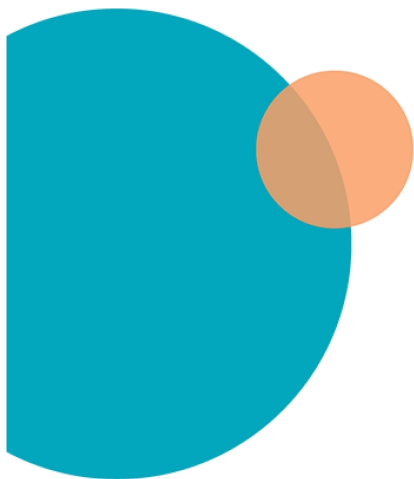
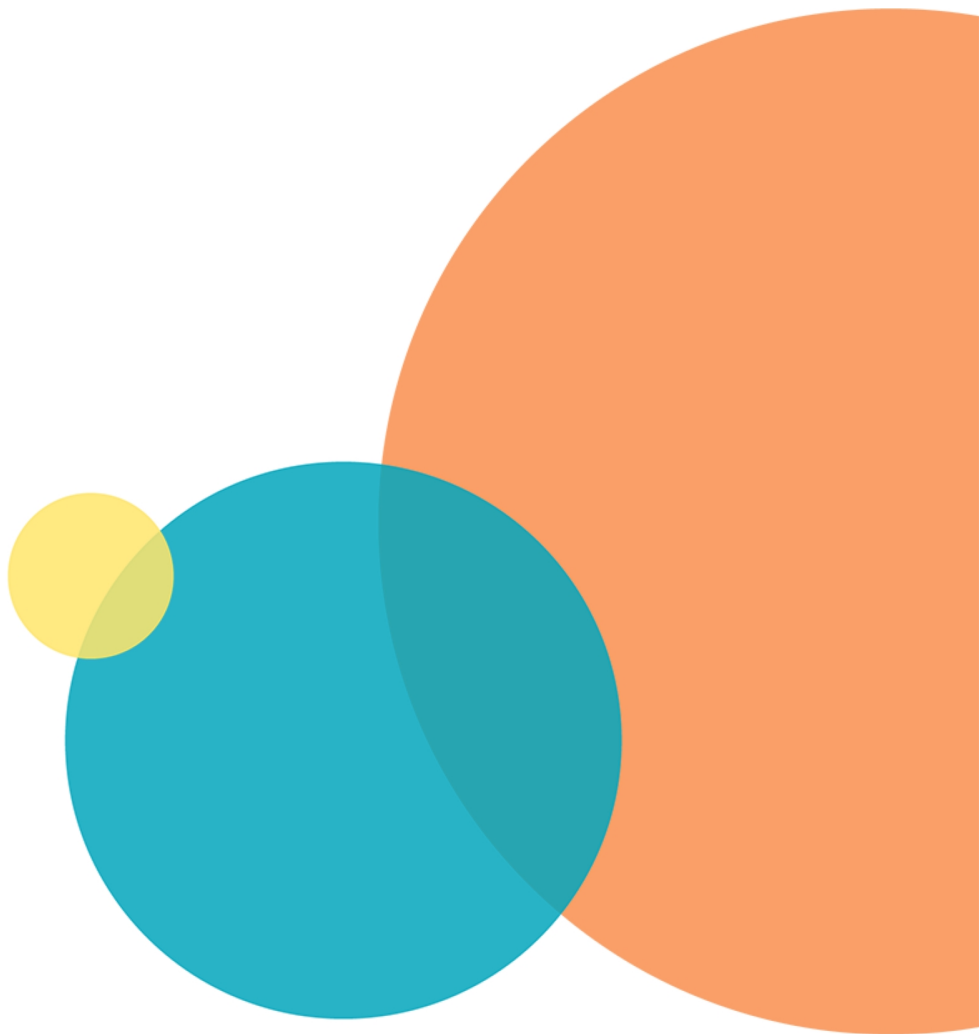
New in Axoclamp Commander Software Version 1.2

The following new features are included in Axoclamp Commander Software version 1.2.

- [New in Axoclamp Commander Software Version 1.2 on page 11](#)

Windows 10 Operating System Support

Adds software support for the Windows 10 (32-bit and 64-bit) operating system.



Contact Us

Phone: [+1-800-635-5577](tel:+1-800-635-5577)
Web: moleculardevices.com
Email: info@moldev.com

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