

SERVICE & SUPPORT

Thank you for choosing Sutter Instrument products. To guarantee the highest standards of quality and performance, every instrument is fabricated on site by highly skilled technicians. The instrument contained herein has been assembled with care and tested to assure it meets rigid quality control standards.

We hope that our instruments and products continually meet your needs. However, should a problem arise, please contact our technical support staff to discuss your concerns. If the instrument requires factory service, we will furnish shipping instructions. Items under warranty will be repaired free of any costs for parts or service. Both delivery and return shipping costs are the responsibility of the owner.

This product carries a limited warranty of 2 years for parts and labor.

Our office hours are 8:00 am to 5:00 pm Pacific Standard Time, Monday through Friday.

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dPatch® DIGITAL PATCH CLAMP AMPLIFIER SYSTEM

with

SutterPatch® DATA ACQUISITION, MANAGEMENT AND ANALYSIS SOFTWARE



QUICK START GUIDE

SUTTER INSTRUMENT

DIGITAL PATCH CLAMP AMPLIFIER SYSTEMS OVERVIEW

Please read these instructions carefully before installation. This guide covers both the dPatch[®] and dPatch-2 systems. If you have any questions or need additional information, contact Sutter Instrument.

OPERATING SYSTEM REQUIREMENTS

Windows 10: 64-bit versions
 macOS 10.11 (El Capitan) or later

INSTALL HARDWARE

1. Attach dPatch headstage(s) to amplifier front panel: HEADSTAGE 1 & 2. dPatch headstages can be attached to any headstage port; they are not “matched” to a port.
2. OPTIONAL: Attach dPatch Screw Terminal Board to amplifier rear panel -> DIGITAL OUTPUTS, or dPatch Expansion Panel to DIGITAL OUTPUTS & AUXILIARY I/O.
3. Attach USB cable to USB 3.0 port on amplifier rear panel and your computer. The connector on the dPatch rear panel must click in place.
4. Attach power cord to amplifier rear panel and a grounded power outlet.
5. Power on the amplifier.

INSTALL IGOR PRO / SUTTERPATCH SOFTWARE

1. Power on computer.
2. If you have internet access, download the latest version of the SutterPatch software installer from www.sutter.com/AMPLIFIERS/SutterPatch.html
3. If internet access is not available, attach the included USB flash drive to your computer.
4. Double-click on ‘sutterpatch_win_full’ (Windows) or ‘sutterpatch_mac_full’ (macOS).
5. Follow the installer prompts for current Igor software.
6. Open Igor Pro and activate the Igor Pro license as instructed:
 - i. Serial Number:
 - ii. Activation Key:

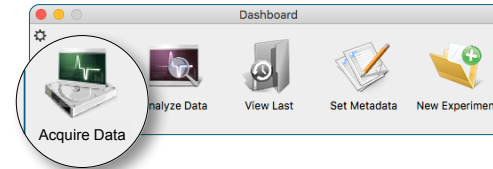


TEST SYSTEM

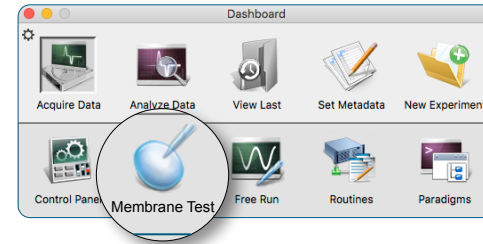
1. Model Cell:
 - a. Attach Model Cell to HEADSTAGE 1 and tighten the collar.
 - b. Attach ground wire to HEADSTAGE 1 and Model Cell (gold plugs).
 - c. Surround with aluminum foil shielding and ground it to the headstage ground connector.



3. SutterPatch welcome screen will open. Press ‘Start’.
4. On dashboard window:
 - I. Click on the Acquire Data icon:



- II. Click on the Membrane Test icon:

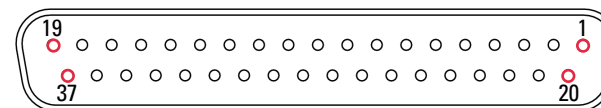


5. Scope + Analysis windows open: (Actual analysis values depend on dPatch filter settings)
 - I. With the Model Cell switch in Bath position, click the Bath button.
 Pipette Resistance = ~10 MΩ
 - II. With the Model Cell switch in Seal position, click the Seal button.
 Seal Resistance > 10,000 MΩ
 - III. With the Model Cell switch in Cell position, click the Cell button.
 Access Resistance = ~10 MΩ
 Membrane Resistance = ~500 MΩ
 Membrane Capacitance = ~28 pF

Move the Model Cell and shielding to HEADSTAGE 2 (if installed), set the Scope window to ‘Headstage 2’, and repeat steps I–III.

BACK PANEL

DIGITAL OUTPUTS 1-16



DIGITAL OUTPUTS PINOUT

PIN	FUNCTION
1 - 16	Digital Output 1 - 16
17 - 19	+5 V
20 - 35	Ground
36 - 37	+5 V